



Traffic Impact Assessment

Stoney Creek Battery Energy Storage System

FOR: Enervest Operations Pty Ltd

SLR PROJECT No: 620.031316.00016

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Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
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Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Enervest Operations Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.



Executive Summary

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Enervest Operations Pty Ltd (Enervest) to prepare a Traffic Impact Assessment (TIA) for a Battery Energy Storage System (BESS) facility in Narrabri, New South Wales (The Project).

The Project will involve the development, construction, operation, and eventual decommissioning of a BESS with a capacity of 125 Megawatt (MW) / 1252 megawatt-hour (MWh) connecting via a transmission line or underground cable to the existing Narrabri 132/66 kilovolt (kV) substation, operated by Transgrid. The BESS site is 41 Stoney Creek Road, Narrabri NSW 2390. The project plans are provided in Appendix A. Secretary's Environmental Assessment Requirements (SEARs) were received on 14 October 2024 and addressed in this TIA, which forms part of the environmental assessments for the project. Based on the analysis and discussion documented in this report, the following is concluded:

- It is proposed that vehicular access to/ from the development will be provided via Stoney Creek Road, which is a "No Through Road" with minimal daily traffic, mainly agricultural activities.
- The proposed development is anticipated to generate approximately 9,550 inbound and 9,550 outbound trips during the assumed* construction period of 300 working days (*assumed twelve months for an intensified/conservative traffic impact assessment), with a peak period of 50 days where there will be 3,100 additional trips at the start of the construction phase. The daily traffic generation will be in the order of 32 return trips a day (27 light vehicle trips and five heavy vehicle trips) and 67 return trips per day during the peak construction period for 50 days.
- All construction vehicles will need to cross a rail crossing regularly to access the BESS site. Based on SLR's site inspection, this level crossing has good sightlines, and no impacts are anticipated on the rail operations.
- Two approved solar farm projects were identified (Silverleaf Solar Farm and Narrabri South Solar Farm) and analysed in this TIA for a cumulative assessment. It was determined there would be no cumulative traffic impacts due to different construction timelines.
- SLR's turn warrant assessments identified that the existing road network can accommodate the project's construction impacts under traffic management.
- SLR has undertaken an intersection performance analysis at one study intersection. The analysis indicated that this intersection performs well and will continue to do so during the project's construction period.
- The publicly available crash dataset around Narrabri does not indicate any recurring crash type or theme that would preclude or warrant significant safety mitigations.

Based on the analysis and assessment herein, the following recommendations are made:

- Basic Left Turn treatments be provided at the site accesses, considering the largest vehicle.
- A construction traffic management plan (CTMP) be prepared, ensuring controls are in place to limit activity around schools.
- A local community notification program for Traffic related matters.
- Dilapidation surveys be undertaken pre and post construction of Stoney Creek Road, Old Cemetery Road and Doyle Street .



- The construction workforce is briefed on the recommended route with a Driver's Code of Conduct prepared by the applicant.



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1.0 Introduction

1.1 Context

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Enervest Operations Pty Ltd (Enervest) to prepare a Traffic Impact Assessment (TIA) for a Battery Energy Storage System (BESS) facility in Narrabri, New South Wales.

The proposal involves the installation of a BESS facility located at 41 Stoney Creek Road, Narrabri NSW 2390, adjacent to an existing substation facility, hereafter referred to as 'the Project'. The development plans are provided in Appendix A.

The project will involve the development, construction, operation, and eventual decommissioning of a BESS with a capacity of 125 Megawatts (MW) connecting via transmission line and underground cable directly to the existing Narrabri 132/66 kV substation operated by Transgrid. The proposed facility will consist of BESS containers, each approximately 10.5m in length and weighing up to 47,000 kilograms (kg). The BESS facility will be supported by inverters that will convert the electricity from the BESS and connect it to the existing Transgrid substation via approximately 340m of underground 132kV cable.

1.2 Purpose of This Document

The *Environmental Planning and Assessment Act 1979* (EP&A Act) and *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) form the statutory framework for the environmental impact assessment and planning approval of development in NSW. Both the EP&A Act and the EP&A Regulation are administered by the Department of Planning, Housing and Infrastructure (DPHI).

This TIA report assesses the consistency of the development with Council and State planning and evaluates the impacts of the Project on the surrounding transport network, and identifies transport infrastructure improvements required to support the project.

1.3 Assessment Scope

This TIA report assesses the consistency of the proposed development with Council and State planning and evaluates the impacts of the Project on the surrounding transport network. It also refers to consultations undertaken with assessment agencies and identifies transport infrastructure improvements required (if any) to support the development. This assessment considers the traffic- and transport-specific aspects of the development against the requirements of the following relevant authorities:

- Transport for New South Wales (TfNSW).
- Narrabri Shire Council (NSC).

1.4 TfNSW Response

Table 1 summarises the Key Issues raised by TfNSW in their Response to Submissions (RtS) letter dated 15 December 2025 (REN25/00195/001), which is also provided in Appendix F.



Table 1 TfNSW Key Issues and Report References

Key Issue	Section where addressed
1. The Oversize Overmass (OSOM) Route Assessment does not provide sufficient information.	Appendix K
2. Traffic assessments, such as turn treatment warrants, have not been conducted for State Road intersections. Clarification on the assumptions used is also required.	Section 5.1, Table 13 and Table 16. Section 5.3.2.
3. Rail crossings used for OSOM transport are to be assessed.	We have contacted UGLRL. See Appendix G.
4. Construction timeframes are unclear, including pre-construction works.	Section 3.3.5 and Section 5.1

1.5 Report Structure

The structure of this TIA report is shown in Table 2.

Table 2 TIA Report Structure

Section	Title	Description
1.0	Introduction	Identifies the context of the project.
2.0	Policy Context	Summarises the relevant legislation and policy requirements that apply to the assessment.
3.0	Project Description	Describes the project, including location, site design, and access arrangements.
4.0	Site Description	Details the existing conditions of the site and its surroundings.
5.0	Assessment	Outlines the technical analysis to assess the traffic and transport impacts.
6.0	Recommendations	Outlines the recommended actions for the applicant following the lodgement of the SSD application.
7.0	Conclusion	Summarises the findings of the assessment and recommends approval conditions.
8.0	References	Outlines the resources accessed when writing the TIA.



2.0 Policy Context

2.1 Secretary's Environmental Assessment Requirements (SEARS)

The proposal is an SSD, and DPHI have issued SEARs. The SEARs comments are provided in Appendix C with the requirements relevant to this study, and where they are listed in Table 3 below.

Table 3 SEARs Requirements

Key Issue	SEARs Requirements		Section where addressed
Department of Planning, Housing and Infrastructure			
Transport	An assessment of the peak and average traffic generation, light vehicles, shuttle buses, heavy vehicles and high-risk heavy vehicles requiring escort and construction worker transportation;		Section 5.1
	An assessment of the likely transport impacts to the site access route(s), including the above listed vehicles, site access point(s), any Crown land, particularly in relation to the capacity and condition of the roads, road safety and intersection performance;		Section 5.0
	A cumulative impact assessment of traffic from nearby developments (including mining operations); and		Section 5.5
	Provide details of measures to mitigate and / or manage potential impacts (developed in consultation with the relevant road authorities) including:	A schedule of all required road upgrades (including resulting from heavy vehicle and over mass / over dimensional traffic haulage routes);	Section 6.1
		clear figures of proposed road upgrades (including the site access point); and	Section 6.1
		road maintenance contributions, and any other traffic control measures.	Section 6.0



The Agency comments received in conjunction with the SEARs are replicated in Table 4. Complete SEARs documents are also provided in Appendix D and Appendix E.

Table 4 Agency SEARs Comments

Agency SEARs Comments	Sections where addressed
Transport for New South Wales (Advice for SEARs)	
"The Environmental Impact Statement to be submitted as part of the environmental planning process will need to include the following: Following review of the Scoping Report, TfNSW have identified and recommends the following issues be addressed in the Environmental Assessment: A Traffic Impact Assessment (TIA) prepared in accordance with the methodology set out in section 2 of the RTA Guide to Traffic Generating Developments 2002 and part 12 Austroads Guide to Traffic Management including:"	NA
Hours, days and periods of construction.	Section 3.3.4
Schedule for phasing/staging of the project (including pre-construction, accommodation and ancillary infrastructure works) and identifying the traffic volumes for each stage.	Section 3.3 and Section 5.1
Traffic volumes: Surveyed existing background traffic at key intersections per Part 3 Austroads Guide to Traffic Management with survey raw data included. Project-related traffic volumes (measured as vehicle trips per an hour and per a day) for each stage including pre-construction, construction, operation, and decommissioning and identifying peak period(s) for traffic volumes.	Section 4.1.1 and Section 5.1
Traffic volumes are to include a description of: - Ratio of light vehicles to heavy vehicles. - Differentiation of Over Size/Over Mass (OSOM) that do or do not require an NHVR permit and proposed times of operation on the state road network. - Project related traffic interaction with existing and projected background traffic with annual growth rate applied linearly. - Peak times for existing traffic and project related traffic. Transportation hours.	Section 5.1
The origin, destination and routes for: - Employee and contractor light traffic. - Heavy vehicle traffic. OSOM vehicle traffic. OSOM high risk loads. A description of all non-high risk OSOM vehicles and materials to be transported. The shortest and least trafficked route is to be given priority for movement of materials and machinery to minimise risk and impact to other motorists, so far as is reasonably practicable. The impact of generated traffic and measures employed to ensure efficiency and safety on the public road network during construction, operation and decommissioning of the project. This includes enforcement to managing traffic volumes, driver behaviour and access paths to site. A turn warrant assessment for the worst-case scenario (ie peak project traffic volumes applied to peak background traffic) in accordance with Part 6 Austroads Guide to Traffic Management is to be undertaken at identified key intersections on project routes, project site access and site access points to access ancillary infrastructure. TIA is to detail improvements to the road network, such as road widening and intersection treatments, to cater for and to mitigate the impact of project-related	Section 5.1



Agency SEARs Comments	Sections where addressed
traffic (including accommodation and ancillary infrastructure components) at key intersections with State roads. Proposed road facilities, access and intersection treatments are to be identified and conform with Austroads Guide to Road Design and TfNSW Supplements, including safe intersection sight distance. Strategic designs are to include swept path analysis for largest vehicle passing through the intersection(s). To assist the proponent in preparing strategic designs, the below link is provided: Strategic-Design-requirements-for-DA-Factsheet.pdf (nsw.gov.au) Note: Swept paths for OSOM vehicles on, entering and existing the state road network are to be on sealed road pavement. Note: It is the proponent's responsibility to acquire and dedicate land required to accommodate road infrastructure including, but not limited to, footways, structures, stormwater drainage, batters, maintenance access and utilities.	
Traffic safety assessment: - Local climate conditions that may affect road safety for vehicles used during construction, operation and decommissioning of the project (eg fog, wet weather, etc). - A review of crash data along the identified transport route/s for the most recent 5-year reporting period and an assessment of road safety along the proposed transport route(s). - Measures to be employed to ensure a high level of road safety for daily staff commutes between accommodation and construction site(s), specifically addressing impacts of unsafe driver behaviour and driver fatigue for all project stages and how measures employed will be enforced.	Section 4.1.7 and Section 5.4
Details of emergency access/egress, including details of: - The location of the emergency access(es). - How the access will be managed (e.g., gates) to prevent non-emergency-related vehicle movements from using it. - Sufficient storage at the throat of the access to allow emergency vehicle(s) to store within the access and not within the through lane or road shoulder.	Section 4.2.4
In relation to the EIS, TfNSW requires the identification of ancillary infrastructure, such as Electricity Transmission Lines that are crossing or near the state-classified road network or rail infrastructure within TfNSW remit. With respect to this matter the following information is required: - The heights or depths (under boring) and the vertical and horizontal clearances (overhead) in accordance with Austroads. - The method for construction of the transmission lines. - Location of infrastructure and impacts (excavation or fill) relative to the road reserve, including demarcation of local and state-classified road reserves. - Access required to construct and maintain the infrastructure. Access points or access tracks required for ETLs or other infrastructure will require the same level of assessment as the primary project access point. - Strategic concept designs must be provided for each transmission line crossing the state-classified road network.	Beyond the scope of the TIA, to be addressed by others.
If workforce accommodation is proposed, then the TIA is required to assess the pre-construction, construction schedule, staging, parallel construction activities and traffic generation until the workforce is fully accommodated at the camp. The traffic assessment requirements identified in this letter will apply to the workforce accommodation.	Section 5.2.1.1 and 5.2.1.2



Agency SEARs Comments	Sections where addressed
TfNSW (Concept Level Route Analysis required for High Risk OSOM)	
The route assessment is required for high risk OSOM (as defined on TfNSW website) delivering components to the project. The concept level route analysis must include: a) Port or point of origin for the entire route to the site access and intersections required to facilitate high risk OSOM movements required for the project. b) Overall combination type, configuration, load and vehicle configuration. c) The laden dimensions and weight of the vehicle configuration and loads. d) The TIA is required to include details of all high risk OSOM loads and vehicle configurations for the project. e) The location of pull-over bays / rest areas along high risk OSOM routes (including GPS coordinates) and demonstrate through swept paths that high risk OSOMs can be physically accommodated for the project (in terms of size, width and accessibility). f) Bridge Assessments for any at risk bridges on classified roads due to dimensions and weight of OSOM vehicles. g) The design vehicle templates used in the swept path analysis software are also requested in order for TfNSW to review the performance within the software (e.g. Autodesk Vehicle Tracking or Transoft AutoTURN). h) Highlighting each at-risk road structures that the haulage route crosses including bridges, traffic signals, signage, major culverts, and minor culverts that may not meet the desirable cover to cater for proposed axle loads. i) Traffic mitigation measures or road works, modifications, or road upgrades to facilitate the movement of the high risk OSOM(s) associated with the project. j) Potential high level mitigation measures or commitments to mitigate known traffic, safety and impacts to road users along the high risk OSOM route (i.e school bus routes, mining shift changes, TSRs, harvest periods and events). k) Identify and assess implications of any road and rail projects under construction during the indicative schedule for project related OSOM movements. Note: NHVR permits do not cover road works or upgrades, and environmental approvals required along any proposed OSOM route. Any road works or upgrades works required along the OSOM route must be included within the scope of works in the SSD to ensure the development is constructable. Note: Given high number of renewable energy and other large scale projects requiring road haulage of OSOM components, restrictions, and limitations on OSOM movements may be imposed. In this regard, it is recommended you engage earlier with TfNSW's Development Services Renewables team to discuss requirements of the route assessment.	Section 3.3.7 and Section 6.2
Narrabri Shire Council	
Traffic and Transport: A detailed Traffic Impact Assessment report should be undertaken that includes peak and average traffic generation numbers, and vehicle types required to access the site. The Assessment report should also include the potential transport impacts to the site access route(s) with consideration to vehicle type, locations of site access point(s), detailed investigation into the capacity and condition of the roads,	Section 5.1



Agency SEARs Comments	Sections where addressed
road safety and intersection performance. Construction of the project will generate additional light and heavy vehicle movements on the local road network and should also be investigated as part of the report. The proponent should engage with Council early in the planning process to identify any required road upgrades necessary and to discuss road maintenance contributions and any other traffic control matters. It is foreshadowed that a dilapidation assessment on the proposed Heavy Vehicle Route will need to be undertaken as the proposed route impacts high traffic and pedestrian areas (including School zones), residential roads and streets. A preliminary assessment of the proposal has identified that the project will also significantly impact roads infrastructure, and the proponent must commit to reinstatement costs to the road assets on proposed route. Furthermore, the purposed OSOM vehicle route would need to be closely monitored and assessed by Transport for NSW at the intersection of Tibbereena street and the Newell Highway. Council would prefer alternate routes for differing size heavy vehicles to lower the impact of traffic on residential streets. This would include a route of egress for unladen vehicles to the Newell Highway.	



3.0 Project Description

3.1 Overview

The subject site is located on land in the northeast periphery of the township of Narrabri, within the Narrabri Shire Council Local Government Area (LGA). It is located approximately 320km west of Coffs Harbour and 135km northwest of Tamworth. Narrabri Shire is strategically positioned at the crossroads of two major highways, the Newell Highway and Kamilaroi Highway, approximately midway between Sydney and Brisbane. It is also considered the main freight hub in NSW's Northern Inland Region.

The BESS site is generally regular in shape and is zoned RU1 Primary Production under the Narrabri Local Environment Plan 2012 (Narrabri LEP). The site is relatively flat and approximately 20 hectares (ha) in size and contains no existing built development. The neighbouring lots are predominantly large rural lots and generally cleared land. Access to the BESS site is via Stoney Creek Road, which runs along the southern extent of the site, with an existing substation on the opposite side of the road. The Project includes the construction of a BESS facility with a capacity of 125MW near the Narrabri 132/66 kV substation operated by Transgrid.

Appendix H shows the site location in the regional context and Figure 1 illustrates the site location in the local context.

Figure 1 Site Location in the Local Context



3.2 Project Summary

The Project will involve the development, construction, operation, and eventual decommissioning of a BESS with a capacity of 125 MW/1252 megawatt-hour (MWh) discharge rate, connecting via a transmission line or underground cable directly to the existing Narrabri 132/66 kV substation operated by TransGrid. The Project will consist of BESS containers, each approximately 10.5m long and weighing approximately 47,000kg. The BESS will be supported by inverters, which will convert the electricity from the BESS and connect to the existing Transgrid substation via approximately 340m of new underground 132kV cable.

The proposal is considered State Significant under the Planning Systems SEPP, as the proposed electricity generating works are estimated to cost in excess of \$30 million. A summary of the project is detailed in Table 5 below.

Table 5 Project Summary

Project Element	Description
Proposed Development - Construction and Operation Summary	The Project would generally involve the following components: • Mobilisation and establishment of access, temporary construction facilities and laydown area. • Transport of construction personnel associated with heavy and light vehicles, and materials to and from the site on a day-to-day basis, dependent on construction schedule. • Road works to formalise internal site access road to accommodate heavy vehicles, including two new crossovers to Stoney Creek Road. • Clearing and grubbing, cut, fill and compaction activities to create level pads. • Installation of drainage systems. • Installation of concrete footings or pads to support transformers, battery containers, inverters and other outdoor electrical infrastructure. • Delivery and placement of all equipment on the footings/ pads. • Trenching, installation and backfilling of underground cabling between equipment on the pad, including the BESS battery packs, transformers, auxiliary electrical equipment and the control room. • Construction of an underground 132 kV TL to facilitate connection to the existing Narrabri 132/66 kV TS and associated high-voltage steel poles. • Construction of hardstand, internal roads, control room/ switchgear, transformers, circuit breakers, harmonic filters, auxiliary underground transmission lines, car parking, lay down area, landscaping, security fencing/ lighting, stormwater management infrastructure, fire water tanks, and a single demountable building used for storage. • Removal of temporary construction facilities and rehabilitation of disturbed areas following completion of construction of the Project.
Site Access	Two new driveway crossings are proposed to access the Project Area via Stoney Creek Road. The internal access roads will be designed to accommodate heavy vehicles associated with the construction of the BESS.
Grid Connection	A new underground cable will traverse underneath the Stoney Creek Road reserve and connect the BESS substation to the existing TransGrid Narrabri 132/66 kV substation to the immediate southwest of the BESS area.
Total Disturbance Footprint	8.24 ha.



Project Element	Description
Construction Duration	Construction of the Project is anticipated to take approximately 12-14 months; however, the traffic assessment has been prepared based on 12 months for a conservative assessment.
Operation Life Expectancy	The operational life of the Project will be determined by the evolving nature of the technology; however, it is anticipated that the lifespan will be approximately 25 years. No Subdivision is proposed for this development.
Decommissioning	The Project would be decommissioned, and the infrastructure removed, returning the site to its original use following the approximate 25-year life expectancy. However, the Project may continue beyond 25 years if it is deemed viable to extend the development's lifespan.

3.3 Detailed Project Overview

With reference to Key Issue 4 raised by TfNSW in their RtS response dated 15/12/2025, it is important to note that the construction of the project will not require a vehicle route that is different to that assessed in this TIA to enable the “pre-construction & establishment minor works”. The vehicle fleet involved in the “pre-construction & establishment minor works” will utilise the road network that is assessed in this TIA.

3.3.1 Construction

Construction of the Project would require heavy vehicles, plant, and equipment for transporting and installing components on site. The Project is likely to require earth-moving equipment for civil and road works, cable trenching equipment, forklifts, and cranes, subject to detailed design to install the BESS and complete ancillary works.

A Construction Traffic Management Plan (CTMP) will be prepared prior to the commencement of substantial construction activities, describing how these activities will be undertaken during the construction phase of the development and how they will be managed to mitigate traffic impacts.

3.3.2 Construction Activities

It is anticipated that the construction and commissioning phase will last approximately 12-14 months. Over that time, the main construction activities will include:

- Mobilisation and establishment of access, temporary construction facilities and laydown area.
- Transport of construction personnel and materials to/ from the site on a day-to-day basis, dependent on the construction schedule, with the associated heavy and light vehicles.
- Road works to formalise internal site access road to accommodate heavy vehicles, including two new driveway crossovers from Stoney Creek Road.
- Clearing and grubbing, cut, fill and compaction activities to create level pads.
- Installation of stormwater drainage systems.
- Installation of concrete footings or pads to support transformers, battery containers, and other outdoor electrical infrastructure.



- Delivery and placement of all equipment on the footings/ pads.
- Construction of an underground 132 kV TL to facilitate connection to the existing Narrabri 132/66 kV TS.
- Trenching, installation and backfilling of underground cabling between equipment on the pad, including the BESS battery packs, transformers, auxiliary electrical equipment and the control room.
- Construction of hardstand, internal roads, control room, switchgear, transformers, circuit breakers, harmonic filters, auxiliary underground transmission lines, car parking, lay down area, landscaping, security fencing/ lighting, stormwater management infrastructure, fire water tanks, and a single demountable building used for storage.
- Removal of temporary construction facilities and rehabilitation of disturbed areas following completion of project construction.

3.3.3 Construction Materials

The following materials will be transported to the site to facilitate the construction of the Project and ancillary facilities and infrastructure:

- 150 containerised battery units
- 50 Power Conversion Units/ Inverters.
- Gravel hardstand work materials and equipment.
- Bulk earthworks materials and equipment.
- Cabling.
- O&M building structures (incl. temporary structures for construction crew and management).
- Internal roads and parking areas.
- Control room and 33kV Switchgear.
- Harmonic Filters.
- Auxiliary transformers.
- Fence, gates and lighting.
- Fire Safety Systems.
- 132/33 kV Main HV Transformer and substation
- Non-potable water for dust suppression.



3.3.4 Construction Hours and Personnel

For the construction workforce, based on SLR's experience with other BESS facilities and client endorsement, it is expected that there will be a peak of 48 staff on-site per day (or 56 trip movements per day), which across the 12-month (300 days) construction period is equivalent to approximately 16,800 trip movements. The workforce travel arrangements and assumptions are provided in Table 16.

SLR assumed the anticipated construction hours to be as follows:

- Monday to Friday – 7:00am to 6:00pm.
- Saturday – 8:00am to 1:00pm.
- Sunday and Public Holiday – No Work.

No works are proposed to be undertaken outside of the standard construction hours. In the event this is required, Out of Hours (OOH) approval would be sought, and all works would be undertaken in accordance with the appropriate OOH protocols and approval processes.

3.3.5 Construction Timeline

The SLR was informed by the client that the proposed development construction timeframe consists of the following:

- Site establishment/Pre-construction timeline: September 2026 – October 2026.
- Construction Timeline: October 2026 – October 2027.
- Commissioning Timeline: September 2027 – April 2028.

Based on SLR's assumption on the construction hours and the provided timeline, the anticipated project timeline is as follows:

- Total construction phase works are anticipated to take approximately 13 months (331 days).
- Testing and Commissioning of the BESS is anticipated to take approximately 7 months (173 days).

For the purposes of a conservative construction traffic assessment, SLR assumed the combined time frame for site establishment/pre-construction and construction works would take 12 months (300 days) to complete, to allow for any variance, change, or delay in the anticipated time frame.

3.3.6 Construction Traffic and Parking

Construction of the Project will require heavy vehicles, plant, and equipment to transport and install components. This includes equipment required for earth-moving for civil and road works, cable trenching equipment, forklifts, and cranes, subject to detailed design for installing the BESS and completing ancillary works. Light utility vehicles and some small trucks will be used to deliver electrical and earthwork products. The construction traffic is addressed in more detail in Section 5.1.

All construction vehicles and equipment will be parked and located within the project site area. Any temporary parking and set-down areas required during the construction phase will be reinstated and landscaped once the facility is operational.



3.3.7 Traffic Routes

3.3.7.1 Light Vehicle Routes

Light vehicles will be used by the workforce, that is currently planned to be provided with accommodation in Narrabri. Noting this, light vehicles will use a different route from heavy vehicles during the construction.

For the inbound and outbound trips, light vehicles would travel along Doyle Street from their accommodation within the town of Narrabri, continue towards Old Cemetery Road, cross the rail crossing and bridge, then turn right-onto Stoney Creek Road and travel towards the proposed site access.

A detailed breakdown of light vehicle movements, indicating which streets will be used for travel to/from the site, has not been provided because the origins/destinations are not yet known. This will be finalised once the contractors have been appointed and is to be included as part of the CTMP.

3.3.7.2 Heavy Vehicle Routes

The Port of Newcastle has been identified as the port of import for the battery units and switchgear equipment. These materials will be transported along the route depicted in Figure 2. Wilson Transformer Company in Glen Waverley (Victoria) has been identified as the origin of the Main Power Transformer for the purposes of transportation and is discussed in more detail in Section 3.3.7.3.1. All other materials will be transported from various towns, mainly from the south via the Newell Highway and the Kamilaroi Highway.

The route through the Narrabri town centre has several restrictions. Heavy vehicle access is restricted in the following road segments, which are also illustrated in Figure 3 overleaf:

- Lloyd Street, Doyle Street, Dewhurst Street, Bowen Street and Denison Street.

Figure 3 also illustrates the location of a right-turn ban in the area (on the west approach along Newell Highway into Barwan Street). This means the only viable east-west route through Narrabri is via Fitzroy Street.

The eastern end of Fitzroy Street is flood-prone and has a narrow carriageway. Hence, vehicles will need to turn left onto Barwan Street to travel northbound, then turn right onto Doyle Street to travel eastbound. This is consistent with the National Heavy Vehicle Regulator's (NHVR) approved roads for 26m B-Double design vehicles in Narrabri.

The proposed heavy vehicle route through the town centre is shown in Figure 4. All heavy vehicles (except for the OSOM vehicles which has been addressed in the OSOM Route Assessment Report, see Appendix K), will travel through Narrabri via the Newell Highway (from the west), turn right onto Tibbereena Street, then continue left into Fitzroy Street. Heavy vehicles will then travel eastbound along Fitzroy Street, take a left onto Barwan Street, and then turn right onto Doyle Street. All vehicles will continue on this road, cross the rail crossing, and then take the bridge to Old Cemetery Road, where they will turn right onto Stoney Creek. All vehicles will travel eastbound to the proposed site access and enter the site via a left-turn movement. SLR has undertaken swept path assessments for the largest design vehicle within the construction fleet (i.e. 26m B-Double Design Vehicle), which are provided in Appendix P.

Other than OSOM vehicle movements, the largest vehicle will be limited to the 26m B-Double design. Based on SLR's review of the NHVR-approved roads, the State Road network is approved for 68t B-Double design vehicles under Higher Mass Limits (HML). However, the local road network through Narrabri is approved for 64.5t B-Double design vehicles under Concessional Mass Limits (CML).



In relation to the routing of shuttle buses, although they are technically considered heavy vehicles (4.5 tonne (t) or above) when fully loaded (tare mass 3,730kg and gross weight 5,235kg), it is noted that they are intended to be utilised for construction workforce transportation and will travel via the proposed light vehicle routes detailed in Section 3.3.7.1.

A detailed breakdown of the heavy vehicle movements, including the streets to be used for travel to/from the site, has not been provided, as the origins/destinations are not yet known. This will be finalised once the contractors have been appointed and is to be included as part of the CTMP. At this point, it is assumed that the section of the heavy vehicle routes that are closest to the site will be to/from the Kamilaroi Highway, which is the same as the last section of the OSOM route (see Section 3.3.7.3 and Appendix J).



Figure 2 Anticipated Heavy Vehicle Access Route

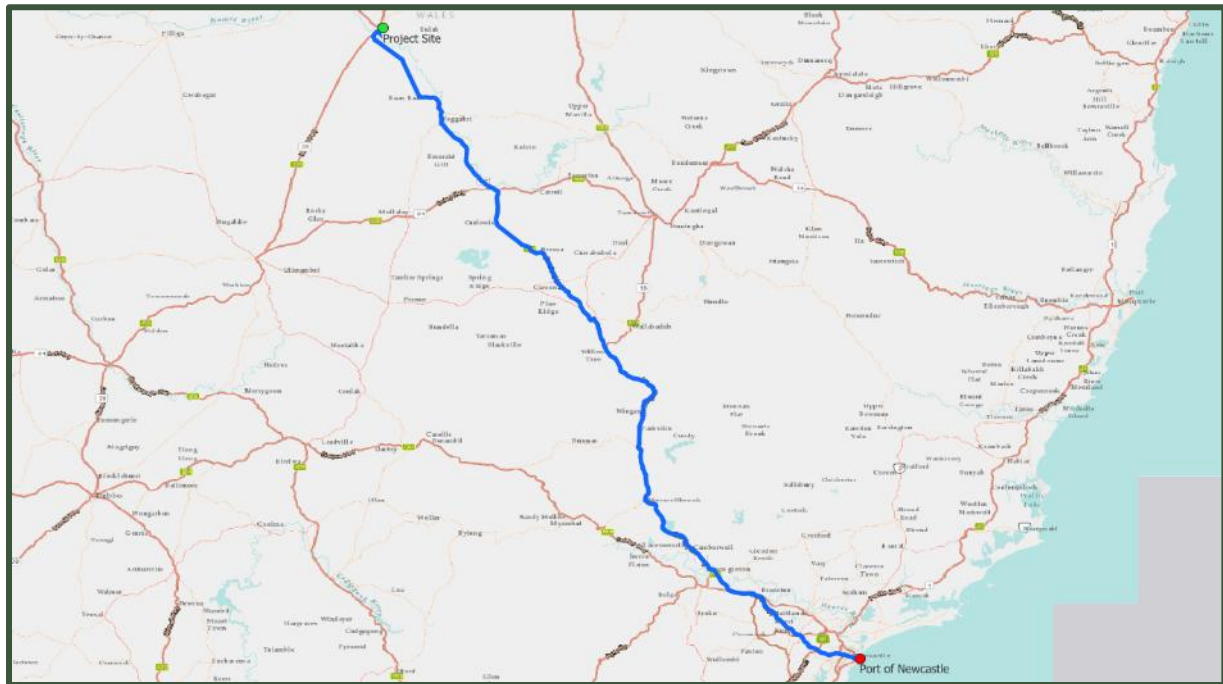


Figure 3 Heavy Vehicle Route Access Restrictions Through Narrabri

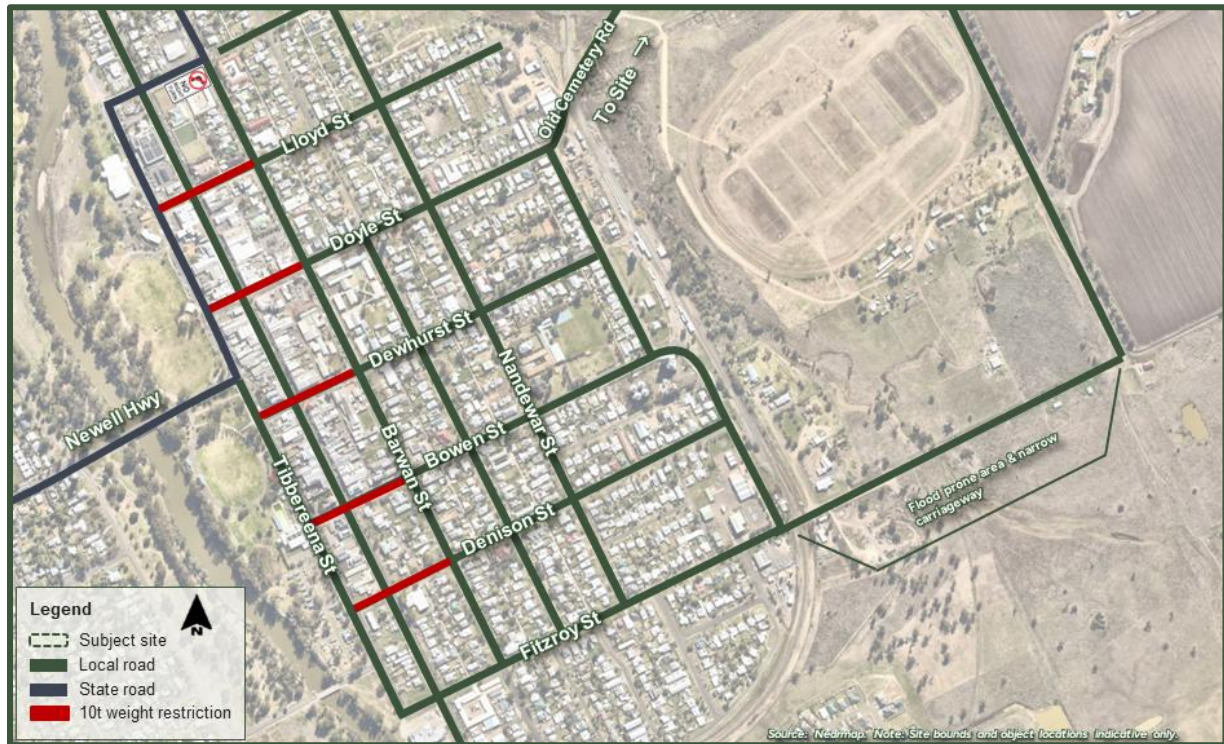


Figure 4 Proposed Heavy Vehicle Route Through Narrabri



3.3.7.3 Oversize Over Mass Vehicle Routes

Based on the OSOM Route Assessment Report prepared by Amber (November 2025), attached at Appendix K, it is understood that two inbound and two outbound OSOM trips will be required to deliver the following major components:

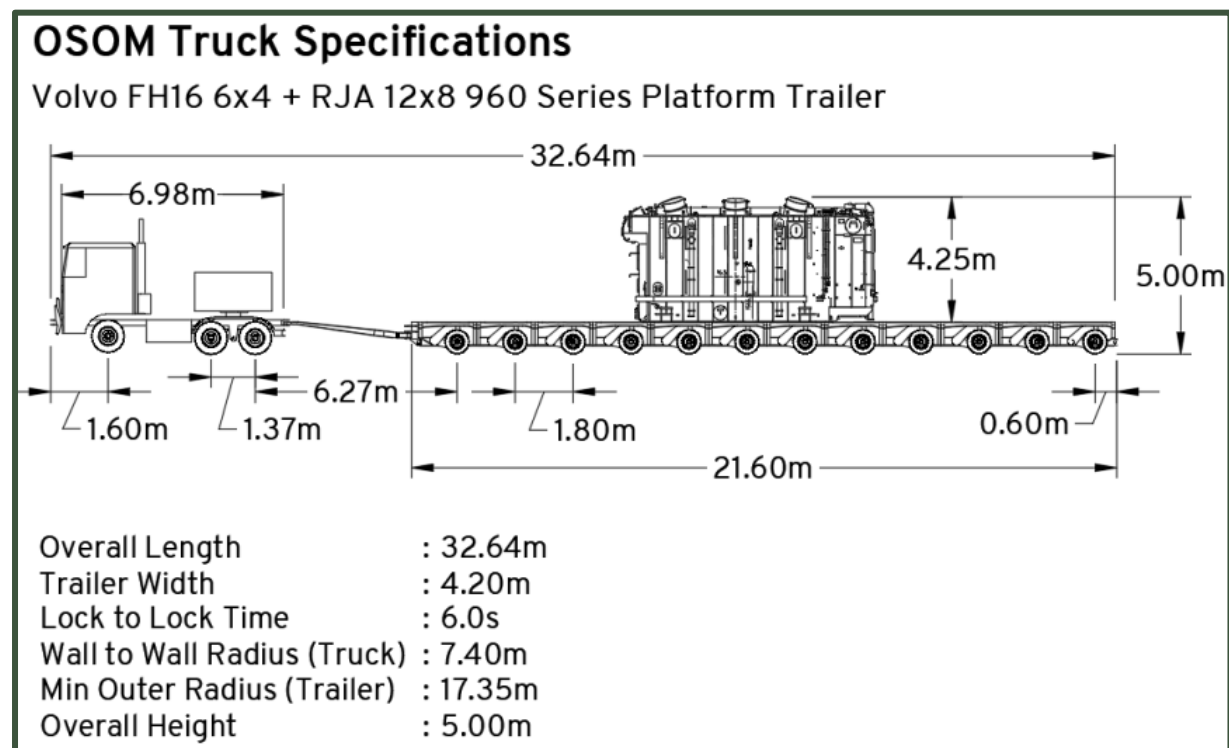
- The transformer.
- The control room.

Details regarding the specific vehicles required for each movement, along with the proposed transport routes, are outlined comprehensively in the OSOM Route Assessment Report. A summary of these details is provided below.

3.3.7.3.1 One-Off Transportation of the Transformer (OSOM)

Based on the OSOM Route Assessment Report undertaken by Amber (November 2025), attached at Appendix K, it is understood that the transformer for the proposed BESS facility will weigh 105.65 tonnes (excluding oil). The geometric details of the anticipated design vehicle are shown in Figure 5.

Figure 5 Proposed Vehicle for Transformer Transportation

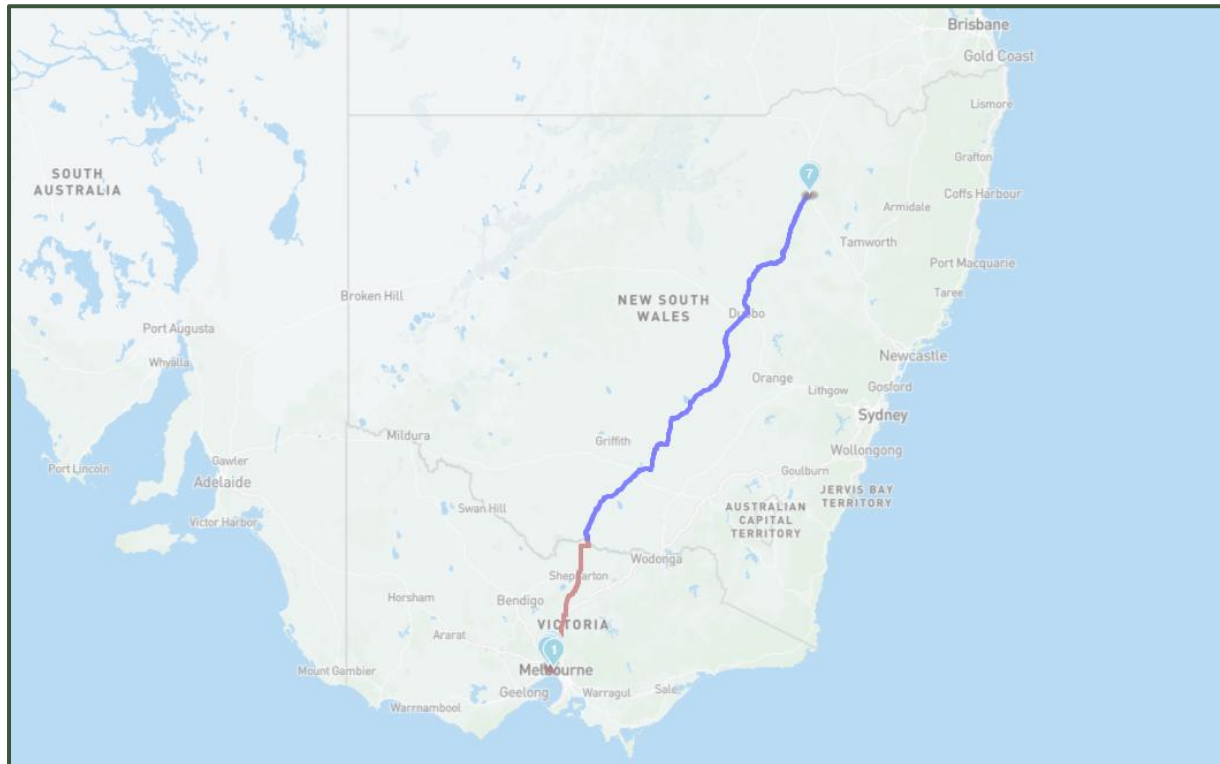


Source: AMBER OSOM Material Route Study

The planned route is provided in Figure 6 and Appendix I. Based on Amber's report, it is anticipated that the entire transformer (loaded on a single platform trailer) would be approximately 5.0m high for transportation purposes and within the typical clearances of 5.1m in the Victoria and New South Wales state road networks. If any changes are suggested to the transformer specifications during detailed design, additional transport investigations may be required.



Figure 6 Proposed Transformer Transportation Route



The route proposed for the transportation of the transformer above has been reviewed on the National Heavy Vehicle Regulator's website and is readily approved for the following standard design vehicle:

- VIC: 10x8 Platform Trailer up to 175 tonnes – Reference Vehicle 11.
- NSW: NSW Oversize Overmass Load Carrying Vehicles Network Approved Roads.

The proposed route can also be reviewed digitally by entering the code 2N2IM-0 on the Route Planner page of NHVR¹. Notwithstanding, special OSOM approvals will be required in VIC and NSW for the transportation of the transformer.

Amber conducted a swept path assessment at key location along the route that indicates that no upgrades are required to transport the transformer to site.

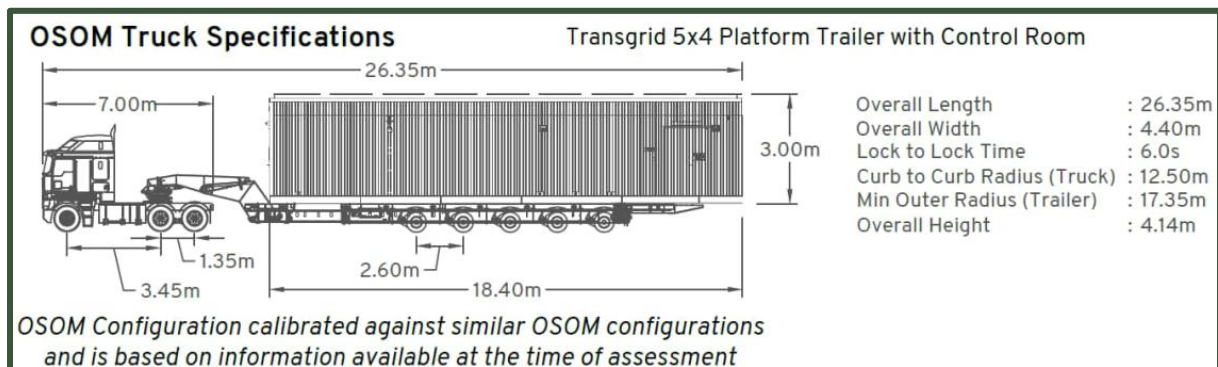
It is recommended that dilapidation surveys be undertaken to assess the condition of the proposed transport route and to identify any changes in road condition before and after the proposed construction works, which is further discussed in Section 6.3.

Temporary traffic management plans (TMP) will be required in key locations along the transport route to manage the spatial requirements of the OSOM vehicles, as identified in the Route Assessment Report.

3.3.7.3.2 One-Off Transportation of the Control Room (OSOM)

Based on the OSOM Route Assessment Report undertaken by Amber (November 2025), attached at Appendix K, it is understood that the control room for the proposed BESS facility will weigh 76 tonnes. The geometric details of the anticipated design vehicle are shown in Figure 7.

Figure 7 Proposed Vehicle for Control Room Transportation



Source: AMBER OSOM Material Route Study

The planned route for transporting the control room will be the same as the heavy vehicle trips originating in Newcastle (see Figure 2). Based on Amber's report, it is anticipated that the entire control room (loaded on a single platform trailer) would be approximately 4.14m high for transportation purposes and within the typical clearances of 4.3m in the New South Wales state road network. The OSOM Route Assessment Report indicated that no upgrades are required to transport the control room. Notwithstanding, if any changes are suggested to the transformer specifications during detailed design, additional transport investigations may be required.

¹ <https://www.service.nhvr.gov.au/#page=informationHub/routePlannerTool>



3.3.7.4 NHVR Route Review

The route proposed for the transportation of the construction materials and transformer, as noted above, has been checked on the NHVR's website for the following vehicles:

- NSW: GML & CML 25/26m B-Double Routes.
- NSW: NSW Oversize Overmass Load Carrying Vehicles Network Approved Roads.
- VIC: 10x8 PT up to 175 tonnes – Reference Vehicle 11.

3.3.7.4.1 B-Double Routing

Following the review of the proposed routes via the NHVR Route Planner Tool, it was identified that some roads and areas are operable with conditions as follows:

- The southern section of the Kamilaroi Highway from Gunnedah has the condition that the heavy vehicle route through Gunnedah is used. This includes Bloomfield Street and Warrabungle Street.
- Shire zone conditions, all roads along the identified route are approved for B-Double design vehicles with the following conditions:
 - B-Double Area - All routes within Gunnedah Shire, excluding those within Gunnedah township unless Gazetted as approved for use. Restrictions may apply to impassable routes. Contact Local Council or TfNSW for temporary road closures.
 - B-Double Area - Operating Conditions: (1) It is the responsibility of the driver of the B-Double transport to satisfy themselves that the proposed route is suitable for use under the conditions existing at the time and undertake a risk assessment of the route prior to travelling the route to assess the suitability of travel along the route. (2) Temporary route restrictions may be imposed when routes become impassable for heavy vehicles. (3) Following rainfall, the driver of a B-Double transport must check with the Liverpool Plains Shire Council or the TfNSW Area Office regarding possible road closures. (4) Extreme care must be taken on the route, especially during wet weather or during school bus hours.
- At the Port of Newcastle, a section of Parry Street, between Gordon Avenue and Stewart Avenue, does not permit travel between 8:00 AM and 9:30 AM and 3:30 PM and 5:30 PM on Mondays and Fridays.

3.3.7.4.2 OSOM (Transformer Transportation) Routing

According to the NHVR Route Planner, the proposed route ends at the Kamilaroi Highway/ Tibbereena Street intersection. The residual travel distance from the subject site is approximately 4km. Therefore, for the final segment of the transformer movement, approvals must be obtained from the NHVR and the local council for this one-off movement.

There are several approved roads with specific conditions. The vast majority of these conditions are in Victoria, and they primarily relate to the requirement to use both lanes/ the median to travel along. The couple of conditions for approval within NSW are all related to travelling over a couple of rail crossings along the route and require OSOM vehicles to travel at a speed of no more than 35km/h over the rail crossing.



3.3.7.4.3 NHVR Route Conditions

Following a review of the proposed routes, SLR identified several conditions affecting the proposed route, mainly located in Victoria and around Newcastle's built-up and surrounding areas.

Other road conditions were noted, such as where rail crossings were present. These were identified as *Approved with Conditions*, with instructions provided for heavy vehicle drivers when they are required to navigate these locations. The conditions along this route are subject to change and should be reviewed as part of the CTMP. This information should be documented within the Drivers' Code of Conduct, as discussed in Section 5.4.2.

Further assessments of these routes should be documented within the CTMP and OSOM Material transportation Route Study based on the outcomes of consultations with NHVR and/or Council.

3.3.8 BESS Components

A summary of the development description is detailed in Table 6 below.

Table 6 Development Description Summary

Aspect	Details
Project Name	Stoney Creek Battery Energy Storage System (BESS)
Site Address	41 Stoney Creek Road, Narrabri NSW 2390
Lot & Plan for BESS	Lot 156 in DP 754944
Lot & Plan for Transmission line	Lot 156 in DP 754944, Lot 1 in DP 502189, Stoney Creek Road reserve
Local Government Area (LGA)	Narrabri Shire Council LGA
Renewable Energy Zone	No
Land Zoning	RU1 Primary Production
Maximum Output	125 MW
Battery Type	Lithium Ion (LFP)
BESS Site Size (Lot 156 in DP7544944)	20.2 ha
Total Disturbance Footprint	8.24 ha
Current Land Use	Agricultural

The battery units will be stored in fully enclosed battery storage containers. Each battery storage container will be approximately 10.5m long, 2.5m wide and 3m high. The battery storage containers will be placed in rows with industry-standard separation distances.

Each section will consist of BESS containers, which will run in two northeast-southwest aligned rows, with one of the rows in a side-by-side formation. The BESS will be supported by up to 50 Power Conversion Units (PCUs) /inverters, which will convert the electricity from the BESS and connect to the proposed substation before connecting to the existing transmission network at the Narrabri substation.

Each battery storage container will connect to inverters and medium voltage (MV) transformers. The inverters are required to convert direct current (DC) to alternating current



(AC), and the transformers are required to step up the voltage from 690V to 33 kV. The inverters and transformers will be housed in modular containers called Medium Voltage Power Conversion Units (PCUs).

Electrical cabling connecting the onsite infrastructure (e.g. electrical cabling connecting the batteries, inverters and transformers) will be located underground in accordance with relevant Australian Standards.

A 33 kV switch room will be required at the BESS facility to control the delivery of electricity to and from the adjacent Narrabri substation. The BESS facility will require its own substation to transform medium voltage (MV) to high voltage (HV), and vice versa.

3.3.8.1 Connection to Existing Substation

The proposal will connect the BESS facility to the adjacent Narrabri 132/66 kV substation via a new underground 132kV cable traversing the BESS Site.

There are existing overhead transmission lines traversing the BESS Site and crossing Stoney Creek Road into the Narrabri 132/66 kV substation. These existing transmission lines will not be utilised to connect the BESS to the Narrabri substation.

3.3.8.2 Access and Parking

Access to the BESS Site for both the construction and operational stages of the development will be via the two access points from Stoney Creek Road, as shown in Appendix A and Appendix B.

During the construction phase, the access driveway (approx. 20m wide) will be constructed to facilitate the swept path of the OSOM vehicle movements, which will be significantly wider than the minimums of the relevant Australian Standards. Following the construction phase, the access will be reconstructed and provided in accordance with the relevant Australian Standards and Austroads Guidelines for the maintenance vehicles required during the operational phase.

Vehicle parking will be provided on the BESS site for general maintenance staff. Construction vehicles and parking will utilise a temporary laydown area.

3.3.8.3 Construction Waste

Construction waste will be removed by the contractor during construction in accordance with management plans.

3.4 Operational Phase

The following activities are anticipated during the operational phase of the development:

- 25-year operational period, plus an additional 10-year lease option.
- Full servicing of the inverters, battery containers and substation equipment.



3.4.1 Operations Workforce

Once operational, there will be no activities that require a large workforce on-site. For the majority of the development's lifespan, operations will involve a range of preventive, corrective, and condition-based maintenance activities, which will entail various maintenance, inspection, and servicing for the BESS, the associated electrical network, and the internal road infrastructure. During operation, a maximum of 4 staff will be present on site. For the first 6 months, maintenance visits may be required weekly to resolve any initial issues as the asset becomes fully operational. Thereafter, scheduled maintenance visits will occur quarterly for 3-7 days. These visits will occur Monday to Friday, within usual business hours, and will be agreed upon beforehand. Reactive, unplanned maintenance visits are extremely rare. However, access to the site will be required 24 hours a day, 7 days per week, to manage any faults or unexpected operational issues.

3.4.2 Hours of Operation

The BESS will operate at any time of the day, depending on different energy supply and demand scenarios; however, it will never operate continually 24 hours per day, 7 days per week.

3.4.3 Waste Management

Once operational, the development does not propose a site office. Therefore, no on-site waste facilities will be required. All rubbish will be removed by the on-site maintenance workforce.

3.4.4 BESS Augmentation

Once operational, the development proposes three augmentations throughout the site's operational life, where a total of 200 additional smaller BESS containers (approximately 6m long) may be installed. The first augmentation will consist of approx. 48 additional BESS containers, the second of 64, and the third of 88.

3.5 Decommissioning

The BESS is expected to operate for a 25-year period. It will then be decommissioned and the infrastructure removed, with reinstatement works required to return the site as close as possible to its original state and use. The standard construction hours and heavy vehicles, plant, and equipment required for the construction of the Project would also apply to the decommissioning phase.



4.0 Site Description

4.1 Existing Conditions Appraisal

4.1.1 Surrounding Road Network

The characteristics of the key roads in the surroundings of the Project site are summarised in Table 7.

Table 7 Surrounding Road Network

Road	Road Owner	Width	Movement	Condition	Speed Limit
Stoney Creek Rd	Local	5.6m	Two-way, undivided.	Sealed and Unsealed Segments	50km/h, increases to 100km/h
Old Cemetery Rd	Local	5.2m	Two-way, undivided.	Sealed and Unsealed Segments	50km/h
Newell Hwy	State	7.4m	Two-way, divided.	Sealed	50km/h through the centre of town. 80 km/h and 110 km/h out of town
Kamilaroi Hwy	State	7.2m	Two-way, divided with portions increasing in width to accommodate turn lanes or 45-degree parking.	Sealed	50km/h through the centre of town. 80 km/h and 110 km/h out of town
Doyle St	Local	11m	Two-way, divided with 45-degree parking on both sides.	Sealed	50km/h, 40km/h school zone
Barwan St	State & Local	6.8m	Two-way divided with 45-degree parking on one side and parallel parking on the other.	Sealed	50km/h
Tibbereena St	State & Local	13m	Two-way, divided with 45-degree parking on both sides.	Sealed	50km/h
Fitzroy St	State	17.2m	Two-way, undivided.	Sealed	Unposted (Default 50 km/h)

Based on SLR's review, the surrounding road network is approved for up to 26m B-Double design vehicles:

- Kamilaroi Highway, Newell Highway, Tibbereena Street, Fitzroy Street (up to James Street), Barwan Street, Doyle Street (between Barwan Street and Reid Street).

Based on SLR's review, the surrounding road network is approved for OSOM vehicles:



- Kamilaroi Highway, Newell Highway, Tibbereena Street (between Kamilaroi Highway and Barwan Street), Barwan Street (between Tibbereena Street and Newell Highway).

The wider road network is also illustrated in Figure 8.

Figure 8 Surrounding Road Network



Access to the BESS Site is provided via Stoney Creek Road, which runs along the BESS Site's southern boundary in the east-west direction. It is intended to serve the development with two access crossovers (driveways). Stoney Creek Road is sealed and typically 5.4m wide. It operates as a local road and provides access to nearby farms.

At its western end, Stoney Creek Road intersects with Old Cemetery Road and Doyle Street, which have a simple right turn (SR) and a simple left turn (SL) arrangement at this intersection.

Newell Highway and Kamilaroi Highway are state roads with a high proportion of heavy vehicles, connecting major towns across Victoria, New South Wales and Queensland. Newell Highway is the longest highway (1,060km) in New South Wales, connecting Tocumwal at the Victorian border to Goondiwindi at the Queensland border. Kamilaroi Highway is 605km and connects Willow Tree to Bourke.

In the vicinity of the Project Area, Newell Highway operates under a 50 km/h speed limit, with one travel lane in each direction, supported by turning lanes at major intersections and sealed shoulders with parallel parking on either side. The Newell Highway/Tibbereena Street intersection is a three-way priority-controlled intersection, with Newell Highway as the priority (major) road.

4.1.2 Surrounding Public & Active Transport Network

SLR conducted a review of the TfNSW public transport network and determined several public transport routes in the vicinity of the Project Area, as documented in Table 8 overleaf.



The public transport routes comprise two train routes servicing one location, eight coach routes servicing one location and one bus route servicing seven stops throughout the town of Narrabri. It should be noted that SLR's review also discovered four temporary coach routes that were not operating at the time of the review.

SLR anticipates that the project will have no impacts because all public transport services identified operate once on their scheduled day and are expected to occur outside the project's construction traffic peak periods.

Table 8 Public Transport Services in the Vicinity of the Project Site

Stop Name	Route Identification	AM Peak Frequency	PM Peak Frequency
Rail Network			
Narrabri Station	NRW (244) (Daily)	9:15AM	4:56PM
	North West NSW (243) (Daily)	9:10AM	4:52PM
Coach Network			
Narrabri, Coach Stop	329 (Friday)	6:10 AM	N/A
	330 (Friday)	8:45AM	N/A
	331 (Monday)	7:30 AM	N/A
	332 (Monday)	8:45AM	N/A
	333 (Monday)	N/A	5:05PM
	334 (Monday)	N/A	6:20PM
	335 (Friday)	N/A	5:05PM
	336 (Friday)	N/A	7:40PM
Temporary Coach Network			
Narrabri, Coach Stop	4315	Temporary Coaches (Not Currently Operating)	
	4317	Temporary Coaches (Not Currently Operating)	
	4416	Temporary Coaches (Not Currently Operating)	
	4418	Temporary Coaches (Not Currently Operating)	
Bus Network			
Narrabri, Coach Stop	457C (Daily)	9:50AM-10:05AM	N/A



4.1.3 Site Inspection and Traffic Surveys

A site inspection was undertaken by SLR staff on Wednesday 26 March 2025, to review the geographic landscape in proximity to the Project Area, as well as reviewing the feasibility of transport route options.

After a review of TfNSW Traffic Volume Viewer, SLR discovered no available traffic count stations in Narrabri and around the Project Area to determine traffic volumes on the surrounding roads identified in Table 7.

To ascertain the existing traffic demands on the road network surrounding the site, SLR commissioned Traffic Information Specialist (TIS) to undertake automated tube count (ATC) surveys along Newell Highway from Tuesday 25 February 2025 to Monday 3 March 2025 and classified turning count surveys at the Newell Highway and Tibbereena Street intersection on Tuesday 25 February 2025.

A review of the survey data (raw data provided in Appendix L) indicated that the 7-day peak hours were as follows:

- Weekday AM peak: 9:00am to 10:00am.
- Weekday PM peak: 3:00pm to 4:00pm.

In the absence of permanent traffic counters in the vicinity of the Project Area, SLR conducted a site inspection and found that the bi-directional traffic volume on Stoney Creek Road was less than 10 vehicles per hour. Conservatively, 10 vehicles per hour were assumed.

The resulting background traffic volumes for the network AM and PM peak hours can be seen in Figures M1 and M2 in Appendix M.

4.1.4 Background Traffic Growth

In the absence of historical traffic count data to establish observed growth trends within the study area, a background traffic growth rate of 2% per annum has been adopted for this assessment. This growth rate has been applied linearly to the surveyed background peak-hour volumes to derive future-year traffic conditions.

It is noted that Stoney Creek Road operates as a no-through road, serving only a small number of rural properties. Accordingly, no significant background traffic growth is anticipated on Stoney Creek Road, and the existing traffic volumes on this road are assumed to remain unchanged for the assessment period.

The resulting forecast background traffic volumes for the 2026 assessment year (year of construction) are provided in Figures M3 and M4 in Appendix M.

4.1.5 Bridge Widths & Capacity

SLR reviewed the publicly available aerial imagery to determine whether the bridge's width near the Project Area is sufficient for bi-directional heavy vehicle movements. During SLR's site inspection, the desktop review was verified, and it was concluded that this bridge is at least 9m wide, as shown in Figure 9 below. On this basis, the bridge width is considered sufficient for bi-directional heavy vehicle movements.



Figure 9 Nearby Bridge (Horsearm Creek)



SLR also determined that the widest haulage item, the transformer, can be geometrically accommodated on the bridge. To transport the batteries and transformers, road or lane closures may be required. The bridge's load-bearing capacity has been reviewed as part of the OSOM Route Assessment by Amber, attached at Appendix K (see Appendix F of the study by BK Engineers – Bridge and Culvert Assessment from Council).

4.1.6 Railway Corridors and Level Crossings

SLR studied the route using the TfNSW Public Level Crossing Finder and identified two level crossings along the entire haulage route, with one being in the vicinity of the Project Area. Two rail bridges along the proposed route were identified after reviewing Freight Australia's open data source for "*Rail Freight: Train Count and Tonnage*". This review found that the rail network around Narrabri is typically used to transport minerals, grain, general freight, and steel. Table 9 below provides an overview of these railway crossings.

Table 9 Level Crossings Along the Haulage Route

LXM ID	Control Type	Controls	Rail Manager	Road Name
745	Active	Flashing Lights	UGL Regional Linx	Newell Highway
541	Passive	Stop Signs	ARTC	Doyle Street

The locations of these crossings are shown in Figure 10.



Figure 10 Rail Crossing Locations



Table 10 and Table 11 overleaf illustrate these railway crossings. Based on a site inspection undertaken by SLR's traffic engineers, the available sight distances were considered sufficient and safe for the development construction vehicles with adequate visibility in both directions.

Table 10 Level Crossing 745 with Flashing Lights



Table 11 Level Crossing 541 with Stop Signs



4.1.7 Crash Analysis

To identify any safety deficiencies in the surrounding road network within proximity to the Project Area, SLR conducted a review of the crash data information extracted from the TfNSW Centre for Road Safety website for the most recent five-year period of data. (between 2019 - 2023).

Due to the large number of crashes identified in the broader road network, it was considered reasonable to only study the crashes located along the proposed heavy vehicle route in detail. The locations of the analysed crashes are illustrated in Figure 11 with details and Road User Movement (RUM) codes provided in Table 12 overleaf.

Figure 11 Crash Data Locations



Source: Nearmap and TfNSW Crashes Map (2019-2023).



Table 12 Crash Locations (2019 - 2023)

Crash ID	Year	Location	Crash Severity	RUM Code	RUM Description
1256895	2021	Kamilaroi Hwy	Moderate Injury	10	Cross Traffic
1314851	2023	Kamilaroi Hwy	Moderate Injury	30	Rear End
1278782	2021	Kamilaroi Hwy	Non-Casualty (Towaway)	30	Rear End
1282832	2022	Kamilaroi Hwy	Non-Casualty (Towaway)	88	Out of Control on Bend
1270601	2021	Tibbereena St	Moderate Injury	48	From Footpath
1308590	2022	Fitzroy St	Moderate Injury	10	Cross Traffic
1257624	2021	Barwan St	Moderate Injury	10	Cross Traffic
1257939	2021	Barwan St	Moderate Injury	42	Leaving Parking
1202832	2019	Doyle St	Non-Casualty (Towaway)	71	Off Road Left into Object
1216467	2019	Doyle St	Minor/Other Injury	10	Cross Traffic
1278742	2021	Doyle St	Non-Casualty (Towaway)	10	Cross Traffic
1265942	2021	Doyle St	Serious Injury	10	Cross Traffic

Source: TfNSW Crashes Map (2019-2023).

As shown in Table 12, there were a total of twelve crashes located along the proposed haul route in the vicinity of the project site.

In the broader road network, there were:

- No reported crashes resulted in fatal injuries.
- Two reported crashes resulted in serious injuries.
- Eighteen reported crashes resulted in moderate injuries.
- Three reported crashes resulted in minor/other injuries.
- Ten reported crashes resulted in non-casualty (towaway).

In the vicinity of the site, there were:

- No reported crashes resulted in fatal injuries.
- One reported crash resulted in serious injury.
- Six reported crashes resulted in moderate injuries.
- One reported crash resulted in a minor/other injury.
- Four reported crashes resulted in non-casualty (towaway).



A review of the RUM codes assigned to these crashes indicates that the majority of crashes were single-vehicle crashes that occurred due to the loss of vehicle control, which is a typical crash type in rural regions. Based on this, it was concluded that the publicly available crash dataset does not indicate a crash theme that would preclude the development or warrant significant safety mitigation measures.

Notwithstanding, it is recommended that a driver's code of conduct be prepared by the applicant, similar to the preliminary one provided in Appendix Q. It is also recommended that the preparation of a Drivers' Code of Conduct be conditioned in the development consent.

4.2 Project Description

4.2.1 Locality

The Project Area is located on land approximately 900m from the northeast periphery of the township of Narrabri, within the Narrabri Shire Council Local Government Area (LGA). It is located approximately 320km west of Coffs Harbour and 135km northwest of Tamworth. Narrabri Shire is strategically positioned at the crossroads of two major arterial roads, Newell Highway and Kamilaroi Highway, midway between Sydney and Brisbane. It is also considered the main freight hub in the Northern Inland Region of NSW.

There are two other large towns within the LGA, being Boggabri and Wee Waa. A number of other villages are found throughout the LGA. Narrabri provides essential retail, commercial, and community services to a range of local communities with a strong and growing economy centred on agricultural production, agribusiness, and mineral resource production. It also includes several research institutions.

4.2.2 Site Description

The BESS site is identified as 41 Stoney Creek Road, Narrabri NSW 2390, being Lot 156 in DP 754944. The site also includes the existing Narrabri 132/66 kV substation that the BESS would be connected to via a new underground 132kV cable. The substation is located on Lot 1 in DP 502189, 70 Stoney Creek Road, Narrabri NSW 2390, approximately 40m southwest of the site.

The BESS Site is relatively flat and approximately 20ha in size, and contains no existing built development. The total disturbance footprint area is 8.24 ha.

4.2.3 Surrounding Areas

Scattered vegetation occurs sporadically along the BESS Site's boundaries, with the majority of land previously cleared for the purpose of regular crop planting and harvesting. Overhead powerlines run through the BESS Site at several locations.

The neighbouring lots are predominantly large rural lots and generally cleared land. The closest residence is approximately 600 metres from the proposed BESS facility to the south. Narrabri Cemetery is located west of the BESS site.

Stoney Creek Road runs along the site's southern extent of the site, with an existing substation located on the opposite side of this road.



4.2.4 Roads and Access

When approaching the Project Area from the regional centre of Tamworth, the Project Area is accessed via the Kamilaroi Highway or from Moree to the north via the Newell Highway. Access to the township of Narrabri is via Stoney Creek Road and Old Cemetery Road. Old Cemetery Road merges into Doyle Street and runs directly into the centre of the township of Narrabri and connects to the Newell Highway, which then connects to the Kamilaroi Highway. Access to the BESS Site will be via two driveways on Stoney Creek Road (one dedicated to the one-off transformer delivery and one for all other general movements). Basic Left Turn Treatments will be provided at the development accesses as per the design attached at Appendix B.

4.2.5 Approvals History

There are no related or associated approvals relevant to this Project. A review of the Narrabri Shire Council Local Development Register (from June 2011 to present) did not identify any development history on the Project Area.



5.0 Assessment

5.1 Project Traffic Demands

It has been identified that the pre-construction and construction phases will utilise the same traffic routes. Accordingly, the peak traffic has been determined for the construction period (see the subsequent section) and conservatively applied to the entire pre-construction and construction period.

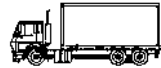
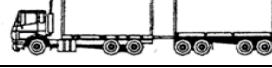
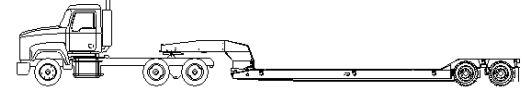
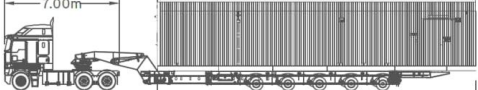
5.2 Construction Traffic Generation

The traffic generation potential of the project has been forecast based on the information obtained from Enervest and is explained in the subsequent sections.

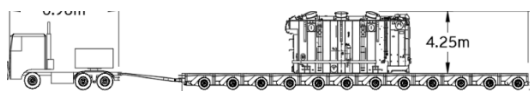
5.2.1.1 Construction Phase Traffic Assumptions

The vehicle fleet anticipated to be associated with the construction of the Project is shown in Table 13 below.

Table 13 Project Construction Vehicle Fleet

Vehicle	Typical Vehicle Profile	Haulage Material
Private Vehicle (B99)		Supervision Workforce. Assumed occupancy of 1 person per vehicle
Toyota Coaster Bus (22-seater)		Labour Workforce. Assumed occupancy of 21 persons per vehicle, excluding the driver
Concrete Truck (7.4 cubic meters)		Concrete
HRV (12.5m)		Waste removal Water
32t truck and dog (17m)		Aggregates, quarry products.
Six Axle Articulated (20m AV)		40ft Container (one full-size)
B-Double (19m/26m)		26m long: 40ft and 20ft Containers (one full-size and one half-size) 19m, 23m or 26m long: energy storage batteries. Construction mobilisation & demobilisation
Low Loader (20m)		Excavator, bulldozer, grader, compactor, piling rig.
OSOM platform trailer & prime mover (26m)		One-off transportation of the control room



Vehicle	Typical Vehicle Profile	Haulage Material
OSOM platform trailer & prime mover (31m)		One-off transportation of the main HV transformer

Traffic generated during the construction of the Project will primarily be associated with the transportation of materials/ equipment and the workforce. In order to simplify the construction traffic calculations, SLR has broken down the traffic-generating elements of the proposed works into two classes as follows:

- Construction heavy vehicle traffic.
- Construction workforce traffic.

For further ease of calculation and review, SLR also broke down the construction heavy vehicle traffic into two stages: “pre-construction and establishment minor works” and “construction materials”. The anticipated vehicle movements for site clearance and establishment are detailed below in Table 14.

Table 14 Pre-construction and Establishment Minor Works

Element	Assumption	Delivery Method	Anticipated Trips	Source
Site Clearing	3 x Bulldozer, 3 x Grader, 3 x Excavator, 3 x Mulcher, 3x Compactor	Low Loader	15 inbound, 15 outbound.	SLR assumption based on previous similar projects.
Earthworks	35,000m ³ transported to site.	17m Truck & Dog Combination (20m ³)	1,750 inbound, 1,750 outbound 35 inbound, 35 outbound trips per day for 50 days	Provided by Enervest
Water for Dust Suppression	18,000L per day	HRV (Water Truck)	1 inbound, 1 outbound per day. 300 inbound, 300 outbound	Provided by Enervest
Waste Removal		MRV	50 inbound, 50 outbound.	Waste Removal
Access Track Road Base (Compacted)	6,573 m ² x 0.2m = 1,314.6m ³ 2,497.74t @ 1.9t/m ³	17m Truck & Dog Combination (32t)	79 inbound, 79 outbound.	Area was measured from the indicative site layout. Assumed a 6m access track and spacing.
Switchgear Aggregate Base (Compacted)	1,604 m ² x 0.2m = 320.8m ³ 609.52t @ 1.9t/m ³	17m Truck & Dog Combination (32t)	20 inbound, 20 outbound.	Area was measured from the indicative site layout. SLR assumed the whole area would be a hard stand.



Element	Assumption	Delivery Method	Anticipated Trips	Source
Substation Aggregate Base (Compacted)	5,388 m ² x 0.2m = 1,077.6m ³ 2,047.44t @ 1.9t/m ³	17m Truck & Dog Combination (32t)	64 inbound, 64 outbound.	Area was measured from the indicative site layout. SLR assumed the whole area would be a hard stand.
BESS Aggregate Base	2 x 3,304m ² + 4 x 2,674m ² = 17,304m ² x 0.2m = 3,460.8m ³ 6,575.52t @ 1.9t/m ³	17m Truck & Dog Combination (32t)	206 inbound, 206 outbound.	The area was measured from the indicative site layout. SLR assumed the whole area would be a hard stand.
Site Offices	6 Demountable Buildings	20m AV / Low Loader	6 inbound, 6 outbound.	SLR assumption based on previous similar projects.
TOTAL Trips for Pre-construction & Establishment Minor Works (Non-OSOM Heavy Vehicles)			740 inbound, 740 outbound.	For the majority of the project duration.
			1750 inbound, 1750 outbound.	Increased trips for a duration of 50 days due to earthworks.
TOTAL <u>Daily</u> Trips for Pre-construction & Establishment Minor Works (Non-OSOM Heavy Vehicles)			3 inbound per day 3 outbound per day	For the majority of the project duration.
			35 inbound per day 35 outbound per day	Increased trips for a duration of 50 days due to earthworks.

The anticipated vehicle movements for the transportation of construction materials are detailed in Table 15 overleaf.



Table 15 Construction Materials

Element	Assumption	Delivery Method	Anticipated Trips	Source
Minor Earthworks	10 Piling Rigs 10 Trenchers	Low Loader	20 inbound, 20 outbound.	SLR assumption based on previous similar projects.
Concrete Batching Plant Consumables	N/A	20m AV	50 inbound, 50 outbound.	SLR assumed that a concrete batch plant would be established. Internal transportation of concrete wouldn't count towards external traffic.
Fuel		17m Fuel Tanker	100 inbound, 100 outbound.	SLR assumption based on previous similar projects.
Small Equipment / Material Deliveries		12.5m long RV	20 inbound, 20 outbound.	Provided by Enervest
Large Equipment / Material Deliveries		20m long AV	10 inbound, 10 outbound.	Provided by Enervest
33kv Transmission wire	217m of wire.	AV (20m long) or B-Double (19m or 26m long)	1 inbound, 1 outbound.	Transmission line length measured from indicative site layout. SLR assumed 500m of cable per drum.
BESS Containers	150 BESS Containers	AV (20m) or B-Double (19m or 26m)	150 inbound, 150 outbound.	Provided by Enervest
Ancillary Equipment (Switch room)	Four trips per 100MW	Low Loader (20m)	5 inbound, 5 outbound.	SLR assumption based on previous similar projects.
BESS Inverter	1 inverter per 3 BESS containers = 50 BESS Inverters / PCU Skids	AV (20m long) or B-Double (19m or 26m long)	50 inbound, 50 outbound.	Provided by Enervest
HV Transformer	Up to 111t transformer	One platform trailer and one prime mover (up to 31m)	1 inbound, 1 outbound.	Amber OSOM Route Assessment Report.
Control Room		OSOM	1 inbound, 1 outbound.	Amber OSOM Route Assessment Report.
TOTAL Trips for Construction Materials (OSOM and non-OSOM Heavy Vehicles)			408 inbound, 408 outbound.	
TOTAL <u>Daily</u> Trips for Construction Materials (OSOM and non-OSOM Heavy Vehicles)			2 inbound per day 2 outbound per day	



Table 16 below provides an overview of the workforce assumptions.

Table 16 Construction Workforce Assumptions

Element	Assumption	Anticipated Trips	Source and Notes
Workforce Assumptions			
Workforce	48 persons maximum on-site. 42 workers and six supervisors.	2 x 22-seater coaster bus trips and 54 light vehicle trips a day. Total: 28 inbound trips and 28 outbound trips a day.	SLR assumptions based on previous similar projects: 1 supervisor per 8 workers. - Bus utilised for labour travel: 22-seater coaster bus. - Staff will not travel to accommodation for lunch. - Bus will stay on site all day.
Travel Arrangements	All supervisors travel by private vehicle. 50% of the workers will travel by Bus and 50% will travel by private vehicles.		
22-seater Coaster bus occupancy	21 passengers per vehicle, excluding the driver.		
Accommodation	Narrabri		SLR Assumption
Workforce Distribution	100% from the Southwest		SLR Assumption
General Construction Assumptions			
Roster	Monday – Saturday		SLR Assumption: Monday–Friday (6:30am- 6:30pm) Saturday (8:00am-1:00pm)
Shift rotation	Monday – Friday (12 hours) Saturday (5 hours) Average 11 hours		SLR assumptions
Haulage Distribution	100% from the Southeast, from the Port of Newcastle		SLR Assumption
TOTAL Trips for Construction Workforce (Light Vehicles)		8,100 inbound 8,100 outbound	
TOTAL Trips for Construction Workforce (Heavy Vehicles)		300 inbound 300 outbound	
TOTAL <u>Daily</u> Trips for Construction Workforce (Light Vehicles)		27 inbound per day 27 outbound per day	
TOTAL <u>Daily</u> Trips for Construction Workforce (Heavy Vehicles)		1 inbound per day 1 outbound per day	



As summarised in Table 14 to Table 16, it is anticipated that 9,548 inbound and 9,548 outbound trips (with the following split – light vehicles: 8,100 inbound, 8,100 outbound and 1,448 heavy vehicles: inbound, 1,448 outbound) will take place over the majority of the construction stage of the Project across the assumed 12-month period (300 working days = 260 business days plus Saturdays – Public Holidays). This would equate to 32 inbound and 32 outbound daily trips (with the following split – light vehicles: 27 inbound, 27 outbound and 5 heavy vehicles: inbound, 5 outbound).

However, for 50 days during the construction, it is anticipated that 35 additional inbound and 35 outbound heavy trips would be required for the earthworks. This would equate to 67 inbound and 67 outbound daily trips during the 50-day period (with the following split – light vehicles: 27 inbound, 27 outbound and 40 heavy vehicles: inbound, 40 outbound).

SLR's traffic modelling assessment has adopted the **67 inbound** and **67 outbound** trips for the whole construction duration of 300 days to provide a conservative assessment.

5.2.1.2 Construction Workforce Accommodation

The Applicant has undertaken initial investigations to find accommodation of the construction workforce. It is anticipated that a maximum of 48 personnel will be required for the peak of construction activities; however, the applicant is committed to maximising the employment of local contractors. As a result, it is anticipated that a significantly smaller number of beds will be required from the nearby hotels at any given time. A detailed accommodation plan will be prepared as part of the future CTMP; however, the Social Impact Assessment (refer to SLR report dated 22 August 2025) identified the potential use of existing workforce accommodation in Narrabri (e.g. Civeo) and has concluded that it would be sufficient.

5.2.1.3 Construction Traffic Peak Period Splits

As part of the traffic assumptions, SLR adopted a conservative approach in converting the network peak traffic to peak hour movements. On this basis, it is assumed that one-third of all deliveries will be made in the AM and PM peak hours. Similarly, it is assumed that all workforce traffic will arrive and depart from the site in the AM and PM peak hours, respectively. This provides a conservative assessment of the project on the existing traffic conditions when it is anticipated that more of the construction phase traffic will be distributed between the AM and PM peak hour periods.

Table 17 overleaf is a summary of the adopted in/out splits for the construction traffic which is also indicated in Figures M5 and M6 at Appendix M.



Table 17 Project Traffic In/ Out Split

Project Element	Vehicle Type	AM Peak Hour		PM Peak Hour	
		In	Out	In	Out
Construction Material Delivery Trips (Percentage of directional daily trips)	Heavy Vehicles	13 (33%)	13 (33%)	13 (33%)	13 (33%)
Workforce Trips (Percentage of directional daily trips)	Light Vehicles	27 (100%)	0 (0%)	0 (0%)	27 (100%)
	Heavy Vehicles	1 (100%)	0 (0%)	0 (0%)	1 (100%)
Total	Light Vehicles	27	0	0	27
	Heavy Vehicles	14	13	13	14
	All Vehicles	41	13	13	41

5.2.1.4 Traffic Distribution

It has been assumed that all container-based haulage will originate from the Port of Newcastle. For trips associated with the delivery of road base aggregates, it has been assumed that the trips would originate from a local quarry within the vicinity of the subject site. To be conservative, for a worst-case scenario, this assessment assumes all aggregate haulage will originate from the same port as container-based haulage. Furthermore, it has been assumed that the workforce movements will be distributed to the external network, that being 100% to/ from Narrabri. Reflective of all assumptions documented above, the traffic volumes utilised for the operational assessment are included in Appendix M.

5.2.2 Operational Phase Traffic Generation

5.2.2.1 Operational Workforce Traffic Generation

BESS facilities typically comprise limited equipment that requires regular maintenance. Therefore, the operational traffic demands associated with the Project are expected to be minimal and limited to minor servicing activities. Based on this, the operational traffic of the Project is not considered a critical element within this traffic assessment. Nonetheless, the operational workforce assumptions were provided by the applicant and are summarised below in Table 18 for completeness of this report.

Table 18 Operational Phase Traffic Demands

Component	Quantity	Delivery Vehicle	Daily Two-Way Trips
Maintenance Workforce	5 per day	Private Vehicle	10
Maintenance Vehicle	1 per day	Remains on-site	-
Max Total Trips			10

Note: The maximum operational workforce was identified above by adopting a 'worst case' scenario with all permanent and sub-contracted personnel being on-site at any given time.



5.2.2.2 BESS Augmentation Traffic Generation

Each of the three augmentation phases will involve the delivery of BESS containers to the site. These containers are anticipated to be approximately 10.5m in length, which is smaller than those utilised during the initial construction phase. Given the limited number of containers required for each augmentation, it is proposed that a 20m AV be employed, with one container transported per trip.

SLR anticipates the traffic impact of the augmentation to be minimal due to the lower number and smaller size of BESS containers and the unknown time frame for when each augmentation will occur. Therefore, no assessment has been undertaken for the traffic generated by the augmentation.

It is not anticipated that the augmentation phases will necessitate any road widening or intersection upgrades beyond those already identified for the construction phase. The proposed use of a 20m AV is deemed appropriate for access via Stoney Creek Road, supported by the following considerations:

- The smaller vehicle size relative to those used during construction.
- Low existing traffic volumes on Stoney Creek Road.
- Significantly reduced daily traffic generation during augmentation.
- Adequate sight distances exceeding 500m in both directions at the site access point.
- The relatively straight alignment of Stoney Creek Road.

In light of these factors, no additional traffic management measures are considered necessary for the augmentation phases.

5.2.2.3 Decommissioning Phase Traffic Generation

The Project is proposed to be decommissioned and the infrastructure removed upon the end of the Project's life. Works will be undertaken to return the Project Area as close as possible to its original state and use. Detailed consideration of potential traffic demands associated with the decommissioning of the Project has not occurred, as this activity is anticipated to occur after the typically adopted design horizon for assessing traffic impacts. Nevertheless, the traffic demands associated with decommissioning are anticipated to be lower than those associated with construction activity; hence, sizing infrastructure to accommodate construction traffic is expected to provide sufficient capacity for decommissioning traffic.

5.3 Traffic Engineering Considerations

5.3.1 Sight Distance Assessment

Sight distance assessments were undertaken for the site access location in accordance with the following:

- Part 4A: Unsignalised and Signalised Intersection of the Austroads Guide to Road Design.
- Part 3: Guide to Road Design: Geometric Design of the Austroads Guide to Road Design.

The formula applied for the analysis is illustrated in Equation 1.



Equation 1 SISD Formula

$$SISD = \frac{D_T \times V}{3.6} + \frac{V^2}{254 \times (d + 0.01 \times a)}$$

where

- SISD = safe intersection sight distance (m)
- D_T = decision time (sec) = observation time (3 sec) + reaction time (sec) – refer to *AGRD Part 3* (Austroads 2016b) for a guide to values
- V = operating (85th percentile) speed (km/h)
- d = coefficient of deceleration – refer to Table 3.3 and *AGRD Part 3* for a guide to values
- a = longitudinal grade in % (in direction of travel: positive for uphill grade, negative for downhill grade)

5.3.1.1 Safe Intersection Sight Distance

Safe Intersection Sight Distance (SISD) ensures that drivers on the minor road (Site Access) have adequate sight of the major road (Stoney Creek Road) to perform safe manoeuvres whilst minimising the chance for interaction with approaching vehicles. Whilst performing on-site inspections, SLR recorded SISD measurements to the east and west of the Site Access at the Stoney Creek Road intersection.

Table 19 below summarises the sight distances to and from the subject intersection, assessing a reaction time of 2.5 seconds and a posted speed of 100 km/h (design speed of 110km/h).

Table 19 SISD Assessment

Sight Type	Desirable Requirement	Measurement to East	Measurement to West
Safe Intersection Sight Distance (SISD)	300m	500m+	500m+

* Distance measured along the carriageway from the approaching vehicle to the conflict point.

Due to the straight nature of Stoney Creek Road, the results of the SISD assessment for both driveway locations indicate that the proposed location of the access crossover on Stoney Creek Road exceeds SISD requirements defined in Austroads Guides.

Figure 12 overleaf graphically represents the SISD available at the Stoney Creek Road/ Site Access intersection.



Figure 12 Safe Intersection Sight Distance



Source: Nearmap

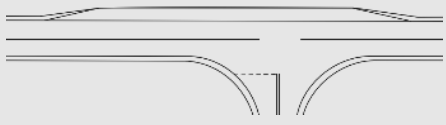
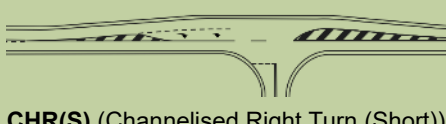
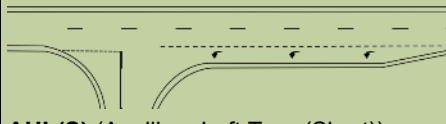
Figure 12 only shows the location of the main access; however, the access for the transformer (to the southwest of the main access) will also satisfy the S1SD requirements due to the straight nature of Stoney Creek Road.

5.3.2 Turn Lane Warrant Assessment

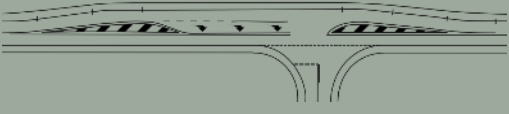
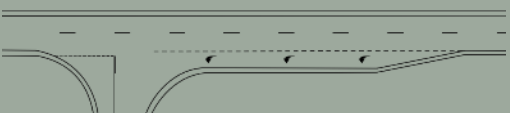
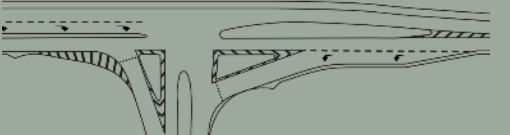
A turn lane warrant assessment has been undertaken to establish the desirable form of the assessed intersections in accordance with the industry research summarised within Austroads Guide to Traffic Management Part 6 (2020).

The warrants provide guidance on where turning lanes should be provided based on the design traffic volumes. To aid the reader's interpretation of the assessment, Table 20 provides a pictorial description of the various turn treatments considered.

Table 20 Turn Treatment Types

Acronym	Right Turn Treatment	Left Turn Treatment
BAR or BAL	 BAR (Basic Right Turn)	 BAL (Basic Left Turn)
CHR(S) or AUL(S)	 CHR(S) (Channelised Right Turn (Short))	 AUL(S) (Auxiliary Left Turn (Short))



Acronym	Right Turn Treatment	Left Turn Treatment
CHR or AUL or CHL	 CHR (Channelised Right Turn)	 AUL (Auxiliary Left Turn)
		 CHL (Channelised Left Turn)

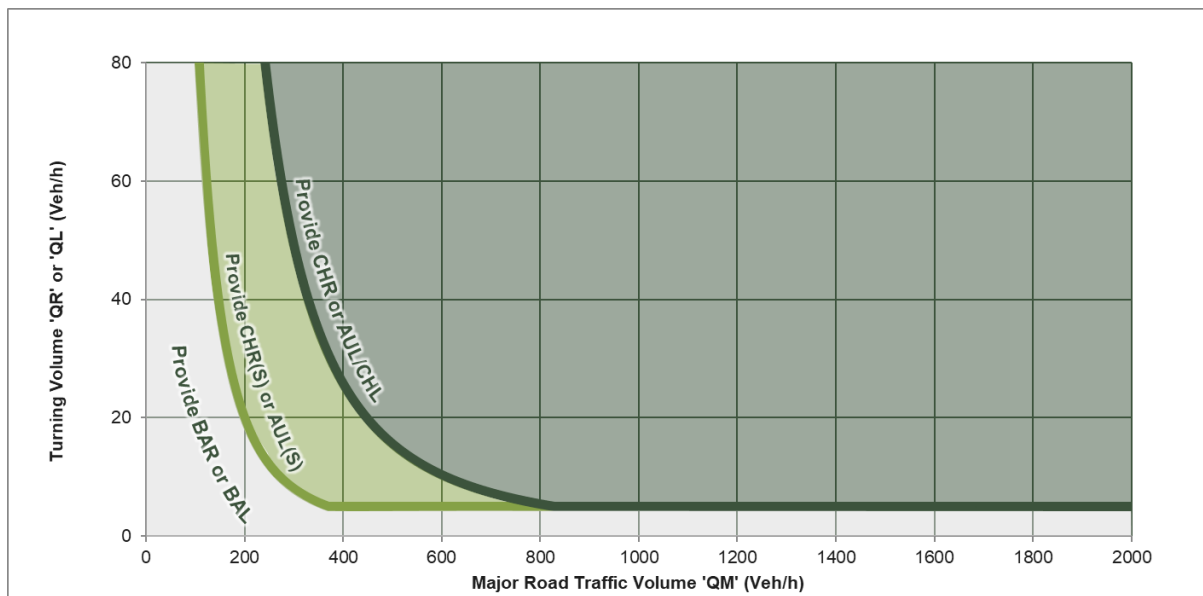
Source: Austroads Guide to Traffic Management Part 6 (Austroads).

As background, it is identified that the warrants were produced by establishing the conflicting traffic volumes at which the benefits of providing a higher level of treatment (i.e., the reduction in estimated crash costs) are equal to the additional construction costs associated with providing the higher treatment. The benefits and costs of a higher-level treatment were compared to the base case (minimum turn treatments).

The warrants are intended to be utilised to determine appropriate turn treatments at the intersection of public roads and are not strictly intended to be utilised for private access locations. Their application to private access locations as adopted herein is therefore conservative as it ensures that private accesses are afforded the same standard of safety as provided for public road intersections.

The standard graphs for the turn warrants assessed herein are shown in Figure 13 and Figure 14 (based on the assessment inputs identified in Table 22).

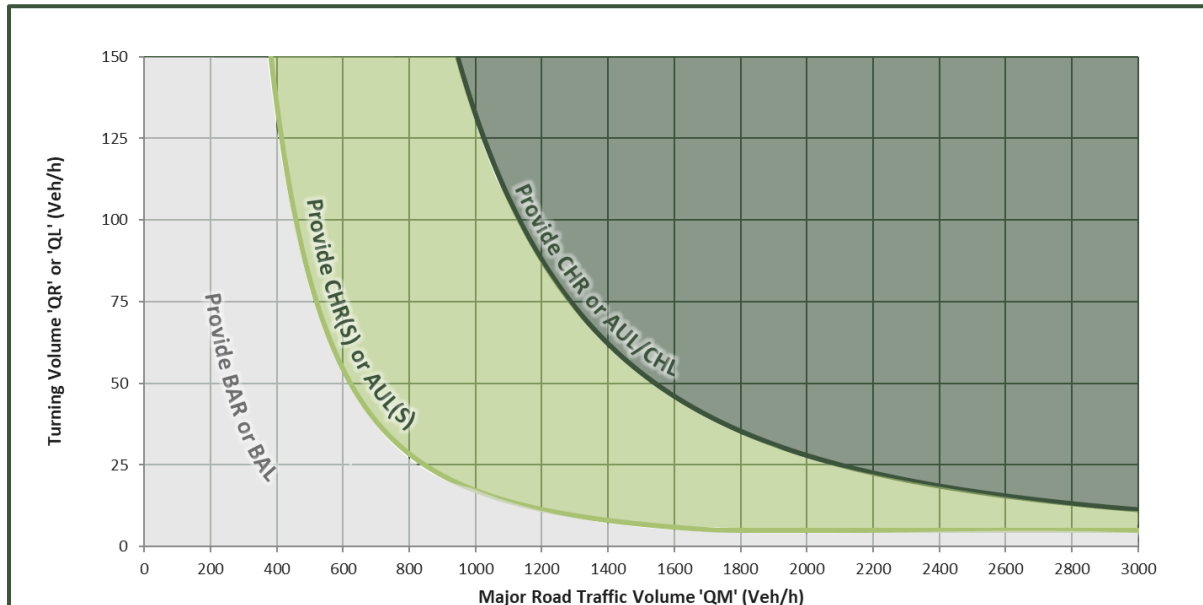
Figure 13 Turn Warrant Assessments – Normal Design Domain ($\geq 100\text{km/h}$)



Source: AGTM6-20



Figure 14 Turn Treatment Warrants – Extended Design Domain (≤ 70 km/h)



Source: AGTM6-20

5.3.2.1 Assessed Locations

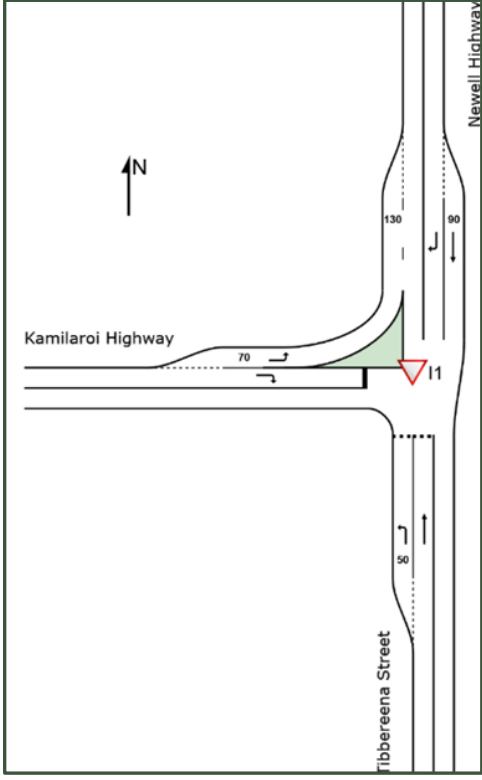
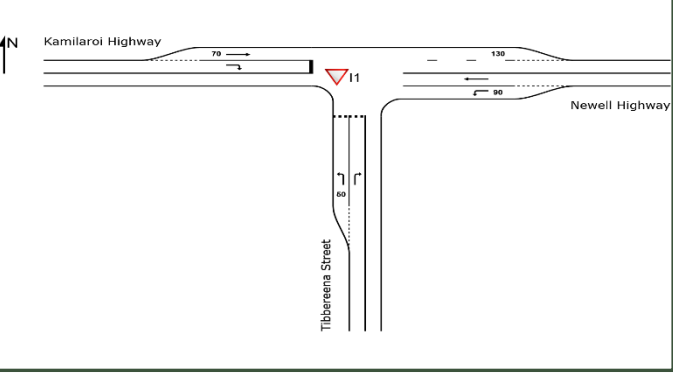
In correspondence received from TfNSW dated 15 December 2025, the following advice was provided regarding the intersections to be assessed: *“A turn warrant assessment will be required for each scenario identified above and for each access, access track and any other access along the project’s identified routes with an interface or connection to the state road network”*.

In response to this advice, the following intersections have been considered as part of the turn warrant assessment:

- State-controlled intersection:** The Newell Highway / Tibbereena Street intersection is under state jurisdiction. This intersection does not operate as a standard three-leg priority-controlled intersection. It is configured to provide priority to the northern approach right-turn movement, with a give-way control on the southern approach through movement (refer to Table 21 for the layout). As such, this intersection layout has been changed as indicated in Table 21 to align with the standard layout template for a turn warrant assessment. The change in layout is for **assessment purposes only**. The intersection has been assessed herein, with the results presented in the subsequent sections.
- Development access:** The development plan provided in Appendix A indicates two gated accesses located on Stoney Creek Road. Noting that one of the accesses will likely be used for the one-off transformer delivery, it was assumed that all other traffic would concentrate in the other access. The development access has been assessed herein, with the results presented in the subsequent sections.



Table 21 Newell Hwy / Tibbereena St - Existing vs. Altered Form for TWA

Intersection Layout	Changed Layout to Align with Turn Warrant Assessment Template <u>(For assessment purposes only)</u>
	

5.3.2.2 Scenarios and Traffic Volumes Assessed

The turn warrant assessment has been undertaken in accordance with the methodology outlined by TfNSW correspondence dated 15 December 2025 (Item 2.b) iii). A background traffic growth rate (refer Section 4.1.3) has been applied to the network peak hours identified from the surveyed background traffic (refer Section 4.1.4), with the development peak hour traffic volumes added as described in Section 5.1. The resulting assessed scenario traffic volumes for the 2026 year of construction are provided in Figures M7 and M8 at Appendix M.

An updated review confirmed that no cumulative background traffic associated with other relevant developments, either approved or at Environmental Impact Statement (EIS) stage, is anticipated to impact the background traffic, see Section 5.5. Accordingly, the traffic scenarios assessed represent a reasonable and conservative forecast of future operating conditions at the site access and relevant intersections.

5.3.2.3 Turn Treatment Assessment Results

SLR has undertaken turn warrant assessments for the construction peak periods for the development access within Stoney Creek Road and the assessed state-controlled intersection. The inputs of the assessment are provided in Table 19. Figure 17, Figure 18 15 and Figure 16 detail the turn warrants assessment undertaken for the identified intersections for the AM and PM peak hours respectively. The results are discussed in Section 5.3.2.4 with the detailed turn warrant assessments included in Appendix N.



Table 22 Turn Treatment Assessment Summary

Criteria	Assessed Locations	
	Kamilaroi Hwy / Newell Hwy / Tibbereena St Intersection	Stoney Creek Rd / Development Access Driveway
Inputs		
Design domain	Extended Design Domain (Brownfield site)	Normal Design Domain (Greenfield site)
Road configuration	Two-lane two-way ^[1]	Two-lane two-way
Design year	Conservatively adopted 10 years	
Design speed	Less than or equal to 70km/h	Greater than or equal to 100km/h
Left turn splitter island	No	
Year of assessment	2026 (Year of Construction)	
Traffic volumes assessed	Background + Development	
Current Form		
Current Treatments	CHR(S) and AUL(S) ^[1]	None
Results - Required Turn Treatment		
Required based on AM peak	CHR(S) and BAL	BAR and BAL
Required based on PM peak	CHR(S) and AUL(S)	BAR and BAL
Recommendation		
Recommended action	No action	Provide BAL ^[2]

1. This intersection does not operate as a standard three-way priority-controlled intersection and has been changed to resemble the standard template for assessment purposes. See Table 21.
2. It is important to note that there will be no need to provide BAR because no vehicles will approach from the east. Stoney Creek Road is a no-through road that provides access to a few farms only.



Figure 15 Turn Lane Assessment: Kamilaroi Highway / Newell Highway / Tibbereena Street Intersection – 2026 AM Peak (BG Growth and Construction)

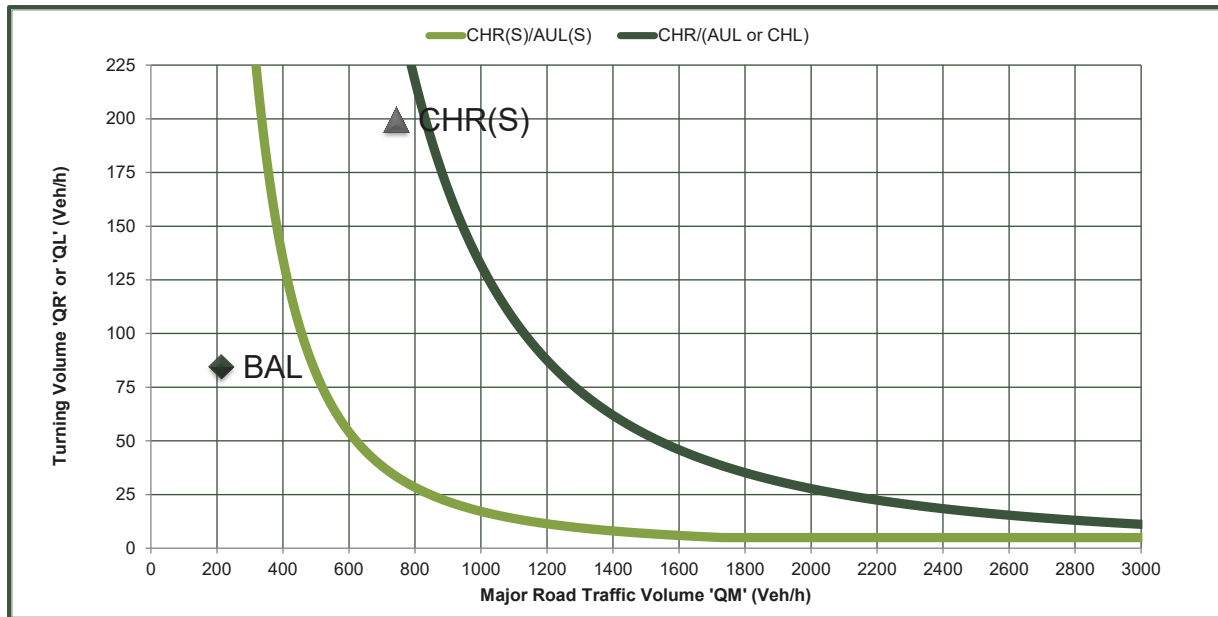


Figure 16 Turn Lane Assessment: Kamilaroi Highway / Newell Highway / Tibbereena Street Intersection – 2026 PM Peak (BG Growth and Construction)

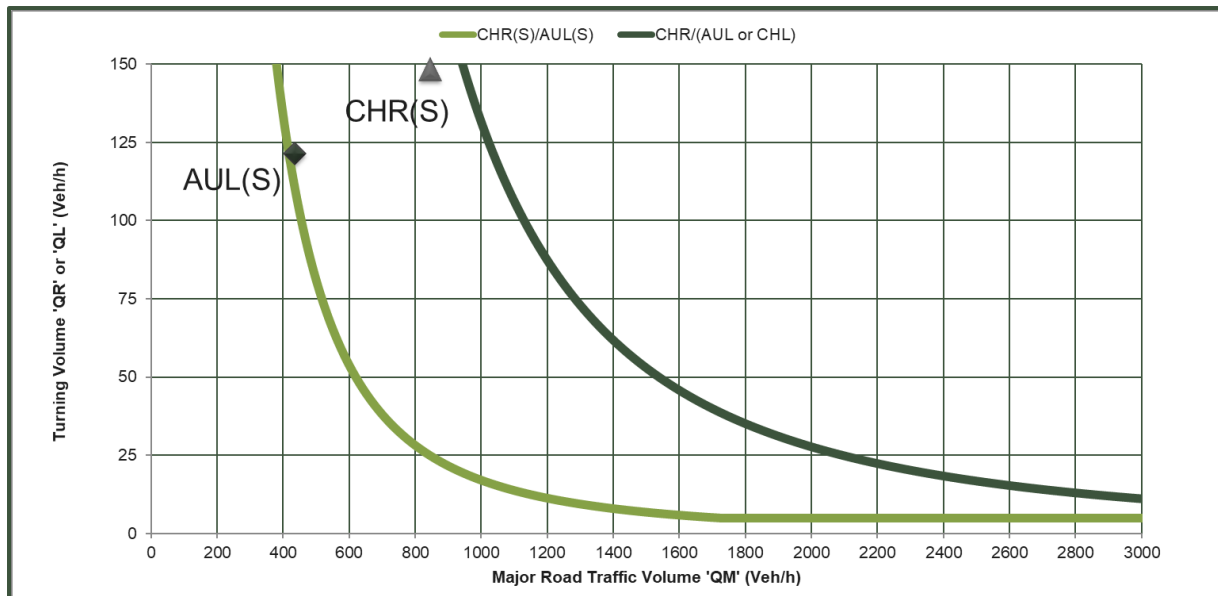


Figure 17 Turn Lane Assessment: Development Access – 2026 AM Peak (BG Growth and Construction)

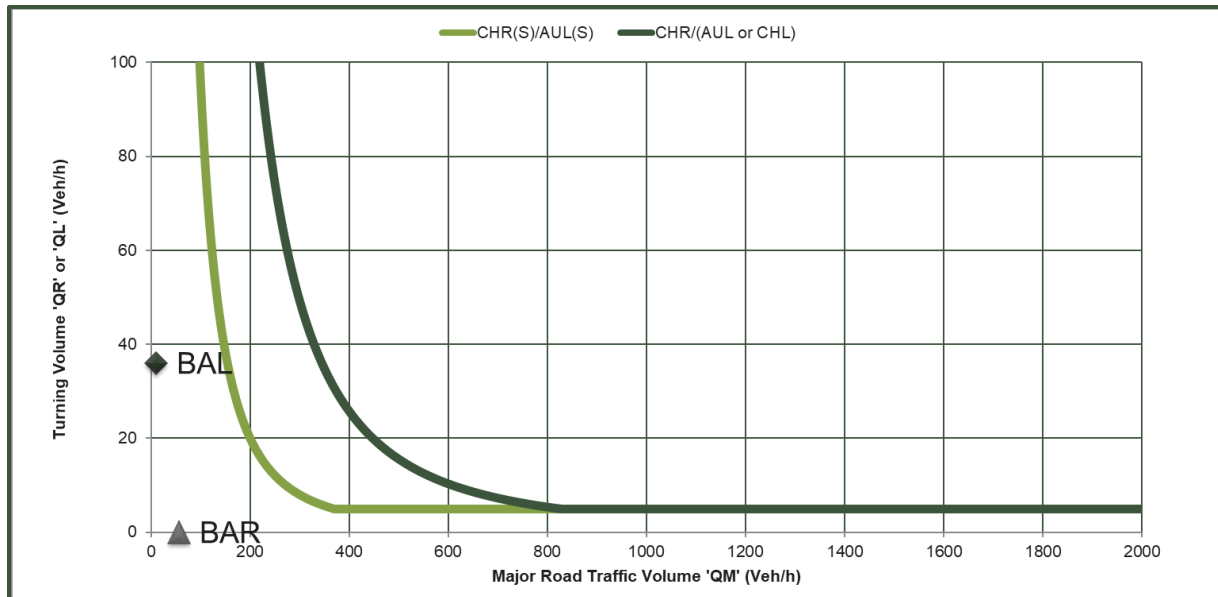
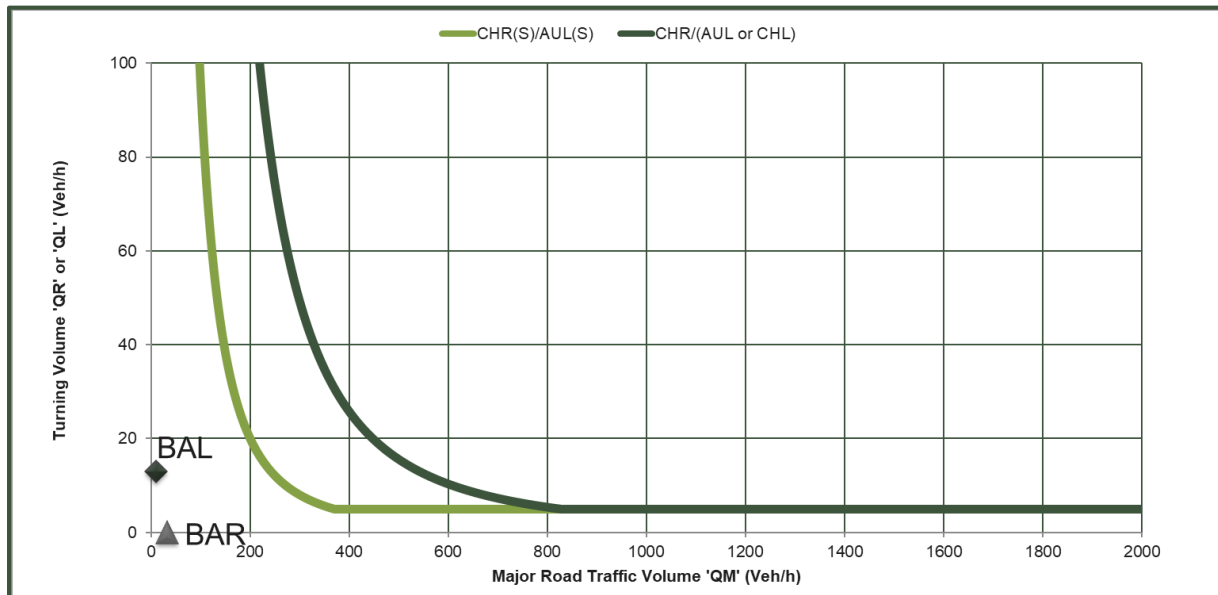


Figure 18 Turn Lane Assessment: Development Access – 2026 PM Peak (BG Growth and Construction)



5.3.2.4 Intersection Migration Measures and Recommended Configuration

Based on the turn warrants and performance analysis, it has been identified that the following turn treatments will be required:

- **Development Access:** A basic left-turn treatment (BAL) and basic right-turn treatment (BAR).

A BAL would provide an appropriate level of safety at the site access due to the low number of vehicles travelling along the road. It is important to note that there will be no need to provide BAR because no vehicles will approach from the east. It should



also be noted that Stoney Creek Road is a no-through road that provides access to a few farms only. The proposed access plans are attached at Appendix B.

- **State-controlled intersection:** An auxiliary left-turn treatment (AUL) and a short channelised right-turn treatment (CHR(S)).

The existing layout already provides the required treatments, and therefore, no changes are proposed to the intersection form.

5.3.2.5 Swept Path Analysis

In order to confirm the geometric suitability of the existing intersection form, multiple swept path assessments were conducted to verify the accessibility of 26m B-Double design vehicles, which will be required during the project's construction phase. Swept path assessments provided in Appendix P illustrate that the 26m B-Double design vehicle will be able to perform a left turn in and right turn out movement from/ onto Stoney Creek Road. However, only single-direction travel can be accommodated on Stoney Creek Road. Therefore, when heavy vehicles are utilised, traffic management will have to be implemented on Stoney Creek Road during construction to allow one-way travel at a time. The results of the swept path assessments indicate that the existing intersection forms will accommodate the turning movements of the proposed design vehicles.

A swept path assessment has been conducted for the OSOM vehicles as part of the Route Assessment Report conducted by Amber (see Appendix K).

5.3.3 Operational Assessment

5.3.3.1 Assessment Scenarios

For the purposes of the traffic assessment, it was assumed that the Project would be completed and fully occupied by 2026. Consistent with standard industry practice, the following traffic assessment scenarios have been adopted:

- **2025 'Survey':** To establish operational conditions and baseline results at the time of the traffic surveys.
- **2026 'Background':** To establish the year of opening baseline operating conditions in the absence of the Project at all intersections assessed.
- **2026 'With Construction':** To quantify the incremental impact of construction traffic conditions.

The operational performance of the Newell Highway/ Tibbereena Street intersection has been analysed for each of these assessment scenarios during both the weekday AM and weekday PM peak hour periods. Peak traffic demands are illustrated graphically in the desktop models, which are provided in Appendix O.

It should also be noted that the weekend AM and PM peaks were not modelled, as weekday peaks provided higher volumes and, therefore, a more representative model.

5.3.3.2 Performance Criteria

SIDRA Intersection 9.1 (SIDRA) is a computer-based modelling software that determines the operational performance of intersections based on input parameters, including carriageway geometry and traffic volumes. Amongst other parameters, SIDRA provides an estimate of the intersection's Degree of Saturation (DOS), queues, and delays.



According to the RMS Modelling Guidelines (2013), the desirable maximum DOS thresholds are summarised in Table 23 below.

Table 23 Intersection Performance Thresholds

Intersection Type	DOS Threshold
Priority controlled	Less than or equal to 0.80

DOS values exceeding those presented in Table 23 indicate that an intersection is operating above its practical capacity, and upgrade works may be warranted. Above these threshold values, users of the intersection are likely to experience rapidly increasing delays and queueing.

TfNSW (formerly RMS and RTA) defines intersection performance based on vehicle delay. SIDRA can calculate the average delay encountered by all vehicles that travel through individual lanes, approaches, as well as at the intersection level. The level of service can then be determined based on the reported delay. It should also be noted that for roundabouts and priority control intersections, the critical movement for the level of service assessment should be that with the worst movement delay.

In addition to DOS metrics, delay should also be considered when assessing the performance of an intersection. TfNSW recommends the use of the critical movement delay for assessing the performance of priority-controlled intersections. The TfNSW Guide to Traffic Generating Developments states that the average delay statistic for the critical movement provides a better indication of intersection performance and safety for roundabouts and priority-controlled intersections than DOS.

The operational assessment documented herein will be conducted in consideration of the performance criteria stated above.

5.3.3.3 SIDRA Inputs

As recommended by TfNSW, default input parameters were utilised for the assessment of the below study intersection.

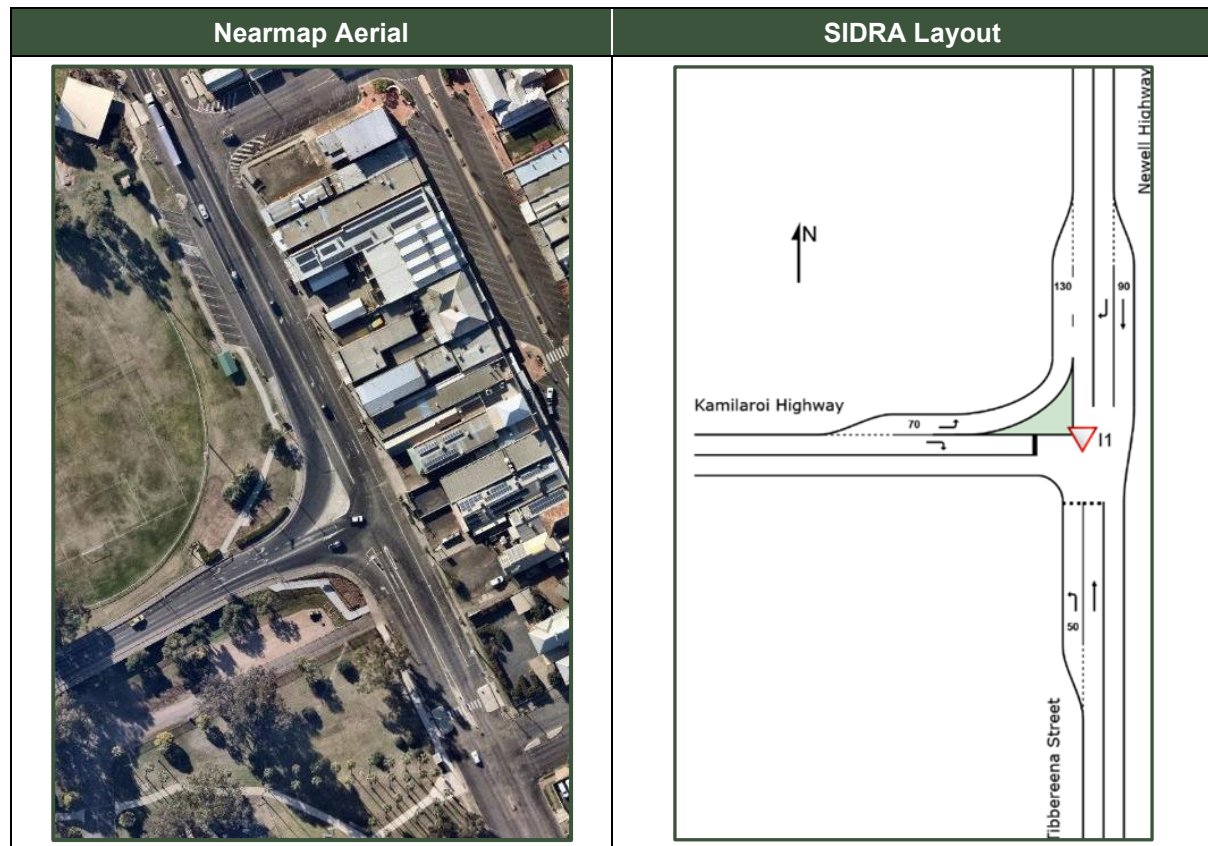
5.3.3.4 Intersection Assessment Findings

5.3.3.4.1 Newell Highway/ Tibbereena Street Intersection

The study intersection has been assessed based on the recommended “Three Way Priority Controlled” template by SIDRA. Table 24 illustrates the SIDRA form used in the analysis.



Table 24 Newell Hwy / Tibbereena St - Existing Intersection Form



5.3.3.5 Assessment Findings

The SIDRA operational performance results are summarised in Table 25 and Table 26 for AM and PM peak hour periods, respectively.

Table 25 Newell Hwy/ Tibbereena St (AM Peak Hour)

Scenario	DOS	Worst Delay(s)	95 th %ile Queue (m)	LOS
Existing (2025)	0.268	11.1 (West approach – Right Turn)	7.1	A
Background Growth (2026)	0.274	11.2 (West approach – Right Turn)	7.5	A
Background Growth and Construction (2026)	0.345	12.6 (West approach – Right Turn)	11.9	A

Table 26 Kamilaroi Hwy/ Newell Hwy/ Tibbereena St (PM Peak Hour)

Scenario	DOS	Worst Delay(s)	95 th %ile Queue (m)	LOS
Existing (2025)	0.308	14.7 (West approach – Right Turn)	8.6	B
Background Growth (2026)	0.318	14.9 (West approach – Right Turn)	9.0	B



Scenario	DOS	Worst Delay(s)	95 th %ile Queue (m)	LOS
Background Growth and Construction (2026)	0.407	17.8 (West approach – Right Turn)	12.9	B

The following can be concluded from the SIDRA findings outlined in Table 25 and Table 26:

- The intersection currently operates above the generally accepted performance threshold (DOS of 0.80 for a priority-controlled intersection) for all assessed scenarios.
- The incremental “With Construction” assessment scenario will have minimal impacts on the intersection operation, even during the busiest period (PM peak) of the construction activities.

Detailed SIDRA outputs are included in Appendix O.

5.4 Construction Traffic Management Strategies

5.4.1 Construction Traffic Management Plan (Post Approval)

These preliminary comments have been prepared to provide strategic advice for the future construction traffic management plan (CTMP), which is proposed to be prepared following the approval of the DA, and more information is available around the proposed construction strategy. This information includes workforce accommodation, the construction program and the vehicle fleet that will be used, which are subject to the availability of hotels and availability of construction vehicles, respectively.

Notwithstanding, at a high level, it is recommended that the information provided in the following sections be considered or prepared as part of the future CTMP.

5.4.2 Drivers Code of Conduct

It is important to note that all drivers have a responsibility to follow New South Wales road rules and the Drivers' Code of Conduct. SLR has prepared a conceptual Drivers Code of Conduct, which is provided in Appendix Q.

5.4.3 Traffic Guidance Schemes (TGSs)

It is important to note that the majority of works will be carried out within the property boundary of the acquired land, other than the proposed BAL treatment on Stoney Creek Road near the Site Access intersection (see proposed development access plans at Appendix B).

It is anticipated that these works will be commissioned separately therefore, construction activities for each of the following will occur at different times:

- Construction of the BAL treatment on Stoney Creek Road at the Site Access.
- Construction of the proposed BESS.

The TGSs should also document how Stoney Creek Road will be managed with one-way operation while heavy vehicles operate.



5.4.4 Site Management

The following procedures are to be observed by all vehicle drivers accessing the Project Area:

- Drivers are to obey all site signage and the directions of the site personnel.
- All vehicles are to park and load/ unload within the site using the designated parking and loading areas where possible. Vehicles are not to park or load/ unload within the public road reserve.
- All drivers are required to operate vehicles in a safe and courteous manner, within and external to the Project Area.

5.4.5 Heavy Vehicle Management

5.4.5.1 General Requirements

Heavy vehicles accessing the site will need to abide by their respective company operating procedures in addition to standard New South Wales road rules when operating the vehicle.

The following rules must also be followed:

- Half of the workforce must be transported by shuttle buses that are similar to a Toyota Coaster.
- Consistent with the OSOM material transportation requirements, pilot vehicles and escorts must be utilised for non-standard loads. Additionally, all restriction should be followed particularly conditions regarding railway crossings.
- Temporary signage must be positioned at critical intersections to inform construction vehicle drivers and to warn the general public about the construction activities in the vicinity.
- Residents of the area (if any) must be informed prior to the commencement of construction works.
- Heavy Vehicle trips associated with the delivery of construction material and equipment must be transported outside of the designated school zone times (8:00am-9:30am and 2:30pm-4:00pm).

It is also worth noting that there is a school zone and Narrabri Town Centre that construction vehicles will have to travel through in the vicinity of the project site. Also, there will be no requirement to obtain approvals to access to a private property. The entirety of the proposed road upgrades will be undertaken in the state or local road reserves.

5.4.5.2 Noise Management

To limit heavy vehicle noise associated with construction activities, drivers are to abide by the following requirements:

- Heavy vehicles using Stoney Creek Road should limit the use of engine or compression braking systems where possible.
- Posted speed limits on the external road network are to be observed.
- Vehicles are to be turned off when not in use.



5.4.5.3 Dust Management

The contractor should identify appropriate mitigation measures and list strategies for dust management in the CTMP.

5.4.6 Contingency Plan

The Contractor shall establish a contingency plan in accordance with the requirements of the Proponent.

5.4.7 Communications Strategy

A communications strategy shall be established by the Contractor in accordance with the requirements of the Proponent.

5.5 Cumulative Impacts

Based on a review of publicly available information provided in **Table 27** below, it is identified that there are several proposed large-scale projects in the vicinity of the project site. Of those, the projects that could result in cumulative traffic impacts are also listed in **Table 28** overleaf.

Table 27 SSD and Joint Regional Planning Panel Projects in the Narrabri LGA

Project Name	Distance from Project site	Project Status	Project Summary	Potential Overlap
Department of Planning, Housing and Infrastructure (SSD)				
Narrabri Solar Farm SSD-71855714	7.6km north west	EIS Preparation	140 MW solar farm, a 100 MW / 800 MWh BESS, and associated infrastructure	Construction timeframes unknown Operations overlap
Whitehaven Solar Farm SSD-66542218	25.5km south east	EIS Preparation	26 MW solar farm, a 10 MWh BESS, and associated infrastructure	Construction timeframes unknown Operations overlap
Maules Creek Solar Farm SSD-6244372	38km south east	EIS Preparation	100 MW solar farm, a 120 MW / 240 MWh BESS, and electrical substation	Potential construction overlap (construction estimated to commence early 2026) Operations overlap
Silverleaf Solar Farm SSD-9358	4.5km north west	Determined (Approved)	Construction and operation of a photovoltaic (PV) generation facility with an estimated capacity of 120 MW; and associated infrastructure	Construction timeframes unknown Operations overlap
Narrabri South Solar Farm SSD-8387	9km south east	Determined (Approved)	60MW solar PV system with a footprint of approximately 152Ha on a site with an area of approximately 190H	Construction status unknown Operations overlap



Project Name	Distance from Project site	Project Status	Project Summary	Potential Overlap
			Subsequent modification (powerline realignment and battery system) being prepared.	
Joint Regional Planning Panel (Northern Region)				
PPSNTH-122	45km south east	Determined (Approved)	Establishment of a 5MW Solar PV Electricity Generation Facility with Associated Infrastructure	Site works commenced - no construction overlap anticipated Operations overlap
PPSNTH-100	6km south west	Determined (Approved)	Establishment of a Solar PV Electricity Generation Facility with Associated Infrastructure	Construction commencement date unknown Operations overlap
PPSNTH-98	32km west	Determined (Approved)	Establishment of a 5MW Solar PV Electricity Generation Facility with Associated Infrastructure	Construction commencement date unknown Operations overlap
PPSNTH-99	3km south east	Determined (Approved)	Establishment of a 5MW Solar PV Electricity Generation Facility with Associated Infrastructure	Construction commencement date unknown Operations overlap
PPSNTH-97	46km south east	Determined (Approved)	Establishment of a 5MW Solar PV Electricity Generation Facility with Associated Infrastructure	Site works commenced – no construction overlap anticipated Operations overlap

Consistent with AEMO Guidance for 200kW to 5MW distributed energy resources, SLR decided not to further study these projects due to their small capacity and traffic implications.

Table 28 Projects with Possible Traffic Implications

Project	Status	Project Summary	Notes
Department of Planning, Housing and Infrastructure (SSD)			
Maules Creek Solar Farm SSD-6244372	EIS Preparation	100 MW solar farm, a 120 MW / 240 MWh BESS, and an electrical substation	No TIA has been prepared; only a scoping report has been provided with no anticipated timeline for construction. After a review of the scoping report, SLR understood, the project is located 45km south of Narrabri and would have no significant impact.
Silverleaf Solar Farm SSD-9358	Determined (Approved)	Construction and operation of a photovoltaic (PV) generation facility with an estimated capacity of 120 MW and associated infrastructure	This project was approved in 2022 after an amendment in 2021. There is no TIA available for this project. Additionally, there is no updated anticipated timeline for construction for this project, with the original EIS submission indicating construction would commence midway through 2020. SLR conducted an aerial review of the project site and concluded no works had been completed as of July 2024.



Project	Status	Project Summary	Notes
			After a review of the EIS submission, SLR understood, the project is located 4kms north of Narrabri. SLR determined this project could have a potential impact on the surrounding area, but due to there being no construction timeline and the anticipated trips and data gathered for this EIS submission being five years old, the impacts would not be accurate and could not be studied.
Narrabri South Solar Farm SSD-8387	Determined (Approved)	60MW solar PV system with a footprint of approximately 152Ha on a site with an area of approximately 190H. Subsequent modifications (powerline realignment and battery system) are being prepared.	This project was approved in 2018, but currently has an SSD Modification in the Prepare Modification Report. The modification for the realignment of the powerline and the addition of a Battery Energy Storage System (BESS), but no anticipated timeline for construction has been supplied. No construction has been started on the site since its approval in 2018. In addition, SLR understood that the project is located 10km south of Narrabri and would have no significant impact.
Narrabri Solar Farm SSD-71855714	EIS Preparation	140 MW solar farm, a 100 MW / 800 MWh BESS, and associated infrastructure	No TIA has been prepared; only a scoping report has been provided, with no anticipated timeline for construction. After a review of the scoping report, SLR understood that the project is located 7.6km north of Narrabri. SLR determined this project could have a potential impact on the surrounding area, but due to there being no construction timeline or anticipated trips, the impacts couldn't be studied.
Whitehaven Solar Farm SSD-66542218	EIS Preparation	26 MW solar farm, a 10 MWh BESS, and associated infrastructure	No TIA has been prepared; only a scoping report has been provided, with no anticipated timeline for construction. After a review of the scoping report, SLR understood, the project is located 25km south of Narrabri and would have no significant impact.

Out of the projects listed in Table 28 above, SLR determined no cumulative impact assessment could be conducted, either because the projects are still in the preparation stage or have been approved several years ago but have not provided a revised construction timeline.



6.0 Recommendations

6.1 Road Upgrades

It is recommended that BAL treatments be constructed at the site accesses as determined in Section 5.3.2. It is recommended that the Applicant consult with the Narrabri Shire Council prior to designing the road upgrades.

6.2 Construction Traffic Management Plan (CTMP)

A CTMP or equivalent document should be prepared following approval but prior to the substantial commencement of construction activities. It would be appropriate for the CTMP to be prepared in accordance with the requirements set out in the SEARs. The purpose of the CTMP would be to identify the appropriate TGSs to enable one-way operation on Stoney Creek Road during deliveries are made by heavy vehicles and any changes to Project planning that occur subsequent to the preparation of this assessment and the impact of these changes on the conclusions of this assessment. In addition, the document would typically detail impact mitigation strategies, including soft strategies such as busing the workforce as what is assumed herein and hard strategies such as the road works as recommended Section 6.1.

The CTMP should mention the use of shuttle/ coaster buses to transport the project workforce and heavy vehicle trip management procedures such as pilot vehicles and escorts, temporary signage and notification to nearby properties, safety management for any travel through school zones or dense urban/ residential areas, and addressing access warrants. The CTMP should also provide operational information, such as the maintenance contractor's contact details. However, it is not considered necessary to investigate the operational impacts in detail, given that BESSs require minimal maintenance effort.

6.3 Dilapidation Surveys

It is recommended that dilapidation surveys be undertaken pre and post construction of Stoney Creek Road, Old Cemetery Road and Doyle Street. These surveys will identify any changes in road condition before and after the proposed construction works.

6.4 B-Double Design Vehicle Mass Limits

Consistent with Section 3.3.7.2 of this TIA, the local road network through Narrabri is approved for 64.5t B-Doubles under CML. If circumstances change and there is a desire to operate these vehicles with a heavier load, the post-approval TMP should investigate whether 68.5t B-Double design vehicles could be operated under HML (with approvals from NHVR).



7.0 Conclusion

The Project will involve the development, construction, operation, and eventual decommissioning of a BESS with a capacity of 125 Megawatt (MW) / 1252 megawatt-hour (MWh) connecting via a transmission line or underground cable to the existing Narrabri 132/66 kilovolt (kV) substation, operated by Transgrid. The BESS site is 41 Stoney Creek Road, Narrabri NSW 2390. The project plans are provided in Appendix A. Secretary's Environmental Assessment Requirements (SEARs) were received on 14 October 2024 and addressed in this TIA, which forms part of the environmental assessments for the project. Based on the analysis and discussion documented in this report, the following is concluded:

- It is proposed that vehicular access to/ from the development will be provided via Stoney Creek Road, which is a "No Through Road" with minimal daily traffic, mainly agricultural activities.
- The proposed development is anticipated to generate approximately 9,550 inbound and 9,550 outbound trips during the assumed* construction period of 300 working days (*assumed twelve months for an intensified/conservative traffic impact assessment), with a peak period of 50 days where there will be 3,100 additional trips at the start of the construction phase. The daily traffic generation will be in the order of 32 return trips a day (27 light vehicle trips and five heavy vehicle trips) and 67 return trips per day during the peak construction period for 50 days.
- All construction vehicles will need to cross a rail crossing regularly to access the BESS site. Based on SLR's site inspection, this level crossing has good sightlines, and no impacts are anticipated on the rail operations.
- Two approved solar farm projects were identified (Silverleaf Solar Farm and Narrabri South Solar Farm) and analysed in this TIA for a cumulative assessment. It was determined there would be no cumulative traffic impacts due to different construction timelines.
- SLR's turn warrant assessments identified that the existing road network can accommodate the project's construction impacts under traffic management.
- SLR has undertaken an intersection performance analysis at one study intersection. The analysis indicated that this intersection performs well and will continue to do so during the project's construction period.
- The publicly available crash dataset around Narrabri does not indicate any recurring crash type or theme that would preclude or warrant significant safety mitigations.

Based on the analysis and assessment herein, the following recommendations are made:

- Basic Left Turn treatments be provided at both site accesses, considering the largest vehicle.
- A construction traffic management plan (CTMP) be prepared, ensuring controls are in place to limit activity around schools.
- A local community notification program be implemented for Traffic related matters.
- Dilapidation surveys be undertaken pre and post construction of Stoney Creek Road, Old Cemetery Road and Doyle Street.
- The construction workforce is briefed on the recommended route with a Driver's Code of Conduct prepared by the applicant.



8.0 References

Australian Energy Market Operator (2024), *Technical Requirements for 200kW to 5MW DER Connections*.

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Appendix A:

Development Plans



Appendix A

LEGEND

- Road
- Disturbance Footprint
- Project Area
- Title Containing Substation
- Title containing BESS Site
- BESS Area
- APZ Buffer Zone
- Cadastre

Data Sources:
NSW SS.
Aerial imagery: Nearmap (July 2025).
Project Area supplied by client.

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Coordinate System: GDA2020 MGA Zone 55

Scale: 1:2,500 at A4

Project Number: 620.V31316

Date Drawn: 23-Feb-2026

Drawn by: RB



Site Layout

- | | |
|------------------------------------|---|
| — Auxiliary Transformer | — Lightning Mast |
| — BESS Pad Extent | — Neutral Earthing Transformer |
| — Battery / Inverter | — Operational and Maintenance Building |
| — Harmonic Filter | — Proposed Fence |
| - - - Indicative Underground Cable | — Sediment Pond |
| — Indicative Water Tank | — Substation |
| — Infrastructure | — Switch room, Services room and Control room |
| — Internal Road Access | — Transformer |
| — Laydown Area | |

BESS Area Site Access

Stoney Creek Road

7/DP6580

4/DP773018

156/DP754944

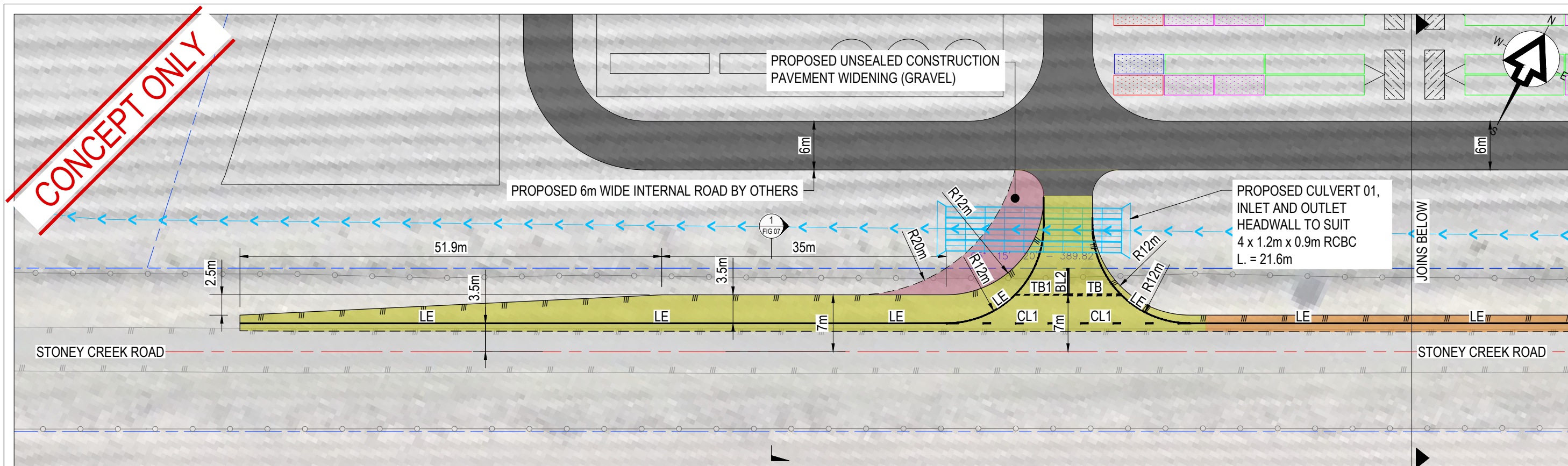
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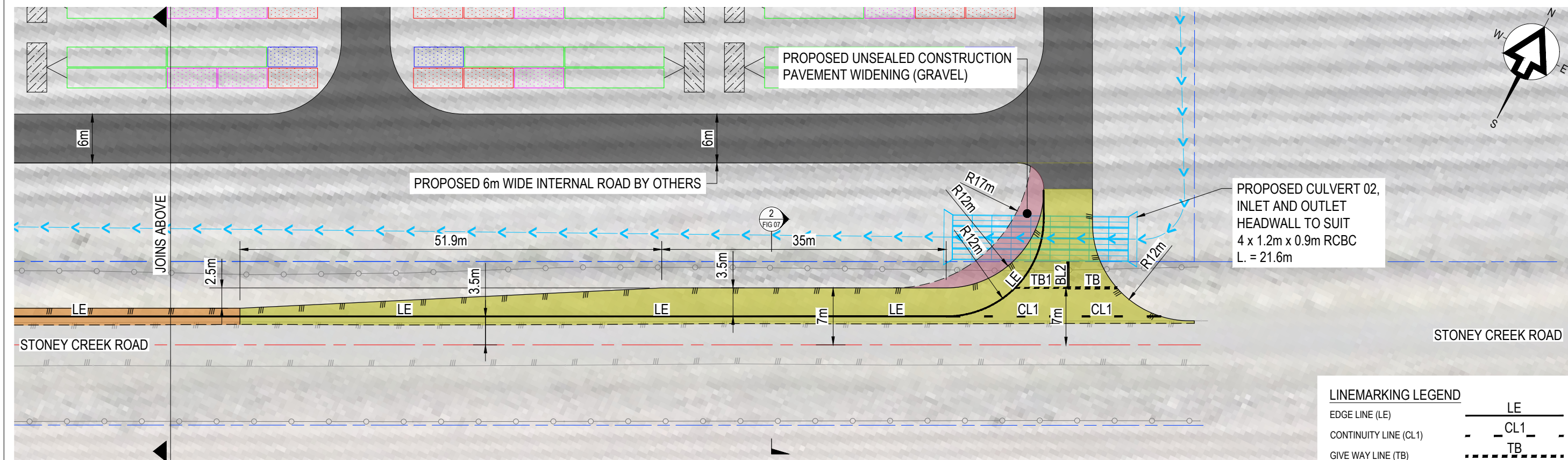
Appendix B:

Development Access



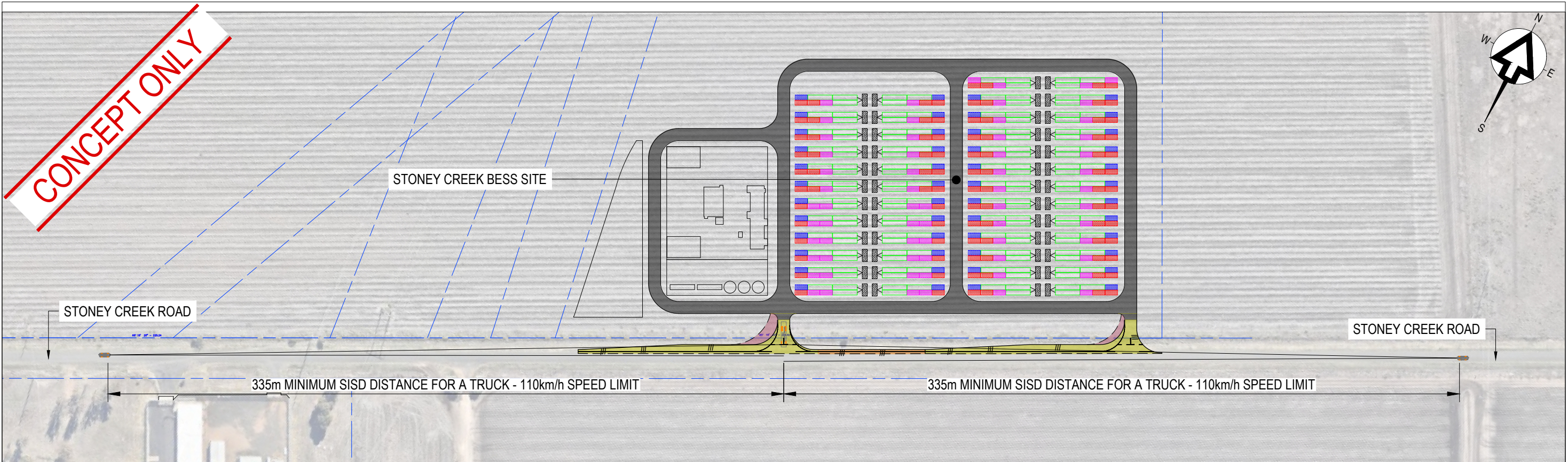


SITE ACCESS 1 - GENERAL ARRANGEMENT LAYOUT PLAN
SCALE 1:500

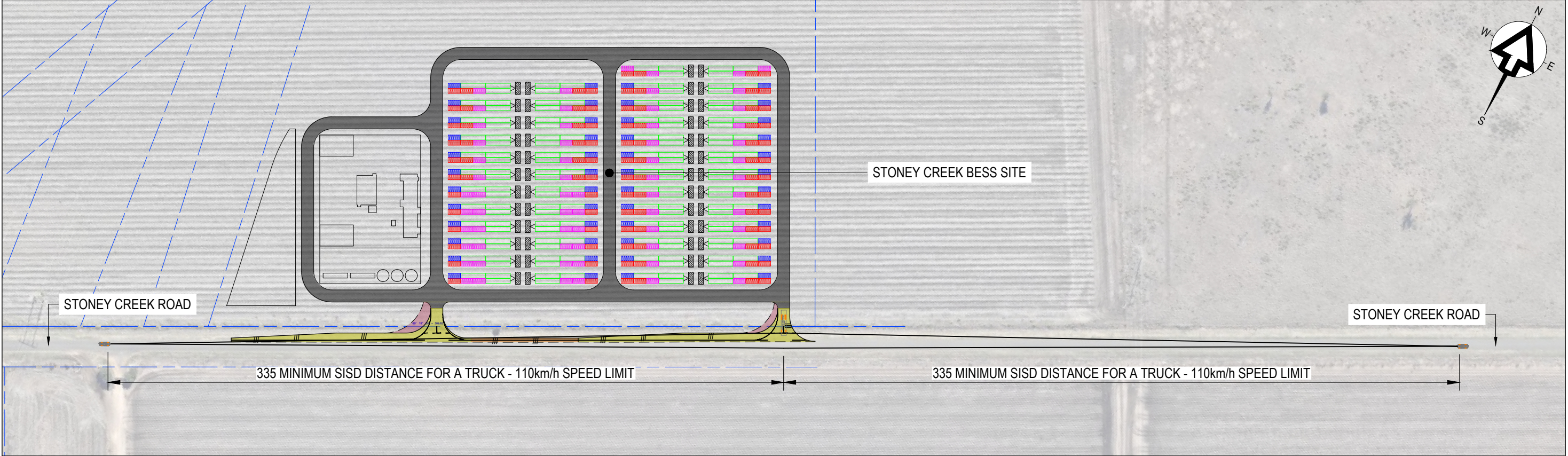


SITE ACCESS 2 - GENERAL ARRANGEMENT LAYOUT PLAN
SCALE 1:500

LINEMARKING LEGEND	
EDGE LINE (LE)	LE
CONTINUITY LINE (CL1)	CL1
GIVE WAY LINE (TB)	TB
GIVE WAY LINE (TB1)	TB1
BARRIER LINE (BL2)	BL2



SITE ACCESS 1 - SAFE INTERSECTION SIGHT DISTANCE CHECK LAYOUT PLAN
SCALE 1:2000



SITE ACCESS 2 - SAFE INTERSECTION SIGHT DISTANCE CHECK LAYOUT PLAN
SCALE 1:2000

NOTE:
1. NO VEGETATION CLEARING REQUIRED.



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Project No:	620.31316
Date:	03/10/2025
Drawn by:	RMC
Scale:	AS SHOWN
Sheet Size:	A3
Projection:	GDA2020

LEGEND

EXISTING PROPERTY BOUNDARY

POPOSED PAVEMENT SAW CUT

PROPOSED EDGE OF SEAL

PROPOSED PERMANENT ROAD SURFACE

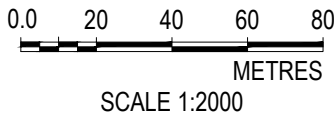
PAVEMENT WIDENING

PROPOSED PERMANENT ROAD SURFACE

PAVEMENT WIDENING BETWEEN ACCESS 1 AND 2

PROPOSED UNSEALED CONSTRUCTION

PAVEMENT WIDENING (GRAVEL)

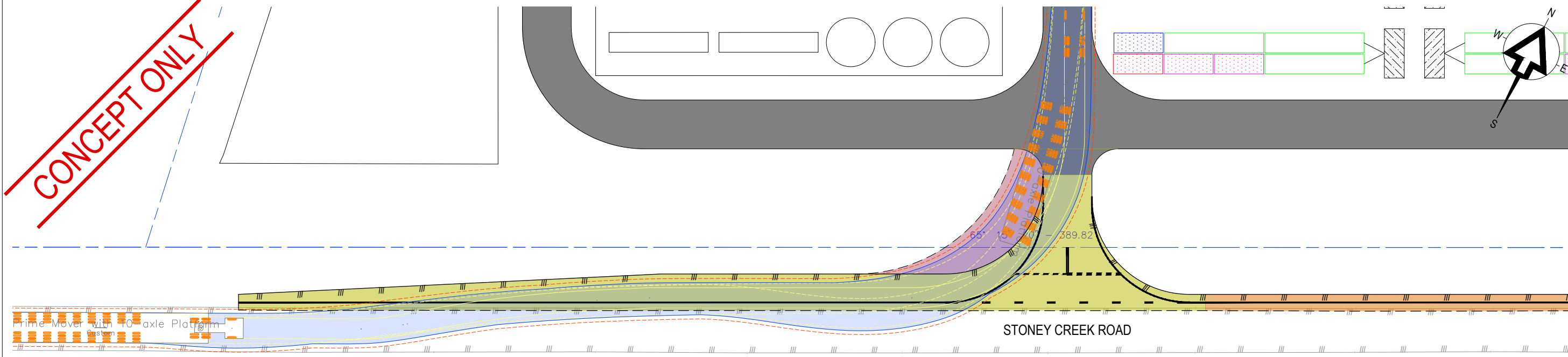


ENERVEST PTY LTD

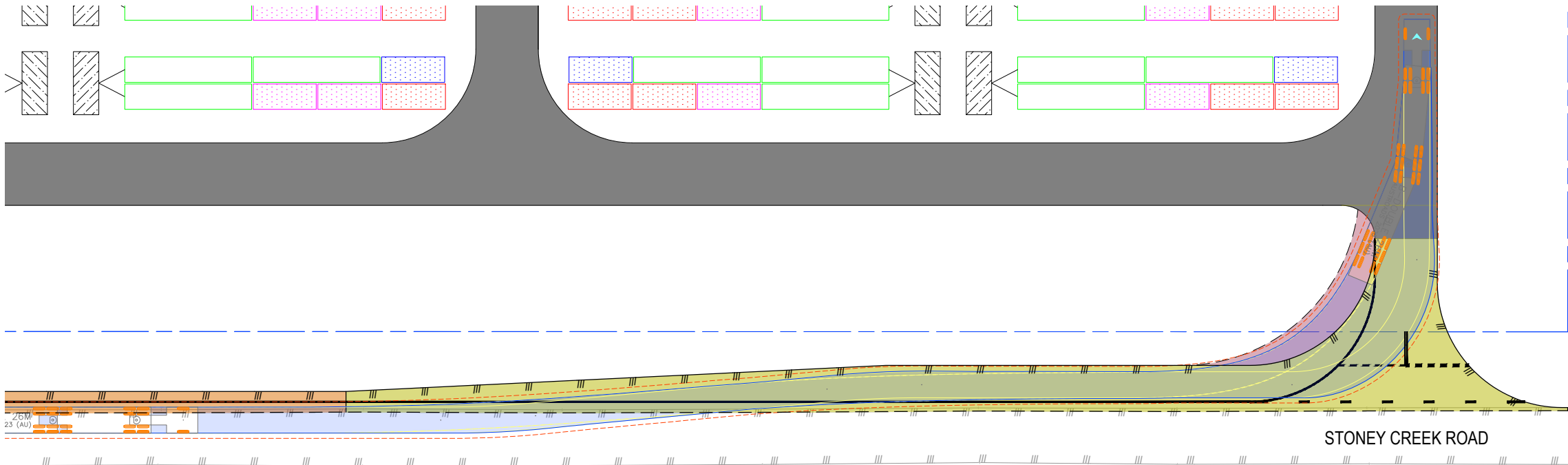
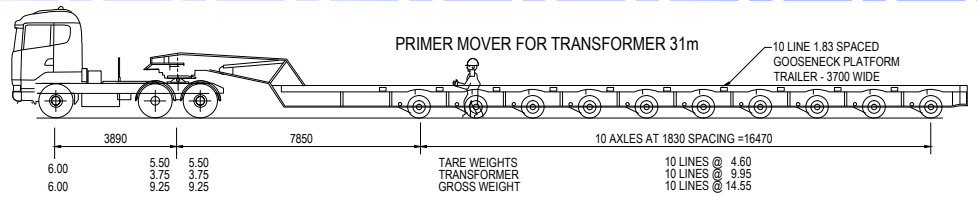
BESS FEASIBILITY
41 STONEY CREEK ROAD, NARRABRI 2390

SAFE INTERSECTION SIGHT DISTANCE
CHECK LAYOUT PLAN

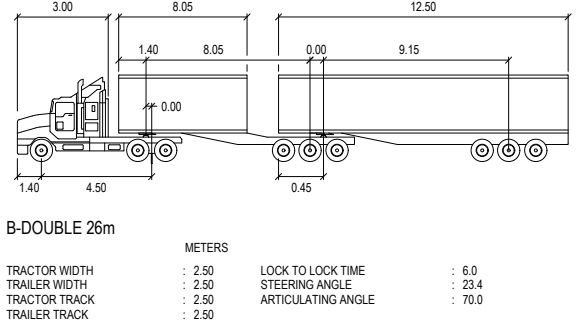
FIGURE 02



SWEPT PATH ANALYSIS - PRIMER MOVER FOR TRANSFORMER (31m LENGTH) - ENTERING SITE ACCESS 1
SCALE 1:500



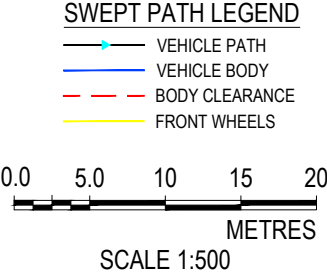
SWEPT PATH ANALYSIS - B-DOUBLE (26m LENGTH) - ENTERING SITE ACCESS 2
SCALE 1:500



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Date:	03/10/2025
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Scale:	AS SHOWN
Sheet Size:	A3
Projection:	GDA2020

LEGEND	
EXISTING PROPERTY BOUNDARY	---
EXISTING ROAD EDGE OF SEAL	---
PROPOSED PAVEMENT SAW CUT	---
PROPOSED EDGE OF SEAL	---
PROPOSED PERMANENT ROAD SURFACE PAVEMENT WIDENING	---
PROPOSED PERMANENT ROAD SURFACE PAVEMENT WIDENING BETWEEN ACCESS 1 AND 2	---
PROPOSED UNSEALED CONSTRUCTION PAVEMENT WIDENING (GRAVEL)	---



ENERVEST PTY LTD

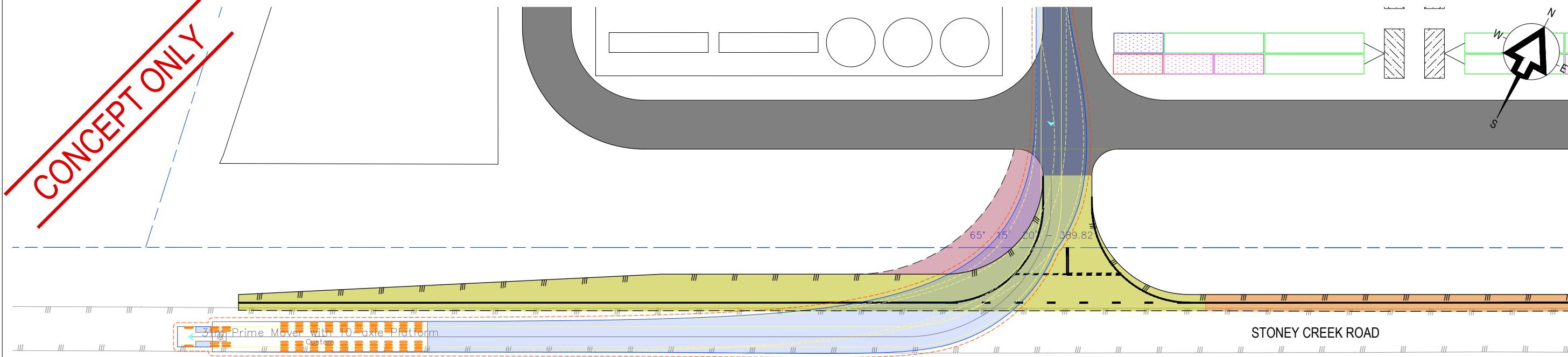
BESS FEASIBILITY

41 STONEY CREEK ROAD, NARRABRI 2390

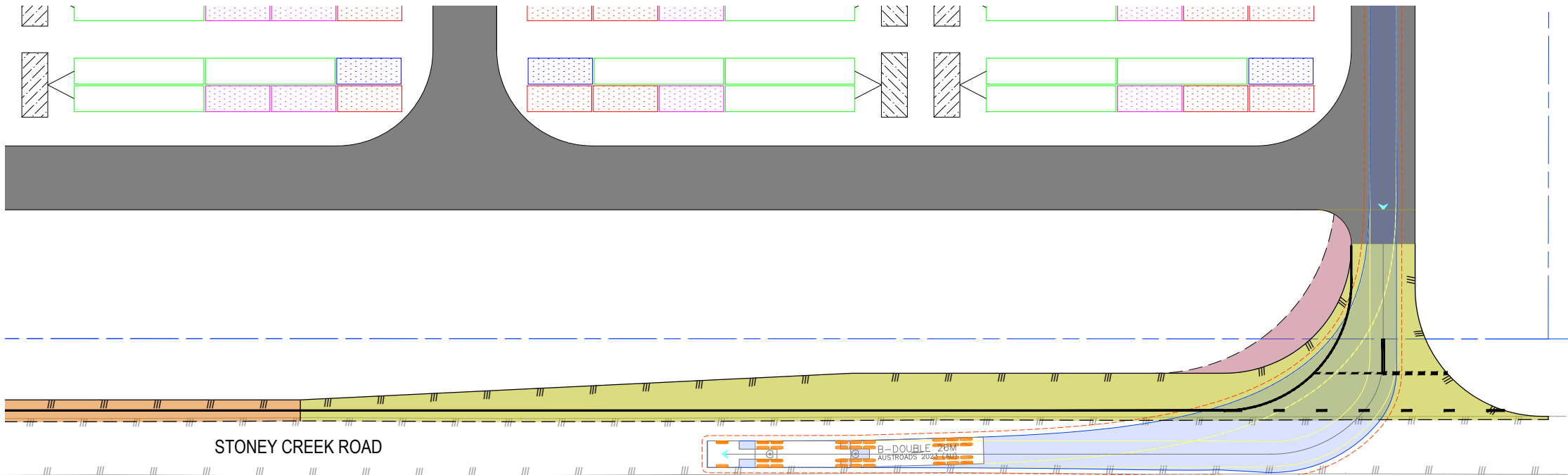
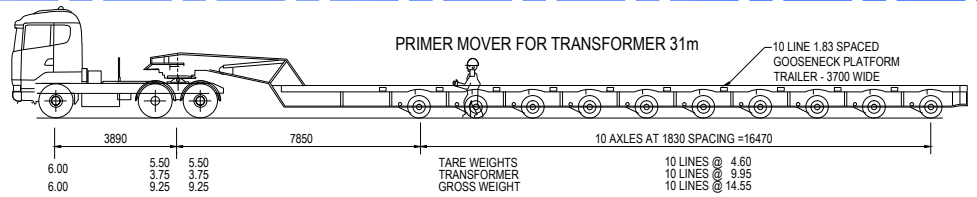
PROPERTY ACCESS 1 AND 2

SWEPT PATH ANALYSIS - IN

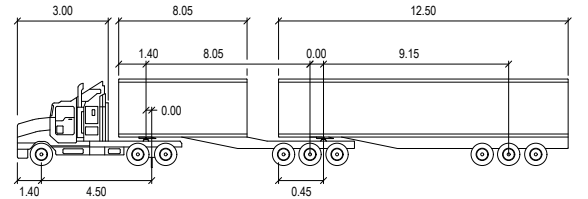
FIGURE 03



SWEPT PATH ANALYSIS - PRIMER MOVER FOR TRANSFORMER (31m LENGTH) - EXITING SITE ACCESS 1
SCALE 1:500



SWEPT PATH ANALYSIS - B-DOUBLE (26m LENGTH) - EXITING SITE ACCESS 2
SCALE 1:500



B-DOUBLE 26m

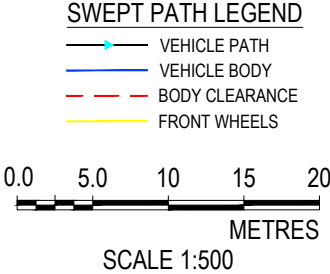
	METERS		
TRACTOR WIDTH	: 2.50	LOCK TO LOCK TIME	: 6.0
TRAILER WIDTH	: 2.50	STEERING ANGLE	: 23.4
TRACTOR TRACK	: 2.50	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 2.50		



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Project No:	620.31316
Date:	03/10/2025
Drawn by:	RMC
Scale:	AS SHOWN
Sheet Size:	A3
Projection:	GDA2020

LEGEND	
EXISTING PROPERTY BOUNDARY	---
EXISTING ROAD EDGE OF SEAL	---
PROPOSED PAVEMENT SAW CUT	---
PROPOSED EDGE OF SEAL	---
PROPOSED PERMANENT ROAD SURFACE PAVEMENT WIDENING	---
PROPOSED PERMANENT ROAD SURFACE PAVEMENT WIDENING BETWEEN ACCESS 1 AND 2	---
PROPOSED UNSEALED CONSTRUCTION PAVEMENT WIDENING (GRAVEL)	---



ENERVEST PTY LTD

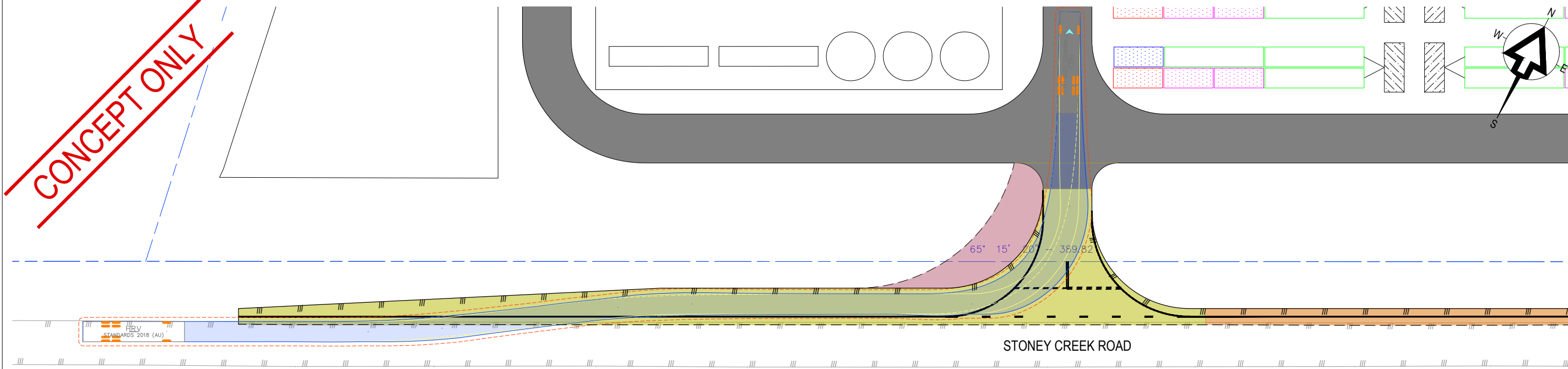
BESS FEASIBILITY

41 STONEY CREEK ROAD, NARRABRI 2390

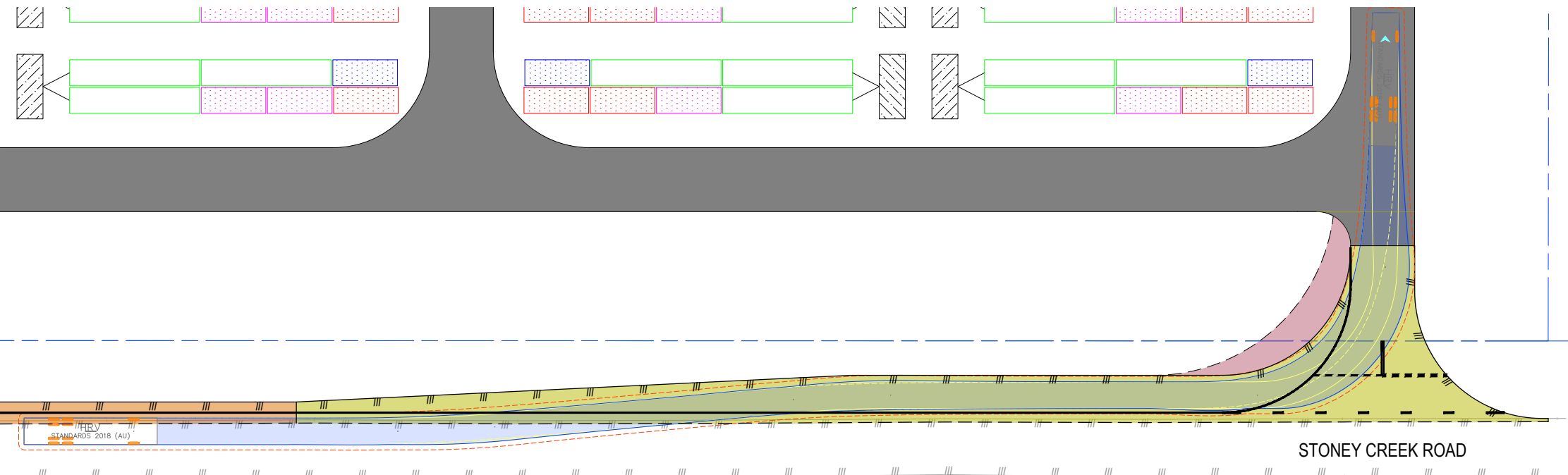
PROPERTY ACCESS 1 AND 2

SWEPT PATH ANALYSIS - OUT

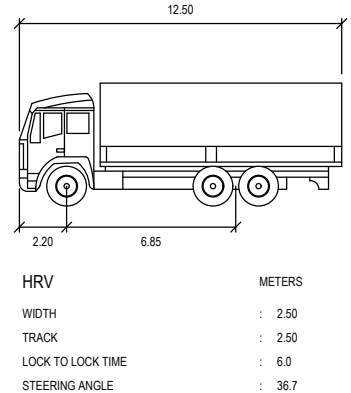
FIGURE 04



SWEPT PATH ANALYSIS - HRV - ENTERING SITE ACCESS 1
SCALE 1:500



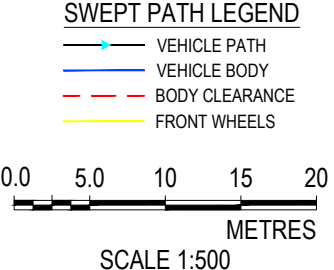
SWEPT PATH ANALYSIS - HRV - ENTERING SITE ACCESS 2
SCALE 1:500



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Date:	03/10/2025
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Scale:	AS SHOWN
Sheet Size:	A3
Projection:	GDA2020

LEGEND	
EXISTING PROPERTY BOUNDARY	---
EXISTING ROAD EDGE OF SEAL	///
PROPOSED PAVEMENT SAW CUT	- - -
PROPOSED EDGE OF SEAL	///
PROPOSED PERMANENT ROAD SURFACE	■
PAVEMENT WIDENING	■
PROPOSED PERMANENT ROAD SURFACE	■
PAVEMENT WIDENING BETWEEN ACCESS 1 AND 2	■
PROPOSED UNSEALED CONSTRUCTION	■
PAVEMENT WIDENING (GRAVEL)	■



ENERVEST PTY LTD

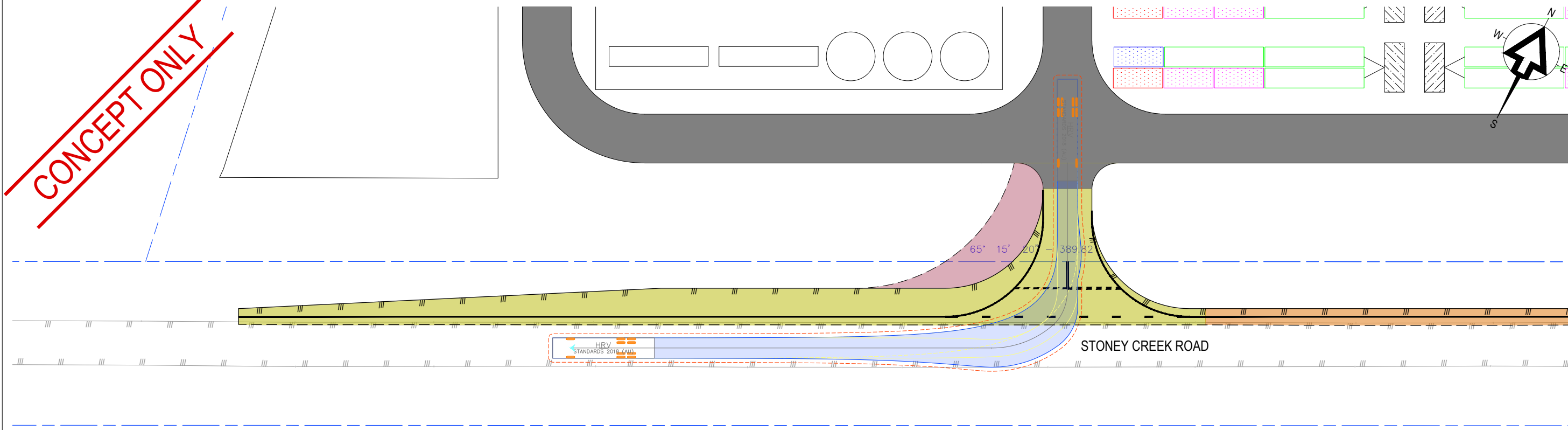
BESS FEASIBILITY

41 STONEY CREEK ROAD, NARRABRI 2390

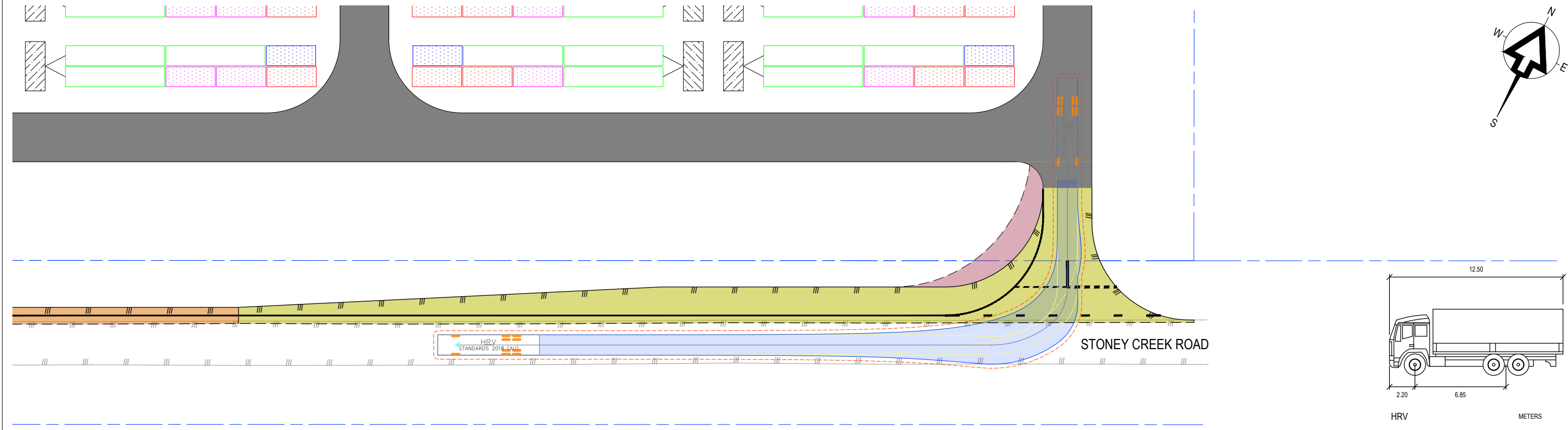
PROPERTY ACCESS 1 AND 2

SWEPT PATH ANALYSIS - HRV IN

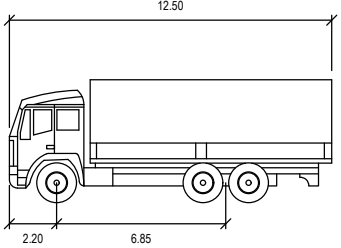
FIGURE 05



SWEPT PATH ANALYSIS - HRV - EXITING SITE ACCESS 1
SCALE 1:500



SWEPT PATH ANALYSIS - HRV - EXITING SITE ACCESS 2
SCALE 1:500



HRV	METERS
WIDTH	: 2.50
TRACK	: 2.50
LOCK TO LOCK TIME	: 6.0
STEERING ANGLE	: 36.7

GROUND FLOOR, THE CENTRAL BUILDING
UoW INNOVATION CAMPUS
NORTH WOLLONGONG
NEW SOUTH WALES, 2500
AUSTRALIA
T: +61 (0)2 4249 1000
www.slrconsulting.com

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Project No:	620.31316
Date:	03/10/2025
Drawn by:	RMC
Scale:	AS SHOWN
Sheet Size:	A3
Projection:	GDA2020

LEGEND	
EXISTING PROPERTY BOUNDARY	---
EXISTING ROAD EDGE OF SEAL	///
PROPOSED PAVEMENT SAW CUT	- - -
PROPOSED EDGE OF SEAL	///
PROPOSED PERMANENT ROAD SURFACE	
PAVEMENT WIDENING	
PROPOSED PERMANENT ROAD SURFACE	
PAVEMENT WIDENING BETWEEN ACCESS 1 AND 2	
PROPOSED UNSEALED CONSTRUCTION	
PAVEMENT WIDENING (GRAVEL)	

SWEPT PATH LEGEND

VEHICLE PATH

VEHICLE BODY

BODY CLEARANCE

FRONT WHEELS

0.05.0101520

METRES

SCALE 1:500

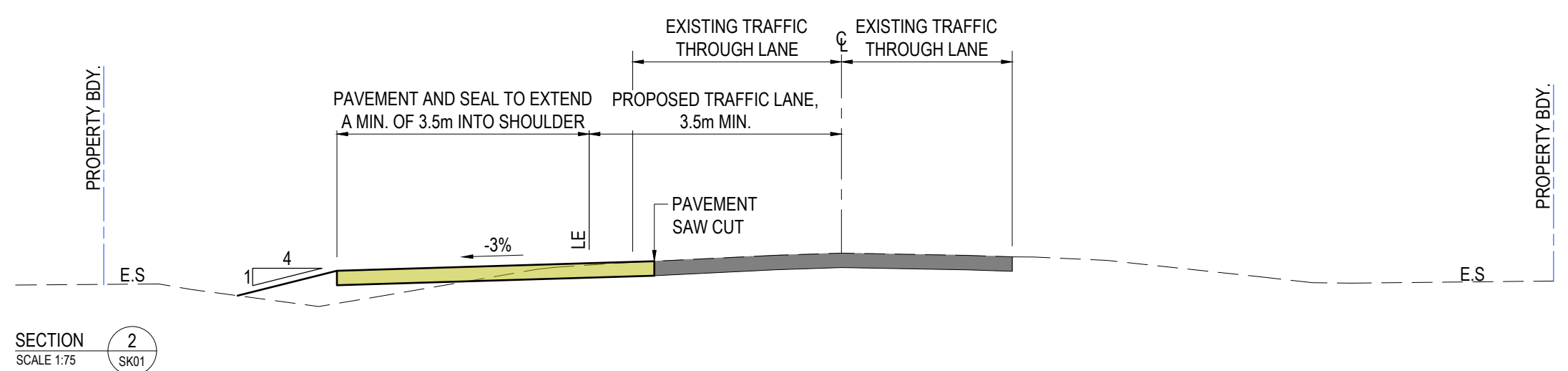
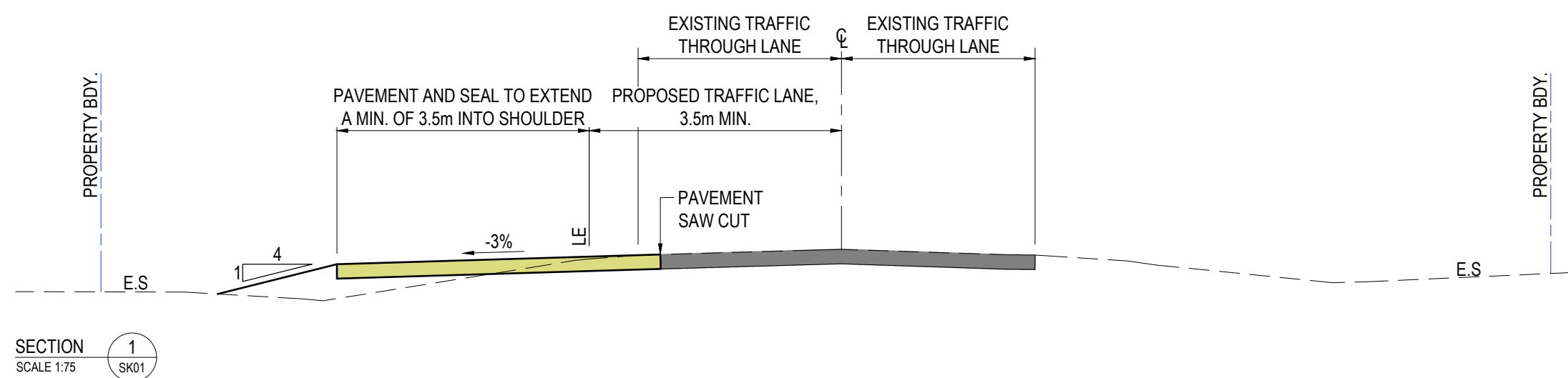
ENERVEST PTY LTD

BESS FEASIBILITY
41 STONEY CREEK ROAD, NARRABRI 2390

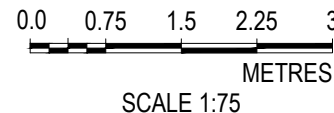
PROPERTY ACCESS 1 AND 2
SWEPT PATH ANALYSIS - HRV OUT

FIGURE 06

CONCEPT ONLY



Project No:	620.31316
Date:	03/10/2025
Drawn by:	RMC
Scale:	AS SHOWN
Sheet Size:	A3
Projection:	GDA2020





Appendix C:

SEARs



Our ref: Stoney Creek Battery Energy Storage System (SSD-75680468)

Mr Julian Voller
Project Consultant
Enervest Pty Ltd
Level 6, 627 Chapel Street
South Yarra VIC 3141

14 October 2024

Subject: Planning Secretary's Environmental Assessment Requirements

Dear Mr Voller

Please find attached a copy of the Planning Secretary's Environmental Assessment Requirements (SEARs) for the Stoney Creek Battery Energy Storage System (SSD-75680468).

The SEARs have been prepared in consultation with relevant public authorities, based on the information you have provided. A copy of the advice from the public authorities is attached for your information. Please review carefully all the advice provided, including in relation to biodiversity, agricultural land and traffic.

Where relevant, the Planning Secretary may modify the SEARs to ensure the environmental assessment of the project covers all relevant matters and is consistent with contemporary assessment practice.

Your SEARs will expire two years from the date of issue (or the date they were last modified) unless the Planning Secretary has granted an extension. If you would like to seek an extension, you should contact the department at least three months prior to the expiry date.

If your application is not submitted within two years (or by the agreed extension date), you will need to make a new application for SEARs to progress your project.

Preparing your EIS

Your environmental impact statement (EIS) must be prepared having regard to the department's *State Significant Development Guidelines* – including the *Preparing an Environmental Impact Statement Guideline*. All relevant guides for State significant projects that are referenced in the SEARs are available at

<https://www.planning.nsw.gov.au/policy-and-legislation/planning-reforms/rapid-assessment-framework/improving-assessment-guidance>.

During the preparation of your EIS, you are required to consult with various parties, including the department and relevant agencies, in accordance with *the Undertaking Engagement Guidelines for State Significant Projects*. For more information, please visit the [Prepare EIS page](#) on the NSW planning portal.

Agency contact details can be found at
<https://www.planningportal.nsw.gov.au/major-projects/assessment/guide-agency-directory>.

You will need a Registered Environmental Assessment Practitioner (REAP) to declare that your EIS meets certain standards in relation to its completeness, accuracy, quality and clarity before it is submitted to the department, as per Division 5 of Part 8 of the Environmental Planning and Assessment Regulation 2021. A pro forma declaration can be found in [Appendix B of the *Preparing an Environmental Impact Statement Guideline*](#).

Lodging your development application (DA)

Once you submit your EIS, we will check it for completeness to confirm it addresses the requirements in Part 8 of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation). We will also notify you of the DA fee for your project.

Please note that **your DA is not taken to be lodged until the DA fee has been paid**.

To minimise delays, **please contact the department at least two weeks before you submit your EIS** to confirm fee determination information and payment arrangements. This will give us sufficient time to ensure your application fee can be determined quickly.

Information needed to determine the DA fee

Your application will need to be accompanied by an Estimated Development Cost (EDC) Report supporting the estimated development cost for your project. You must ensure that the information in the report is consistent with the information provided in your DA form.

Once you submit your EDC Report, we will check it for completeness against the requirements of the EP&A Regulation and the relevant Planning Circular.

If your project involves marinas, extractive industries or any subdivision of land, you must also ensure that your report includes a breakdown of estimated costs for any other component of your project.

Public exhibition requirements

When you contact us regarding the applicable DA fee, we will also advise whether hard and/or electronic copies of the EIS will be required for public exhibition.

Matters of National Environmental Significance

Any development likely to have a significant impact on matters of National Environmental Significance will require approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This approval is in addition to approvals required under NSW legislation.

Department of Planning, Housing and Infrastructure



It is your responsibility to contact the Australian Government Department of Climate Change, Energy, the Environment and Water to determine if you need approval under the EPBC Act (<https://www.dcceew.gov.au/> or 6274 1111).

If you have any questions, please contact Megan Ramsdale on (02) 9407 2133 or via email at megan.ramsdale@planning.nsw.gov.au.

Yours sincerely,

Iwan Davies

Director

Energy Assessments

as delegate for the Planning Secretary

Planning Secretary's Environmental Assessment Requirements

Section 4.12(8) of the *Environmental Planning and Assessment Act 1979*

Part 8 of the *Environmental Planning and Assessment Regulation 2021*

Application Number	SSD-75680468
Project	Stoney Creek BESS, which includes: - the construction, operation and decommissioning of a battery energy storage system (BESS) with an estimated capacity of approximately 125 MW / 1,000 MWh; and - ancillary infrastructure, including transmission and connection works.
Location	Stoney Creek Road, Narrabri, within Narrabri Shire Local Government Area (LGA)
Proponent	Enervest Pty Ltd
Date of Issue	14 October 2024
General Requirements	The Environmental Impact Statement (EIS) for the development must meet the minimum form and content requirements in Part 8 of the <i>Environmental Planning and Assessment Regulation 2021</i> (the Regulation) and must have regard to the <i>State Significant Development Guidelines</i>, and any relevant planning circulars. In particular, the EIS must include: - a stand-alone executive summary; - a full description of the development, including: - details of construction, operation and decommissioning, including any staging of the development; - a high quality site plan at an adequate scale showing all infrastructure and facilities (including any infrastructure that would be required for the development, but the subject of a separate approvals process); - the Project Area (as per Table 1 of the <i>SSD guidelines - preparing an environmental impact statement</i>) and Development Footprint (disturbance area including but not limited to areas for infrastructure, road works, access tracks, defensible space, fencing and temporary laydown); - a high quality detailed constraints map identifying the key

environmental and other land use constraints that have informed the final design of the development; and

- confirmation if the project is designated development in accordance with the *Environmental Planning and Assessment Act 1979* (EP&A Act) and the Regulation;
- consistency in information presented in the EIS and all technical reports, including distances, development footprint, project design and infrastructure proposed, construction timeframes and receiver numbers;
- a strategic justification of the development focusing on site selection and the suitability of the proposed site with respect to potential land use conflicts with existing and future surrounding land uses (including existing land use, other proposed or approved energy facilities, major projects, rural/residential development, Crown lands within and adjacent to the project site and subdivision potential);
- a risk assessment of the potential impacts of the development, identifying the key issues for further assessment;
- an assessment of the likely impacts of the development on the environment, and any other significant issues identified in the above risk assessment, focusing on the specific issues identified below, including:
 - a description of the existing environment likely to be affected by the development using sufficient baseline data;
 - an assessment of the likely impacts of all stages of the development (which is commensurate with the level of impact), including any cumulative impacts of the site and existing, approved or proposed developments in the region and impacts on the site and any road upgrades, taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice including the *Cumulative Impact Assessment Guideline* (DPIE);
 - a description and assessment if staging of the project is proposed including any site mobilisation or pre-construction works;
 - a description of the measures that would be implemented to avoid, mitigate and/or offset the impacts of the development (including draft management plans for specific issues as identified below); and
 - a description of the measures that would be implemented to monitor and report on the environmental performance of the development;
- a consolidated summary of all the proposed environmental mitigation, management and monitoring measures, including a table identifying all the commitments within the EIS;
- a detailed evaluation of the merits of the project as a whole, having regard to:
 - the requirements in Section 4.15 of the *Environmental Planning and Assessment Act 1979*, including the objects of the Act and how the principles of ecologically sustainable development have been

	incorporated in the design, construction and ongoing operations of the development; - the suitability of the site with respect to potential land use conflicts with existing and future surrounding land uses; - feasible alternatives to the development and its key components, including siting and project design alternatives to avoid areas of biodiversity value, opportunities for shared infrastructure with proposed developments in the region, and the consequences of not carrying out the development; and - a detailed consideration of the capability of the project to contribute to the security and reliability of the electricity system in the National Electricity Market, having regard to local system conditions and the Department's guidance on the matter. Estimated Development Cost and Employment • Provide the estimated development cost (EDC) of the development prepared in accordance with the relevant planning circular using the Standard Form of EDC Report; • Provide an estimate of the retained and new jobs that would be created during the construction and operational phases of the development, including details of the methodology to determine the figures provided; • The development application must also be accompanied by: - the consent of the owner/s of the land (as required in Section 23(1) of the EP&A Regulation); and - a declaration from a Registered Environmental Assessment Practitioner that the EIS includes the information specified in the <i>Department's Registered Environmental Assessment Practitioner Guidelines</i>.
Key issues	The EIS must address the following specific matters: Biodiversity – including: • an assessment of the biodiversity values, and the likely biodiversity impacts of the project in accordance with Section 7.9 of the <i>Biodiversity Conservation Act 2016</i> (NSW) (BC Act), having regard to the <i>Biodiversity Assessment Method</i> (BAM) 2020 and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must: - be prepared using the approved BDAR template; - document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the BAM; - assess the impacts associated with all ancillary infrastructure, including the transport route road upgrades; - include an assessment for serious and irreversible impacts (SAIL) in accordance with Section 9.1 of the BAM; - include a strategy to offset any residual impacts of the development in

accordance with the BC Act; and

- be finalised by an accredited assessor as BAM-compliant within 14 days of submission;

unless BCS and DPHI determine the proposed development is not likely to have any significant impacts on biodiversity values;

- an assessment of the likely impacts on listed aquatic threatened species, populations or ecological communities, scheduled under the *Fisheries Management Act 1994*, and a description of the measures to minimise and rehabilitate impacts;
- a cumulative impact assessment of biodiversity values in the region from nearby developments; and
- if an offset is required, details of the measures proposed to address the offset obligations.

Heritage – including:

- An Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011) and the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010), identifying, describing, and assessing any impacts to any Aboriginal cultural heritage sites or values associated with the site and adjoining haulage routes (including impacts from any proposed earthworks, construction works, and road works), and including results of archaeological test excavations (where required), undertaken in accordance with the relevant standards and requirements;
- evidence of adequate and ongoing consultation with Aboriginal communities in determining and assessing impacts, identifying and selecting options for avoidance of Aboriginal cultural heritage and identifying appropriate mitigation measures (including the final proposed measures), having regard to the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010) including the consultation process outlined within; and
- assess the impact to historic heritage having regard to the *NSW Heritage Manual*.

Land – including:

- a detailed justification of the suitability of the site and that the site can accommodate the proposed development having regard to its potential environmental impacts, land contamination, permissibility, strategic context and existing site constraints;
- an assessment of the potential impacts of the development on existing land uses on the site and adjacent land, including:
 - consideration of agricultural land, flood prone land, nearby drinking water catchments, Crown lands, mining, quarries, mineral or petroleum rights (if relevant);
 - a soil survey to determine the soil characteristics and consider the potential for salinity, acid sulfate soils, and erosion to occur; and
 - a cumulative impact assessment of nearby developments;

- an assessment of the compatibility of the development with existing land uses, during construction, operation and after decommissioning, including:
 - consideration of the zoning provisions applying to the land, including subdivision in consultation with Council (if proposed);
 - completion of a Land Use Conflict Risk Assessment in accordance with the Department of Industries *Land Use Conflict Risk Assessment Guide*; and
 - an assessment of impact on agricultural resources and agricultural production on the site and region.

Visual – including:

- a detailed assessment of the likely visual impacts (including night lighting) of all components of the project (including transmission lines, substations and any other ancillary infrastructure) on surrounding residences (including approved developments, lodged development applications and dwelling entitlements) and key locations, scenic or significant vistas and road corridors in the public domain and provide details of measures to mitigate and/or manage potential impacts;
- details of measures to mitigate and/or manage potential impacts (including a draft landscaping plan for on-site perimeter planting, with evidence it has been developed in consultation with affected landowners); and
- detailed consideration of the Siding Spring Observatory in accordance with the *Dark Sky Planning Guideline* (2023).

Noise – including an assessment of the construction noise impacts (including impacts from proposed road upgrades) of the development in accordance with the *Interim Construction Noise Guideline* (ICNG), operational noise impacts in accordance with the *NSW Noise Policy for Industry* (2017) and cumulative noise impacts (considering other developments in the area), including (where appropriate):

- identification of impacts associated with construction, site emission and traffic generation at noise affected sensitive receivers, including the provision of operational noise contours;
- details of noise monitoring survey, background noise levels and amenity noise levels at the most-affected residential receivers;
- details of the likely charging/discharging load profile, manufacturer specifications for plant and equipment and noise source inventory (including intensity, quantity, location, directivity and frequency information);
- an assessment of ‘worst case’ noise emission scenarios during periods of discharging and charging;

- consideration of annoying characteristics of noise and prevailing meteorological conditions in the study area; and
- details and analysis of the effectiveness of proposed management and mitigation measures to adequately manage identified impacts, including a clear identification of residual noise and vibration impacts following application of these mitigation measures and details of any proposed compliance monitoring programs.

Transport – including:

- an assessment of the peak and average traffic generation, light vehicles, shuttle buses, heavy vehicles and high risk heavy vehicles requiring escort and construction worker transportation;
- an assessment of the likely transport impacts to the site access route(s), including the above listed vehicles, site access point(s), any Crown land, particularly in relation to the capacity and condition of the roads, road safety and intersection performance;
- a cumulative impact assessment of traffic from nearby developments (including mining operations); and
- provide details of measures to mitigate and / or manage potential impacts (developed in consultation with the relevant road authorities), including:
 - a schedule of all required road upgrades (including resulting from heavy vehicle and heavy vehicle requiring escort traffic haulage routes);
 - clear figures of proposed road upgrades (including the site access point(s); and
 - road maintenance contributions, and any other traffic control measures.

Water – including:

- an assessment of the likely impacts of the development (including flooding and flood modelling) on surrounding watercourses (including their Strahler Stream Order), groundwater resources and surface water movements, and measures proposed to monitor, reduce and mitigate these impacts including water management issues;
- a site water balance for the development;
- details of water requirements and supply arrangements for construction and operation (including consultation with suppliers);
- a description of the erosion and sediment control measures that would be implemented to mitigate any impacts in accordance with *Managing Urban Stormwater: Soils & Construction* (Landcom, 2004) and *Managing Urban Stormwater: Soils and construction - Volume 2A manual* (Landcom, 2008);
- assessing the impacts of the development, including any changes to flood risk and overland flows on-site or off-site, and detail design solutions and operational procedures to mitigate flood risk where required;

- where the project involves works within 40 metres of any river, lake or wetlands (collectively waterfront land), identify likely impacts to the waterfront land, and how the activities are to be designed and implemented in accordance with the *DPI Guidelines for Controlled Activities on Waterfront Land* (2018) and (if necessary) *Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings* (DPI, 2003), and *Policy & Guidelines for Fish Habitat Conservation & Management* (DPE, 2013); and
- identification of any flood risk on site having regard to adopted flood studies, the potential effects of climate change and any relevant provisions of the NSW Flood Risk Management Manual;
 - where the development could alter flood behaviour, affect flood risk to the existing community or expose its users to flood risk, provide a flood impact and risk assessment (FIRA) prepared in accordance with the Flood Impact and Risk Assessment – Flood Risk Management Guide LU01; and
 - detailed design solutions and operational procedures to mitigate flood risk where required.

Hazards – including:

- *Dangerous Goods* – a preliminary risk screening completed in accordance with the *State Environmental Planning Policy (Resilience and Hazards)*;
- *Battery Energy Storage System* - a Preliminary Hazard Analysis (PHA) prepared in accordance with *Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis* (DoP, 2011) and *Multi-Level Risk Assessment* (DoP, 2011). The PHA must consider all recent standards and codes and verify separation distances to on-site and off-site receptors to prevent fire propagation and compliance with the Department's *Hazardous Industry Advisory Paper No. 4, 'Risk Criteria for Land Use Safety Planning'* (DoP, 2011).
- *Health* – an assessment of potential hazards and risks including but not limited to fires, spontaneous ignition, electromagnetic fields or the proposed grid connection infrastructure against the *International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields*; and
- *Bushfire* - identify potential hazards and risks associated with bushfires / use of bushfire prone land including the risks that a BESS would cause a bush fire and demonstrate compliance with the *RFS Planning for Bush Fire Protection 2019*.

Social – including an assessment of the social impacts or benefits of the project for the region and the State as a whole in accordance with the *Social Impact Assessment Guideline* (DPE, 2023), including consideration of any increase in demand for community infrastructure services, consideration of

	construction workforce accommodation, and consideration of potential opportunities for nearby settlements. Economic – including an assessment of the economic impacts or benefits of the project for the region and the State as a whole and provide details of any proposed voluntary benefit sharing programs. Waste – including: • identify, quantify and classify the likely waste stream to be generated during construction, operation, and decommissioning, and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste (in consultation with waste facilities, including Council); and • provide a waste management plan (as appropriate).
Plans and Documents	The EIS must include all relevant plans, diagrams and relevant documentation required under part 3 of the EP&A Regulation. Provide these as part of the EIS rather than as separate documents. In addition, the EIS must include high quality files of maps and figures of the subject site and proposal.
Legislation, Policies & Guidelines	The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. A list of some of the legislation, policies and guidelines that may be relevant to the assessment of the project can be found at: • https://www.planning.nsw.gov.au/Policy-and-Legislation/Planning-reforms/Rapid-Assessment-Framework/Improving-assessment-guidance; • https://www.planningportal.nsw.gov.au/major-projects/assessment/policies-and-guidelines; and • http://www.environment.gov.au/epbc/publications#assessments.
Consultation	During the preparation of the EIS, you should consult with the relevant local, State or Commonwealth Government authorities, infrastructure and service providers, community groups, affected landowners and any exploration licence and/or mineral title holders. In particular, you must undertake detailed consultation with affected landowners surrounding the development, the owners of all exploration licences across the proposed development site, and all relevant government agencies, including the relevant local Council. The EIS must: • detail how engagement undertaken was consistent with the <i>Undertaking Engagement Guidelines for State Significant Projects</i> (DPIE); and

	describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, an explanation should be provided.
Expiry Date	If you do not lodge a Development Application and EIS for the development within 2 years of the issue date of these SEARs, your SEARs will expire. If an extension to these SEARs will be required, please consult with the Planning Secretary 3 months prior to the expiry date.



Appendix D:

TfNSW Comments



TfNSW reference: WST24/00342, SF2024/176006
DPHI reference: SSD-75680468 (PAE-75930463)

30 September 2024

Department of Planning, Housing and Infrastructure
Locked Bag 5022
PARRAMATTA NSW 2124

Attention: Megan Ramsdale

SSD-75680468, Stoney Creek Battery Energy Storage System, Narrabri; Request for Secretary's Environmental Assessment Requirements (SEARS)

Thank you for referring the abovementioned request for SEARs to Transport for NSW (TfNSW) seeking comments in relation to the proposed Stoney Creek Battery Energy Storage System (BESS) located within the Narrabri Shire Local Government Area (LGA).

TfNSW has reviewed the Scoping Study prepared by SLR Consulting dated 25 August 2024 and provides advice in **Attachment A** and **Attachment B** to assist in the preparation of the Environmental Impact Statement (EIS) and supporting documentation for the future lodgement of the application with the Department of Planning, Housing and Infrastructure (DPHI).

TfNSW recommends a meeting to discuss the SEARs requirements before proceeding to EIS. If you have any questions or wish to discuss this matter further, please contact Tim Mitchell, Development Services Case Officer, on 1300 019 680 or email development.renewables@transport.nsw.gov.au

Yours faithfully,

A handwritten signature in black ink, appearing to read "Glen Hanchard".

Glen Hanchard

Acting Team Leader Development Services – Renewables
Community and Place
Regional and Outer Metropolitan Division

OFFICIAL

Attachment A

SSD-75680468, Stoney Creek Battery Energy Storage System, Narrabri; Request for Secretary's Environmental Assessment Requirements (SEARS)

Context

- A construction workforce of up to 40 persons is anticipated.
- Construction is proposed to begin in 2026 and continue for 12 months.
- Access is proposed from local road, Stoney Creek Road.
- Oversize/Overmass (OSOM) movements are required. The route for the movements has not been provided.

TfNSW advice for SEARs

The Environmental Impact Statement to be submitted as part of the environmental planning process will need to include the following:

Following review of the *Scoping Report*, TfNSW have identified and recommends the following issues be addressed in the Environmental Assessment:

A Traffic Impact Assessment (TIA) prepared in accordance with the methodology set out in section 2 of the *RTA Guide to Traffic Generating Developments 2002* and part 12 *Austroads Guide to Traffic Management* including:

1. Hours, days and periods of construction.
2. Schedule for phasing/staging of the project (including pre-construction, accommodation and ancillary infrastructure works) and identifying the traffic volumes for each stage.
3. Traffic volumes:
 - a. Surveyed existing background traffic at key intersections per Part 3 *Austroads Guide to Traffic Management* with survey raw data included.
 - b. Project-related traffic volumes (measured as vehicle trips per an hour and per a day) for each stage including pre-construction, construction, operation, and decommissioning and identifying peak period(s) for traffic volumes.
4. Traffic volumes are to include a description of:
 - a. Ratio of light vehicles to heavy vehicles.
 - b. Differentiation of Over Size/Over Mass (OSOM) that do or do not require an NHVR permit and proposed times of operation on the State road network.
 - c. Project related traffic interaction with existing and projected background traffic with annual growth rate applied linearly.
 - d. Peak times for existing traffic and project related traffic.
 - e. Transportation hours.
5. The origin, destination and routes for:

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- a. Employee and contractor light traffic.
- b. Heavy vehicle traffic.
- c. OSOM vehicle traffic.
- d. OSOM high risk loads.
- e. A description of all non-high risk OSOM vehicles and materials to be transported. The shortest and least trafficked route is to be given priority for movement of materials and machinery to minimise risk and impact to other motorists, so far as is reasonably practicable.
- f. The impact of generated traffic and measures employed to ensure efficiency and safety on the public road network during construction, operation and decommissioning of the project. This includes enforcement to managing traffic volumes, driver behaviour and access paths to site.
- g. A turn warrant assessment for the worst-case scenario (ie peak project traffic volumes applied to peak background traffic) in accordance with Part 6 *Austroads Guide to Traffic Management* is to be undertaken at identified key intersections on project routes, project site access and site access points to access ancillary infrastructure.
- h. TIA is to detail improvements to the road network, such as road widening and intersection treatments, to cater for and to mitigate the impact of project-related traffic (including accommodation and ancillary infrastructure components) at key intersections with State roads. Proposed road facilities, access and intersection treatments are to be identified and conform with *Austroads Guide to Road Design* and TfNSW Supplements, including safe intersection sight distance. Strategic designs are to include swept path analysis for largest vehicle passing through the intersection(s). To assist the proponent in preparing strategic designs, the below link is provided: [Strategic-Design-requirements-for-DA-Factsheet.pdf \(nsw.gov.au\)](https://www.nsw.gov.au/strategic-design-requirements-for-da-factsheet)

Note: Swept paths for OSOM vehicles on, entering and existing the State road network are to be on sealed road pavement.

Note: It is the proponent's responsibility to acquire and dedicate land required to accommodate road infrastructure including, but not limited to, footways, structures, stormwater drainage, batters, maintenance access and utilities.

6. Traffic safety assessment:

- a. Local climate conditions that may affect road safety for vehicles used during construction, operation and decommissioning of the project (eg fog, wet weather, etc).
- b. A review of crash data along the identified transport route/s for the most recent 5-year reporting period and an assessment of road safety along the proposed transport route(s).
- c. Measures to be employed to ensure a high level of road safety for daily staff commutes between accommodation and construction site(s), specifically addressing impacts of unsafe driver behaviour and driver fatigue for all project stages and how measures employed will be enforced.

7. Details of emergency access/egress, including details of:

- a. The location of the emergency access(es).
- b. How the access will be managed (e.g., gates) to prevent non-emergency-related vehicle movements from using it.
- c. Sufficient storage at the throat of the access to allow emergency vehicle(s) to store within the access and not within the through lane or road shoulder.

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Electricity transmission lines (where applicable)

8. In relation to the EIS, TfNSW requires the identification of ancillary infrastructure, such as Electricity Transmission Lines that are crossing or near the state-classified road network or rail infrastructure within TfNSW remit. With respect to this matter the following information is required:
- a. The heights or depths (under boring) and the vertical and horizontal clearances (overhead) in accordance with Austroads.
 - b. The method for construction of the transmission lines.
 - c. location of infrastructure and impacts (excavation or fill) relative to the road reserve, including demarcation of local and state-classified road reserves.
 - d. Access required to construct and maintain the infrastructure. Access points or access tracks required for ETLs or other infrastructure will require the same level of assessment as the primary project access point.
 - e. Strategic concept designs must be provided for each transmission line crossing the state-classified road network.

Workforce Accommodation Camp (where applicable)

9. If workforce accommodation is proposed, then the TIA is required to assess the pre-construction, construction schedule, staging, parallel construction activities and traffic generation until the workforce is fully accommodated at the camp. The traffic assessment requirements identified in this letter will apply to the workforce accommodation.

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Concept Level Route Analysis required for High Risk OSOM

1. The route assessment is required for high risk OSOM (as defined on TfNSW website) delivering components to the project. The concept level route analysis must include:
 - a. Port or point of origin for the entire route to the site access and intersections required to facilitate high risk OSOM movements required for the project.
 - b. Overall combination type, configuration, load and vehicle configuration.
 - c. The laden dimensions and weight of the vehicle configuration and loads.
 - d. The TIA is required to include details of all high risk OSOM loads and vehicle configurations for the project.
 - e. The location of pull-over bays / rest areas along high risk OSOM routes (including GPS coordinates) and demonstrate through swept paths that high risk OSOMs can be physically accommodated for the project (in terms of size, width and accessibility).
 - f. Bridge Assessments for any at risk bridges on classified roads due to dimensions and weight of OSOM vehicles.
 - g. The design vehicle templates used in the swept path analysis software are also requested in order for TfNSW to review the performance within the software (e.g. Autodesk Vehicle Tracking or Transoft AutoTURN).
 - h. Highlighting each at-risk road structures that the haulage route crosses including bridges, traffic signals, signage, major culverts, and minor culverts that may not meet the desirable cover to cater for proposed axle loads.
 - i. Traffic mitigation measures or road works, modifications, or road upgrades to facilitate the movement of the high risk OSOM(s) associated with the project.
 - j. Potential high level mitigation measures or commitments to mitigate known traffic, safety and impacts to road users along the high risk OSOM route (i.e school bus routes, mining shift changes, TSRs, harvest periods and events).
 - k. Identify and assess implications of any road and rail projects under construction during the indicative schedule for project related OSOM movements.

Note: NHVR permits do not cover road works or upgrades and environmental approvals required along any proposed OSOM route. Any road works or upgrades works required along the OSOM route must be included within the scope of works in the SSD to ensure the development is constructable.

Note: Given high number of renewable energy and other large scale projects requiring road haulage of OSOM components, restrictions, and limitations on OSOM movements may be imposed. In this regard, it is recommended you engage earlier with TfNSW's Development Services Renewables team to discuss requirements of the route assessment.

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Appendix E:

Council Comments



Our Reference: DA:MH: 2197225
Your Reference: SSD:75680468
PAE-75683466
Contact Name: Michelle Castles

Megan Ramsdale
NSW Department of Planning & Environment
Locked Bag 5022
PARRAMATTA NSW 2124

Monday, 23 September 2024



RE: Stoney Creek Battery Energy Storage System (SSD-75680468) – Advice on SEARs (PAE-75683466)

Thank you for the opportunity to provide input into the Secretary's Environmental Assessment Requirements (SEARs) for the Stoney Creek Battery Energy Storage System project (SSD-75680468).

It is understood that the proposed development is for a 125-Megawatt (MW)/8 hour Battery Energy Storage System (BESS) facility with a connection to the existing electricity grid via an underground cable to TransGrid's Narrabri 132/66kV substation. The project consists of:

- 192 batteries, each contained individually within a shipping container,
- 64 inverters (one per every three batteries) located externally to the shipping containers.
- Installation of hardstand to accommodate batteries and inverters.

The development also includes a control room/switchgear, transformers, circuit breakers, harmonic filters, auxiliary transmission lines, car parking, lay down area, landscaping, security fencing/lighting, and a single demountable building used for storage.

1. Biodiversity

- i) Clearing of vegetation should be minimised where practical. Impacts of construction, including clearing of potentially threatened flora, fauna and ecological communities, should be investigated and a biodiversity development assessment report prepared.
- i) Further assessment should be undertaken to determine the presence of any threatened ecological communities (TECs) and threatened or migratory species within the investigation area.



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PO Box 261, Narrabri NSW 2390



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E. council@narrabri.nsw.gov.au
www.narrabri.nsw.gov.au

2. Aboriginal Cultural Heritage

The area may hold cultural significance to First Nations people including cultural heritage sites, and more broadly, the cultural heritage value of the environment generally. A detailed Aboriginal Heritage Assessment should be undertaken as part of the EIS documentation including consultation with Registered Aboriginal Parties (RAPs).

3. Lands

A detailed assessment of the potential impacts of the development on existing land uses should be undertaken with consideration specifically given to agricultural land, and flood prone land.

A Land Use Conflict Risk Assessment (LUCRA) should be undertaken in accordance with current adopted guidelines. The LUCRA should:

- accurately identify and address potential land use conflict issues and risk of occurrence.
- objectively assess the effect of a proposed land use on neighbouring land uses.
- increase the understanding of potential land use conflict to inform and complement development control and buffer requirements; and
- highlight or recommend strategies to help minimise the potential for land use conflicts to occur and contribute to the negotiation, proposal, implementation and evaluation of separation strategies.

4. Visual

An assessment report to investigate likely visual impacts of the project on surrounding dwellings/residences should be prepared along with mitigation measures to manage any potential impacts identified.

5. Noise and Vibration

Operation of machinery during construction, including clearing and excavation, would generate noise with the potential to affect sensitive receptors such as rural residences. An assessment should be undertaken to further understand these noise impacts and to identify and implement mitigation measures to manage the impacts.

6. Water

Impacts of the development (including flooding and flood modelling) on surrounding watercourses, groundwater resources and surface water movements should be assessed, and measures proposed to monitor, reduce and mitigate these impacts. Any potential changes to flood risk and overland flows should be investigated and procedures put in place to mitigate flood risk as required.

7. Traffic and Transport

A detailed Traffic Impact Assessment report should be undertaken that includes peak and average traffic generation numbers, and vehicle types required to access the site. The Assessment report should also include the potential transport impacts to the site access route(s) with consideration to vehicle type, locations of site access point(s), detailed investigation into the capacity and condition of the roads, road safety and intersection performance. Construction of the project will generate additional light and heavy vehicle movements on the local road network and should also be investigated as part of the report.

The proponent should engage with Council early in the planning process to identify any required road upgrades necessary and to discuss road maintenance contributions and any other traffic control matters.

It is foreshadowed that a dilapidation assessment on the proposed Heavy Vehicle Route will need to be undertaken as the proposed route impacts high traffic and pedestrian areas (including School zones), residential roads and streets. A preliminary assessment of the proposal has identified that the project will also significantly impact roads infrastructure, and the proponent must commit to reinstatement costs to the road assets on proposed route. Furthermore, the purposed OSOM vehicle route would need to be closely monitored and assessed by Transport for NSW at the intersection of Tibbereena street and the Newell Highway. Council would prefer alternate routes for differing size heavy vehicles to lower the impact of traffic on residential streets. This would include a route of egress for unladen vehicles to the Newell Highway.

8. Hazards and Risks

A preliminary hazard analysis should be prepared as part of the EIS. The site has been identified as being flood prone and careful consideration is required in respect of the potential impacts of the development.

9. Social Impact Assessment

A social impact assessment report should be included in the EIS including a proposed plan for accommodation of any construction workforce. During construction the project may require temporary accommodation for the non-resident workforce, both in and around Narrabri. In this regard, Council strongly advocates for the use of the existing Civeo accommodation camps (Narrabri and Boggabri) for temporary workers accommodation.

10. Waste Management

A detailed Waste Management Plan should be submitted as part of the EIS to identify, the likely waste to be generated during construction, operation, and decommissioning, as well as to detail the measures to manage, reuse, recycle and safely dispose of this waste in consultation with Council.

11. Voluntary Planning Agreement (VPA)

Early discussions by the proponent in relation to the composition and extent of a corresponding VPA with Narrabri Shire Council is encouraged. It should be noted that any proposed future VPA should be separate to any payments required for the upgrade of local roads or construction of new roads associated with the project. In accordance with standard practice, any upgrades and/or improvements to the local road network required for the project are to be undertaken by the proponent at its own expense prior to the commencement of construction and in accordance with future conditions of consent.

Council trusts that the above advice provides the necessary assistance and thanks you for the opportunity to provide input.

Should you have any further questions or require any further clarification on the contents of Council's correspondence, please contact Ms Michelle Castles, Council's Manager Planning and Development on (02) 6799 6866 or via council@narrabri.nsw.gov.au.

Kind Regards,



Michelle Castles
Manager Planning and Development



Appendix F:

TfNSW RtS Advice



15 December 2025

TfNSW reference: REN25/00195/001

Your reference: SSD-75680468 (PAE-99771216)

Department of Planning, Housing and Infrastructure

Locked Bag 5022

PARRAMATTA NSW 2124

Attention: Rita Hatem

SSD-75680468, Stoney Creek Battery Energy Storage System, 41 Stoney Creek Road, Narrabri; Response to Environmental Impact Statement

Dear Rita,

Transport for NSW (TfNSW) is responding to Stoney Creek Battery Energy Storage System (BESS), exhibited from 20 November 2025 and referred via the Major Projects Portal.

TfNSW has reviewed the Environmental Impact Statement (EIS) prepared by SLR Consulting, dated 30 October 2025, and the Traffic Impact Assessment (TIA) prepared by SLR Consulting, dated 21 October 2025, as key documents for preparing this response.

The information provided in the EIS does not demonstrate that Stoney Creek BESS has mitigated traffic safety, efficiency, or risks to TfNSW assets on the State road network. TfNSW requests additional information on the key issues identified below and as detailed in Attachments **A and B**, to form part of a revised TIA and EIS, to be submitted with the Response to Submissions (RtS).

Key issues:

1. The Oversize Overmass (OSOM) Route Assessment does not provide sufficient information.
2. Traffic assessments, such as turn treatment warrants, have not been conducted for State road intersections. Clarification on assumptions used is also required.
3. Rail crossings used for OSOM transport are to be assessed.
4. Construction timeframes are unclear, including pre-construction works.

On request, TfNSW can meet with DPHI and the Applicant to discuss the information in **Attachment A**. If you have any questions, please contact Emily Lu, Development Services Case Officer, at 1300 019 680 or email development.renewables@transport.nsw.gov.au

Yours sincerely,



Alexandra Power

A/ Manager Development Services – West

Transport Planning

Planning, Integration and Passenger

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Level 1, 51-55 Currajong Street, PARKES NSW 2870

PO Box 334 PARKES NSW 2870 | DX20256

Email: development.renewables@transport.nsw.gov.au | Phone: 1300 207 783

transport.nsw.gov.au

Attachment A

SSD-75680468, Stoney Creek Battery Energy Storage System, 41 Stoney Creek Road, Narrabri; Response to Environmental Impact Statement

This attachment relates to TfNSW's response dated 1515 December 2025 reference REN25/00195/001.

TfNSW additional information requested | TfNSW comments

TfNSW requests that the additional information on the key issues identified, as detailed below, be included in a revised TIA and EIS (where applicable) and submitted with the Response to Submissions (RtS). It must be clear where changes have been made in the revised TIA, either as a document with tracked changes or as a table in the updated TIA detailing the changes.

1. Key issue 1: High risk Oversize Overmass (OSOM) Route Analysis

The OSOM Route Analysis provided does not provide sufficient information for TfNSW's review. Requirements for the OSOM Route Analysis, which mirror TfNSW's Response to SEARs, have been provided in Attachment B of this response.

- a) The revised TIA must include a comprehensive OSOM route analysis from origin to site, which addresses the requirements stated in Attachment B, including swept paths for all pinch points along the State road network.
- b) The number of high-risk OSOM trips and respective routes is to be clarified in the revised TIA.

2. Key issue 2: Traffic Assessment

a) Assumptions and traffic volumes used:

- i. Peak construction traffic times are to be clearly stated within the revised TIA.
- ii. The ratio of light and heavy vehicles is currently unclear due to the groupings of 'Construction Material Delivery Trips' and 'Workforce Trips', as provided in Table 16. Vehicle movements are to be clearly delineated as light vehicles or heavy vehicles within the revised TIA. Shuttle buses are also to be considered as heavy vehicles, given the dimensions provided within Section 3.3.6.2.
- iii. Shuttle bus occupancy numbers are to be clarified within the revised TIA. There is currently a discrepancy between the numbers provided within Tables 12 and 15 of the TIA.

b) Turn warrant assessment: Turn warrant assessments have not been prepared for State road intersections.

- i. A turn warrant assessment for different scenarios (i.e project peak hour is different to network peak hour, for worst case scenario (i.e overlap of stages of the construction such as pre-construction works, staging of occupation of workforce accommodation camp and other components of the construction process) is to be included within the revised TIA.
- ii. The turn warrant assessments are to be prepared in accordance with section 3.25 of Part 6 of the Austroads Guide to Traffic Management. A turn warrant assessment will be required for each scenario identified above and for each access, access track and any other access along the project's identified routes with an interface or connection to the state road network.

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- iii. The methodology to be used for the turn warrants assessment is:
 - AM/PM peak project traffic volumes (including turn direction and traffic type ratios),
 - Applied to existing AM/PM network peak background traffic,
 - Include linear growth to the year of peak construction.
 - Including the cumulative traffic volumes for projects at EIS and approved stages that will be present in the background and turning traffic volumes at the site access or intersection.

3. Key issue 3: Rail crossings

- a) The amended EIS documents should include detailed Heavy Vehicle and OSOM route information (for both construction and operation traffic) at the crossings listed below, as well as any other identified crossings on CRN corridors.

Proposed access route from the Port of Newcastle to the site

This route will cross the CRN rail corridor at one (1) location:

- i. Newell Highway route crossing public vehicle level crossing, and CRN operational rail corridor from Narrabri Jct to Burren at Narrabri NSW

Proposed access route from Glen Waverly to Site

The proposed access route from Glen Waverly will cross CRN rail corridor at six (6) locations:

- i. Newell Highway route crossing overbridge and CRN operational rail corridor from Junee to Narrandera, at Narrandera NSW
 - ii. Newell Highway route crossing public vehicle level crossing, and CRN operational rail corridor from Temora to Griffith at Mirrool NSW
 - iii. Showground Road route (Newell Highway) crossing public vehicle level crossing and CRN operational rail corridor from Barmedman to West Wyalong at West Wyalong NSW
 - iv. Newell Highway route crossing public vehicle level crossing and CRN operational rail corridor from Molong to Parkes at Parkes NSW
 - v. Newell Highway route crossing public vehicle level crossing and CRN operational rail corridor from Dubbo to Coonamble, at Gilgandra NSW
 - vi. Newell Highway route crossing public vehicle level crossing, and CRN operational rail corridor from Narrabri Jct to Burren at Narrabri NSW
- b) If the applicant intends to use UGLRL-managed assets or infrastructure for OSOM/heavy vehicles, including crossings, for OSOM or heavy vehicle movements, a permit request must be submitted via the **National Heavy Vehicle Regulator (NHVR)**. The request must include detailed specifications of the OSOM or heavy vehicles, including axle loadings, axle spacings, and overall vehicle dimensions.

4. Key issue 4: Construction timeframes, including pre-construction/establishment minor works

- a) Expected construction commencement is unclear within the current TIA. This is to be clarified within the revised TIA.
- b) The timeframe of pre-construction/establishment works is unclear within the current TIA. The updated TIA is to quantify the traffic volumes, timeframes, and routes (same or different from construction), as well as mitigation measures (e.g., TTM, current traffic conditions) and flow-on impacts for all stages.

The proponent is to provide a separate analysis of pre-construction minor works to the construction analysis. This should include the list of requirements as provided in TfNSW's Response to Secretary's Environmental Assessment Requirements (SEARs), including:

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- i. Identify the AM/PM peak hour and proposed traffic volumes during this period.
- ii. Identify measures to reduce the project traffic and impacts during this period i.e carpooling, shuttle buses, staggering of traffic.
- iii. Identify mitigation measures to monitor and enforce the traffic volumes during this period.
- iv. Provide a schedule of the proposed pre-construction minor works and program of works.
- v. The AM/PM peak hour must be consistent with the traffic volumes that would be generated during this period by the existing land use. Avoid network peak hours where possible.
- vi. Include measures to inform the community and key stakeholders of the increased traffic during this period.
- vii. Identify the hours for pre-construction minor works.
- viii. Identify the traffic volumes for any temporary workforce accommodation that will be occupied during this period.
- ix. Any overlap of construction and pre-construction minor works periods must be included in the traffic assessment for this stage, prior to completion of the intersection upgrade.
- x. Temporary traffic controls will not be permitted to be used at the intersection or access point for pre-construction minor works that is occurring before commencing the required road upgrades.

TfNSW Advisory notes

1. Strategic concept designs are required for works along the state road network route. [Strategic-Design-requirements-for-DA-Factsheet.pdf](#)

Attachment B

SSD-75680468, Stoney Creek Battery Energy Storage System, 41 Stoney Creek Road, Narrabri; Response to Environmental Impact Statement

Concept Level Route Analysis required for High Risk OSOM

1. The route assessment is required for [high risk OSOM \(as defined on TfNSW website\)](#) delivering components to the project. The concept level route analysis must include:
 - a. Port or point of origin for the entire route to the site access and intersections required to facilitate high risk OSOM movements required for the project.
 - b. The high-risk OSOM laden loads, class and vehicle configuration must include the following information regarding the dimensions, weight and length:
 - NHVR route ID,
 - Overall dimensions (width, height and length) of the laden load (laden load is the vehicle combination and the load to be transported),
 - Total weight of laden load,
 - GSM,
 - Payload,
 - deck height,
 - axle configuration,
 - axle spacing, including from the prime mover, and
 - axle masses (including split axle and group axle masses).
 - c. The TIA is required to include details of all high risk OSOM loads and vehicle configurations for the project.
 - d. The location of pull-over bays / rest areas along high risk OSOM routes (including GPS coordinates) and demonstrate through swept paths that high risk OSOMs can be physically accommodated for the project (in terms of size, width and accessibility).
 - e. Bridge Assessments for any at risk bridges on classified roads due to dimensions and weight of OSOM vehicles, contact spu@transport.nsw.gov.au to request a bridge assessment of TfNSW assets.
 - f. The design vehicle templates used in the swept path analysis software are also requested in order for TfNSW to review the performance within the software (e.g. Autodesk Vehicle Tracking or Transoft AutoTURN) or alternatively include within the swept paths the wheel track, body of the OSOM component, offset, the start and completion of the movement around to manoeuvre a pinch point, the speed, steering arrangement and demonstrate compliance with with *Austroads Design Vehicles and Turning Path Templates*.
 - g. Highlighting each at-risk road structures that the haulage route crosses including bridges, traffic signals, medians, pedestrian refugees, signage, major culverts, and minor culverts that may not meet the desirable cover to cater for proposed axle loads or could be impacted by the high-risk OSOM movements.
 - h. Traffic mitigation measures or road works, modifications, or road upgrades to facilitate the movement of the high risk OSOM(s) associated with the project.

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- i. Potential high level mitigation measures or commitments to mitigate known traffic, safety and impacts to road users along the high risk OSOM route (i.e school bus routes, mining shift changes, TSRs, harvest periods and events).
- j. Include any surveys or pavement investigations as part of the high-risk route analysis.
- k. Identify and assess implications of any road and rail projects under construction during the indicative schedule for project related OSOM movements.
- l. Identify any rail level crossing along the route.
- m. Consider the time frames to complete manoeuvres of pinch points or to travel through rural areas with narrow travel lanes and minimal overtaking opportunities. Traffic modelling may be required to understand the optimal timing for high-risk OSOM movements to occur.

Note: Narrow travel lanes, minimal existing overtaking lanes or pull over bays, high proportion of background traffic or heavy vehicles and constrained road geometry may warrant the requirement for additional pull over or rest area locations to manage the impacts to through traffic.

- n. Advise if pilot or police will be escorting the high-risk OSOM loads identified within the high-risk OSOM route analysis, noting travel into opposing lanes or contraflow cannot be managed by pilots.

Note: It is the responsibility of the project to include any further road upgrades if the high-risk OSOM cannot be delivered within the design envelope for the Port to REZ project.

Note: NHVR permits do not cover road works or upgrades and environmental approvals required
Note: NHVR permits do not cover road works or upgrades and ecological approvals required



Appendix G:

UGLRL Consultation



From: Yannis Comino
Sent: Tuesday, 24 February 2026 2:07 PM
To: heavyvehicle@uglregionallinx.com.au
Cc: Hugh Jones; Charlie Seventekin
Subject: State Significant Development 7568046 - Stoney Creek BESS Consultation
Attachments: OSOM vehicle combination carrying Transformer - Stoney Creek BESS.pdf

Dear Sir/Madam,

I hope you are well

We are writing on behalf of Enervest Pty Ltd to consult with UGLRL in relation to a Development Application for a Battery Energy Storage System (BESS) at 41 Stoney Creek Road, Narrabri NSW 2390 (Lot 1 DP 502189).

The proposal is classified as State Significant Development and requires approval from the NSW Department of Planning, Housing and Infrastructure. The project has recently been on public exhibition, and agency comments have been received. During the assessment process, Transport for NSW advised that the proponent consult with UGLRL regarding anticipated OSOM movements across UGLRL-managed rail assets.

We understand that a permit will ultimately be required prior to construction, however, at this stage we are seeking initial comment on the project's planned OSOM route, which will cross four UGLRL-managed rail level crossings.

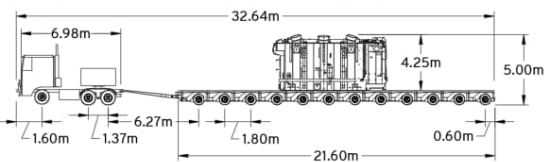
A preliminary OSOM route assessment has been completed for the transformer transport from Melbourne to Narrabri. Nine railway level crossings have been identified along the proposed route. These are listed below, with the four UGLRL-managed active rail crossings shown in bold:

- Grahamvale Road, Greater Shepparton VIC
- Murray Valley Highway, Strathmerton VIC
- Newell Highway, Mirrool NSW (LXM ID 227)
- Showground Road, West Wyalong NSW (LXM ID 1193)
- Newell Highway, Forbes NSW (LXM ID 1161)
- Newell Highway, Tichborne NSW (LXM ID 1164)
- Newell Highway, Gilgandra NSW (LXM ID 293)
- Newell Highway, Narrabri NSW (LXM ID 745)
- Old Cemetery Road, Narrabri NSW (LXM ID 541)

The OSOM truck specification are shown below, with a detailed breakdown on the axel loads provided in the attached.

OSOM Truck Specifications

Volvo FH16 6x4 + RJA 12x8 960 Series Platform Trailer



Overall Length : 32.64m
Trailer Width : 4.20m
Lock to Lock Time : 6.0s
Wall to Wall Radius (Truck) : 7.40m
Min Outer Radius (Trailer) : 17.35m
Overall Height : 5.00m

For the full project details, please refer to - <https://www.planningportal.nsw.gov.au/major-projects/projects/stoney-creek-battery-energy-storage-system>

Your time and attention are greatly appreciated. We would be grateful if you could provide any initial comments or advice by 6 March 2026.

If you would like to arrange a meeting or discuss the proposal, please do not hesitate to reach out and contact by mobile (0473 188 350) or via email.

Regards,
Yannis

Yannis Comino

Senior Project Consultant - Planning

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M +61 473 188 350
E ycomino@slrconsulting.com

SLR Consulting Australia Pty Ltd
10 Kings Road, New Lambton, NSW, Australia 2305



SLR acknowledges the traditional custodians of Country and recognises their continuing stewardship and connection to land, water and community. We pay our respect to Aboriginal and Torres Strait Islander cultures; and to Elders past and present.



Appendix H:

Regional Context



Appendix H

LEGEND

- Project Area
- Town
- Watercourse
- Transmission Line
- Railway
- Arterial Road
- Primary Road
- Sub Arterial Road
- NPWS Reserve
- Local Government Area

Data Sources:
NSW SS.
Aerial imagery: ESRI Basemaps.
Project Area supplied by client.

DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding the data's accuracy or reliability for any purpose.



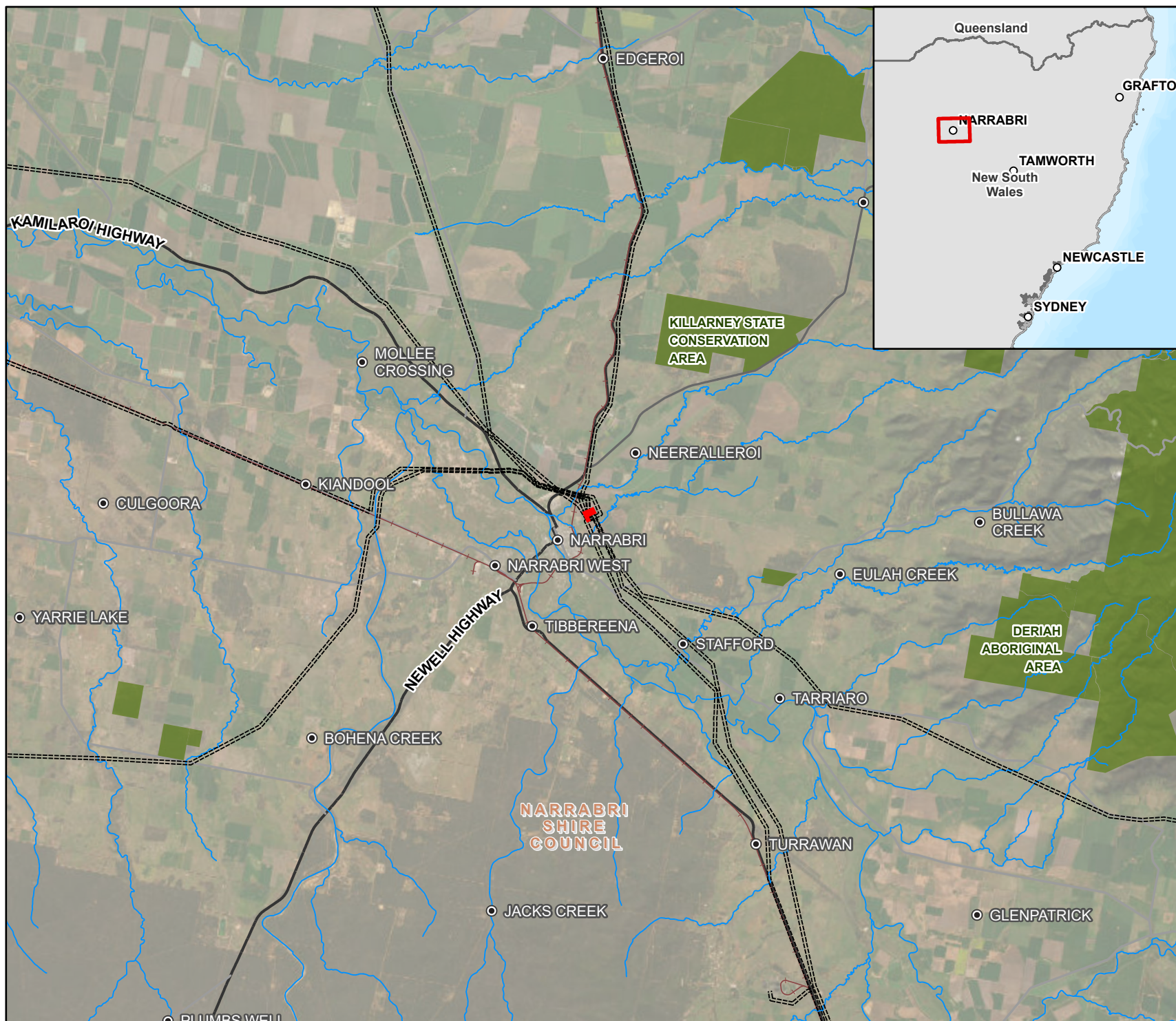
Coordinate System: GDA2020 MGA Zone 55

Scale: 1:250,000 at A4

Project Number: 620.V31316

Date Drawn: 14-Aug-2025

Drawn by: RB





Appendix I:

Proposed Transformer Transportation Route



PROPOSED TRANSFORMER
TRANSPORTATION ROUTE

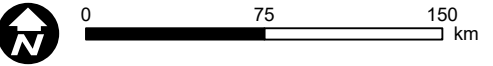
APPENDIX I

LEGEND

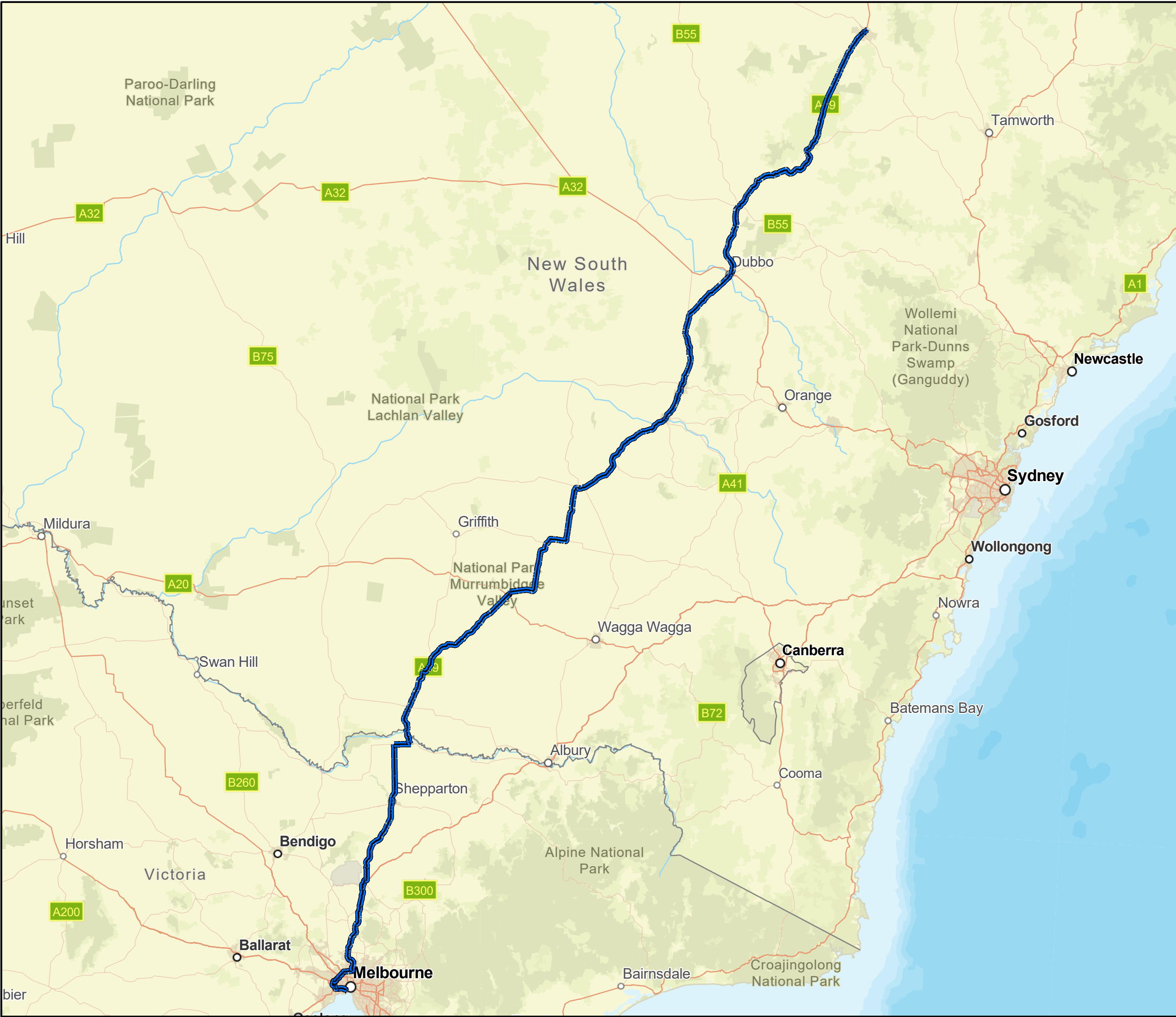
 Proposed Transformer
Transportation Route

Data Sources:
NSW SS.
Project Area supplied by client.

DISCLAIMER: All information within this document may be
based on external sources. SLR Consulting Pty Ltd makes
no warranty regarding the data's accuracy or reliability for
any purpose.



Coordinate System:	GDA2020 MGA Zone 55
Scale:	1:4,500,000 at A4
Project Number:	620.V31316
Date Drawn:	11-Jul-2025
Drawn by:	RB





Appendix J:

OSOM Movements



STONE CREEK BESS – OSOM RESULTS

TRANSFORMER

Table 1 Proposed Transformer Route - Glen Waverley

Description	Distance (km)	Route Overview	
		Roads	Authority
Glen Waverley to Stoney Creek BESS	1,126	1. Springvale Road 2. Doncaster Road 3. Williamsons Road 4. Fitzsimons Lane 5. Main Road 6. Lower Plenty Road 7. Greensborough Road 8. Greensborough Highway 9. Greensborough Bypass 10. Metropolitan Ring Road (M80) 11. Hume Freeway (M31) 12. Goulburn Valley Freeway (M39) 13. River Road (C391) 14. Doyles Road (C39D) 15. Grahamvale Road (C391) 16. Goulburn Valley Highway (A39) 17. Murray Valley Highway (B400) 18. Goulburn Valley Highway (A39)	Department of Transport and Planning
		19. Newell Highway (A39) 20. Showground Road 21. Compton Road 22. Newell Highway (A39)	TfNSW
		23. Cross Street 24. Lachlan Street 25. Dowling Street	Forbes Shire Council
		26. Newell Highway (A39)	TfNSW
		27. Barwan Street 28. Doyle Street 29. Old Cemetery Road 30. Stoney Creek Road	Narrabri Shire Council

Table 2 Schedule of Road Upgrades - Transformer from Glen Waverley

Pinch Point	Location	Required Road Upgrades
Melbourne Metropolitan Area		
01	Springvale Road / Doncaster Road (Donvale, VIC)	No road upgrades required
02	Doncaster Road / Williamsons Road (Doncaster, VIC)	No road upgrades required
03	Williamsons Road / Manningham Road (Doncaster, VIC)	No road upgrades required
04	Fitzsimons Lane / Main Road (Eltham, VIC)	No road upgrades required
05	Lower Plenty Road / Greensborough Road (Rosanna, VIC)	No road upgrades required
Regional Victoria		
06	Goulbum Valley Highway / River Road (Kialla, VIC)	No road upgrades required
07	Doyles Road / Midland Highway (Orrvaie, VIC)	No road upgrades required
08	Doyles Road / Old Dookie Road (Shepparton-Mooroopna, VIC)	No road upgrades required
09	Doyles Road / Grahamvale Road / New Dookie Road (Grahamvale, VIC)	No road upgrades required
10	Grahamvale Road / Rail Level Crossing (Greater Shepparton, VIC)	No road upgrades required
11	Grahamvale Road / Goulbum Valley Highway (Congupna, VIC)	No road upgrades required
12	Goulbum Valley Highway / Murray Valley Highway (Strathmerton, VIC)	No road upgrades required
13	Goulbum Valley Highway / Murray Valley Highway (Yarroweyah, VIC)	No road upgrades required
NSW Regional Are		
14	Newell Highway / Tuppai Road / Demliquin Road (Tocumwai, NSW)	No road upgrades required
15	Southey Street / Jenlderie Street (Newell Highway) (Jenlderie, NSW)	No road upgrades required
16	Newell Highway / Sturt Highway (Gillenbah, NSW)	No road upgrades required

Pinch Point	Location	Required Road Upgrades
17	Newell Highway / Sturt Highway (Gillenhah. NSW)	No road upgrades required
18	Cadell Street / Whitton Street (Newell Highway) (Narrandera. NSW)	No road upgrades required
19	Newell Highway / Showground Road (West Wyalong. NSW)	No road upgrades required
20	Showground Road / Compton Road (West Wyalong. NSW)	No road upgrades required
21	Compton Road / Newell Highway (Wyalong. NSW)	No road upgrades required
22	Sheriff Street (Newell Highway) / Cross Street (Forbes. NSW)	No road upgrades required
23	Cross Street / Lachlan Street (Forbes. NSW)	No road upgrades required
24	Dowling Street / Newel Highway (Forbes. NSW)	No road upgrades required
25	Newell Highway / Henry Parkes Way (Parkes. NSW)	No road upgrades required
26	Newell Highway / Darling Street (Dubbo. NSW)	No road upgrades required
27	Erskine Street / Bourke Street (Newell Highway) (Dubbo. NSW)	No road upgrades required
28	Castlereagh Street / Castlereagh Highway (Newell Highway) (Gulgandra. NSW)	No road upgrades required
29	Newell Highway / Dalgarno Street (Coonabarabran. NSW)	No road upgrades required
30	Newell Highway / Oxley Highway (Coonabarabran. NSW)	No road upgrades required
31	Newell Highway / Kamilaroi Highway (Narrabn. NSW)	No road upgrades required
32	Newell Highway / Old Turrawan Road (Narrabn. NSW)	No road upgrades required
33	Newell Highway / Tibbereena Street (Narrabn. NSW)	No road upgrades required
34	Tibbereena Street / Killamey Street (Newell Highway) (Narrabn. NSW)	No road upgrades required
35	Kiilarney Street/ Barwan Street (Newell Highway) (Narrabn. NSW)	No road upgrades required

Pinch Point	Location	Required Road Upgrades
36	Barwan Street / Doyle Street (Newell Highway) (Narrabn. NSW)	No road upgrades required
37	Old Cemetery Road / Kaputar Street (Narrabn. NSW)	No road upgrades required
38	Old Cemetery Road / Stoney Creek Road (Narrabn. NSW)	No road upgrades required
39	Stoney Creek Road / Site Access (Narrabn. NSW)	No road upgrades required

CONTROL ROOM

Table 3 Proposed Transformer Route - Glen Waverley

Description	Distance (km)	Route Overview	
		Roads	Authority
Port of Newcastle to Stoney Creek BESS	405	1. Selwyn Street 2. George Street	City of Newcastle
		3. Industrial Drive 4. Maitland Road 5. John Renshw Drive 6. Hunter Expressway (M1 5) 7. New England Highway (M15) (A15)	TfNSW
		8. Bell Street 9. Victoria Street 10. Market Street	Muswellbrook Shire Council
		11. New England Highway (A15) 12. Kamilaroi Highway (B51) 13. Boundary Road 14. Bloomfield Street 15. Warrabungle Street 16. Kamilaroi Highway (B51) 17. Newell Highway (A39)	TfNSW
		18. Barwan Street 19. Doyle Street 20. Old Cemetery Road 21. Stoney Creek Road	Narrabri Shire Council

Table 4 Schedule of Road Upgrades - Transformer from Glen Waverley

Pinch Point	Location	Required Road Upgrades
Newcastle Metropolitan Area		

Pinch Point	Location	Required Road Upgrades
01-02	Selwyn Street onto Industrial Drive via George Street (Tighes Hill)	No road upgrades required
03	Industrial Drive onto Maitland Road/Pacific Highway (Mayfield West)	No road upgrades required
Regional New South Wales		
04	John Renshaw Drive onto Hunter Expressway (Buchanan)	No road upgrades required
05	New England Highway (Whittingham)	No road upgrades required
06	New England Highway onto Bell Street (Muswellbrook)	No road upgrades required
07	Bell Street onto Victoria Street/Market Street (Muswellbrook)	No road upgrades required
08	Market Street onto New England Highway (Muswellbrook)	No road upgrades required
09	New England Highway (Blandford)	No road upgrades required
10	New England Highway onto Kamilaroi Highway (Willow Tree)	No road upgrades required
11	Kamilaroi Highway/Loder Street onto Kamilaroi Highway/Lennox Street (Ouirindi)	No road upgrades required
12	Kamilaroi Highway intersection with Oxley Highway (Gunnedah)	No road upgrades required
13	Kamilaroi Highway onto Boundary Road/Bloomfield Street (Gunnedah)	No road upgrades required
14	Bloomfield Street onto Warrabungle Street (Gunnedah)	No road upgrades required
15	Warrabungle Street onto Kamilaroi Highway (Gunnedah)	No road upgrades required
16	Kamilaroi Highway intersection with Grantham Street (Boggabri)	No road upgrades required
17	Kamilaroi Highway onto Newell Highway (Narrabri)	No road upgrades required
18	Newell Highway intersection with Old Turrawan Road (Narrabri)	No road upgrades required
19	Newell Highway intersection with Tibbereena Street (Narrabri)	No road upgrades required
20	Newell Highway/Tibbereena Street onto Newell Highway/Killarney Street (Narrabri)	No road upgrades required
21	Newell Highway/Killarney Street onto Barwan Street (Narrabri)	No road upgrades required
22	Barwan Street onto Doyle Street (Narrabri)	No road upgrades required
23	Old Cemetery Road - Level Rail Crossing (Narrabri)	No road upgrades required
24	Old Cemetery Road onto Stoney Creek Road (Narrabri)	No road upgrades required
25	Stoney Creek Road onto Site Access (Narrabri)	No road upgrades required



Appendix K:

OSOM Route Study (Amber)





Traffic & Transportation Direction

Stoney Creek BESS

OSOM Route Assessment

November 2025

Reference: 1387 ra 251107 final

Stoney Creek BESS

OSOM Route Assessment

Prepared for: Energy Vault

Status: Final report

Date: 18 December 2025

Reference: 1387 ra 251107 final

Revision	Date	Description	Author	Reviewed	Approved
A	16/09/25	Draft 01	W. Cavey	M. Willson	M. Willson
B	06/10/25	Draft 02	W. Cavey	T. Dwyer	M. Willson
C	21/10/25	Final	W. Cavey	T. Dwyer	T. Dwyer
D	07/11/25	Revised Final – Incorporate Council Feedback	W. Cavey	T. Dwyer	T. Dwyer

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Appendix A

OSOM Route Assessment – Glen Waverley

Appendix B

OSOM Route Assessment – Port of Newcastle

Appendix C

Bridge and Culvert Assessment Submission Details – Transformer

Appendix D

Bridge and Culvert Assessment Submission Details – Control Room

Appendix E

Consultation with Authorities

1. Introduction

1.1 Background

Amber Organisation has been engaged by Energy Vault to prepare a Route Assessment for the largest high risk oversize overmass (OSOM) vehicles to access the Stoney Creek BESS during construction.

High risk OSOM vehicles would be required to deliver larger plant to site such as the substation transformer, and the control room. The transformer vehicle is expected to exceed the Class 1 mass and/or dimension requirements and would be classified as a high risk OSOM vehicle. These vehicles are subject to Transport Management Plans which provide a comprehensive planning and execution focus to ensure that vehicle movements are carried out in a safe and responsible manner with reduced impact on other road users and road infrastructure. High risk OSOM vehicles also typically require pilot vehicle escort.

This assessment considers the route options available for the transport of the transformer, which is expected to be the largest and heaviest component delivered to the site, and would originate from the Wilson Transformer Company in Glen Waverley, Victoria. Various constraints along the route have been identified and assessed to determine the likely extent of road upgrades and traffic management measures which would be required to accommodate the OSOM vehicle combination on the road network.

It is understood that the control room would be transported from Port of Newcastle on a vehicle that would be classified as OSOM but would be compliant with the Class 1 network requirements. In order to confirm that the vehicle is able to suitably access the site, an assessment has also been undertaken for the access route utilised by the control room delivery vehicle.

This document has been prepared to respond to the Secretary's Environmental Assessment Requirements (SEARs) for the project which requires a review of high risk heavy vehicles requiring escort.

1.2 Document Limitations

This assessment is based on a desktop review of aerial and street-level imagery, publicly available datasets and our experience with similar projects. The findings, conclusions, and recommendations contained herein are based on professional knowledge, experience, and interpretation of available information at the time of assessment. The scope of this assessment is limited to a desktop review and the findings should be confirmed through on-site inspections and measurements prior to transportation.

This report relies on data and information provided by third parties and publicly available resources. While every effort has been made to ensure accuracy, completeness, and reliability, Amber Organisation makes no warranties, expressed or implied, regarding the accuracy or completeness of the information contained in this assessment. Conditions may change over time, and future alterations to infrastructure, road networks, or environmental factors may affect the applicability of this assessment. Ongoing due diligence is recommended, including consultation with relevant authorities and further detailed engineering analysis where required.

1.3 Authority Consultation

This assessment has been undertaken in consultation with TfNSW and Narrabri Shire Council and ARTC with a summary provided in Table 1.

Table 1: Road Authority Consultation

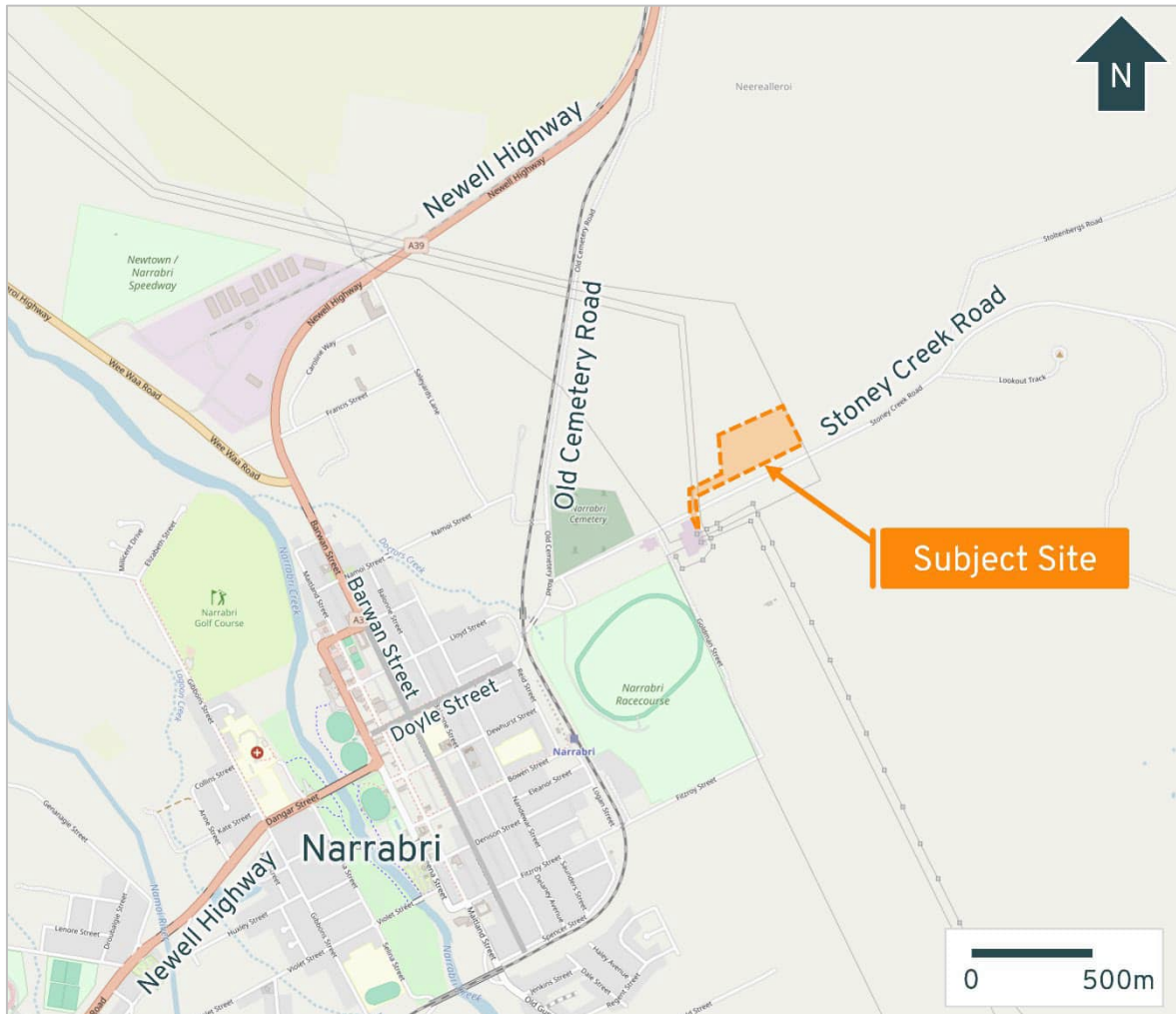
Road Authority	Method	Correspondence
TfNSW	Email to Special Permits Unit (SPU) team	A submission was made for a bridge and culvert assessment to determine the suitability of the State Road network to accommodate the potential vehicle combinations. The SPU team advised that a bridge and culvert assessment would not be required as the potential routes are on the TfNSW internal HLP (High Load Platform) map (refer Appendix E).
Narrabri Shire Council	Email	Feedback was sought on the suitability of the bridge on Old Cemetery Road over Horsearm Creek from Council. Council representatives confirmed that the bridge is suitable to accommodate the Control Room vehicle combination, however, the transformer vehicle combination requires a Bridge and Culvert Assessment. A bridge load assessment for the Horsearm Creek bridge was completed which concluded that the existing bridge has sufficient capacity for the OSOM loads. The bridge load assessment is attached in Appendix F. Council representatives also provided feedback on their recommended routes through Narrabri which align with that proposed in this report. Their feedback is included for reference in Appendix E.

2. Project Background

The Stoney Creek BESS is located at 41 Stoney Creek Road, Narrabri, and proposes to establish a Battery Energy Storage System with an approximate capacity of 125 MW/1,000 MWh.

The project is located on the northern side of Stoney Creek Road approximately 1.2 kilometres east of Narrabri. Figure 1 shows the location of the Project Area in relation to the surrounding transport network.

Figure 1: Site Location



Source: OpenStreetMap

3. OSOM Vehicle

3.1 High Risk OSOM

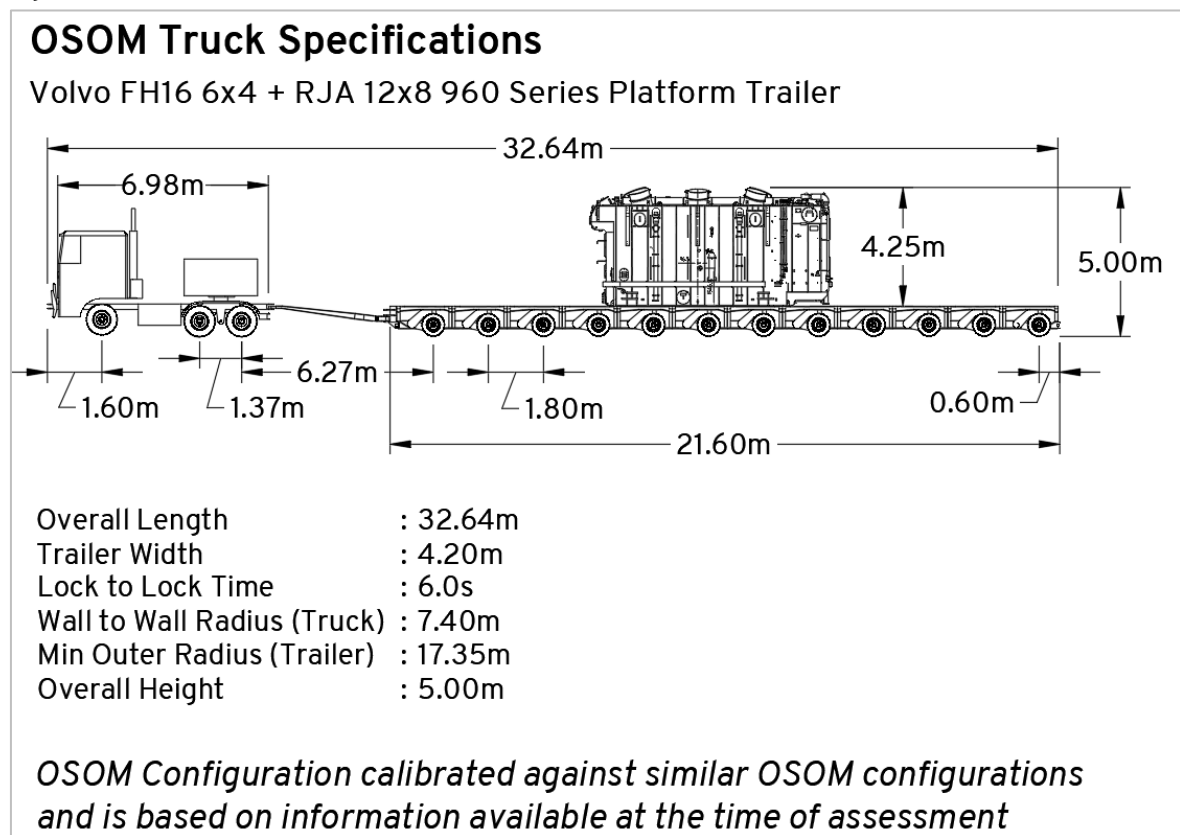
The largest component to be delivered to the site is expected to be the transformer. The Applicant has provided information regarding the expected specifications of the transformer which is outlined in Table 2.

Table 2: Estimated Transformer Specifications

Length (mm)	Width (mm)	Height (mm)	Mass (t)	Trailer Specs
7600	3400	4250	105.65	12x8 Platform Trailer

An OSOM vehicle configuration has been identified for the expected transformer model. The vehicle used for the assessment is shown within Figure 2 and is based on feedback from a transport company which confirmed that the vehicle specification would be suitable for the weight and size of the transformer.

Figure 2: OSOM Transformer Vehicle



3.2 Control Room

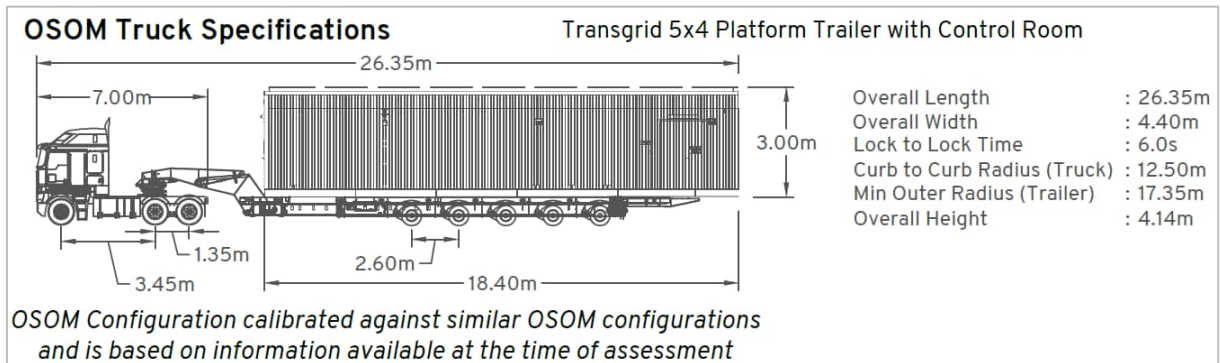
A suitable vehicle combination for the transportation of the control room has been identified by Transgrid as outlined in Table 3 and shown in Figure 3.

Table 3: Control Room Vehicle Combination Dimensions

Length (mm)	Width (mm)	Height (mm)	Mass (t)	Type
26350 (loaded) 25050 (unloaded)	4400 (loaded) 3100 (unloaded)	4140	76	5x4 Platform Trailer

The loaded vehicle combination is approximately 26.35 metres in length, 4.4 metres wide and 4.14 metres high. When unloaded and departing the site, the trailer component will be 3.1 metres wide. Hence, the unladen vehicle combination is similar to a standard articulated vehicle, albeit with additional rear axles.

Figure 3: Control Room Vehicle Combination



Source: The Drake Group

In NSW, the management requirements for Class 1 OSOM vehicles are outlined in the *National Heavy Vehicle Regulator's NSW Class 1 Load Carrying Vehicle Operator's Guide*. The guide outlines the requirements for pilots and escorts, which generally only apply to vehicle combinations exceeding 3.5 meters in width and or 26 meters in length during the day (but depend on exact specifics including exact size, mass, time of travel, and route).

As the combination is greater than 26 metres in length and 3.5 metres in width, pilots and escorts will be required for the combination to operate on suitable pre-approved roads.

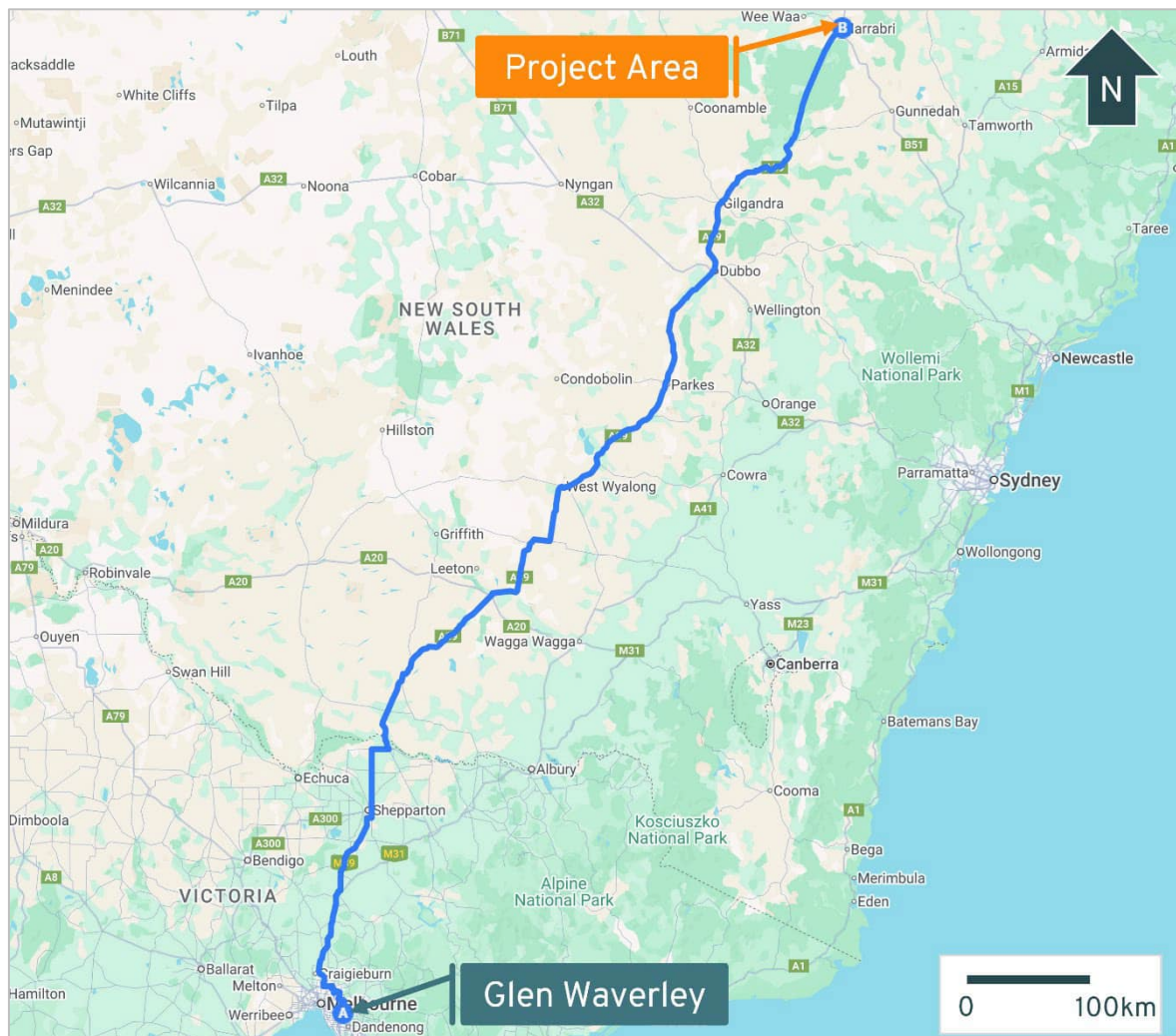
4. Transformer Route Assessment

4.1 Route Overview

Given the dimensions of the transformer transport combination, the most feasible transport route maximises use of the National Land Transport Network (Road) between Glen Waverley and the site. These types of roads consist of major highways/freeways which are generally constructed to a high standard to accommodate freight movements and provide uninterrupted routes which minimise turning manoeuvres and travel through built-up areas.

The proposed route option is outlined in Figure 4 and Table 4, and has been identified based on a review of the National Land Transport Network (Road) within Victoria and New South Wales including consideration of height clearances, road widths and intersections along the route.

Figure 4: Proposed Transformer Route – Glen Waverley



Source: Google Maps

Table 4: Proposed Transformer Route – Glen Waverley

Description	Distance (km)	Route Overview		Map Link
		Roads	Authority	
Glen Waverley to Stoney Creek BESS	1,126	1. Springvale Road 2. Doncaster Road 3. Williamsons Road 4. Fitzsimons Lane 5. Main Road 6. Lower Plenty Road 7. Greensborough Road 8. Greensborough Highway 9. Greensborough Bypass 10. Metropolitan Ring Road (M80) 11. Hume Freeway (M31) 12. Goulburn Valley Freeway (M39) 13. River Road (C391) 14. Doyles Road (C391) 15. Grahamvale Road (C391) 16. Goulburn Valley Highway (A39) 17. Murray Valley Highway (B400) 18. Goulburn Valley Highway (A39)	Victoria Department of Transport and Planning	Route
		19. Newell Highway (A39) 20. Showground Road 21. Compton Road 22. Newell Highway (A39)	TfNSW	
		23. Cross Street 24. Lachlan Street 25. Dowling Street	Forbes Shire Council	
		26. Newell Highway (A39)	TfNSW	
		27. Barwan Street 28. Doyle Street 29. Old Cemetery Road 30. Stoney Creek Road	Narrabri Shire Council	

4.2 Transformer Route Assessment

The following provides a desktop review of the proposed access route from the Wilson Transformer Company in Glen Waverley to the site access for the transformer delivery vehicle. The assessment includes a review of the following:

- Height clearances;
- Railway level crossings;
- Potential rest areas and pullover bays; and
- Swept paths at key pinch points to identify any required road upgrades.

4.2.1 Height Clearances

A review of the overhead obstructions along the proposed route was undertaken based on available data from the National Heavy Vehicle Regulator (NHVR) National Network Map.

The minimum height clearance identified along the route was 5.1 metres along Hume Freeway at the Marchbanks Road bridge.

It is understood that the total height of the vehicle and load combination will not exceed 5.0 metres. Accordingly, the height clearances along this route are considered suitable for the transport of the specified transformer and OSOM vehicle combination for this project.

It is noted that a powerline survey may also be required to confirm any overhead powerlines along the route which may need to be lifted, and on-site assessment of any overhanging vegetation (e.g. tree branches) may also be required. This would be undertaken as a post-consent task as part of the NHVR permit application, should it be required.

4.2.2 Railway Level Crossings

Nine railway level crossing have been identified along the proposed transport route:

- Grahamvale Road, Greater Shepparton VIC ([Map Link](#))
- Murray Valley Highway, Strathmerton VIC ([Map Link](#))
- Newell Highway, Mirrool NSW (LXM ID 227) ([Map Link](#))
- Showground Road, West Wyalong NSW (LXM ID 1193) ([Map Link](#))
- Newell Highway, Forbes NSW (LXM ID 1161) ([Map Link](#))
- Newell Highway, Tichborne NSW (LXM ID 1164) ([Map Link](#))
- Newell Highway, Gilgandra NSW (LXM ID 293) ([Map Link](#))
- Newell Highway, Narrabri NSW (LXM ID 745) ([Map Link](#))
- Old Cemetery Road, Narrabri NSW (LXM ID 541) ([Map Link](#))

The transformer transport vehicle is expected to be able to cross each of the rail tracks with no road upgrade works identified.

Consultation with the rail authorities is recommended to confirm any specific conditions or traffic management measures to be adopted during railway crossing manoeuvres. Typically, a Rail Protection Officer would be required to supervise each crossing given the length of the OSOM vehicle combination.

4.2.3 Bridges and Culverts

A formal request for a bridge and culvert assessment has been made with that Special Permits Unit (SPU) at TfNSW in October 2025 for the OSOM transformer vehicle combination details attached in Appendix C.

Feedback was sought on the suitability of the bridge on Old Cemetery Road over Horsearm Creek from Council. A bridge load assessment for the Horsearm Creek bridge was completed which concluded that the existing bridge has sufficient capacity for the OSOM loads. The bridge load assessment is attached in Appendix F.

4.2.4 Rest Areas

A total of five rest areas were assessed for the proposed transformer vehicle route and are outlined within Appendix A. It is noted that rest areas would need to be provided along the transport route to meet the relevant fatigue management requirements.

4.2.5 Pull Over Bays

The proposed transport route generally provides a minimum sealed carriageway width of approximately 8.0 metres which is suitable to allow oncoming or following vehicles to safely pass the transport vehicle, noting some vehicles may be required to temporarily slow down and utilise the road shoulders for passing manoeuvres. Accordingly, it is considered that additional pull over bays are unlikely to be required, however, can be provided to allow for additional convenient passing opportunities for following vehicles and/or emergency stopping locations, subject to consultation with the road authorities.

4.2.6 Pinch Points

A total of 39 pinch points have been identified along the route where the transport vehicle would need to undertake turning manoeuvres which may require specific road upgrades and/or traffic management measures.

A swept path assessment has been undertaken at each pinch point using the Autodesk Vehicle Tracking software. A custom vehicle model has been created in the software to closely replicate the relevant vehicle specifications and performance characteristics shown within Figure 2.

The swept path assessment is provided in Appendix A with a summary of the findings outlined within Section 4.2.7 below.

4.2.7 Route Summary

This assessment checked each of the pinch points to determine if road upgrades are required, with a summary provided in Table 5.

Table 5: Schedule of Road Upgrades – Transformer from Glen Waverley

Pinch Point	Location	Required Road Upgrades
Melbourne Metropolitan Area		
01	Springvale Road / Doncaster Road (Donvale, VIC)	▪ No road upgrades required.
02	Doncaster Road / Williamsons Road (Doncaster, VIC)	▪ No road upgrades required.
03	Williamsons Road / Manningham Road (Doncaster, VIC)	▪ No road upgrades required.
04	Fitzsimons Lane / Main Road (Eltham, VIC)	▪ No road upgrades required.

Pinch Point	Location	Required Road Upgrades
05	Lower Plenty Road / Greensborough Road (Rosanna, VIC)	▪ No road upgrades required.
Regional Victoria		
06	Goulburn Valley Highway / River Road (Kialla, VIC)	▪ No road upgrades required.
07	Doyles Road / Midland Highway (Orrvale, VIC)	▪ No road upgrades required.
08	Doyles Road / Old Dookie Road (Shepparton-Mooroopna, VIC)	▪ No road upgrades required.
09	Doyles Road / Grahamvale Road / New Dookie Road (Grahamvale, VIC)	▪ No road upgrades required.
10	Grahamvale Road / Rail Level Crossing (Greater Shepparton, VIC)	▪ No road upgrades required.
11	Grahamvale Road / Goulburn Valley Highway (Congupna, VIC)	▪ No road upgrades required.
12	Goulburn Valley Highway / Murray Valley Highway (Strathmerton, VIC)	▪ No road upgrades required.
13	Goulburn Valley Highway / Murray Valley Highway (Yarroweyah, VIC)	▪ No road upgrades required.
NSW Regional Area		
14	Newell Highway / Tuppal Road / Deniliquin Road (Tocumwal, NSW)	▪ No road upgrades required.
15	Southey Street / Jerilderie Street (Newell Highway) (Jerilderie, NSW)	▪ No road upgrades required.
16	Newell Highway / Sturt Highway (Gillenhah, NSW)	▪ No road upgrades required.
17	Newell Highway / Sturt Highway (Gillenhah, NSW)	▪ No road upgrades required.
18	Cadell Street / Whitton Street (Newell Highway) (Narrandera, NSW)	▪ No road upgrades required.
19	Newell Highway / Showground Road (West Wyalong, NSW)	▪ No road upgrades required.
20	Showground Road / Compton Road (West Wyalong, NSW)	▪ No road upgrades required.
21	Compton Road / Newell Highway (Wyalong, NSW)	▪ No road upgrades required.
22	Sheriff Street (Newell Highway) / Cross Street (Forbes, NSW)	▪ No road upgrades required.
23	Cross Street / Lachlan Street (Forbes, NSW)	▪ No road upgrades required.

Pinch Point	Location	Required Road Upgrades
24	Dowling Street / Newell Highway (Forbes, NSW)	No road upgrades required.
25	Newell Highway / Henry Parkes Way (Parkes, NSW)	No road upgrades required.
26	Newell Highway / Darling Street (Dubbo, NSW)	No road upgrades required.
27	Erskine Street / Bourke Street (Newell Highway) (Dubbo, NSW)	No road upgrades required.
28	Castlereagh Street / Castlereagh Highway (Newell Highway) (Gulgandra, NSW)	No road upgrades required.
29	Newell Highway / Dalgarno Street (Coonabarabran, NSW)	No road upgrades required.
30	Newell Highway / Oxley Highway (Coonabarabran, NSW)	No road upgrades required.
31	Newell Highway / Kamilaroi Highway (Narrabri, NSW)	No road upgrades required.
32	Newell Highway / Old Turrawan Road (Narrabri, NSW)	No road upgrades required.
33	Newell Highway / Tibbereena Street (Narrabri, NSW)	No road upgrades required.
34	Tibbereena Street / Killarney Street (Newell Highway) (Narrabri, NSW)	No road upgrades required.
35	Killarney Street / Barwan Street (Newell Highway) (Narrabri, NSW)	No road upgrades required.
36	Barwan Street / Doyle Street (Newell Highway) (Narrabri, NSW)	No road upgrades required.
37	Old Cemetery Road / Kaputar Street (Narrabri, NSW)	No road upgrades required.
38	Old Cemetery Road / Stoney Creek Road (Narrabri, NSW)	No road upgrades required.
39	Stoney Creek Road / Site Access (Narrabri, NSW)	Proposed site access design is provided with a sealed BAL turn treatment and further unsealed pavement widening for larger vehicles.

It is noted that traffic management measures including the use of escort vehicles and spotters will be required along the route to control traffic and ensure the vehicle and load are clear of infrastructure.

Accordingly, it is concluded that the proposed route is feasible for use by the transformer transport vehicle with a maximum loaded height of 5.0 metres, subject to the site access being upgraded and the traffic management measures.

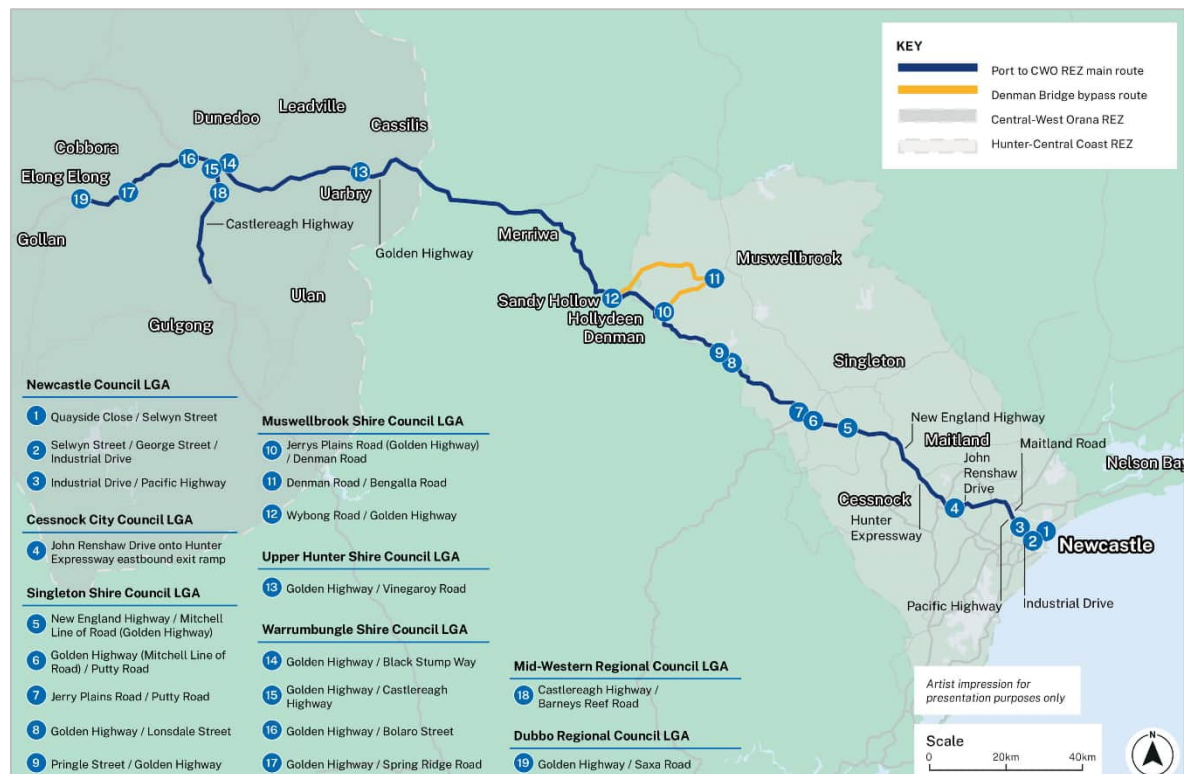


5. Control Room Route Assessment

5.1 Port to REZ Works

The EnergyCo Port to Renewable Energy Zones (REZ) project involves upgrading roads to facilitate the safe transport of large components from the Port of Newcastle to Renewable Energy Zones in NSW. The first stage of the Port to REZ project includes upgrades at 19 locations between the Port of Newcastle and Elong Elong in the Central-West Orana REZ as outlined within Figure 5.

Figure 5: Port of Newcastle to Central-Orana REZ Route and Locations



Source: EnergyCo

OSOM deliveries to the Central-West Orana and New England REZs will use a common route from the Port of Newcastle to Muswellbrook, before diverging and continuing towards their respective REZ. At this time, high level concept plans are available for the Central-West Orana route, however, limited information is available for the New England route.

TfNSW and EnergyCo released an update letter on the State Road upgrades between Port of Newcastle and the Central-West Orana and New England REZs on 18 December 2024. The letter notes that other projects located north of Muswellbrook wish to utilise the New England route by late 2026 and that to coordinate delivery of enabling works a commitment has been made between TfNSW and EnergyCo to facilitate the implementation of detours in two separate local government areas due to restrictions on the current State Road network.

The letter also states:

'TfNSW and EnergyCo considers that this work can be treated as a NSW Government commitment which can be taken into account by DPHI when assessing and determining applicable renewable generation projects in CWO

REZ and NE REZ....

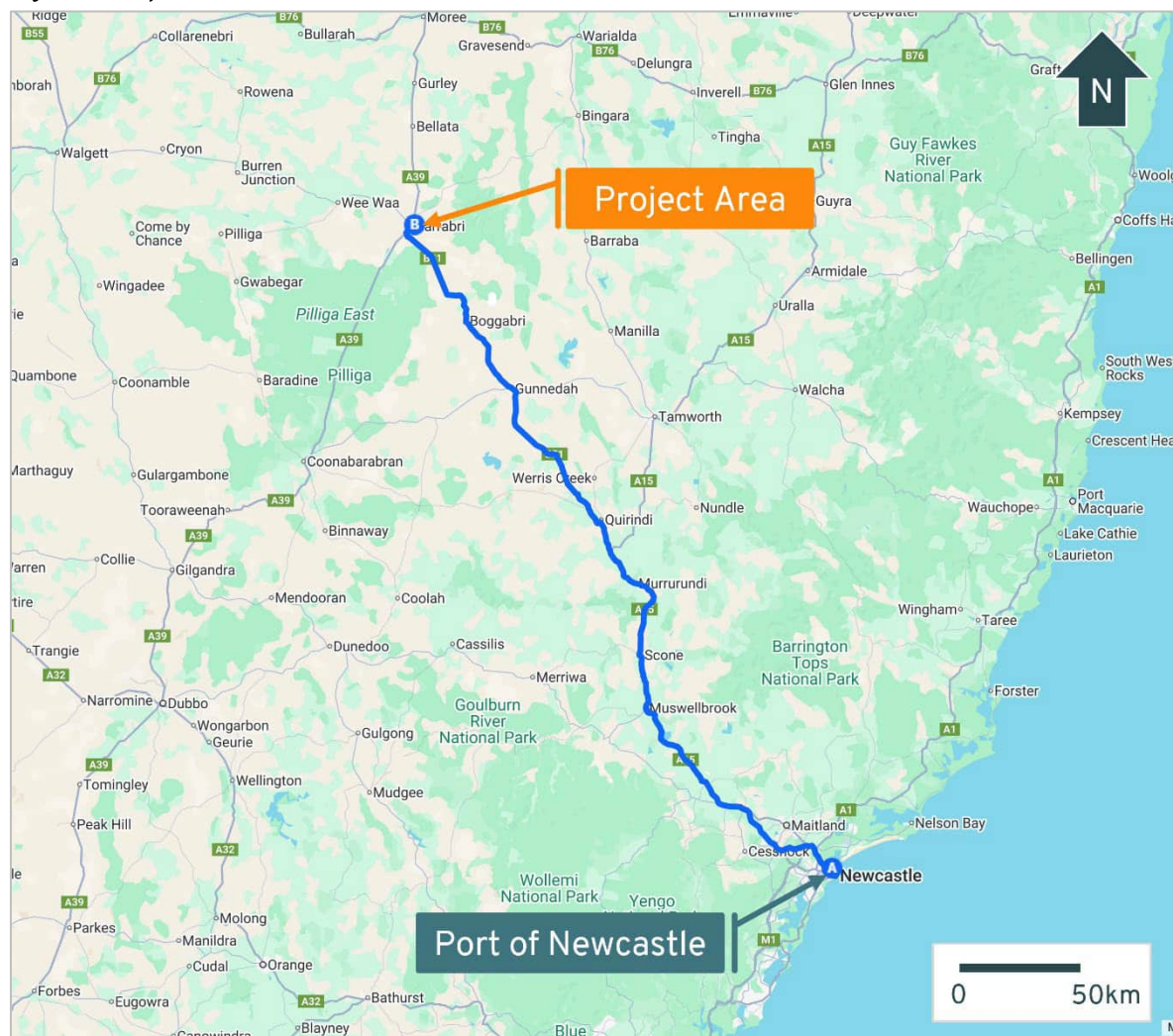
...This mitigates the risk of overlapping requirements on individual projects and lack of clarity among potentially affected parties, including local councils. Importantly, individual generators would remain responsible for works required to upgrade council roads providing access to individual projects.'

Whilst the above review of the EnergyCo Port to REZ project indicates that the Project should be able to utilise the route between the Port of Newcastle and the intersection of New England Highway / Kamilaroi Highway, our recent communication with TfNSW indicates that there is currently limited certainty as to when this route would be designed and constructed. Accordingly, the following assessment has assumed that the EnergyCo road upgrades are not available at the time of transporting the control room.

5.2 Route Overview

The vehicle transporting the control room is able to operate on the approved Class 1 road network with an escort/pilot vehicle. The proposed access route for the control room vehicle from Port of Newcastle is shown within Figure 6.

Figure 6: Proposed Control Room Route – Port of Newcastle



Source: Google Maps

The roads utilised as part of the route are summarised within Table 6. The route uses State Roads pre-approved for suitable Class 1 OSOM combinations excluding Bell Street, Victoria Street, Market Street, Barwan Street, Doyle Street, Old Cemetery Road and Stoney Creek Road. It is noted that some parts of the route are approved subject to the following travel condition:

Start Point: Weakleys Drive. End Point: Singleton side of the traffic lights at Magpie Street (Bunning's corner) (north of Singleton). Vehicles or combinations exceeding 3.2 metres wide are not permitted to travel from Monday to Friday from 5:00am to 9:00am and from Monday to Friday from 3:00pm to 6:00pm (except on state-wide public holidays).

This travel condition applies to the control room vehicle combination which exceeds 3.2 metres in width.

Table 6: Proposed Control Room Route – Port of Newcastle

Description	Distance (km)	Route Overview		Map Link
		Roads	Authority	
Port of Newcastle to Stoney Creek BESS	405	1. Selwyn Street 2. George Street	City of Newcastle	Route
		3. Industrial Drive 4. Maitland Road 5. John Renshaw Drive 6. Hunter Expressway (M15) 7. New England Highway (M15) (A15)	TfNSW	
		8. Bell Street 9. Victoria Street 10. Market Street	Muswellbrook Shire Council	
		11. New England Highway (A15) 12. Kamilaroi Highway (B51) 13. Boundary Road 14. Bloomfield Street 15. Warrabungle Street 16. Kamilaroi Highway (B51) 17. Newell Highway (A39)	TfNSW	
		18. Barwan Street 19. Doyle Street 20. Old Cemetery Road 21. Stoney Creek Road	Narrabri Shire Council	

5.3 Control Room Route Assessment

The following provides a desktop review of the proposed access route from the Port of Newcastle to the site access for the control room vehicle. The assessment includes a review of the following:

- Height clearances;
- Railway level crossings;
- Potential rest areas and pullover bays; and

- Swept paths at key pinch points to identify any required road upgrades.

The assessment has assumed that none of the EnergyCo Port to REZ project upgrades have been provided.

5.3.1 Height Clearances

A review of the overhead obstructions along the proposed route was undertaken based on available data from the National Heavy Vehicle Regulator (NHVR) National Network Map.

The assessment showed that the lowest clearance height along the route is on the Eastern Freeway in Nunawading under a pedestrian overpass west of Springvale Road. The minimum clearance required at this location is approximately 4.8 metres, however it is noted using the centre lane of the freeway would provide additional clearance.

It is understood that the total height of the vehicle and load combination is approximately 4.2 metres. Accordingly, the height clearances along this route are considered suitable for the transport of the specified control room vehicle combination for this project.

It is noted that a powerline survey may also be required to confirm any overhead powerlines along the route which may need to be lifted, and on-site assessment of any overhanging vegetation (e.g. tree branches) may also be required. This would be undertaken as a post-consent task as part of the NHVR permit application, should it be required.

5.3.2 Railway Level Crossings

Two railway level crossing has been identified along the proposed transport route:

- Selwyn Street, Mayfield North NSW ([Map Link](#))
- Old Cemetery Road, Narrabri NSW ([Map Link](#))

The control room vehicle is expected to be able to cross the rail tracks at each level crossing location with no road upgrade works identified.

Consultation with the rail authorities is recommended to confirm any specific conditions or traffic management measures to be adopted during railway crossing manoeuvres. Typically, a Rail Protection Officer would be required to supervise each crossing given the length of the OSOM vehicle combination.

5.3.3 Bridges and Culverts

A formal request for a bridge and culvert assessment has been made with that Special Permits Unit (SPU) at TfNSW in October 2025 for the OSOM Control Room vehicle combination details attached in Appendix D.

Feedback was sought on the suitability of the bridge on Old Cemetery Road over Horsearm Creek from Council. A bridge load assessment for the Horsearm Creek bridge was completed which concluded that the existing bridge has sufficient capacity for the OSOM loads. The bridge load assessment is attached in Appendix F.

5.3.4 Rest Areas

A total of four rest areas were assessed for the proposed control room vehicle route and are outlined within Appendix B. It is noted that rest areas would need to be provided along the transport route to meet the relevant fatigue management requirements.

5.3.5 Pull Over Bays

The proposed transport route generally provides a minimum sealed carriageway width of approximately 8.0 metres which is suitable to allow oncoming or following vehicles to safely pass the transport vehicle, noting some vehicles may be required to temporarily slow down and utilise the road shoulders for passing manoeuvres. Accordingly, it is considered that additional pull over bays are unlikely to be required however can be provided to allow for additional convenient passing opportunities for following vehicles and/or emergency stopping locations, subject to consultation with the road authorities.

5.3.6 Pinch Points

A total of 25 pinch points have been identified along the route where the transport vehicles would need to undertake turning manoeuvres which may require specific road upgrades and/or traffic management measures.

A swept path assessment has been undertaken at each pinch point using the Autodesk Vehicle Tracking software. A custom vehicle model has been created in the software to closely replicate the relevant vehicle specifications and performance characteristics shown within Figure 3.

The swept path assessment is provided in Appendix B with a summary of the findings outlined within Section 5.3.7 below.

5.3.7 Route Summary

This assessment checked each of the pinch points to determine if road upgrades are required, with a summary provided in Table 7.

Table 7: Schedule of Road Upgrades – Control Room from Port of Newcastle

Pinch Point	Location	Required Road Upgrades
Newcastle Metropolitan Area		
01-02	Selwyn Street onto Industrial Drive via George Street (Tighes Hill)	▪ No road upgrades required.
03	Industrial Drive onto Maitland Road/Pacific Highway (Mayfield West)	▪ No road upgrades required.
Regional New South Wales		
04	John Renshaw Drive onto Hunter Expressway (Buchanan)	▪ No road upgrades required.
05	New England Highway (Whittingham)	▪ No road upgrades required.
06	New England Highway onto Bell Street (Muswellbrook)	▪ No road upgrades required.

Pinch Point	Location	Required Road Upgrades
07	Bell Street onto Victoria Street/Market Street (Muswellbrook)	▪ No road upgrades required.
08	Market Street onto New England Highway (Muswellbrook)	▪ No road upgrades required.
09	New England Highway (Blandford)	▪ No road upgrades required.
10	New England Highway onto Kamilaroi Highway (Willow Tree)	▪ No road upgrades required.
11	Kamilaroi Highway/Loder Street onto Kamilaroi Highway/Lennox Street (Quirindi)	▪ No road upgrades required.
12	Kamilaroi Highway intersection with Oxley Highway (Gunnedah)	▪ No road upgrades required.
13	Kamilaroi Highway onto Boundary Road/Bloomfield Street (Gunnedah)	▪ No road upgrades required.
14	Bloomfield Street onto Warrabungle Street (Gunnedah)	▪ No road upgrades required.
15	Warrabungle Street onto Kamilaroi Highway (Gunnedah)	▪ No road upgrades required.
16	Kamilaroi Highway intersection with Grantham Street (Boggabri)	▪ No road upgrades required.
17	Kamilaroi Highway onto Newell Highway (Narrabri)	▪ No road upgrades required.
18	Newell Highway intersection with Old Turrawan Road (Narrabri)	▪ No road upgrades required.
19	Newell Highway intersection with Tibbereena Street (Narrabri)	▪ No road upgrades required.
20	Newell Highway/Tibbereena Street onto Newell Highway/Killarney Street (Narrabri)	▪ No road upgrades required.
21	Newell Highway/Killarney Street onto Barwan Street (Narrabri)	▪ No road upgrades required.
22	Barwan Street onto Doyle Street (Narrabri)	▪ No road upgrades required.
23	Old Cemetery Road - Level Rail Crossing (Narrabri)	▪ No road upgrades required.
24	Old Cemetery Road onto Stoney Creek Road (Narrabri)	▪ No road upgrades required.
25	Stoney Creek Road onto Site Access (Narrabri)	▪ Proposed site access design is provided with a sealed BAL turn treatment and further unsealed pavement widening for larger vehicles.

It is noted that traffic management measures including the use of escort vehicles and spotters will be required along the route to control traffic and ensure the vehicle and load are clear of infrastructure.

Accordingly, it is concluded that the proposed route is feasible for use by the control room vehicle with a maximum loaded height of 4.2 metres, subject to the site access being upgraded and the traffic management measures.



6. Conclusion

This assessment provides a desktop review of the access route for the transformer and control room delivery vehicles from the Wilson Transformer Company in Glen Waverley and Port of Newcastle, respectively, to the site associated with the Stoney Creek BESS project.

The control room route identified has partially utilised the proposed Port to REZ route for the New England REZ specified by EnergyCo. It is noted that the delivery vehicle is expected to be within the design vehicle specifications for the Port to REZ project and subsequently would be able to utilise the route following completion of the Port to REZ works. Notwithstanding this, the assessment has assumed that the Port to REZ works have not been completed in order to demonstrate the works required if the control room was delivered prior to the Port to REZ road upgrades being delivered.

A swept path assessment at critical pinch points is provided within Appendix A and Appendix B for the transformer vehicle and the control room vehicle, respectively. Overall, the route assessments indicate that the routes are able to accommodate the delivery vehicles.

Prior to delivery of the transformer, permits would be required to be applied for as part of the finalisation of the Transport Management Plan. It is recommended that any project OSOM movements are timed so they do not coincide with other OSOM vehicles within the surrounding area to limit the impact to the road network, which can be undertaken as part of the permit application process. It is also recommended that the suitability of the bridge on Old Cemetery Road over Horsearm Creek to accommodate the OSOM vehicles be confirmed with Council.

The control room vehicle is able to operate on the approved Class 1 OSOM vehicle network. The access route is within the approved Class 1 OSOM vehicle network excluding Bell Street, Victoria Street, Market Street, Barwan Street, Doyle Street, Old Cemetery Road and Stoney Creek Road. Swept path assessments have been undertaken to demonstrate that the control room vehicle can safely travel on the unrated roads. The assessment shows that the vehicle is able to suitably access the site with the site access being upgraded and suitable traffic management measures.

Accordingly, it is concluded that the proposed routes are suitable to accommodate the largest high risk OSOM vehicles subject to traffic management measures.

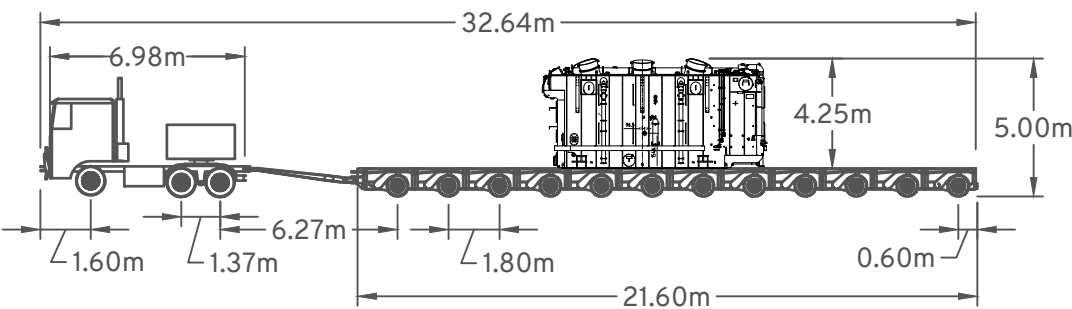
Appendix A

OSOM Route Assessment – Glen Waverley



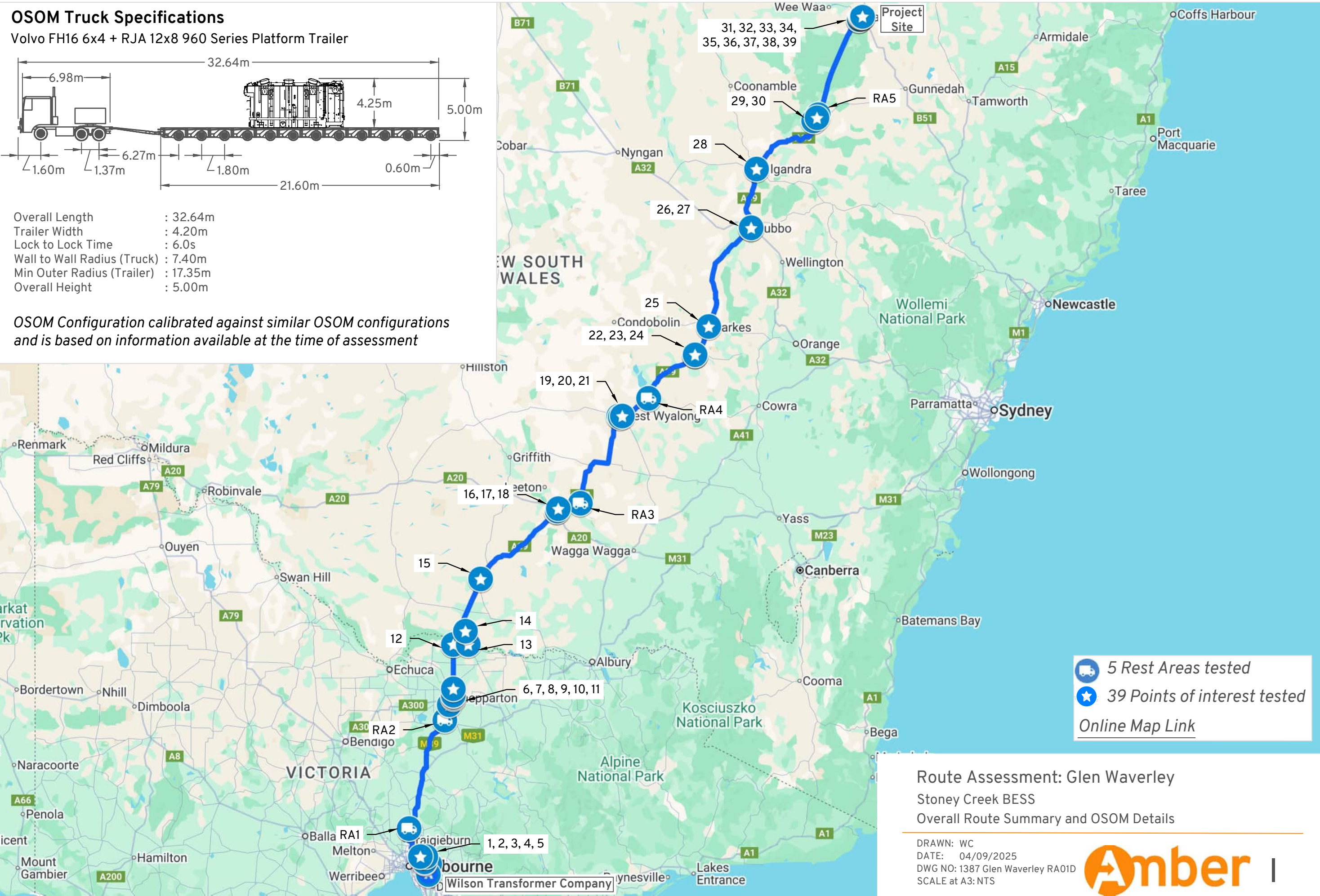
OSOM Truck Specifications

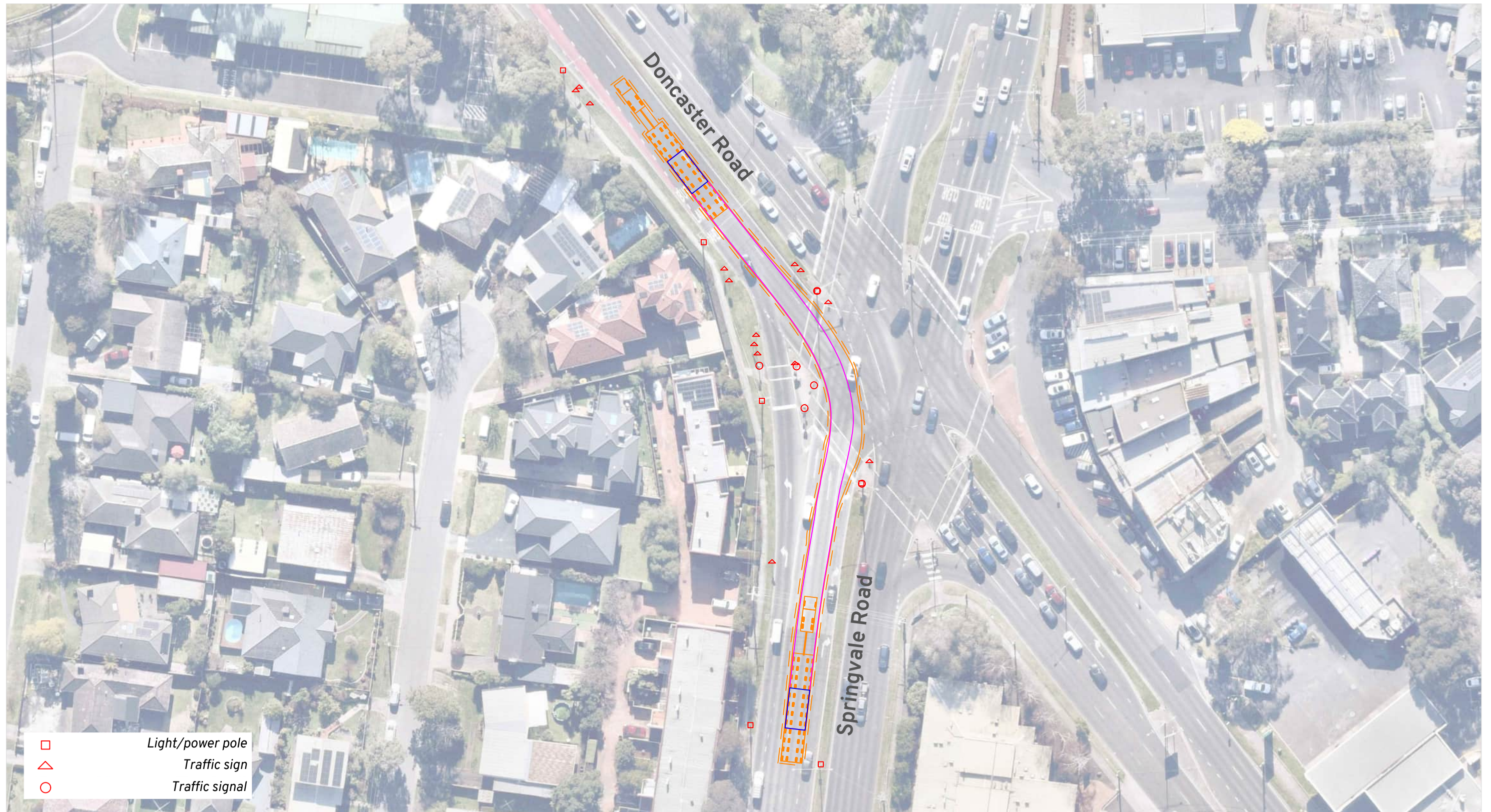
Volvo FH16 6x4 + RJA 12x8 960 Series Platform Trailer



- Overall Length : 32.64m
- Trailer Width : 4.20m
- Lock to Lock Time : 6.0s
- Wall to Wall Radius (Truck) : 7.40m
- Min Outer Radius (Trailer) : 17.35m
- Overall Height : 5.00m

OSOM Configuration calibrated against similar OSOM configurations and is based on information available at the time of assessment





- Vehicle Envelope
- 0.5m Clearance
- Load Outlines
- Load Path

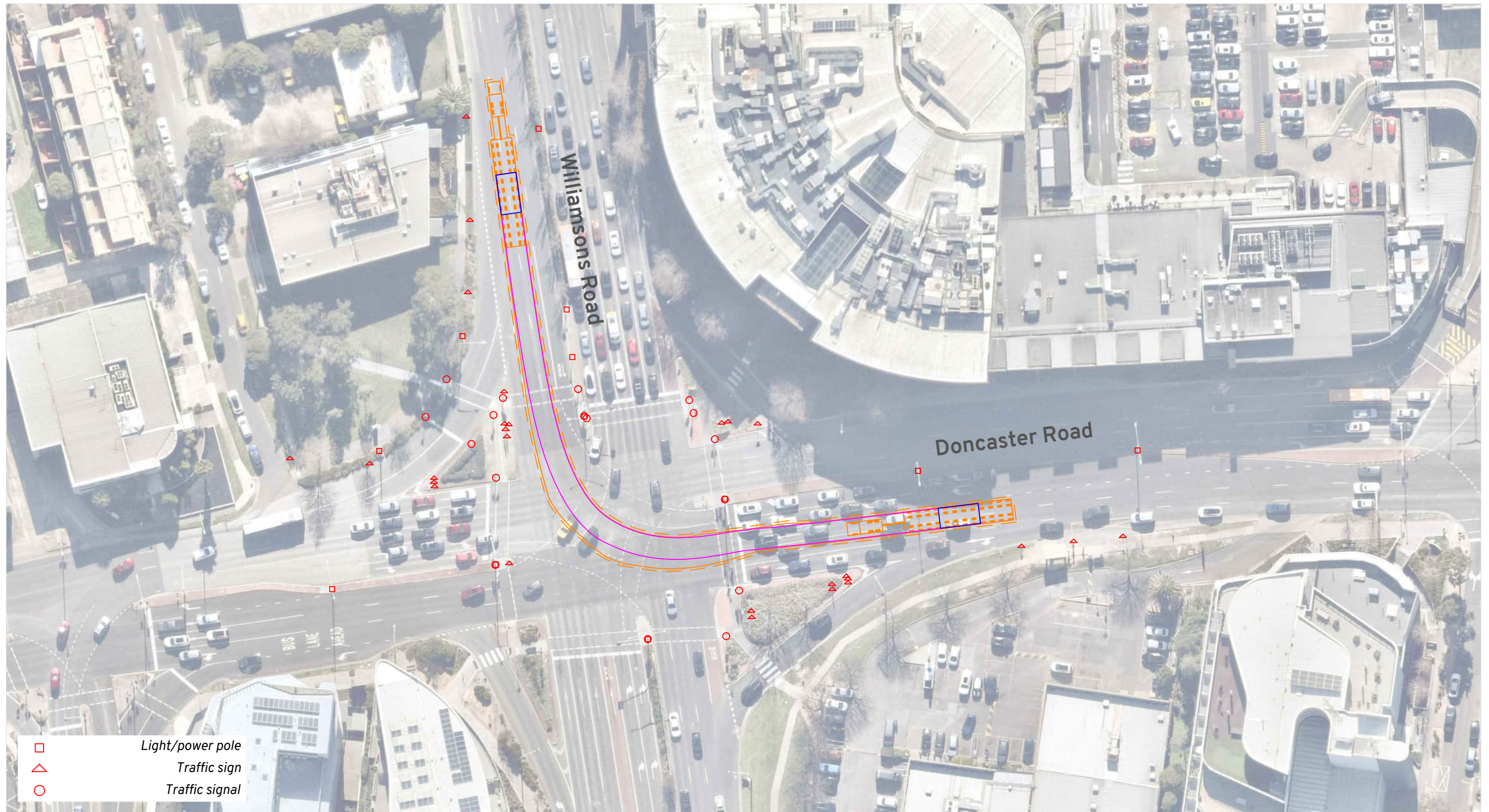
Notes:
Escorts to control traffic as required and facilitate use of multiple traffic lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Donvale VIC 3111
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

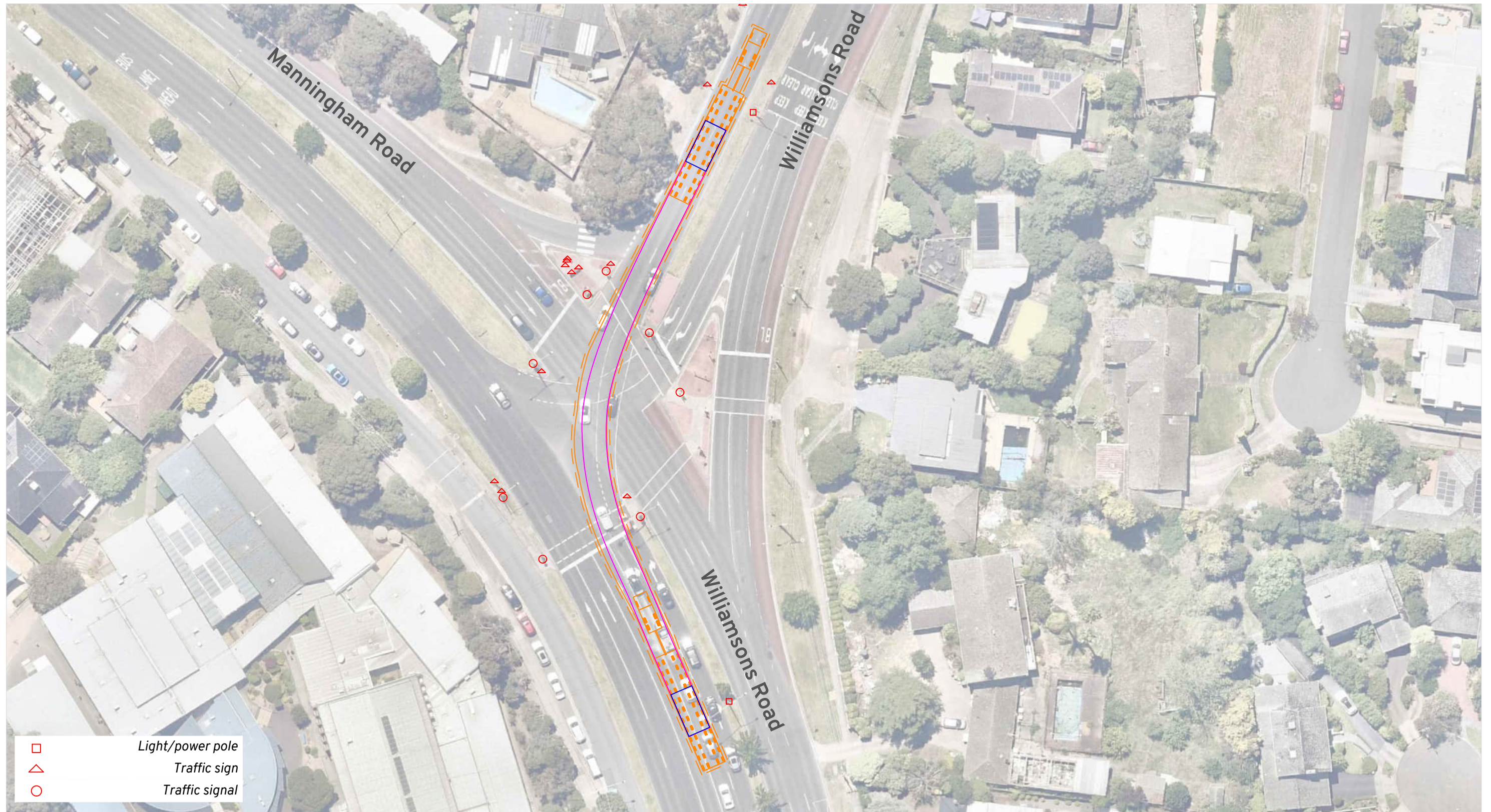
Notes:
Escorts to control traffic as required and facilitate use of multiple traffic lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Doncaster VIC 3108
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



- Vehicle Envelope
- 0.5m Clearance
- Load Outlines
- Load Path

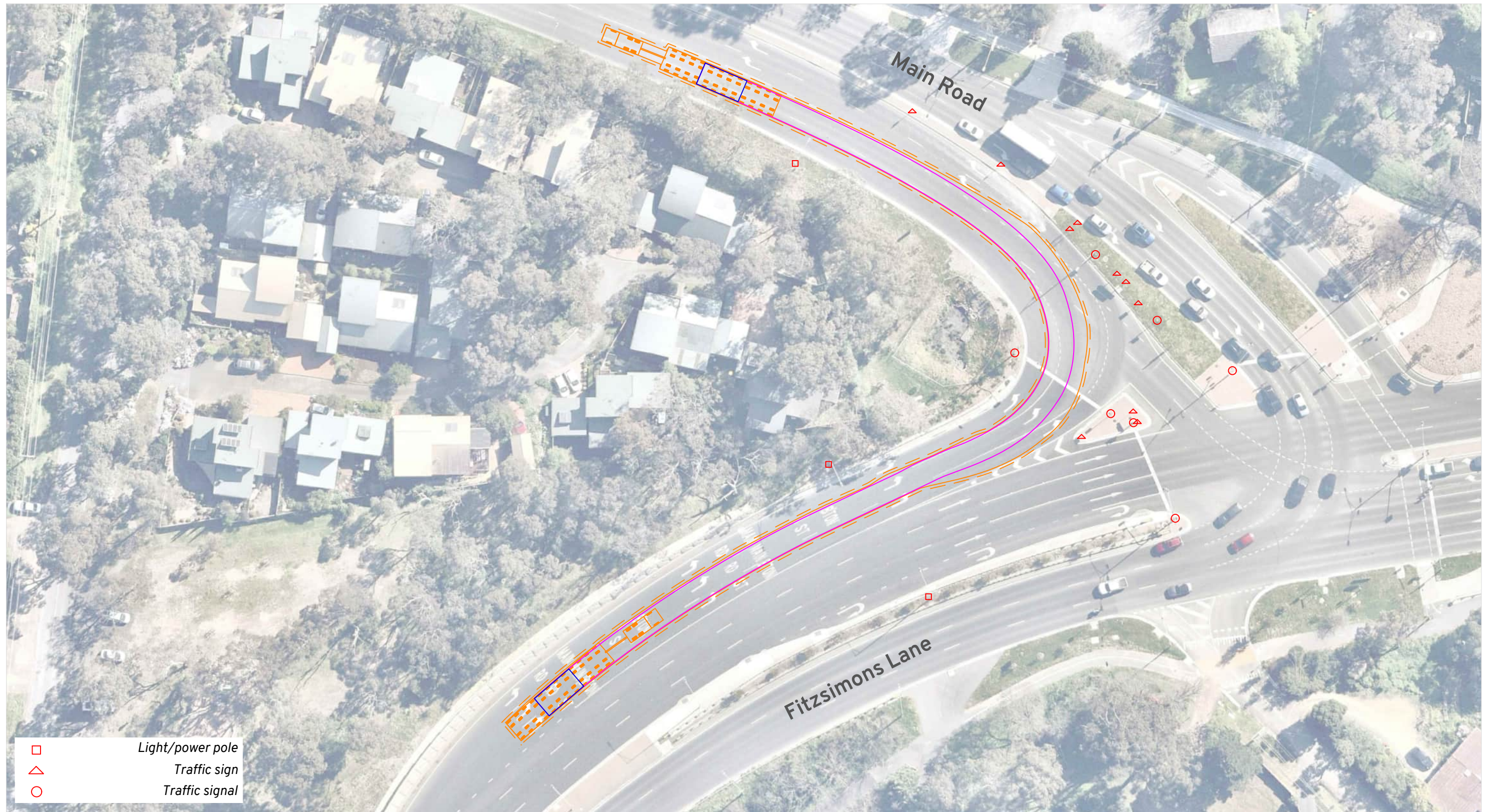
Notes:
Escorts to control traffic as required.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Doncaster VIC 3108
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Notes:

Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

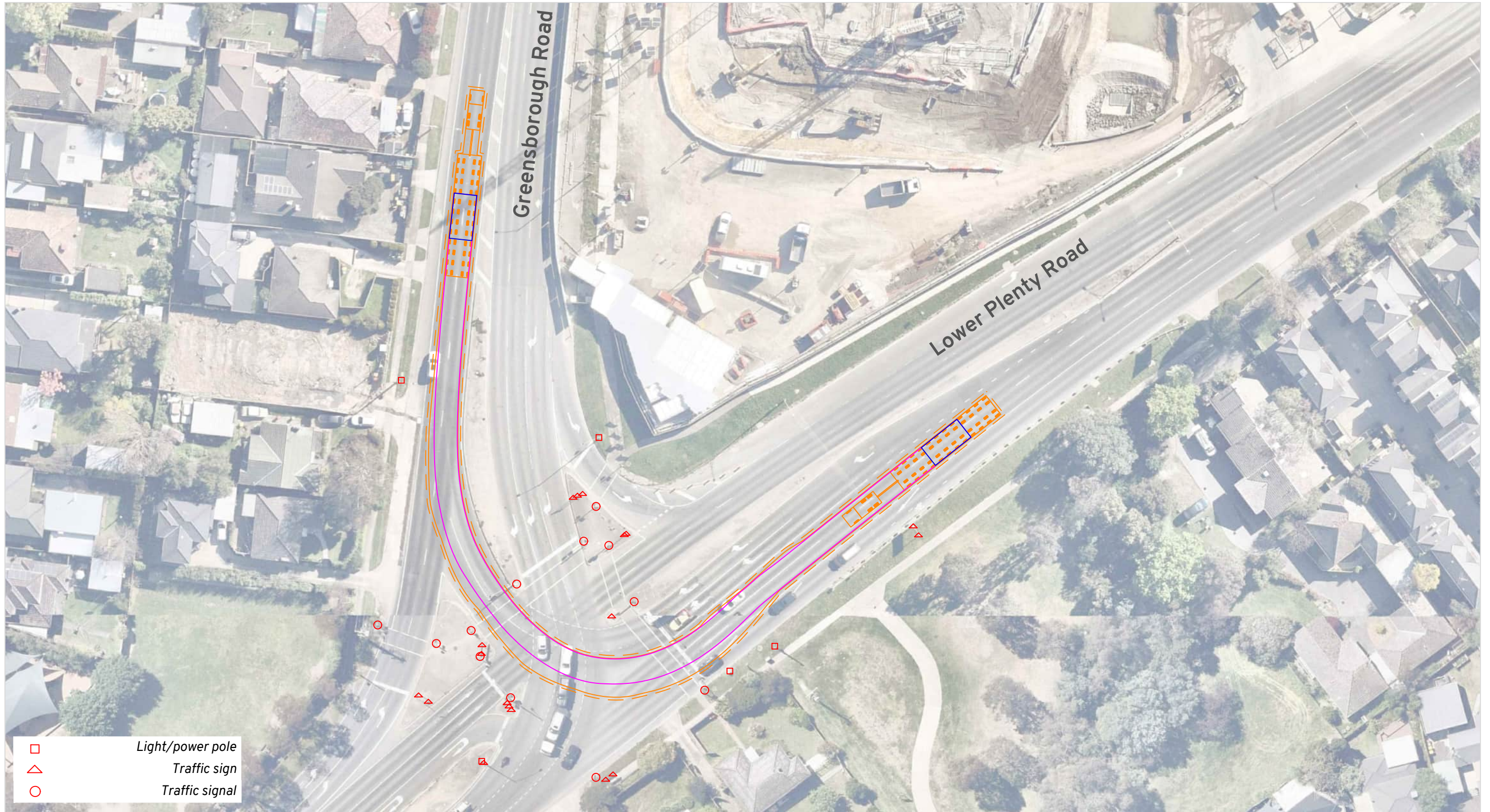
Location:

Eltham VIC 3095
[Online Map Link](#)

Route Assessment: Glen Waverley

Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Vehicle Envelope
 0.5m Clearance
 Load Outlines
 Load Path

Notes:

Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
 Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.
 All kerbs are mountable.

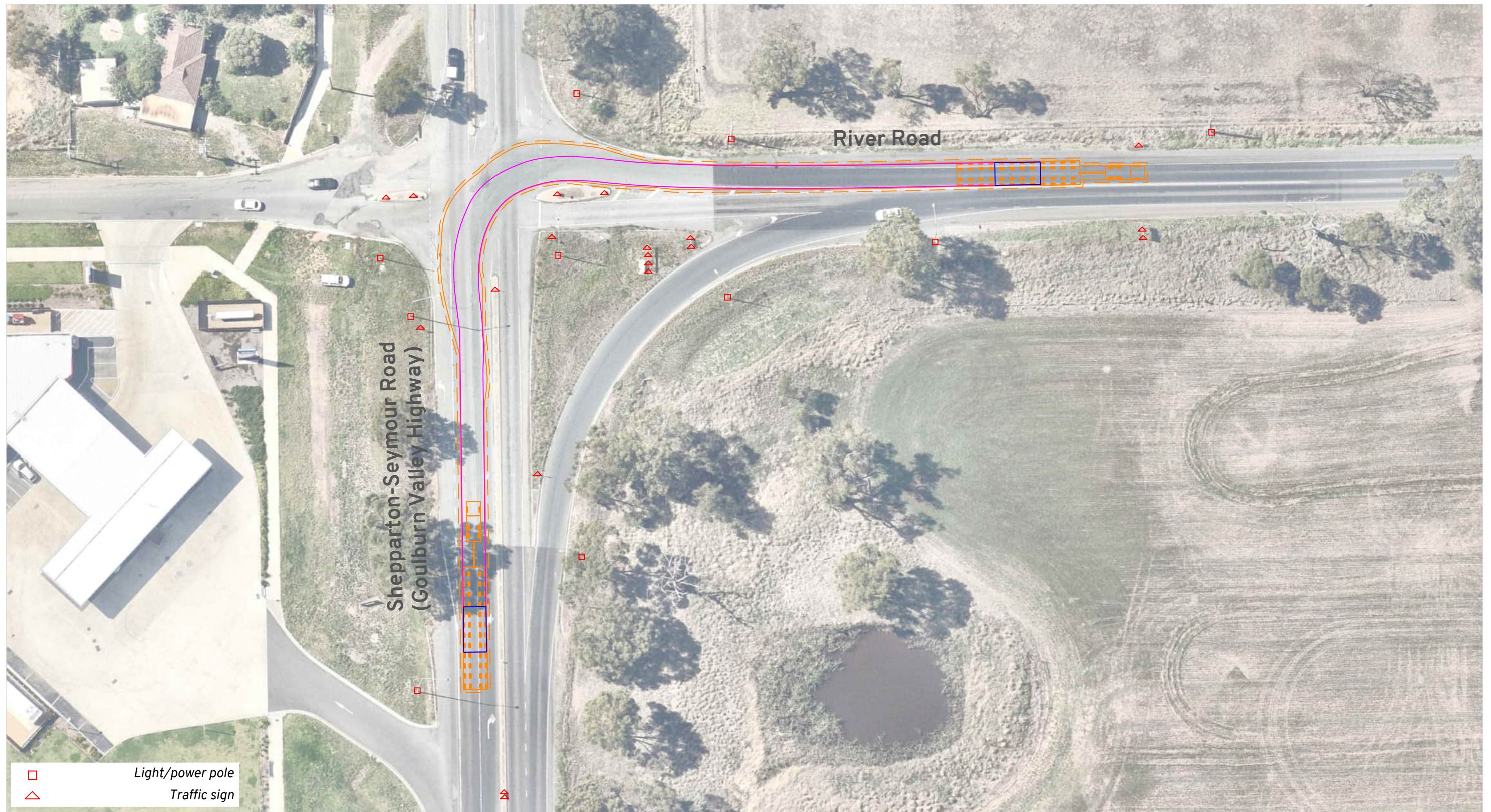
Location:

Rosanna VIC 3084
[Online Map Link](#)



Route Assessment: Glen Waverley
 Stoney Creek BESS
 Swept Path Assessment

DRAWN: WC
 DATE: 04/09/2025
 DWG NO: 1387 Glen Waverley RA01D
 SCALE at A3: 1:750



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

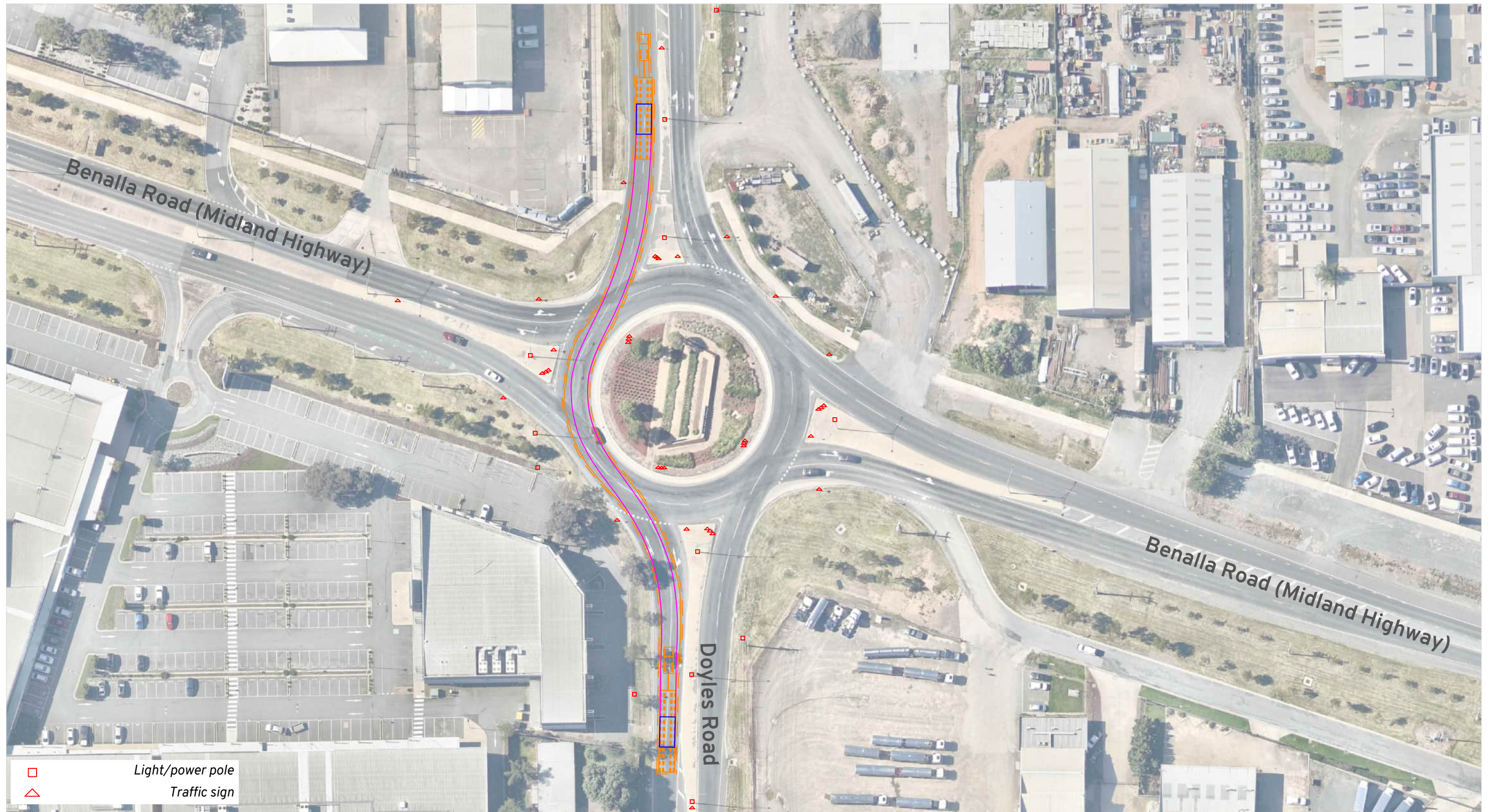
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Kialla VIC 3631
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



□ Light/power pole
△ Traffic sign

Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as required.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.
All kerbs are mountable.

Location:

Orrvale VIC 3631
[Online Map Link](#)

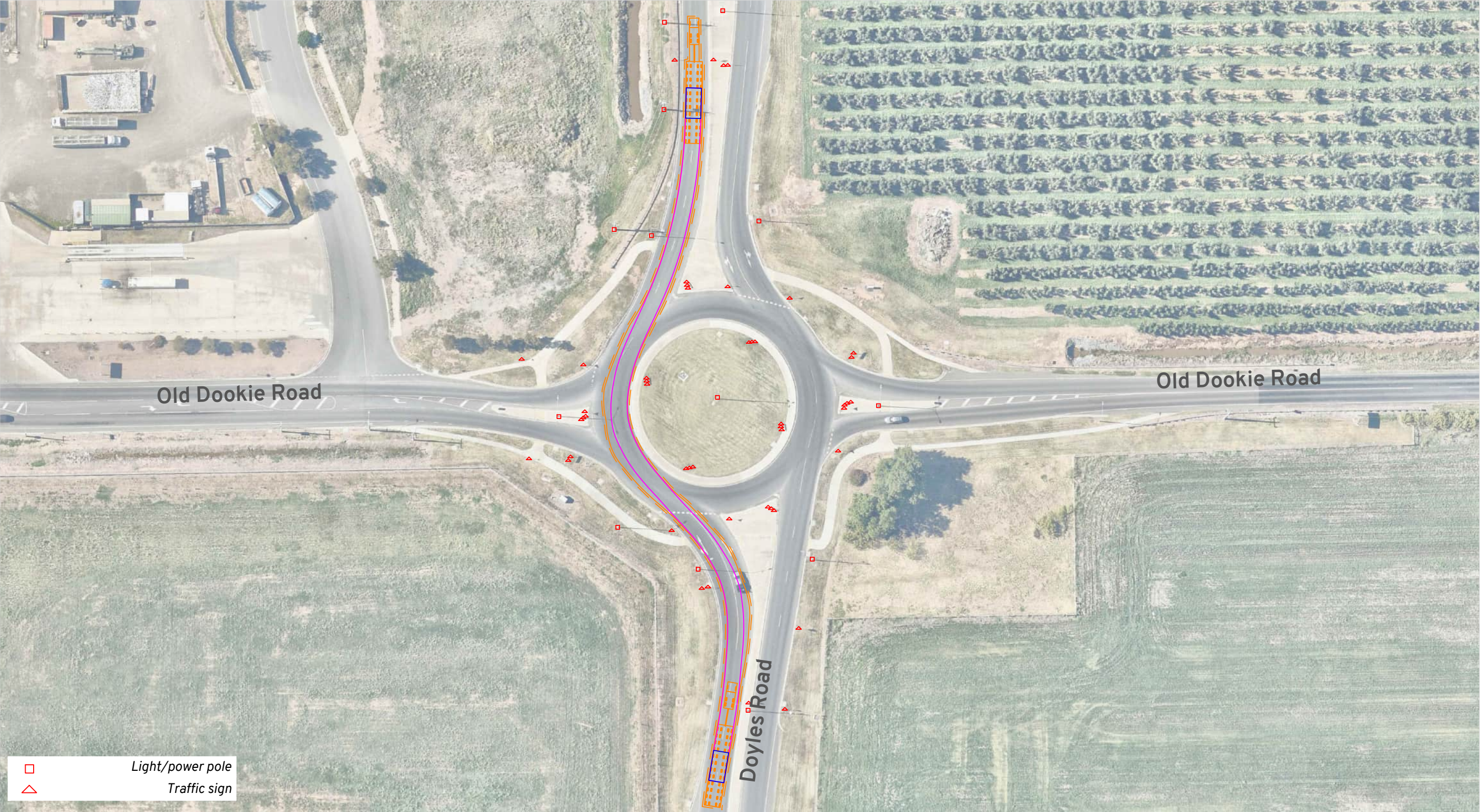


Route Assessment: Glen Waverley

Stoney Creek BESS

Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:1000



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

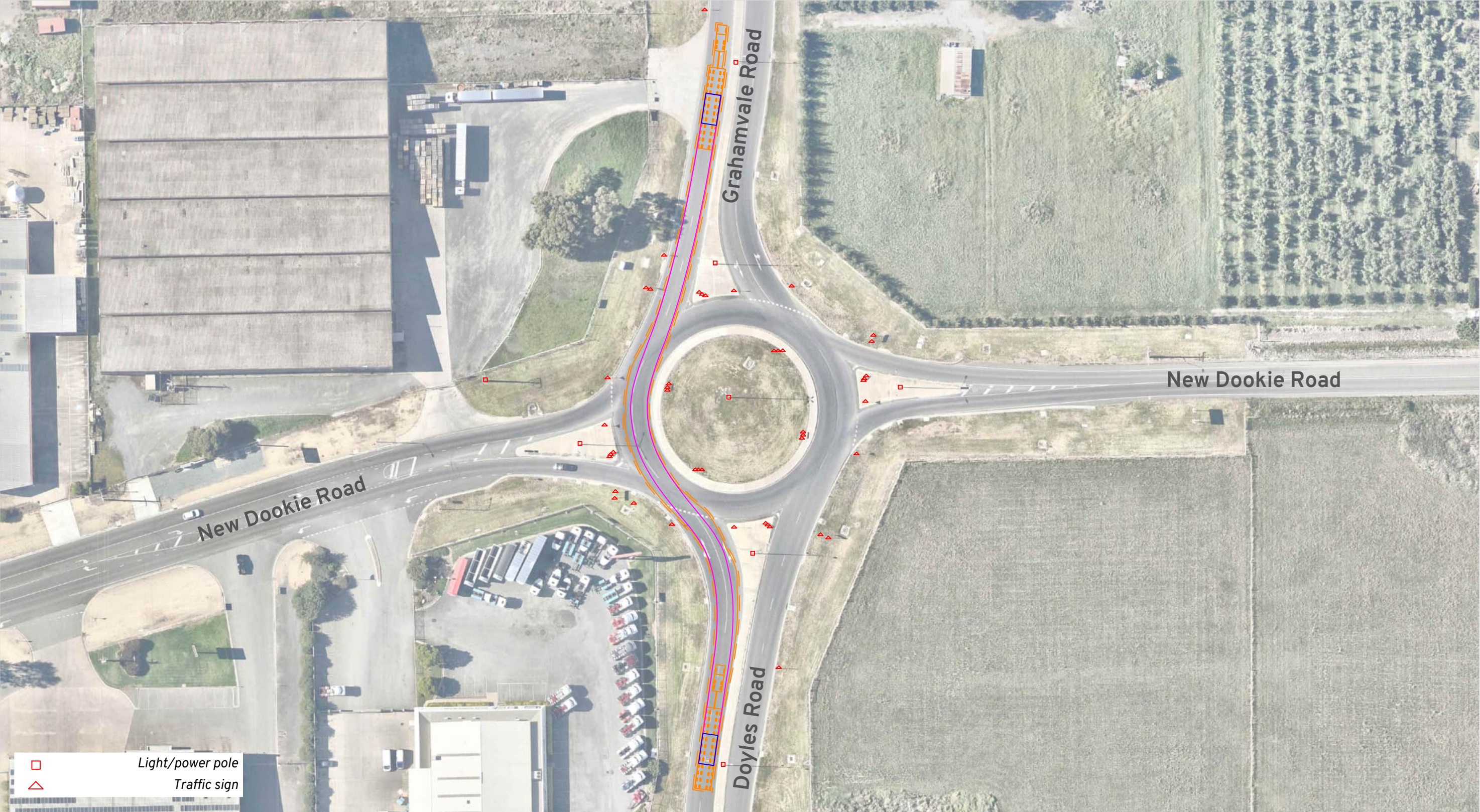
Notes:
Escorts to control traffic as required.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.
All kerbs are mountable.

Location:
Shepparton-Mooroopna VIC 3630
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:1000



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

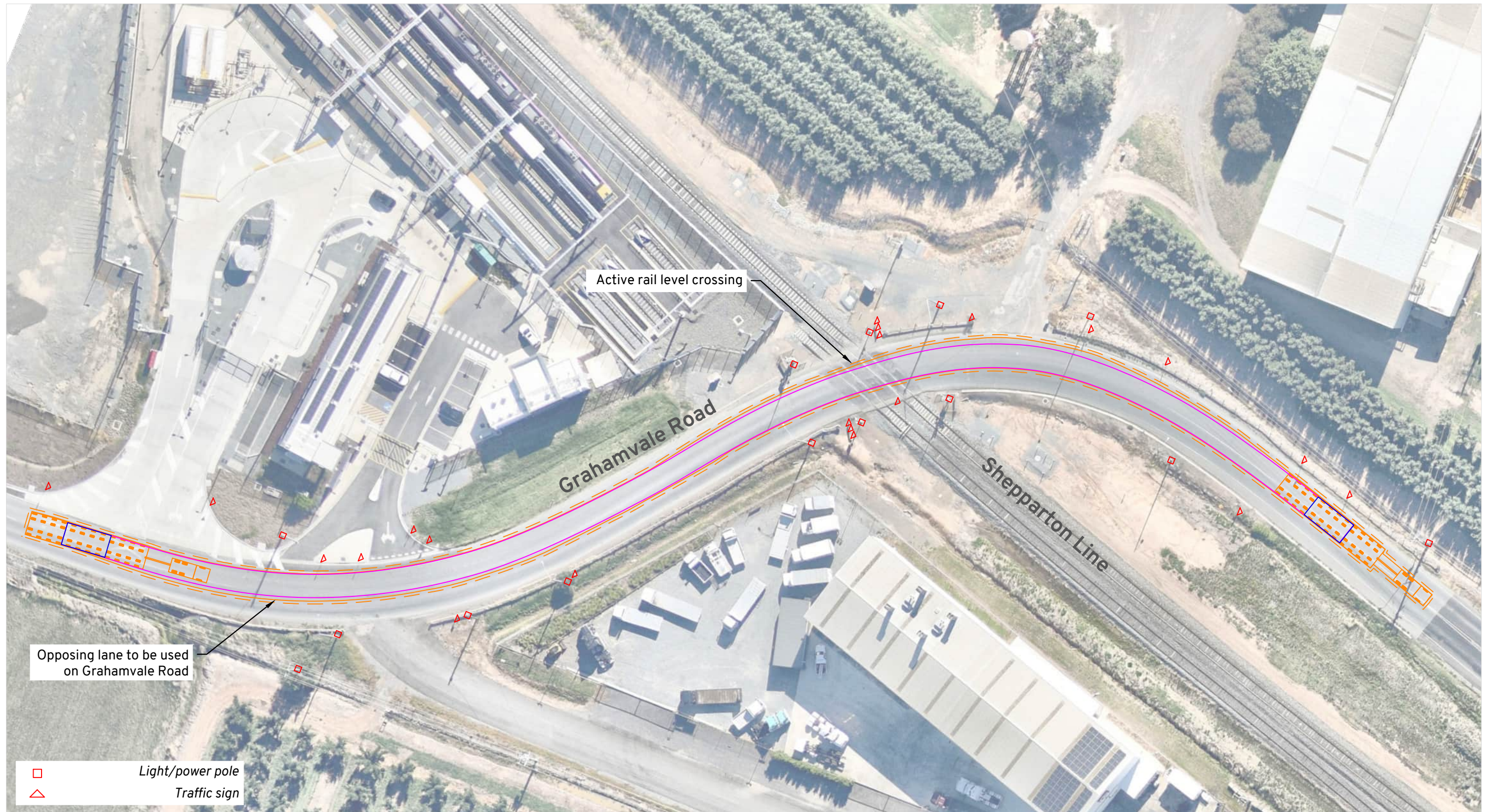
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.
All kerbs are mountable.

Location:
Grahamvale VIC 3631
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:1000



- Vehicle Envelope
- 0.5m Clearance
- Load Outlines
- Load Path

Notes:
 Escorts to control traffic as required and facilitate use of opposing lane on Grahamvale Road.
 Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.
 Active rail level crossing requires ODL permit from DTP before crossing.

Location:
 Greater Shepparton VIC 3630
[Online Map Link](#)



Route Assessment: Glen Waverley
 Stoney Creek BESS
 Swept Path Assessment

DRAWN: WC
 DATE: 04/09/2025
 DWG NO: 1387 Glen Waverley RA01D
 SCALE at A3: 1:750



12a

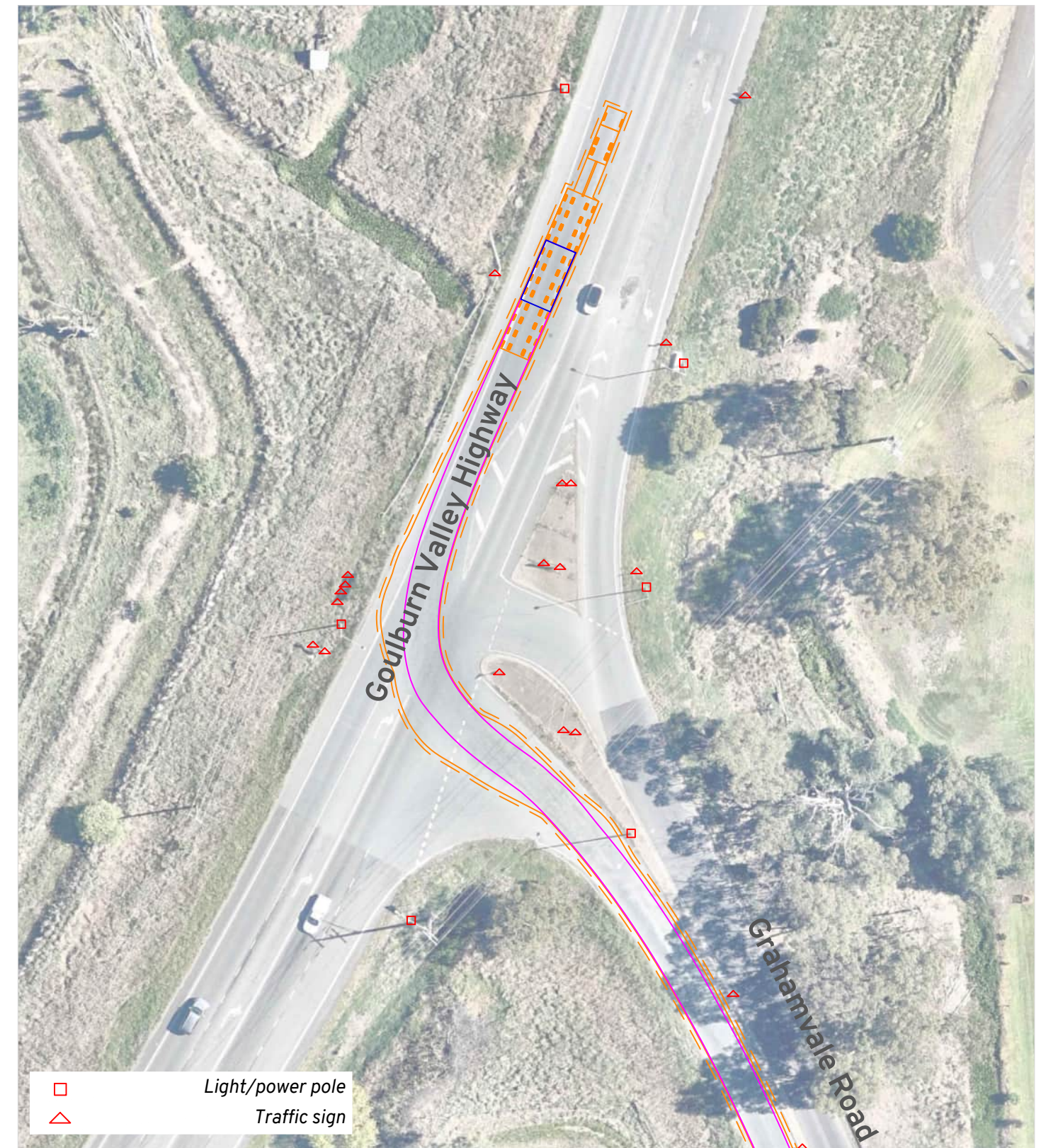
Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

Notes:

Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.
All kerbs are mountable.

Location:

Congupna VIC 3633
[Online Map Link](#)

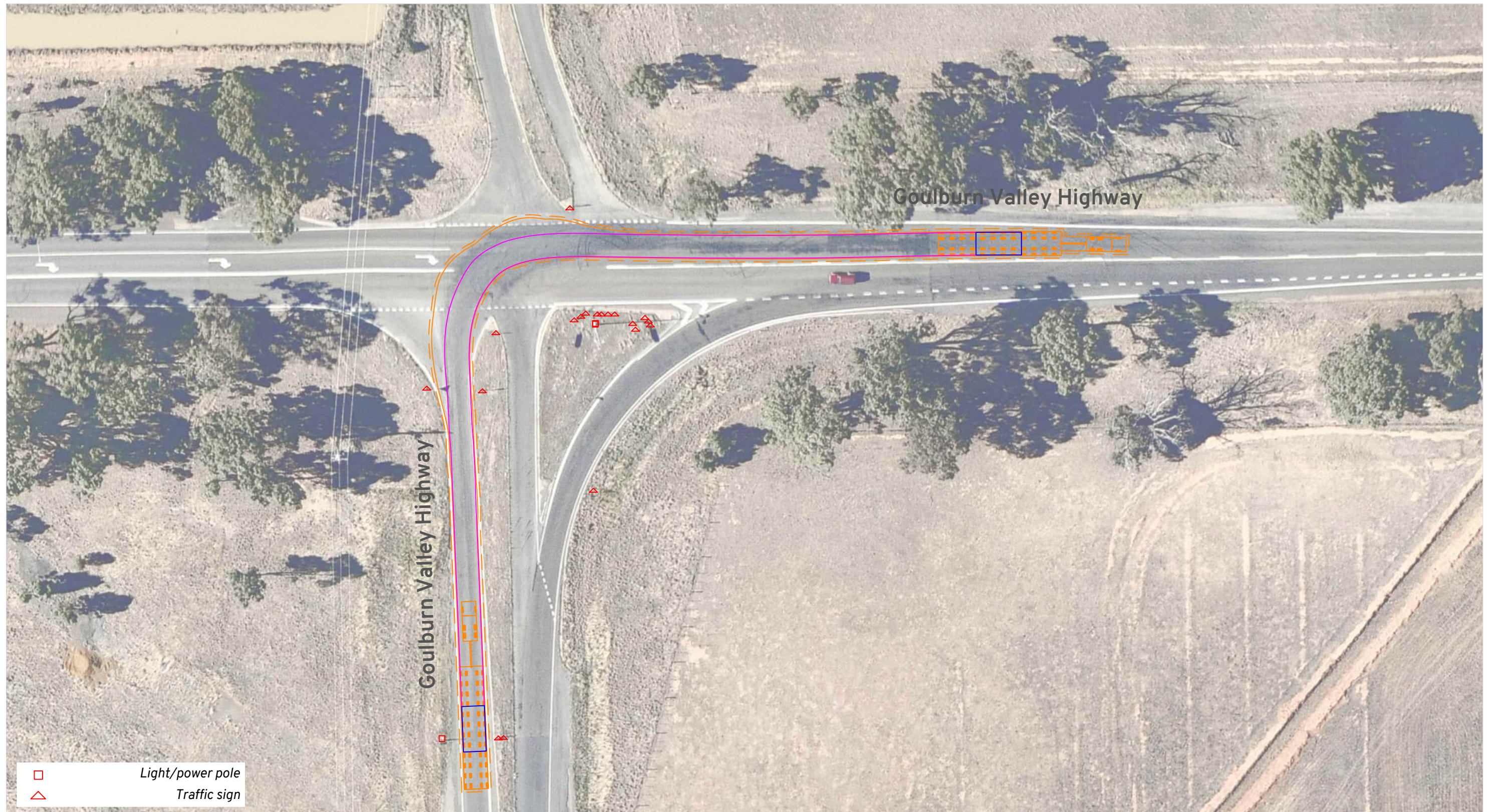


12b



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as required and facilitate use of opposing lane from east.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:

Strathmerton VIC 3641

[Online Map Link](#)

Route Assessment: Glen Waverley

Stoney Creek BESS

Swept Path Assessment

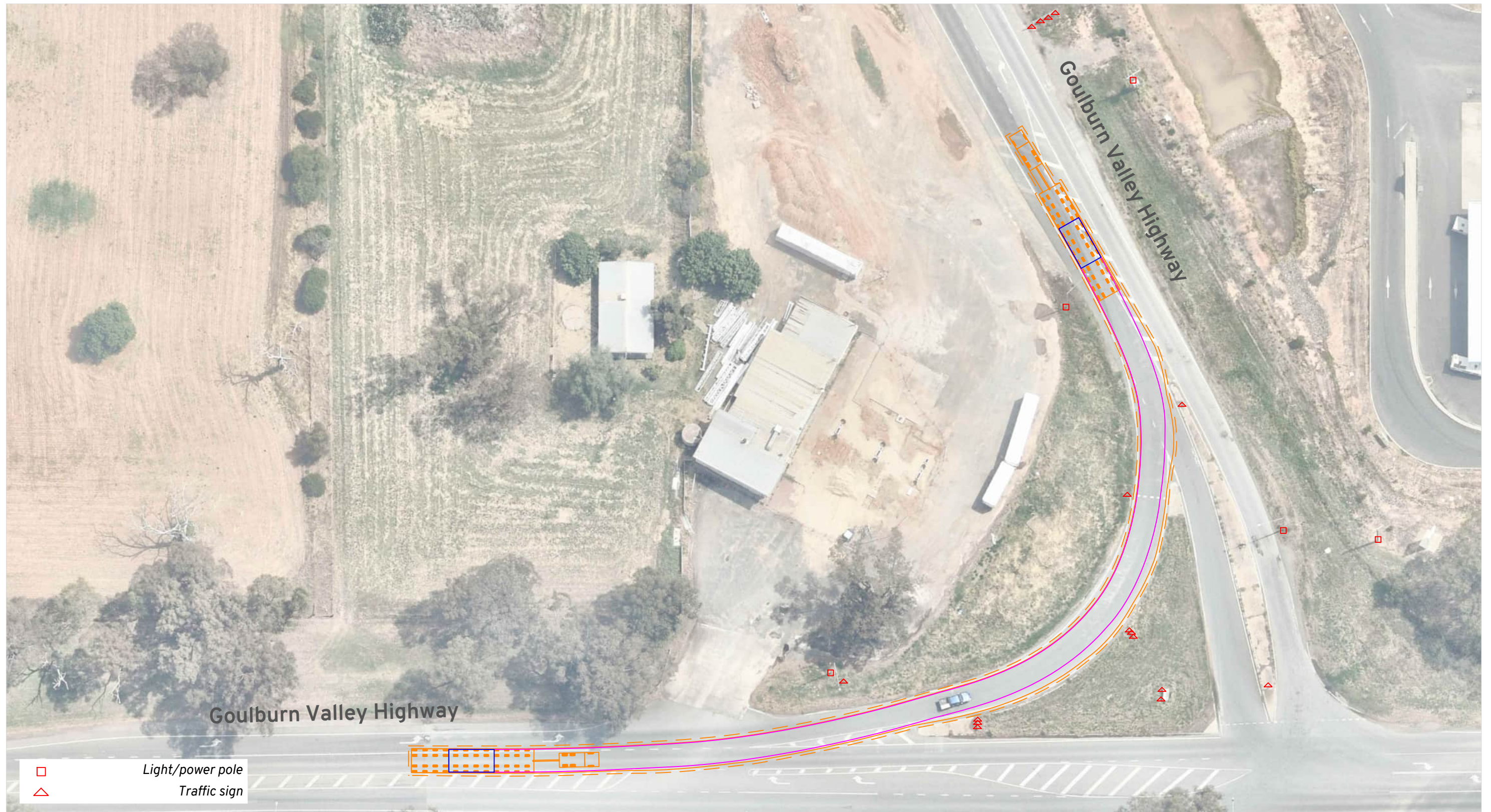
DRAWN: WC

DATE: 04/09/2025

DWG NO: 1387 Glen Waverley RA01D

SCALE at A3: 1:750





Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.
All kerbs are mountable.

Location:
Yarroweyah VIC 3644
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



- Vehicle Envelope
- 0.5m Clearance
- Load Outlines
- Load Path

Notes:
 Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
 Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.
 Outer roundabout island designed to be used by heavy vehicles.

Location:
 Tocumwal NSW 2714
[Online Map Link](#)



Route Assessment: Glen Waverley
 Stoney Creek BESS
 Swept Path Assessment

DRAWN: WC
 DATE: 04/09/2025
 DWG NO: 1387 Glen Waverley RA01D
 SCALE at A3: 1:1000



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Jerilderie NSW 2716
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

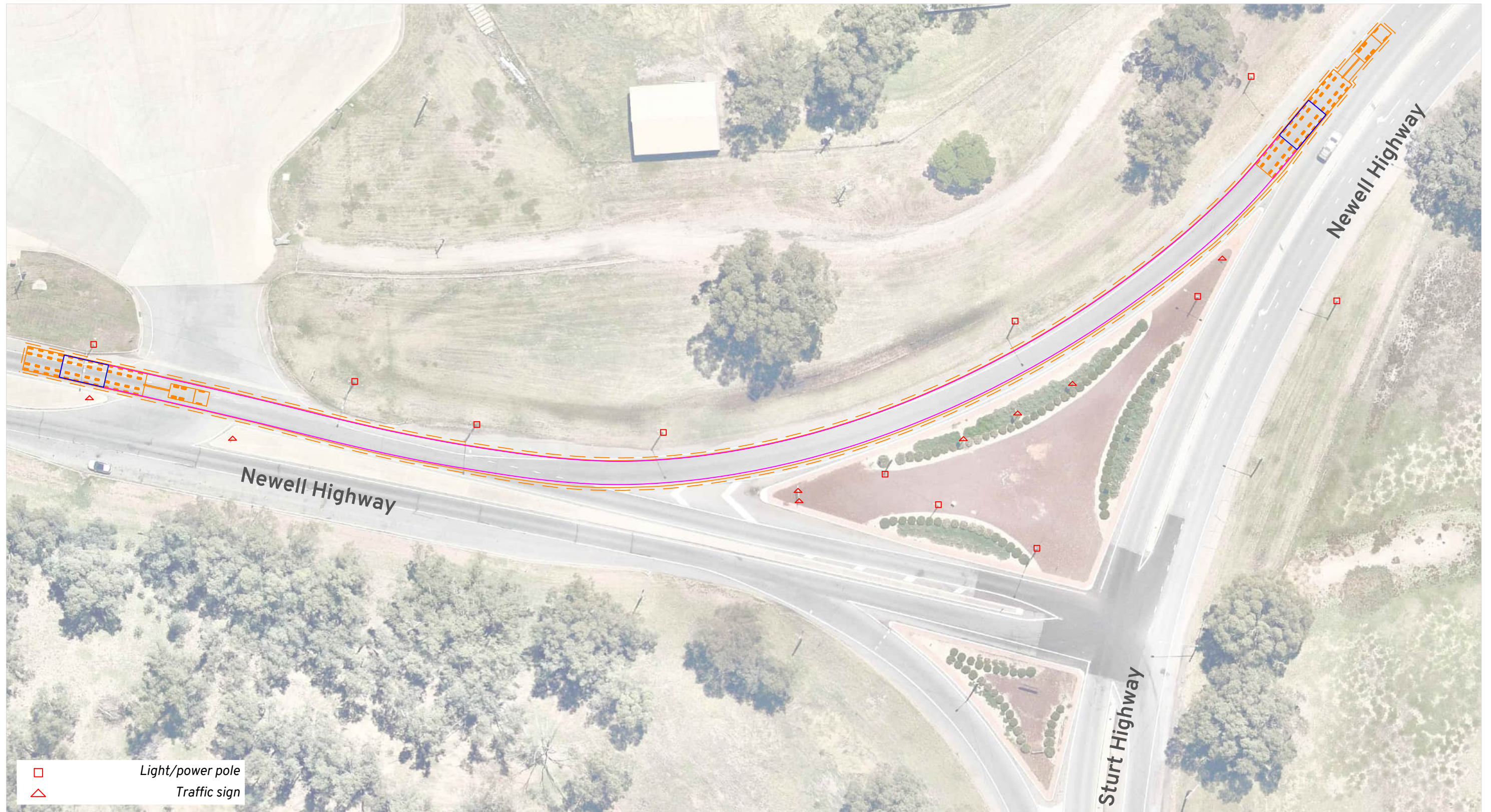
Notes:
Escorts to control traffic as required and facilitate use of opposing lane.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Gillenbah NSW 2700
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



- Vehicle Envelope
- 0.5m Clearance
- Load Outlines
- Load Path

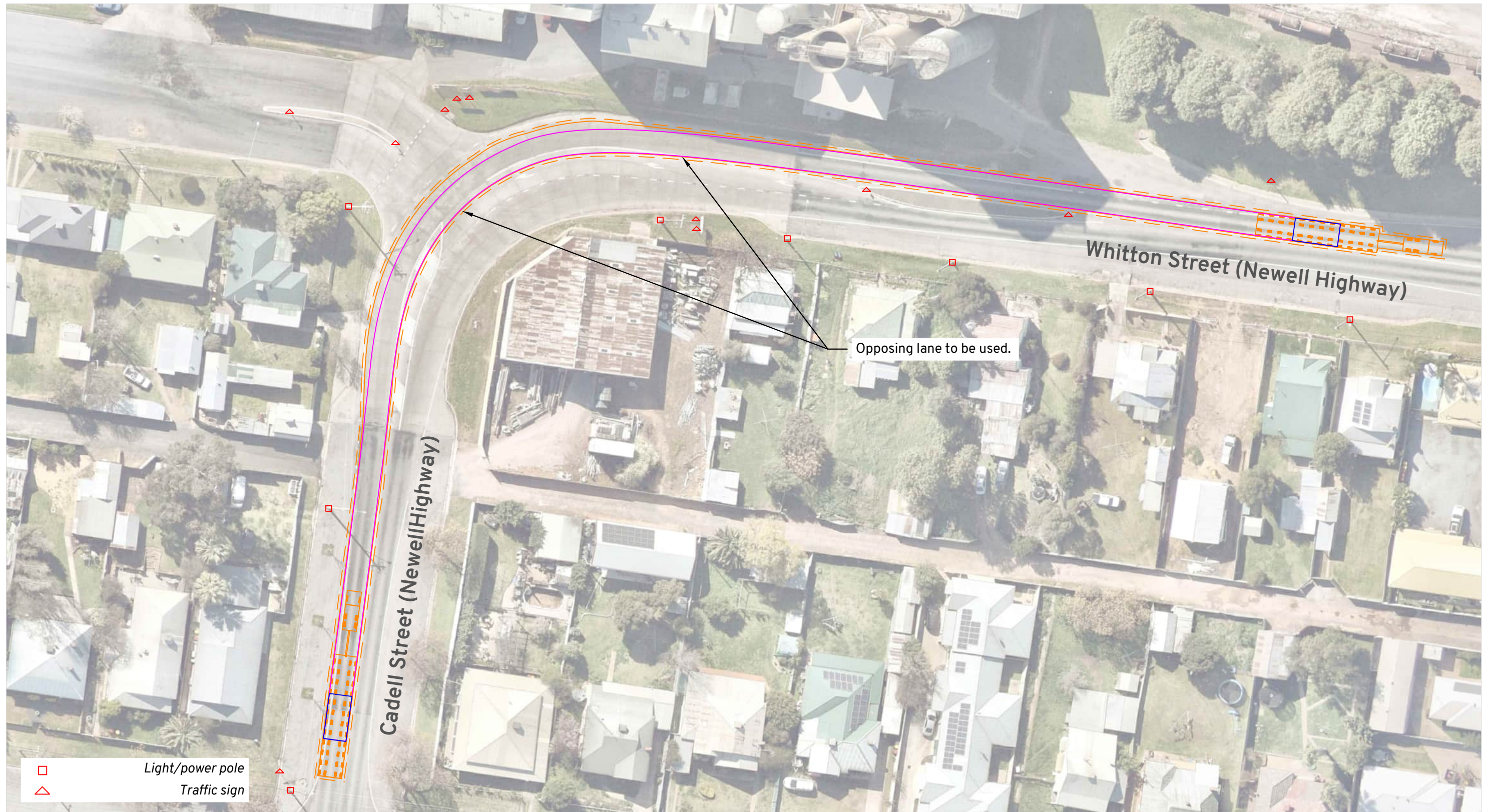
Notes:
Escorts to control traffic as required.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Gillenbah NSW 2700
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



- Vehicle Envelope
- 0.5m Clearance
- Load Outlines
- Load Path

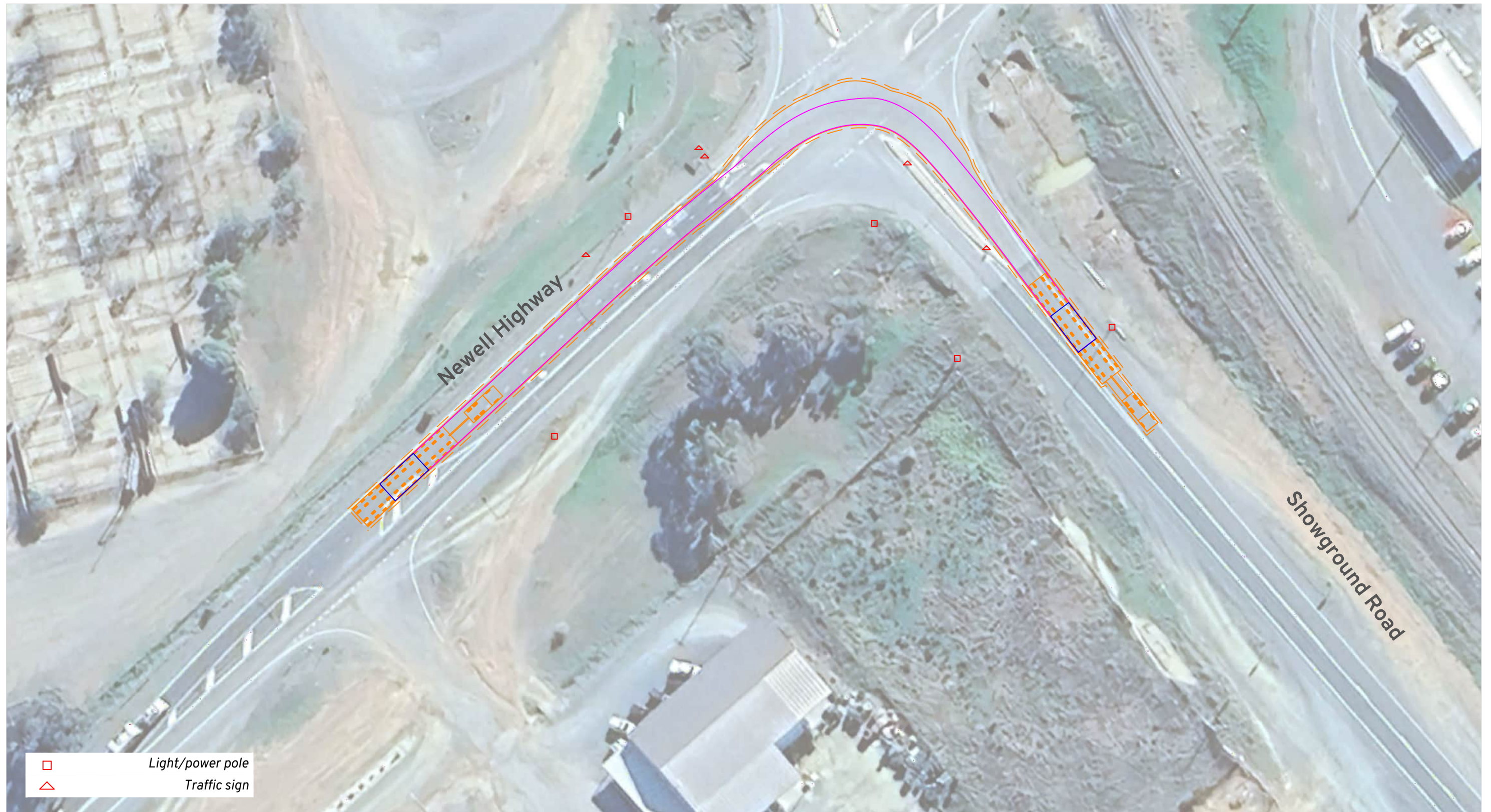
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing turning lane.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Narrandera NSW 2700
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

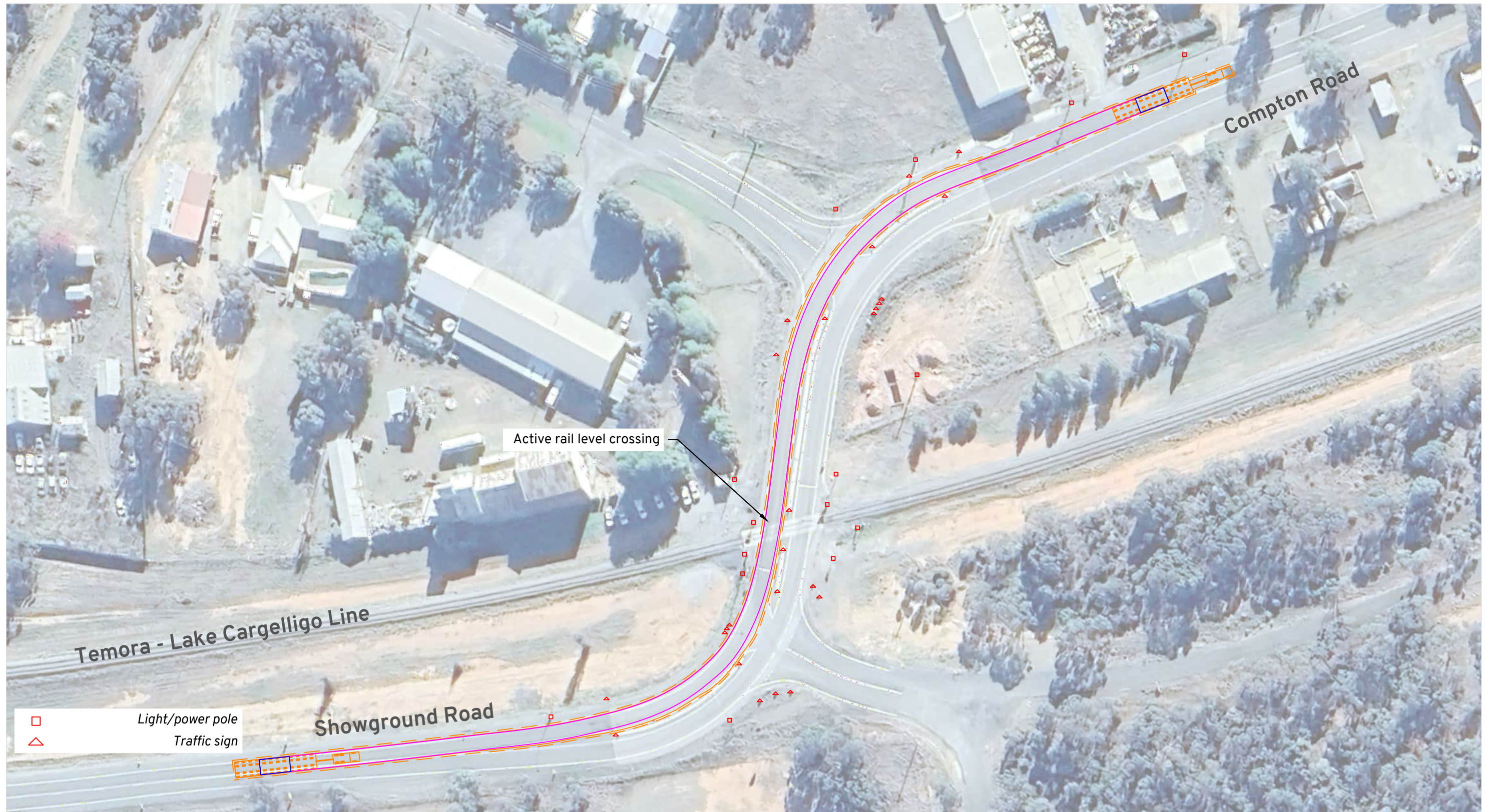
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
West Wyalong NSW 2671
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Vehicle Envelope
 0.5m Clearance
 Load Outlines
 Load Path

Notes:

Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
 Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.
 Active rail level crossing requires permit from UGL Regional Linx before crossing - LXM ID 1193

Location:

West Wyalong NSW 2671
[Online Map Link](#)



Route Assessment: Glen Waverley
 Stoney Creek BESS
 Swept Path Assessment

DRAWN: WC
 DATE: 04/09/2025
 DWG NO: 1387 Glen Waverley RA01D
 SCALE at A3: 1:1000



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

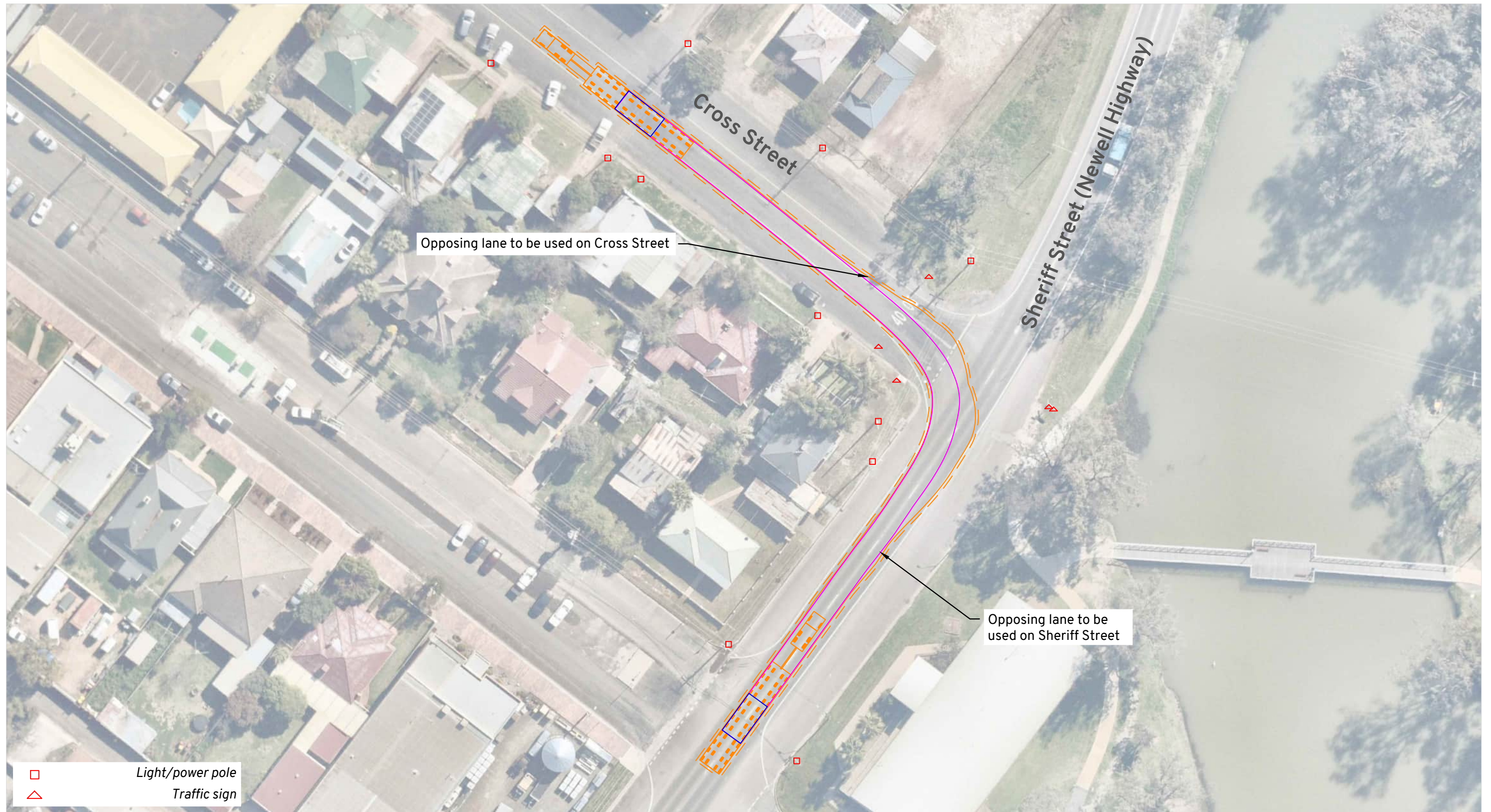
Notes:
Escorts to control traffic as required and facilitate use of opposing traffic lane.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Wyalong NSW 2671
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

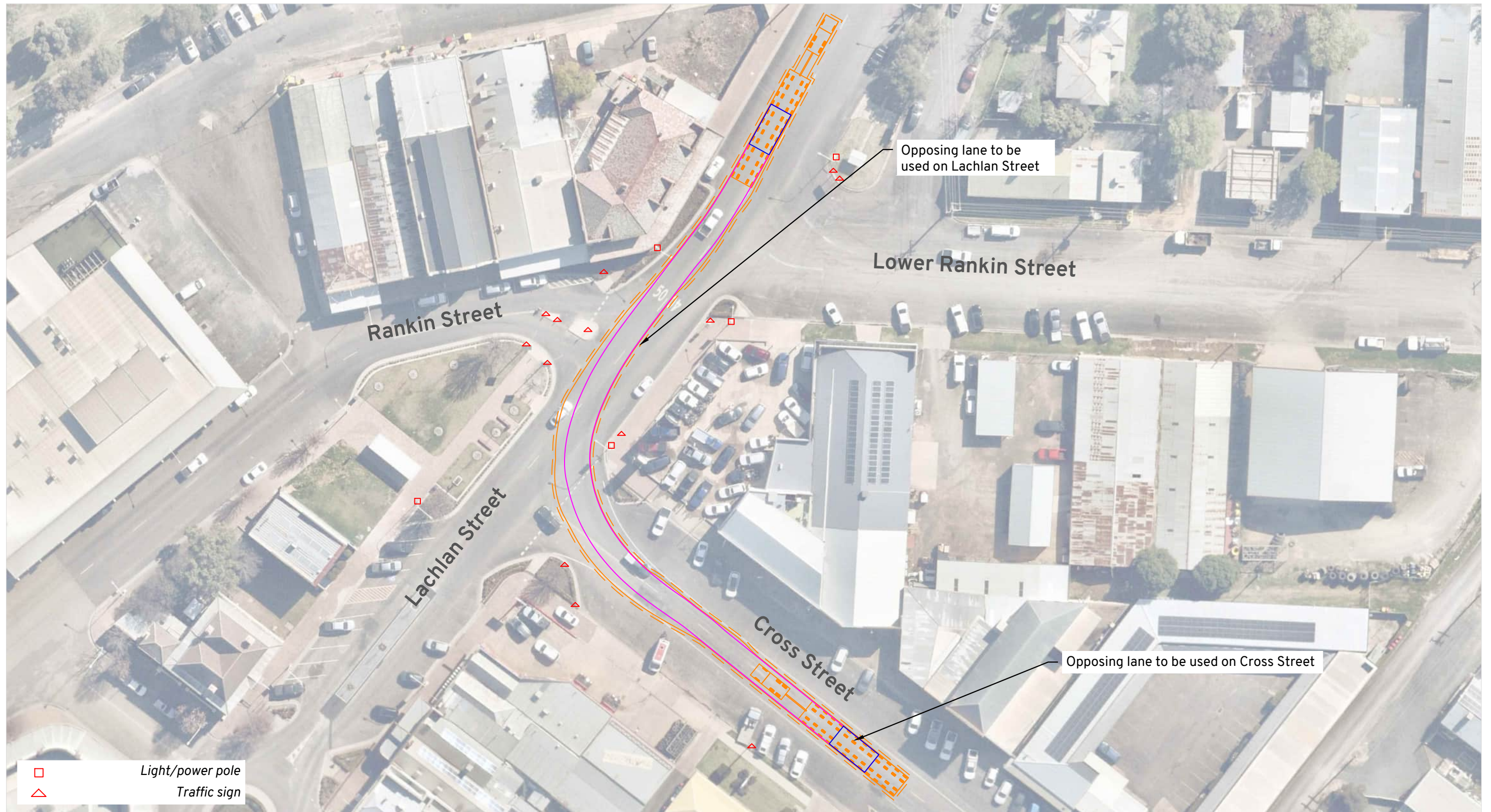
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Forbes NSW 2871
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

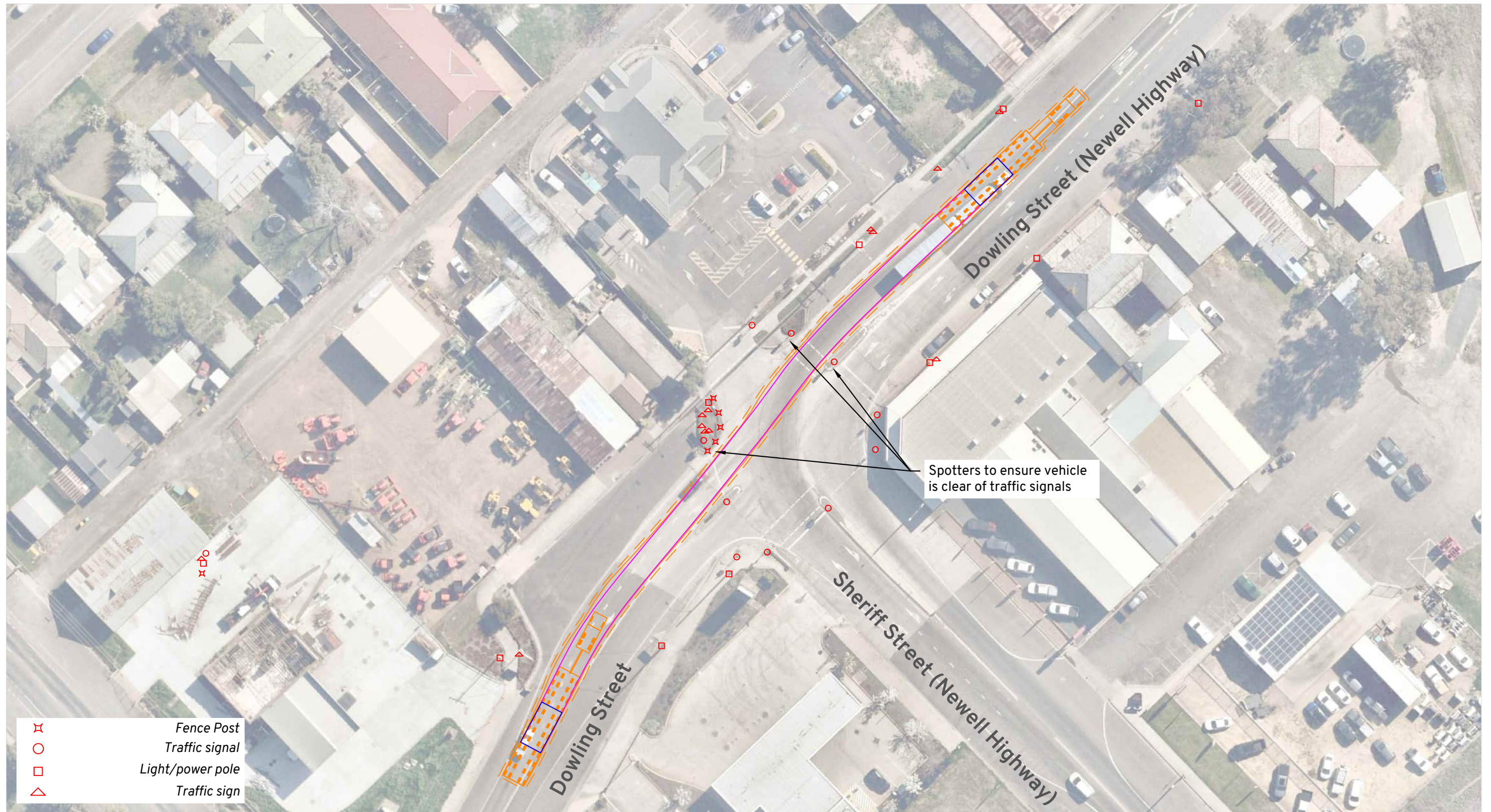
Notes:
Escorts to control traffic as required and facilitate use of opposing lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Forbes VIC 2871
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

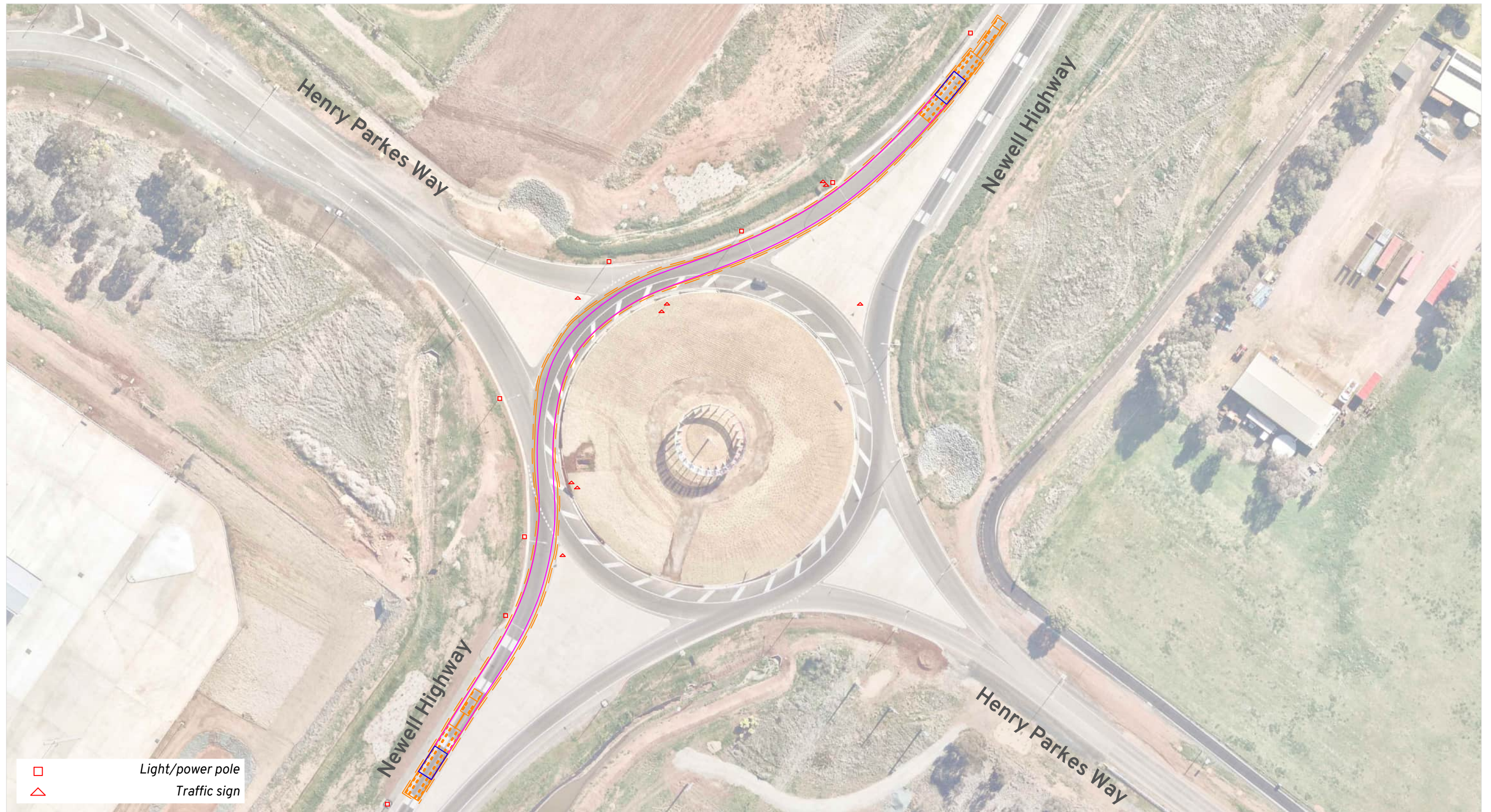
Notes:
Escorts to control traffic as required and facilitate use of opposing/multiple traffic lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Forbes NSW 2871
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



□ Light/power pole
△ Traffic sign

Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

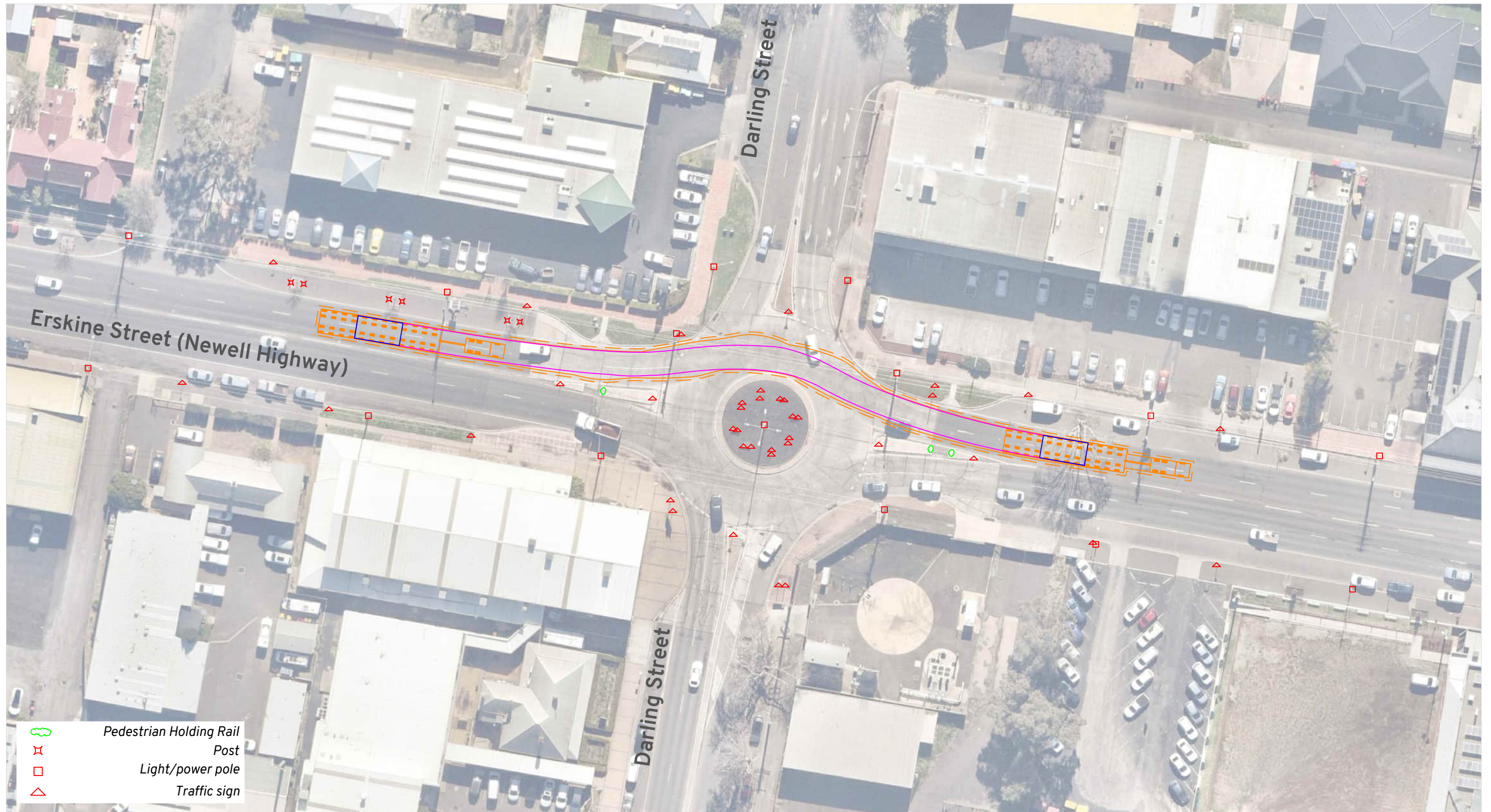
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing traffic lane.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Parkes NSW 2870
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:1000



-  Pedestrian Holding Rail
-  Post
-  Light/power pole
-  Traffic sign

-  Vehicle Envelope
-  0.5m Clearance
-  Load Outlines
-  Load Path

Notes:

Escorts to control traffic as required.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.
Provide hardstand and mountable kerbing as required at yellow highlighted area.
Temporary relocation of one road sign required.

Location:

Dubbo NSW 2830
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



- Vehicle Envelope
- 0.5m Clearance
- Load Outlines
- Load Path

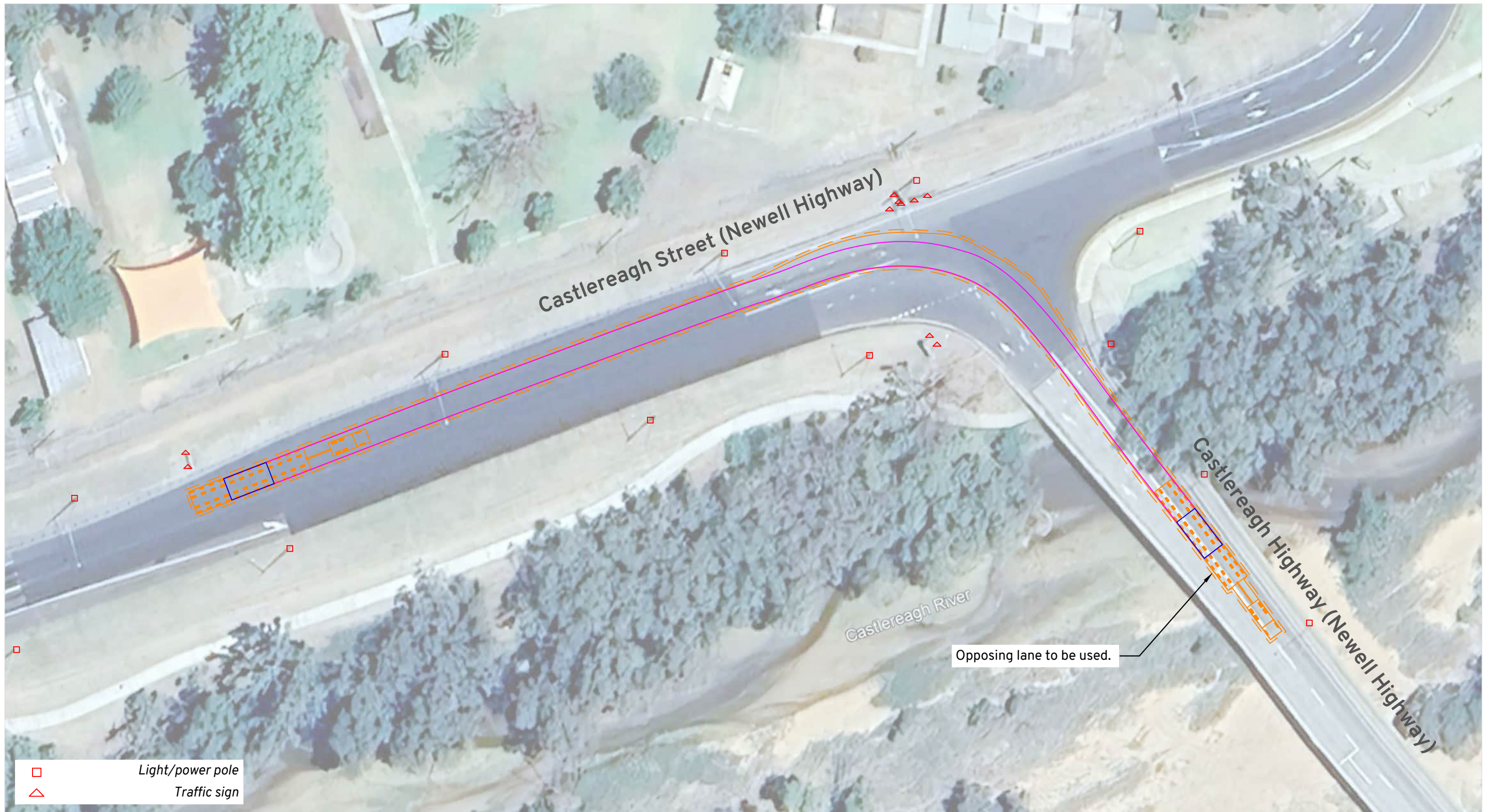
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing traffic lane.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Dubbo NSW 2830
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

Notes:

Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.
Intersection is currently under construction - OSOM movements and temporary road infrastructure changes dependant on final road design.

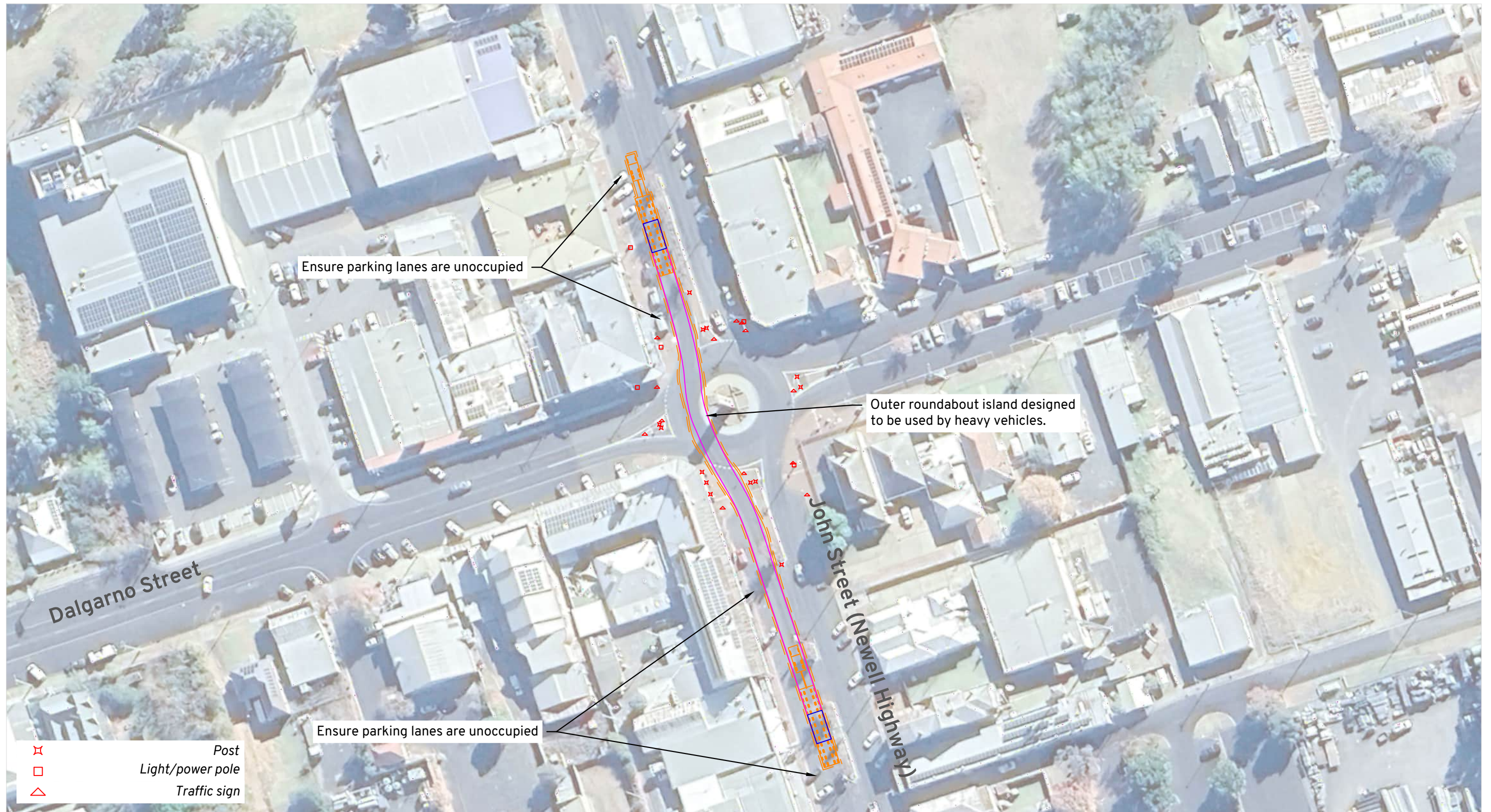
Location:

Gilgandra NSW 2827
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Notes:

Escorts to control traffic as required.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.
Ensure parking lanes along on John Street are unoccupied in advance of transit.
Outer roundabout island designed to be used by heavy vehicles.

Location:

Coonabarabran NSW 2357
[Online Map Link](#)

Route Assessment: Glen Waverley

Stoney Creek BESS
Swept Path Assessment



DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:1000



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

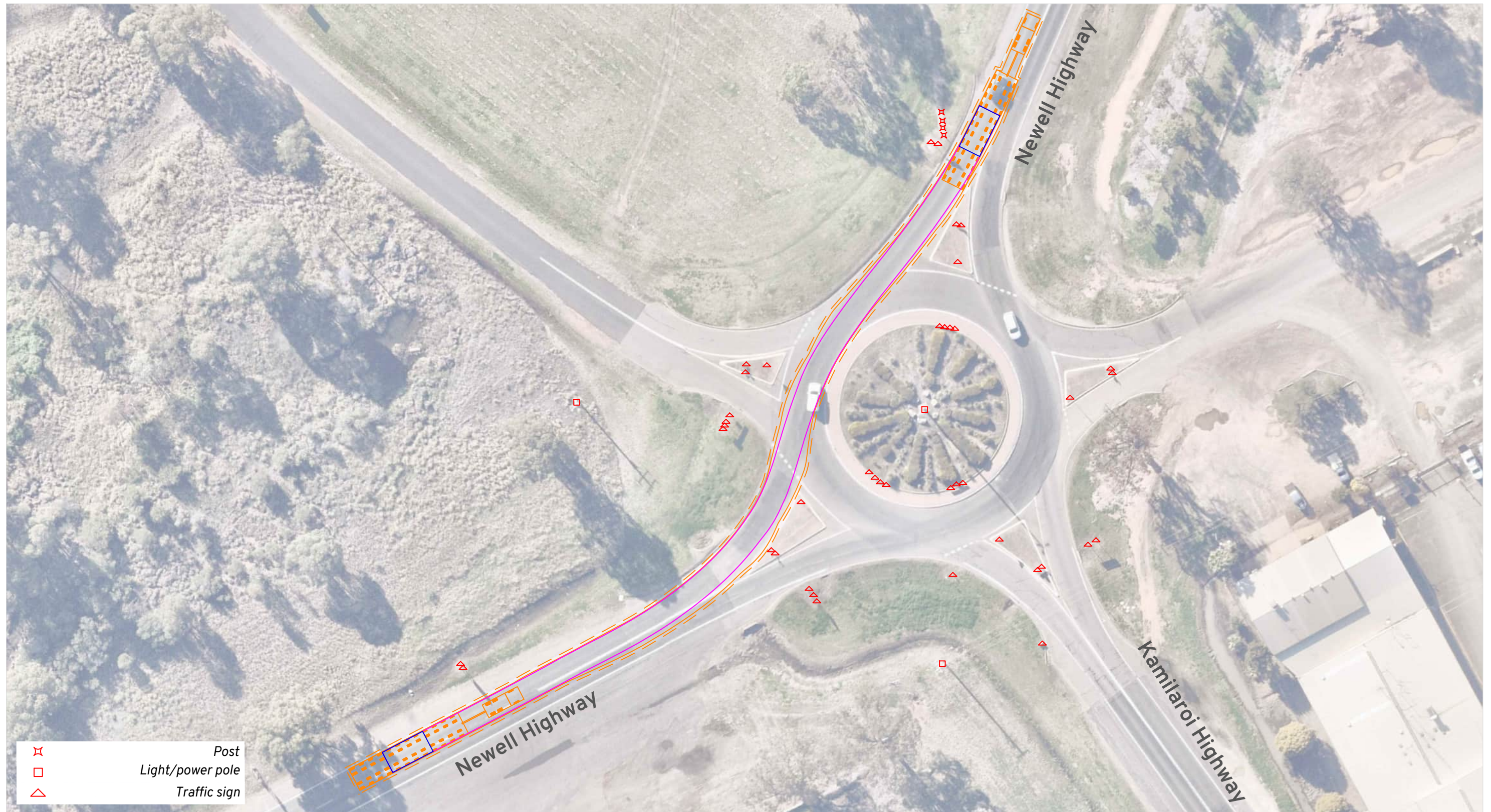
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Coonabarabran NSW 2357
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:1000



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

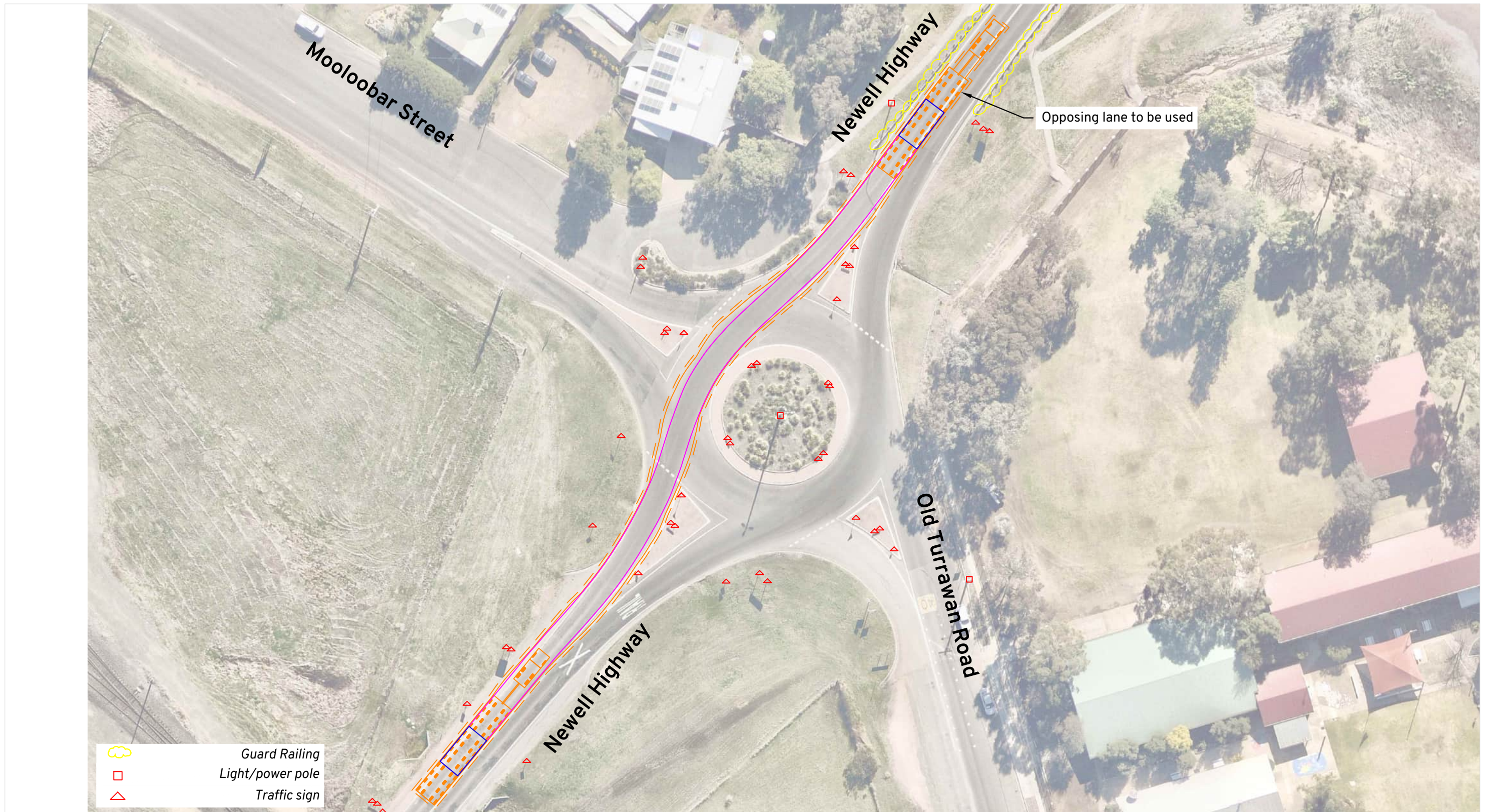
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Narrabri NSW 2390
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

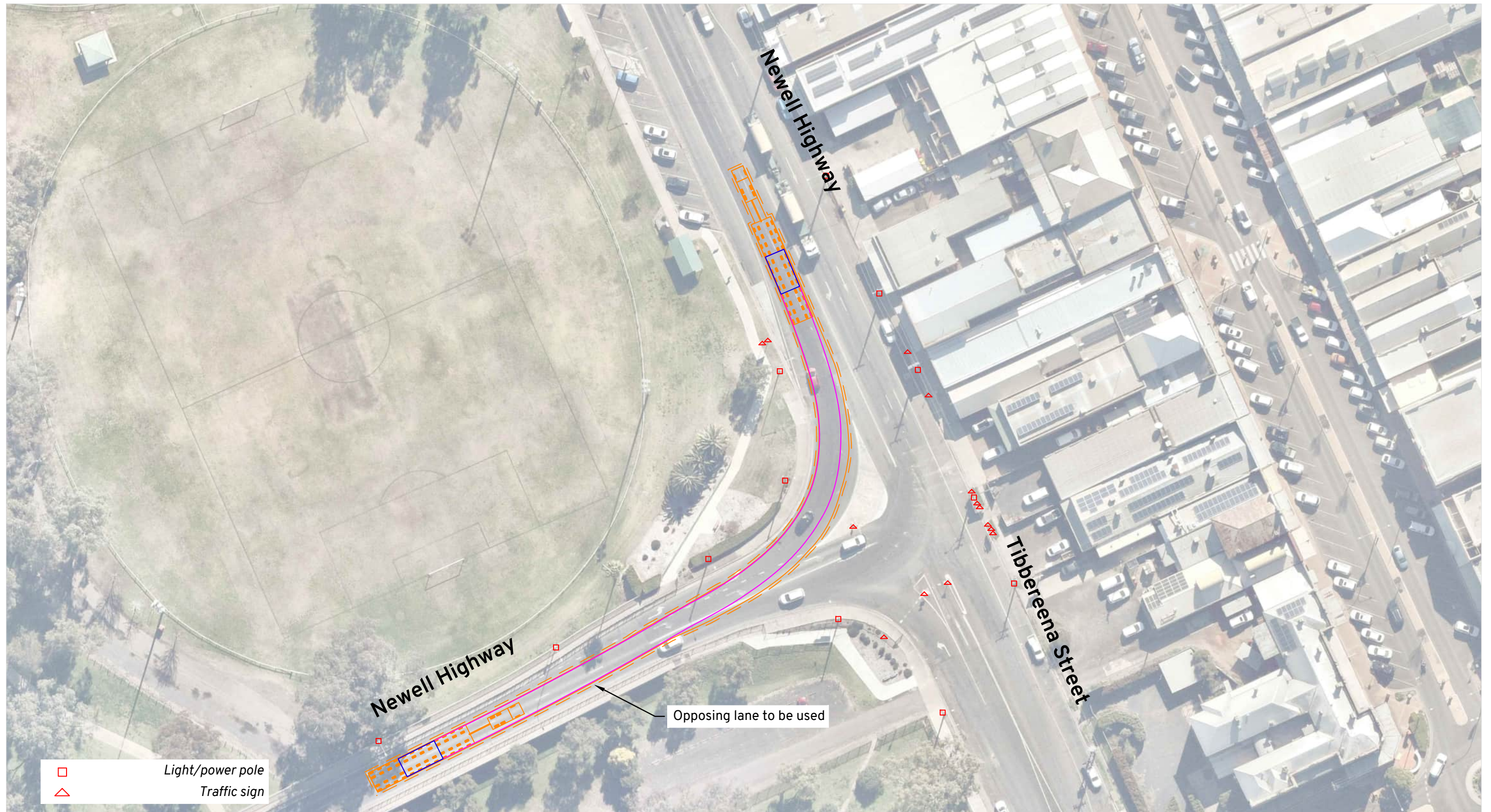
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing lanes.
Spotters to monitor path of travel and impact to existing infrastructure.

Location:
Narrabri NSW 2390
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



- Vehicle Envelope
- 0.5m Clearance
- Load Outlines
- Load Path

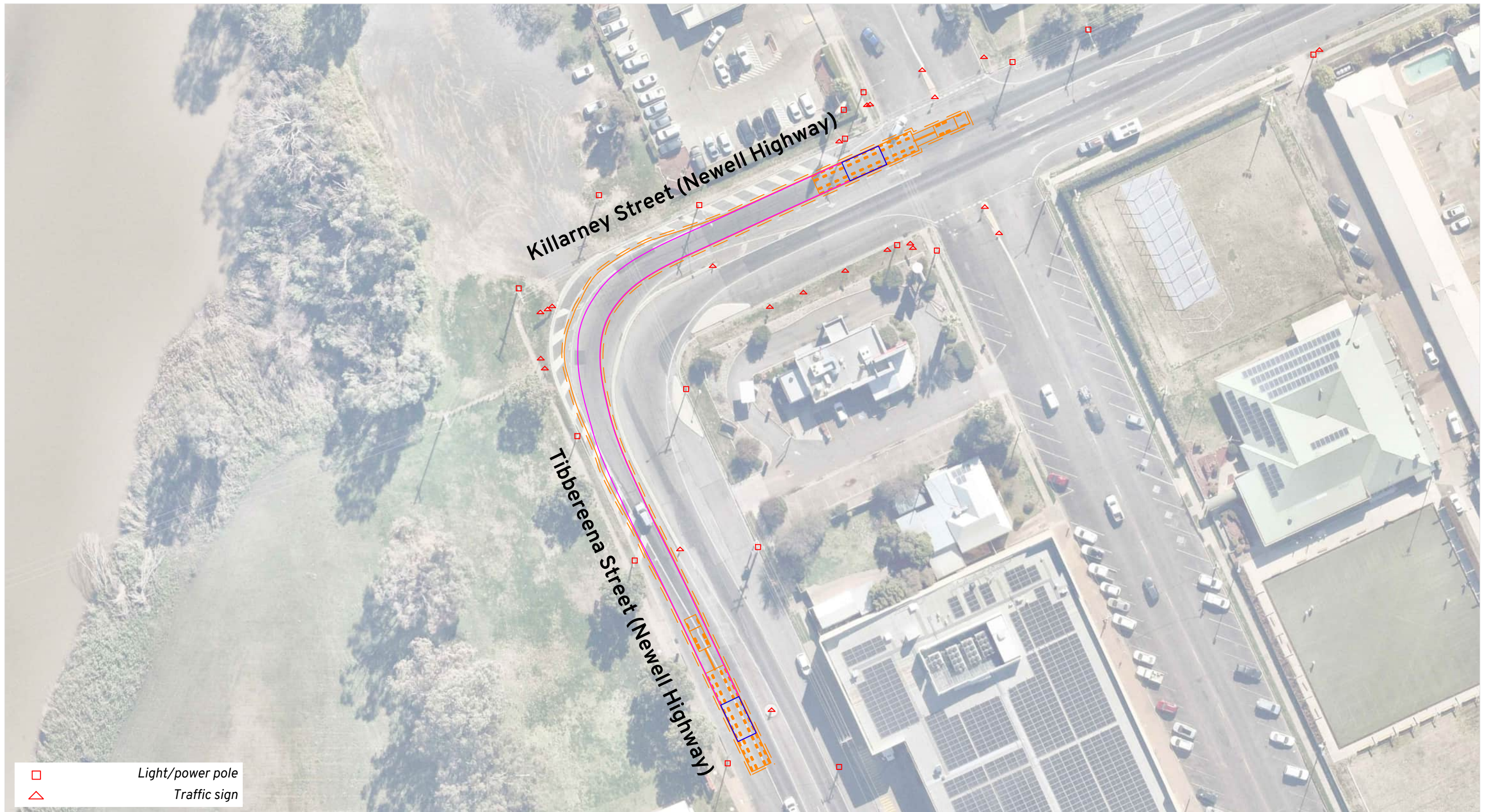
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
Spotters to monitor path of travel and impact to existing infrastructure.

Location:
Narrabri NSW 2390
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
Spotters to monitor path of travel and impact to existing infrastructure.

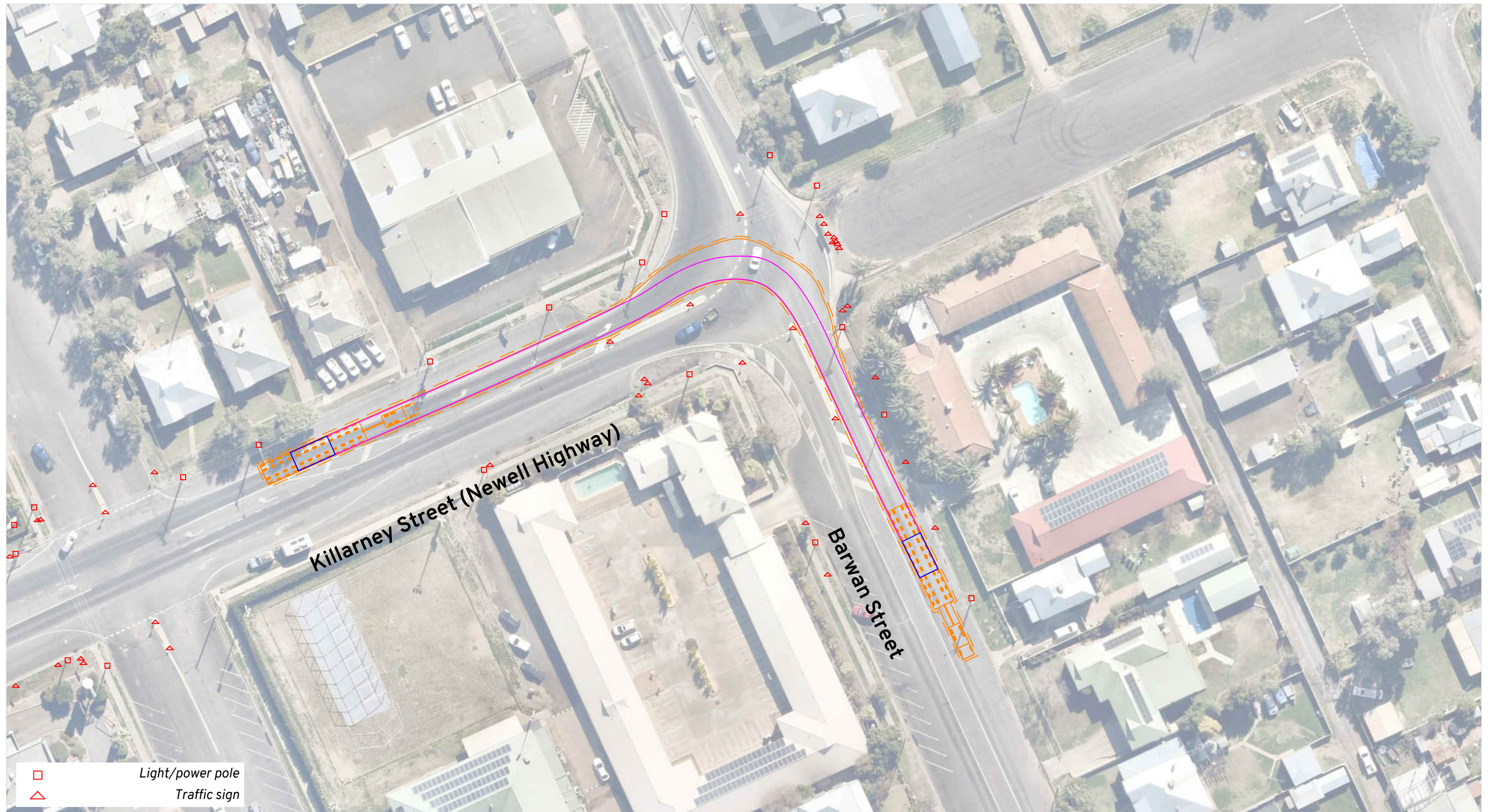
Location:
Narrabri NSW 2390
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750

Amber 34



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
Spotters to monitor path of travel and impact to existing infrastructure.

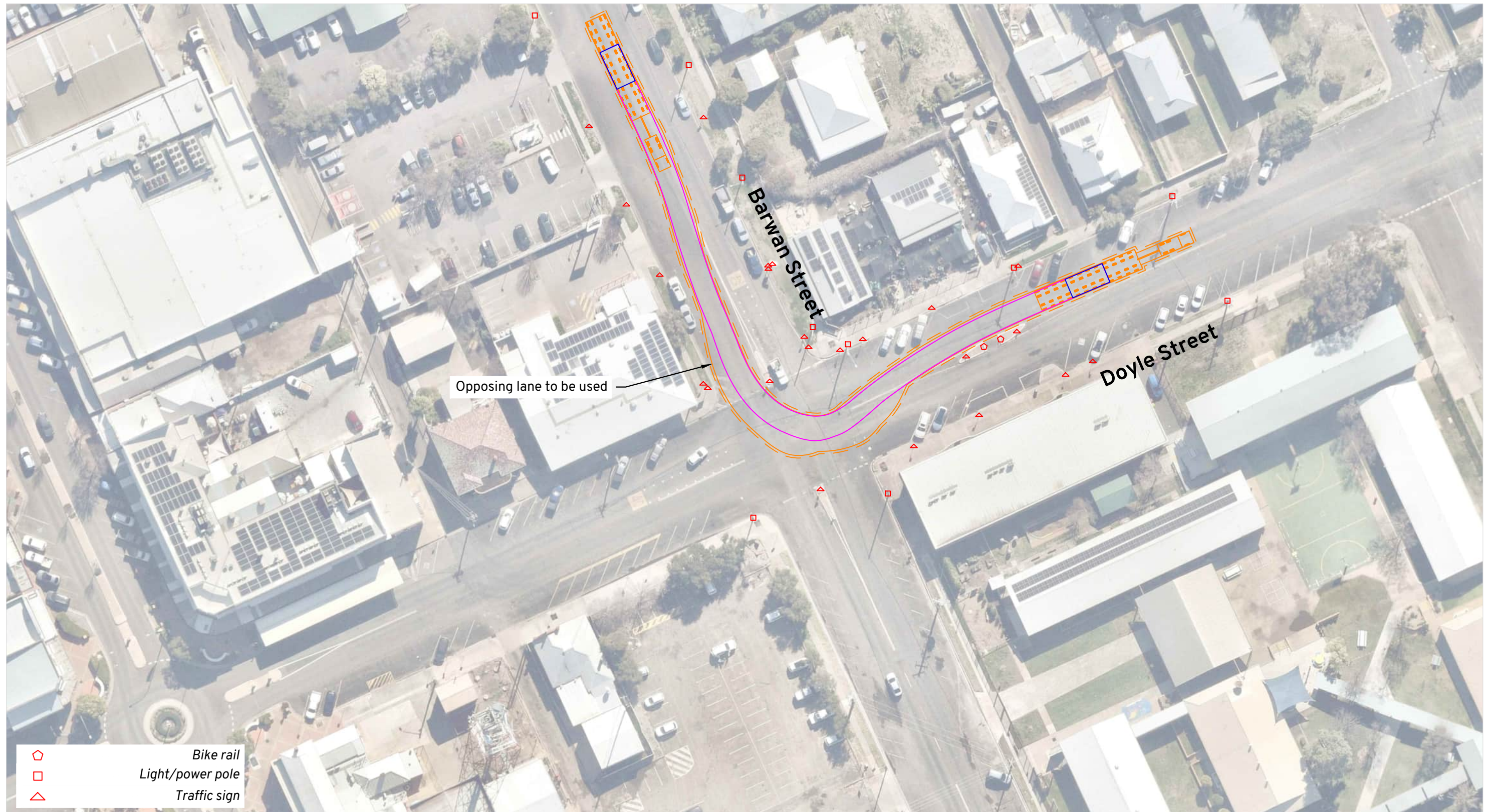
Location:
Narrabri NSW 2390
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750

Amber 35



- Vehicle Envelope
- 0.5m Clearance
- Load Outlines
- Load Path

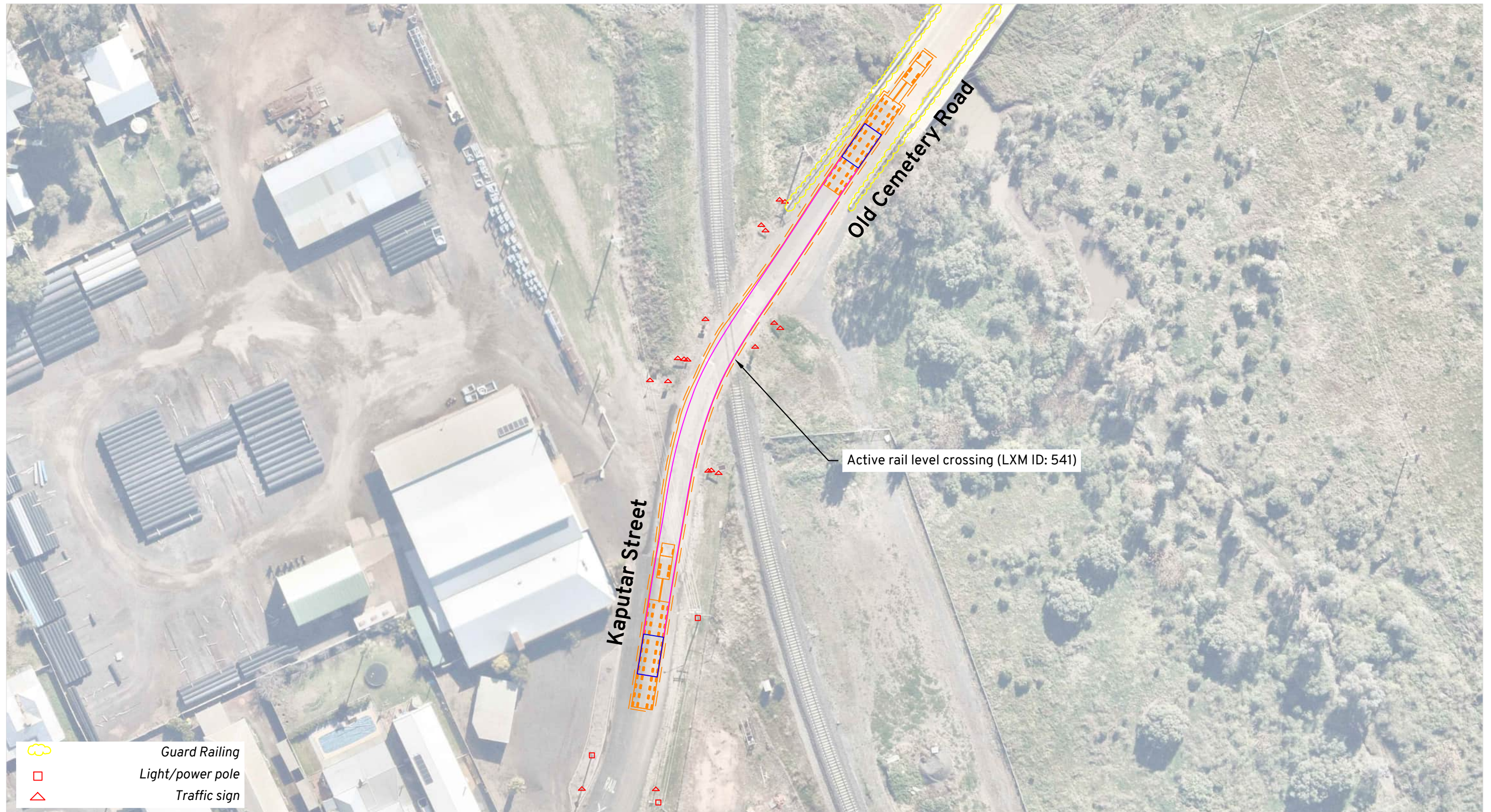
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing lanes.
Spotters to monitor path of travel and impact to existing infrastructure.

Location:
Narrabri NSW 2390
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

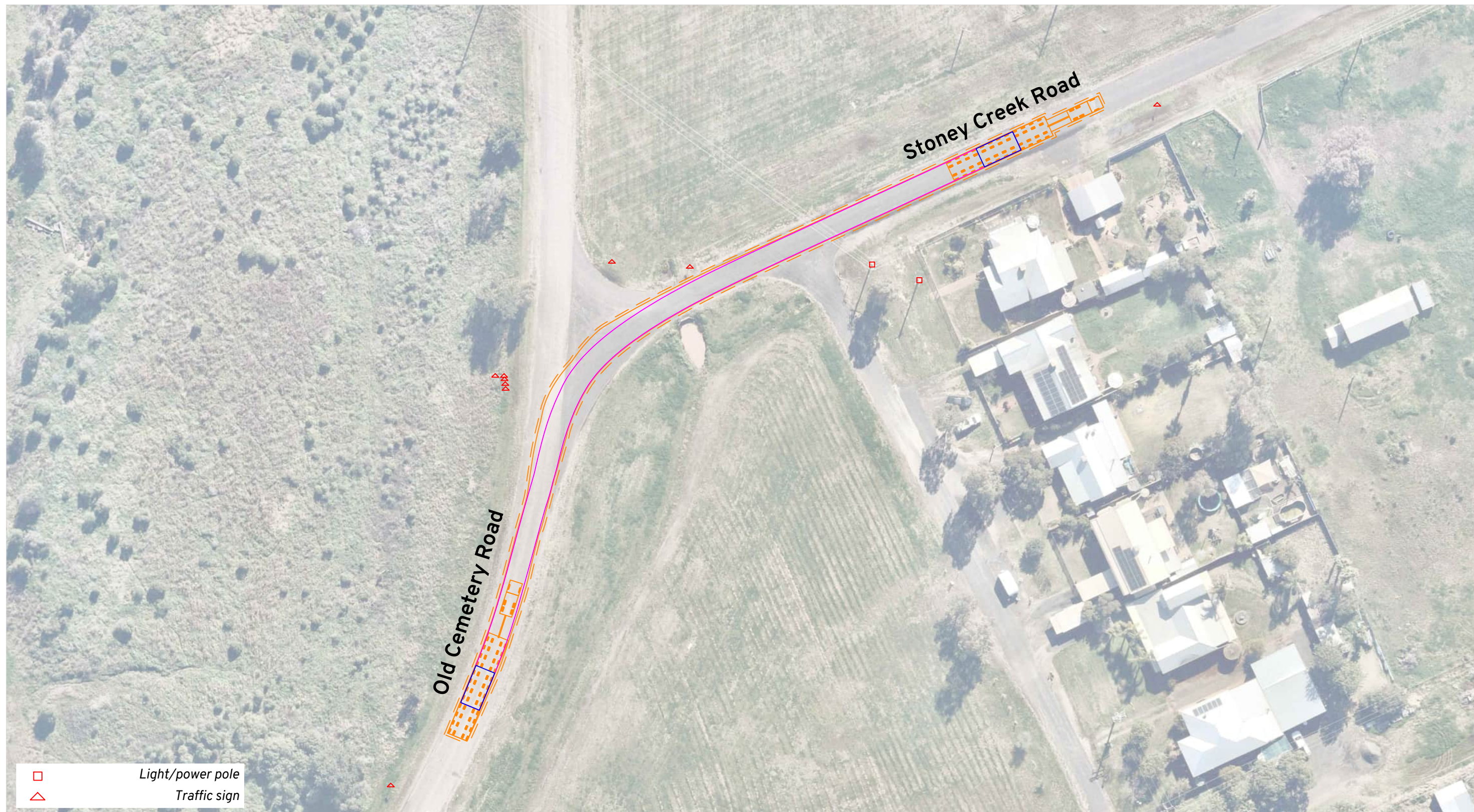
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing lanes.
Spotters to monitor path of travel and impact to existing infrastructure.
Active rail level crossing requires permit from ARTC before crossing - LXM ID 541

Location:
Narrabri NSW 2390
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:750



Vehicle Envelope
 0.5m Clearance
 Load Outlines
 Load Path

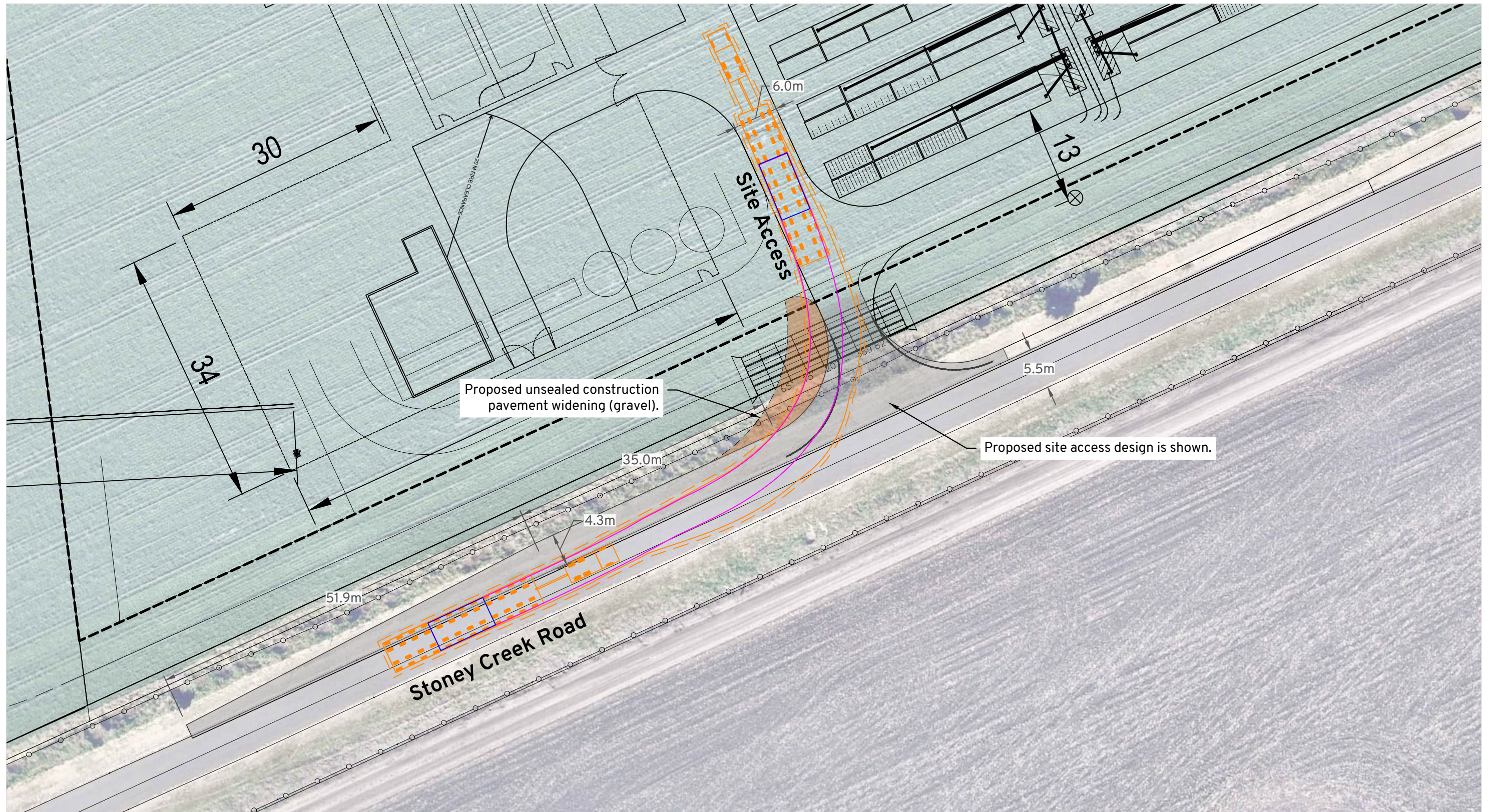
Notes:
 Escorts to control traffic as required and facilitate use of multiple/opposing lanes.
 Spotters to monitor path of travel and impact to existing infrastructure.

Location:
 Narrabri NSW 2390
[Online Map Link](#)



Route Assessment: Glen Waverley
 Stoney Creek BESS
 Swept Path Assessment

DRAWN: WC
 DATE: 04/09/2025
 DWG NO: 1387 Glen Waverley RA01D
 SCALE at A3: 1:750



- Vehicle Envelope
- 0.5m Clearance
- Load Outlines
- Load Path

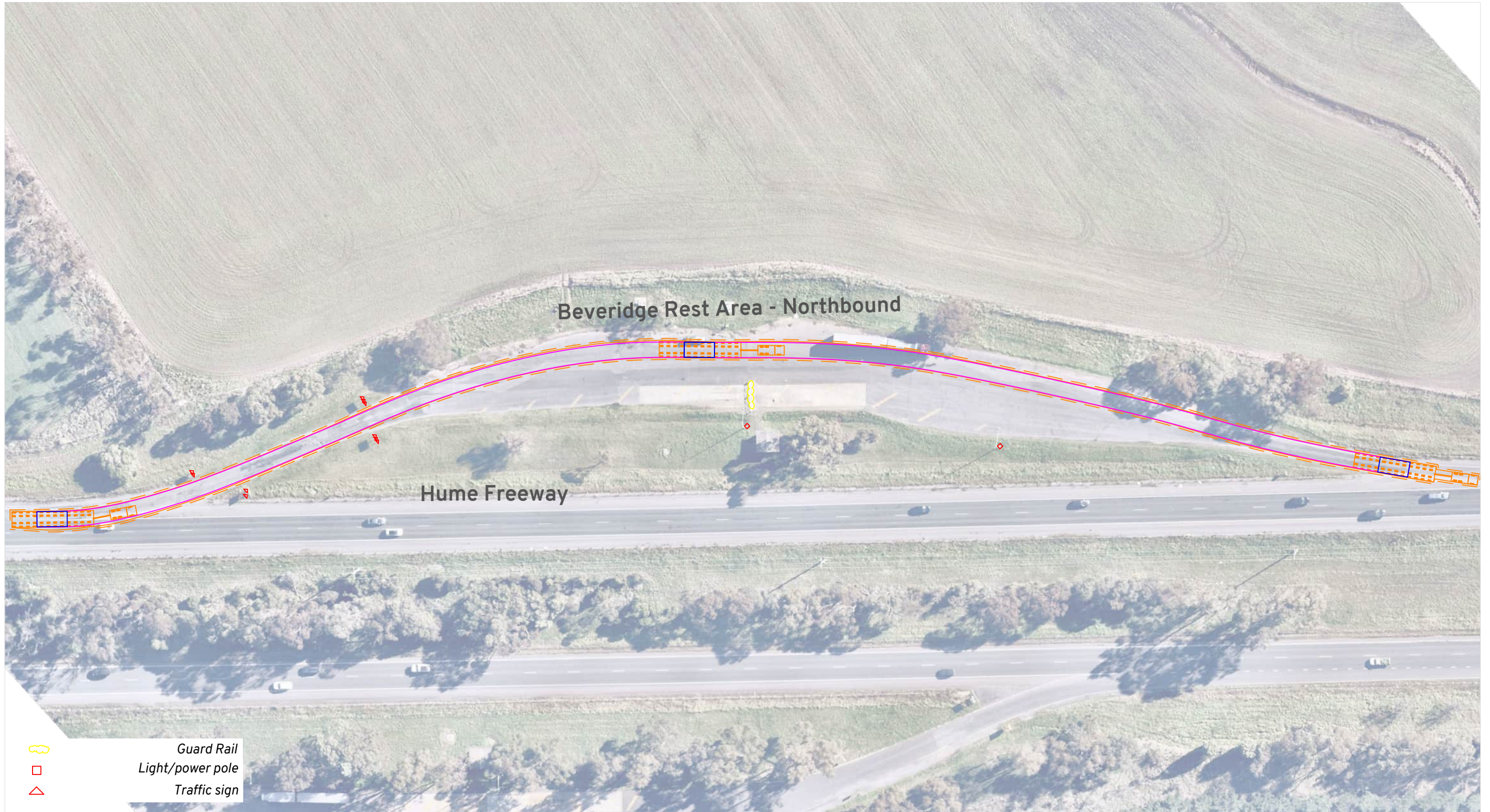
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing lanes.

Location:
Narrabri NSW 2390
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:500



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

Notes:
Escorts to control traffic as required.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

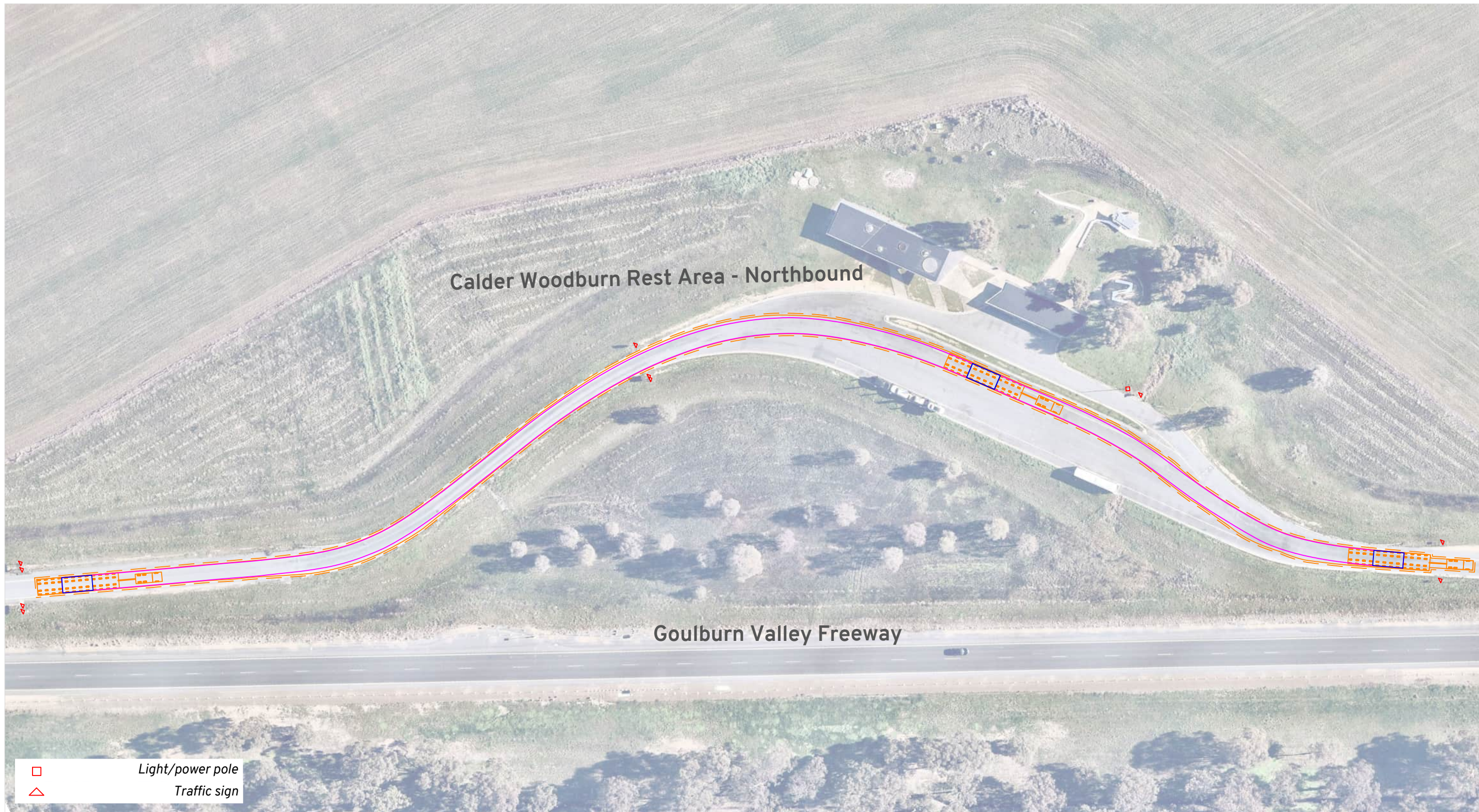
Location:
Beveridge VIC 3753
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment - Rest Area 1

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:1000

Amber RA1



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

Notes:
Escorts to control traffic as required.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

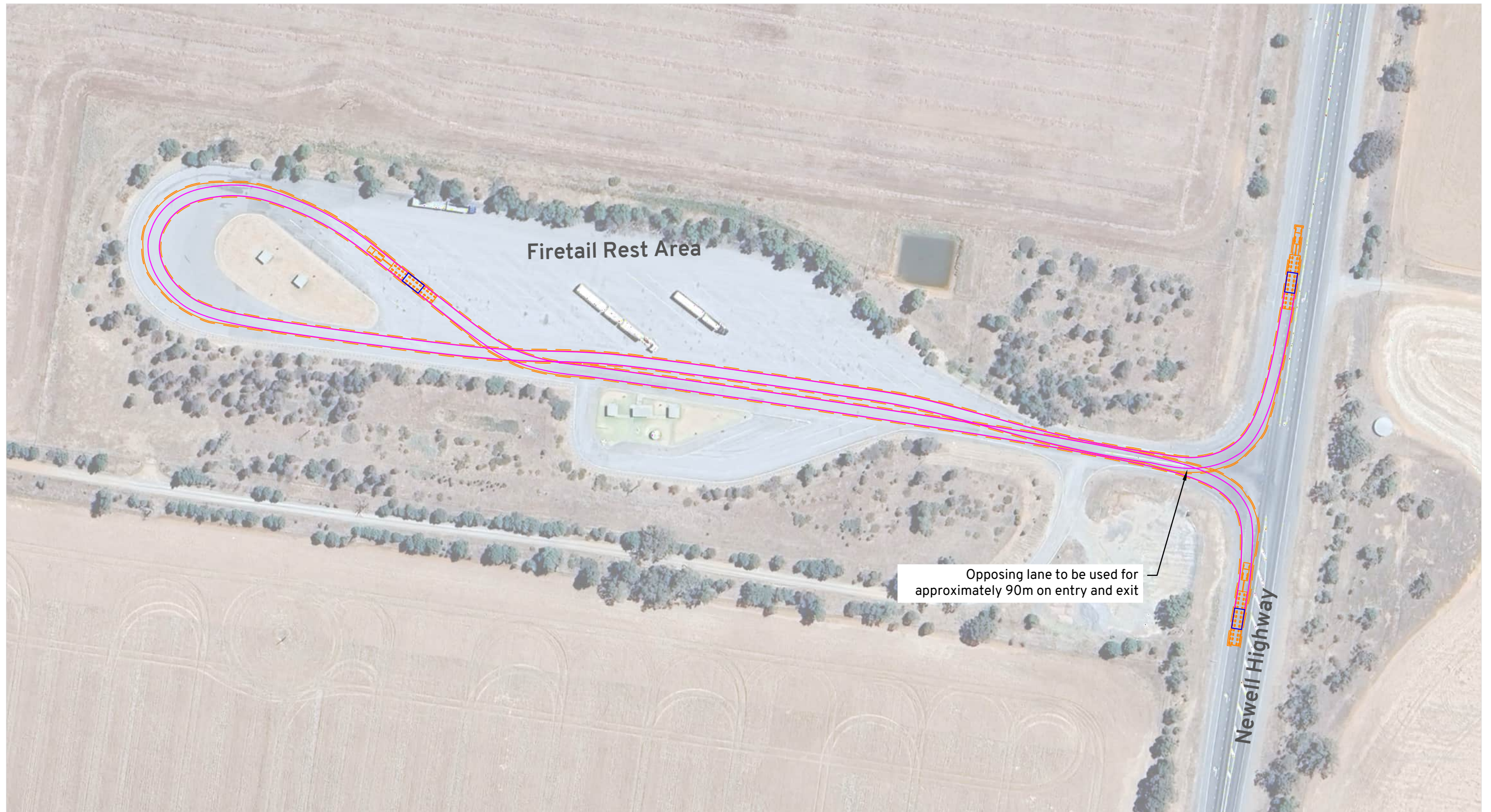
Location:
Arcadia VIC 3631
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment - Rest Area 2

DRAWN: WC
DATE: 14/10/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:1000

Amber RA2



- Vehicle Envelope
- 0.5m Clearance
- Load Outlines
- Load Path

Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Grong Grong NSW 2652
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment - Rest Area 3

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:1500

Amber RA3



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

Notes:
Escorts to control traffic as required.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
Back Creek NSW 2671
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment - Rest Area 4

DRAWN: WC
DATE: 04/09/2025
DWG NO: 1387 Glen Waverley RA01D
SCALE at A3: 1:1000

Amber RA4



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as required and facilitate use of multiple traffic lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:

Coonabarabran NSW 2357

[Online Map Link](#)

Route Assessment: Glen Waverley

Stoney Creek BESS

Swept Path Assessment - Rest Area 5

DRAWN: WC

DATE: 04/09/2025

DWG NO: 1387 Glen Waverley RA01D

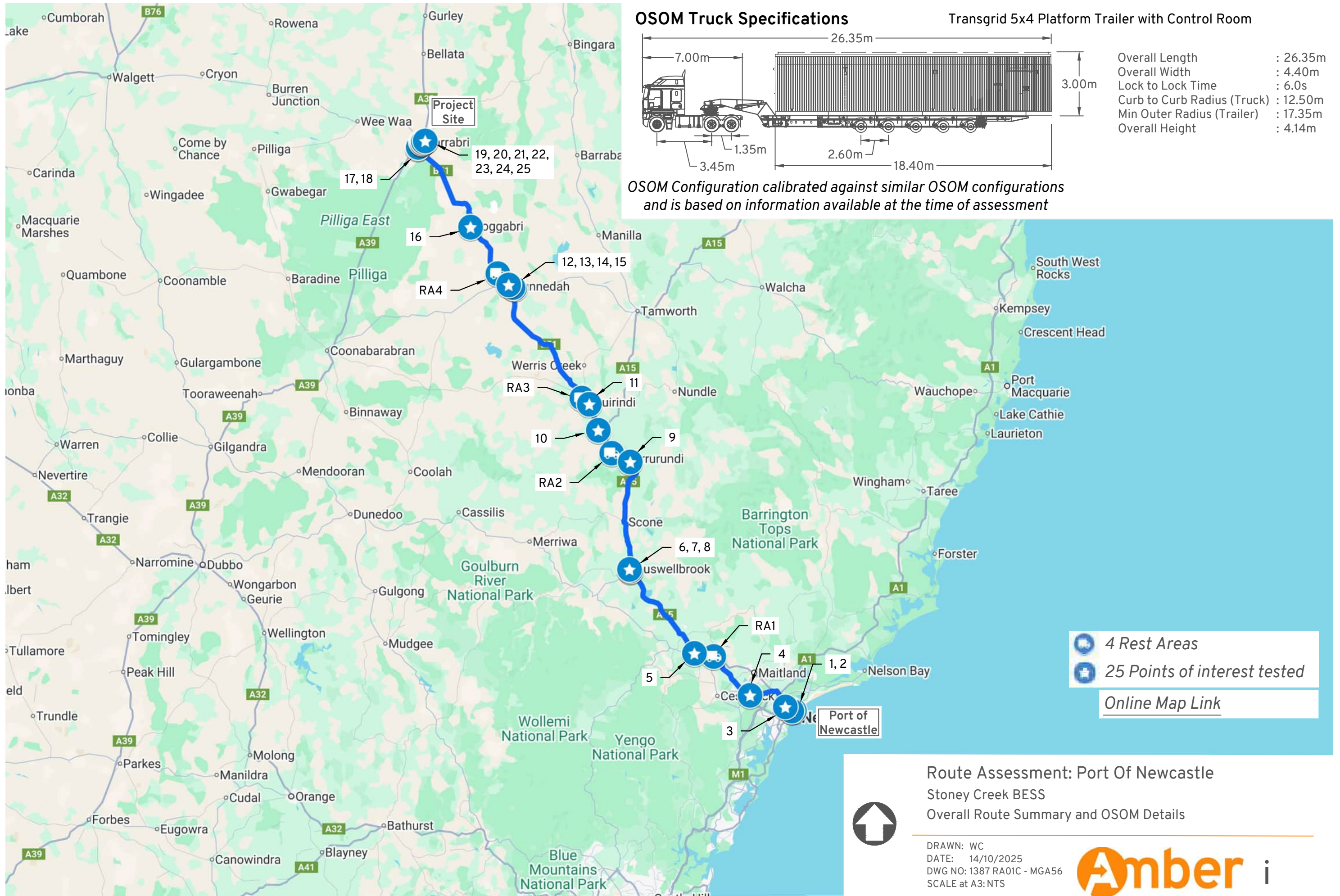
SCALE at A3: 1:1000

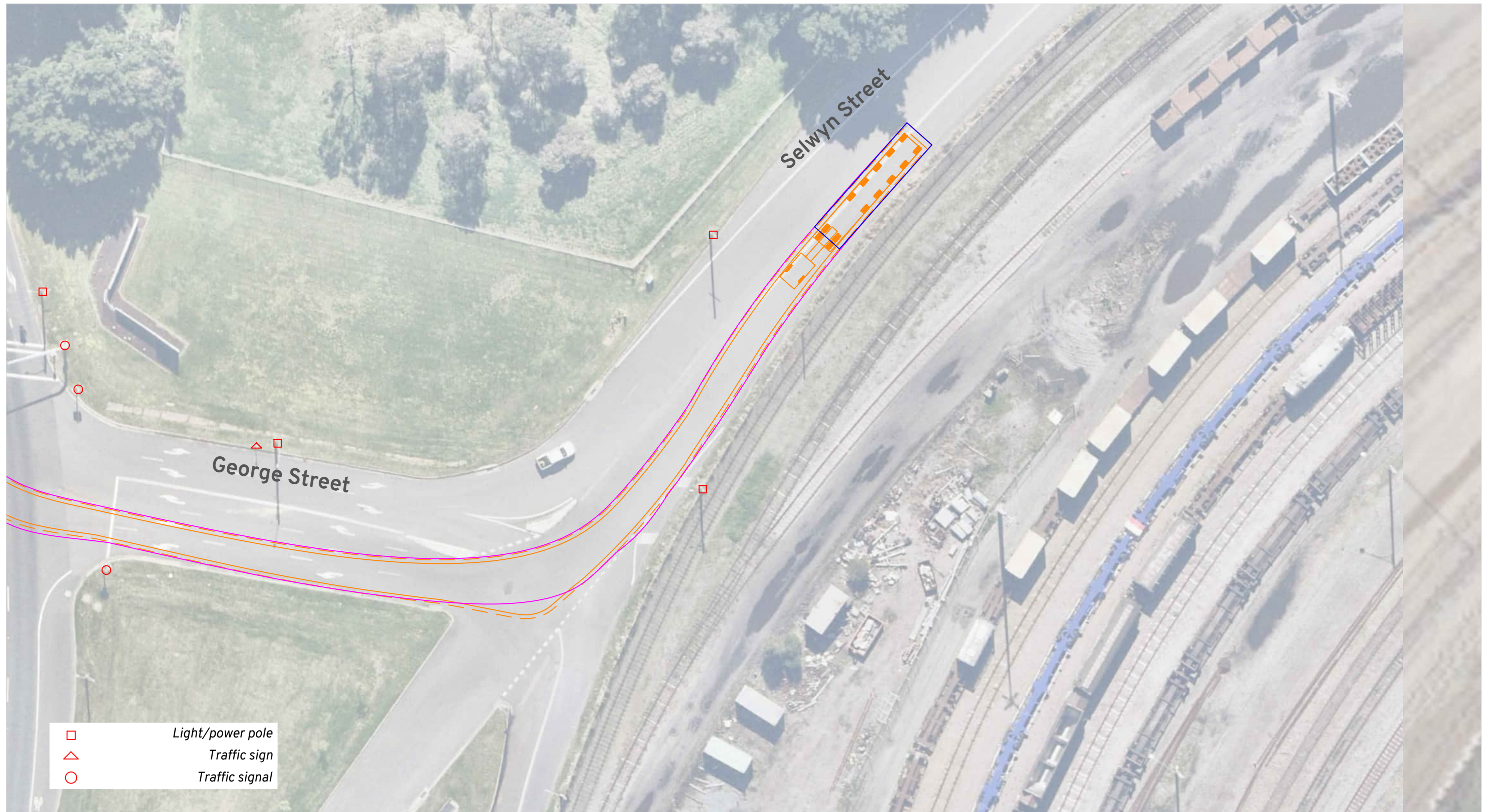


Appendix B

OSOM Route Assessment – Port of Newcastle







Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to facilitate use of multiple/opposing traffic lanes.
Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:

Mayfield North NSW 2304

[Online Map Link](#)

Route Assessment: Port Of Newcastle

Stoney Creek BESS

Swept Path Assessment

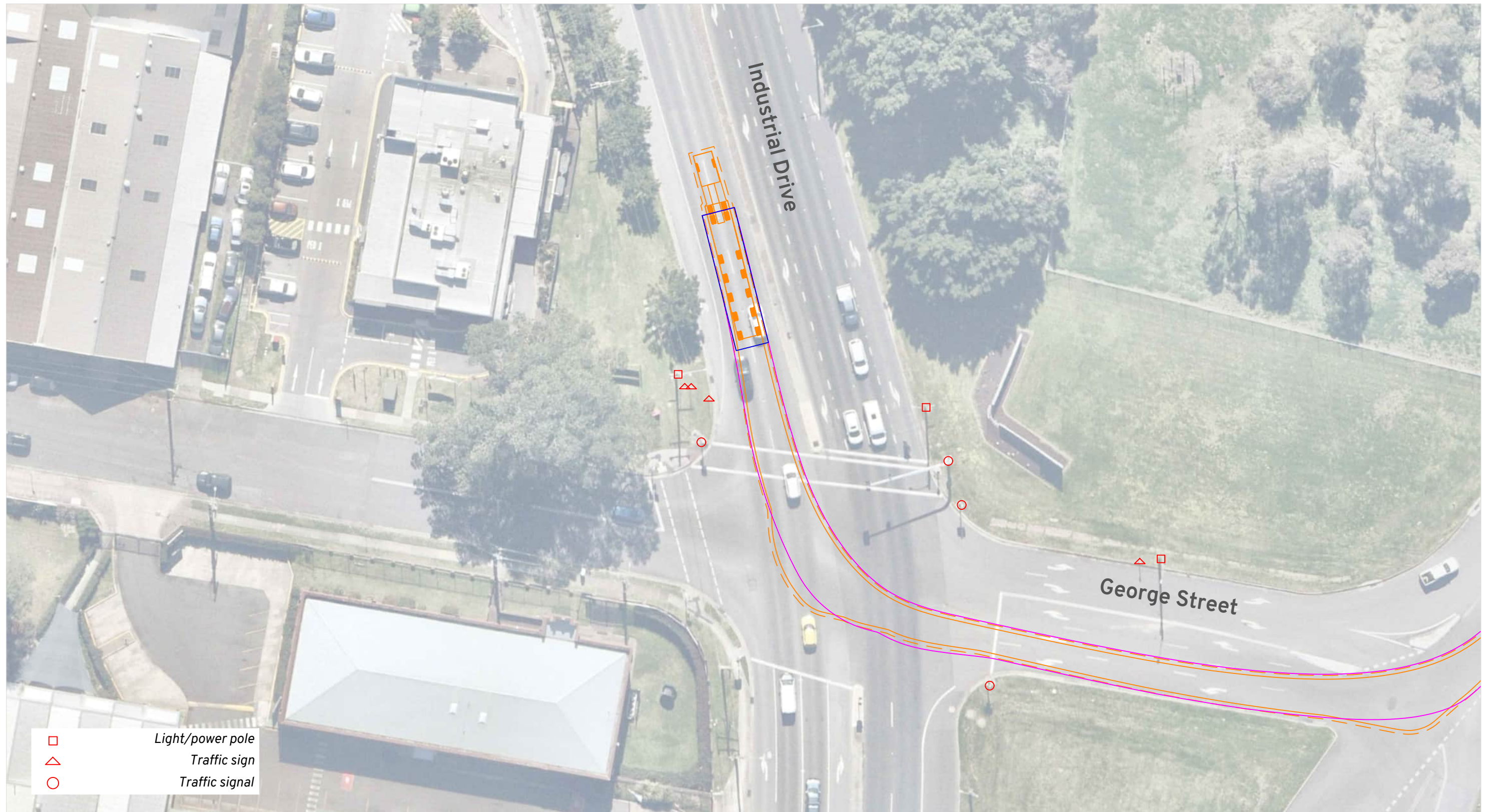


DRAWN: WC

DATE: 14/10/2025

DWG NO: 1387 RA01C - MGA56

SCALE at A3: 1:500



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic at intersection to enable use of multiple lanes.

Spotters to monitor path of travel and impact to existing infrastructure.

Location:

Mayfield East NSW 2304

[Online Map Link](#)

Route Assessment: Port Of Newcastle

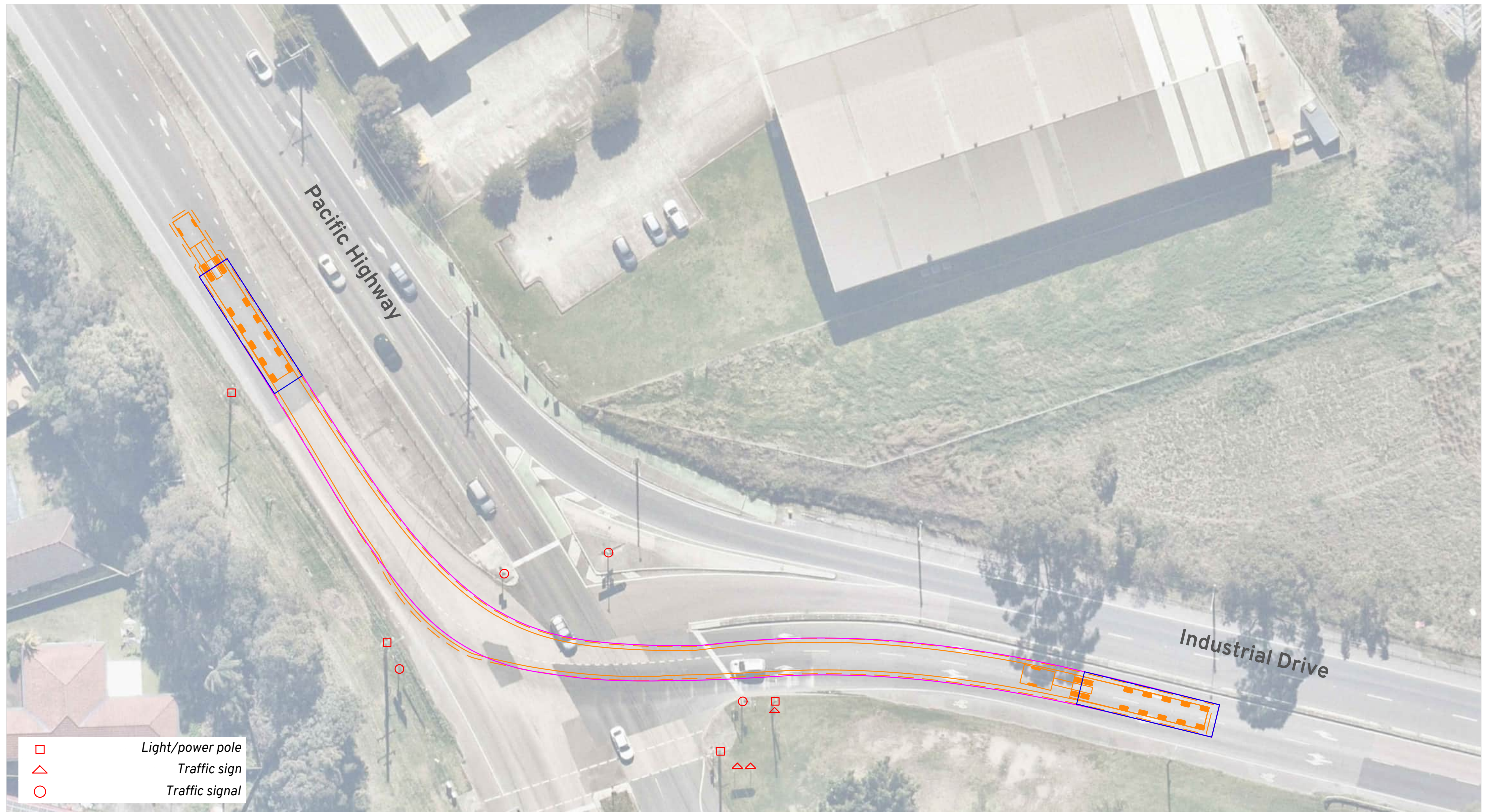
Stoney Creek BESS

Swept Path Assessment



DRAWN: WC
 DATE: 14/10/2025
 DWG NO: 1387 RA01C - MGA56
 SCALE at A3: 1:500

Amber 02



- Light/power pole
- △ Traffic sign
- Traffic signal

Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic at intersection to enable use of multiple lanes.

Spotters to monitor path of travel and impact to existing infrastructure.

Location:

Mayfield West NSW 2304

[Online Map Link](#)

Route Assessment: Port Of Newcastle

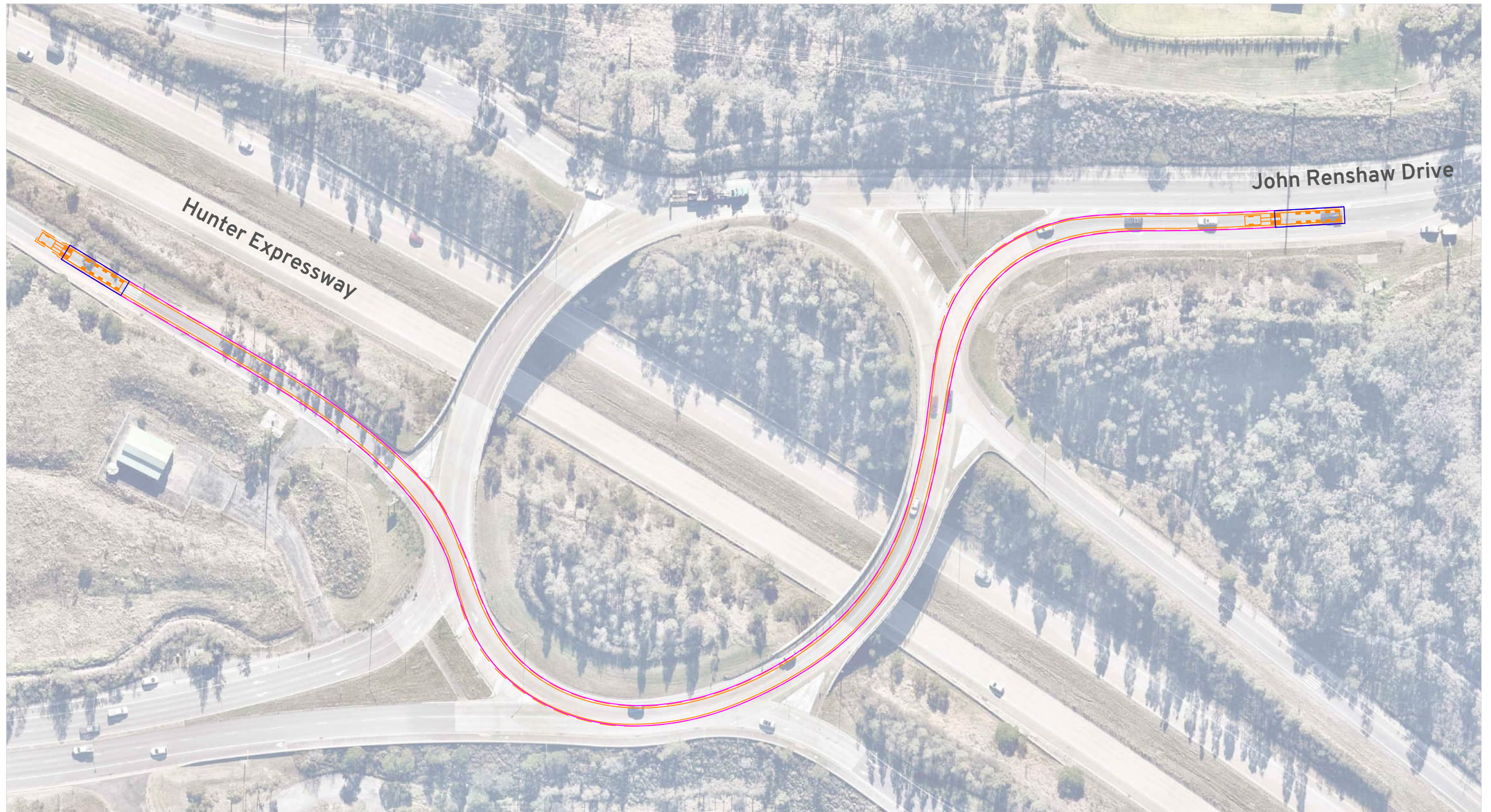
Stoney Creek BESS

Swept Path Assessment



DRAWN: WC
DATE: 14/10/2025
DWG NO: 1387 RA01C - MGA56
SCALE at A3: 1:500

Amber 03



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic at roundabout to enable use of both circulating lanes.

Location:

Buchanan NSW 2323

[Online Map Link](#)

Route Assessment: Port Of Newcastle

Stoney Creek BESS

Swept Path Assessment

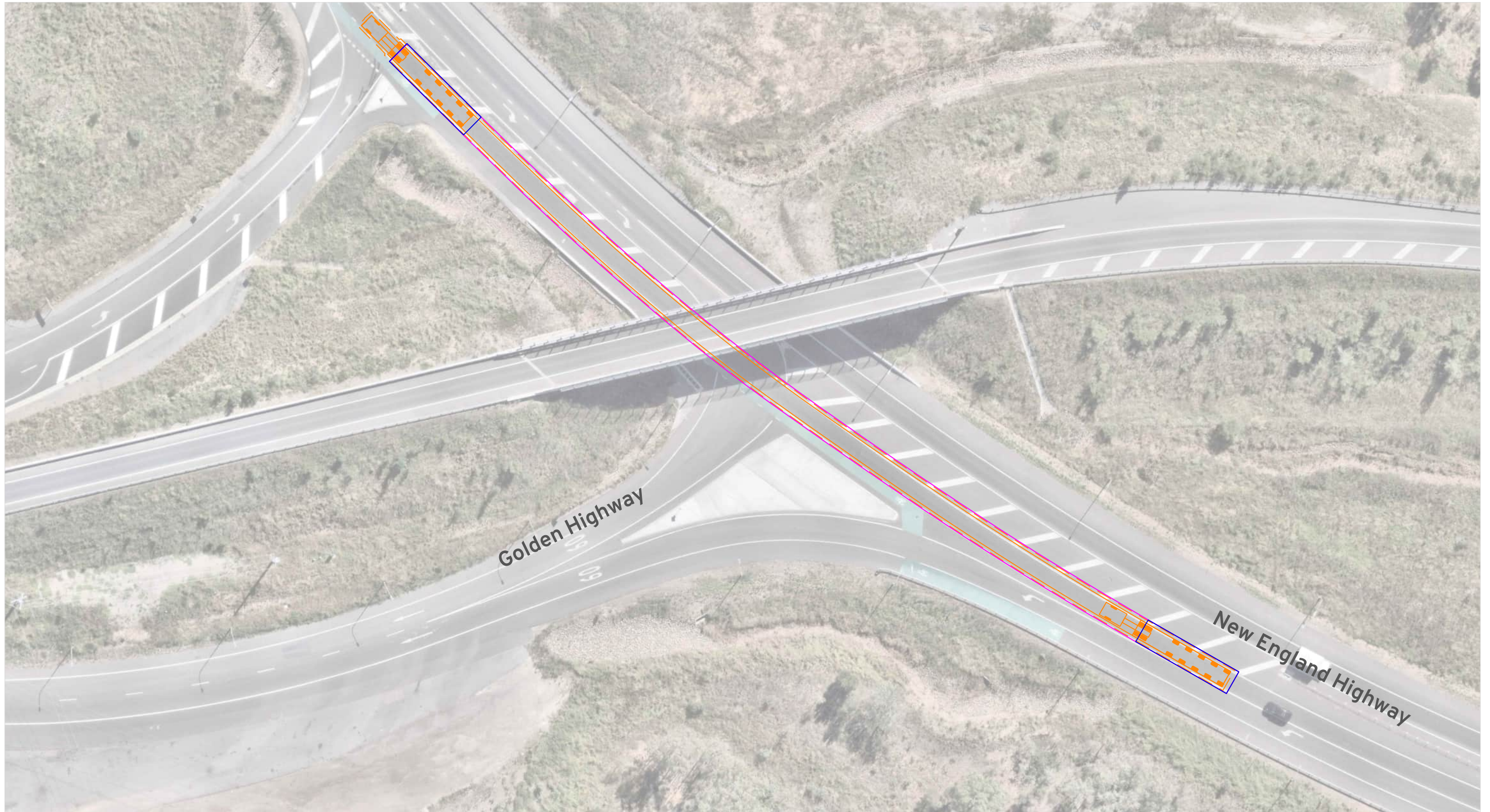


DRAWN: WC

DATE: 14/10/2025

DWG NO: 1387 RA01C - MGA56

SCALE at A3: 1:1000



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic and facilitate use of multiple/opposing traffic lanes.

Location:

Whittingham NSW 2330
[Online Map Link](#)

Route Assessment: Port Of Newcastle

Stoney Creek BESS

Swept Path Assessment



DRAWN: WC
DATE: 14/10/2025
DWG NO: 1387 RA01C - MGA56
SCALE at A3: 1:500

Amber 05



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as necessary and facilitate use of multiple traffic lanes.

Spotter(s) to monitor path of travel and impact to existing infrastructure.

Location:

Muswellbrook NSW 2333

<https://maps.app.goo.gl/wqyqPNVgpCgxJSG18>

Route Assessment: Port Of Newcastle

Stoney Creek BESS

Swept Path Assessment

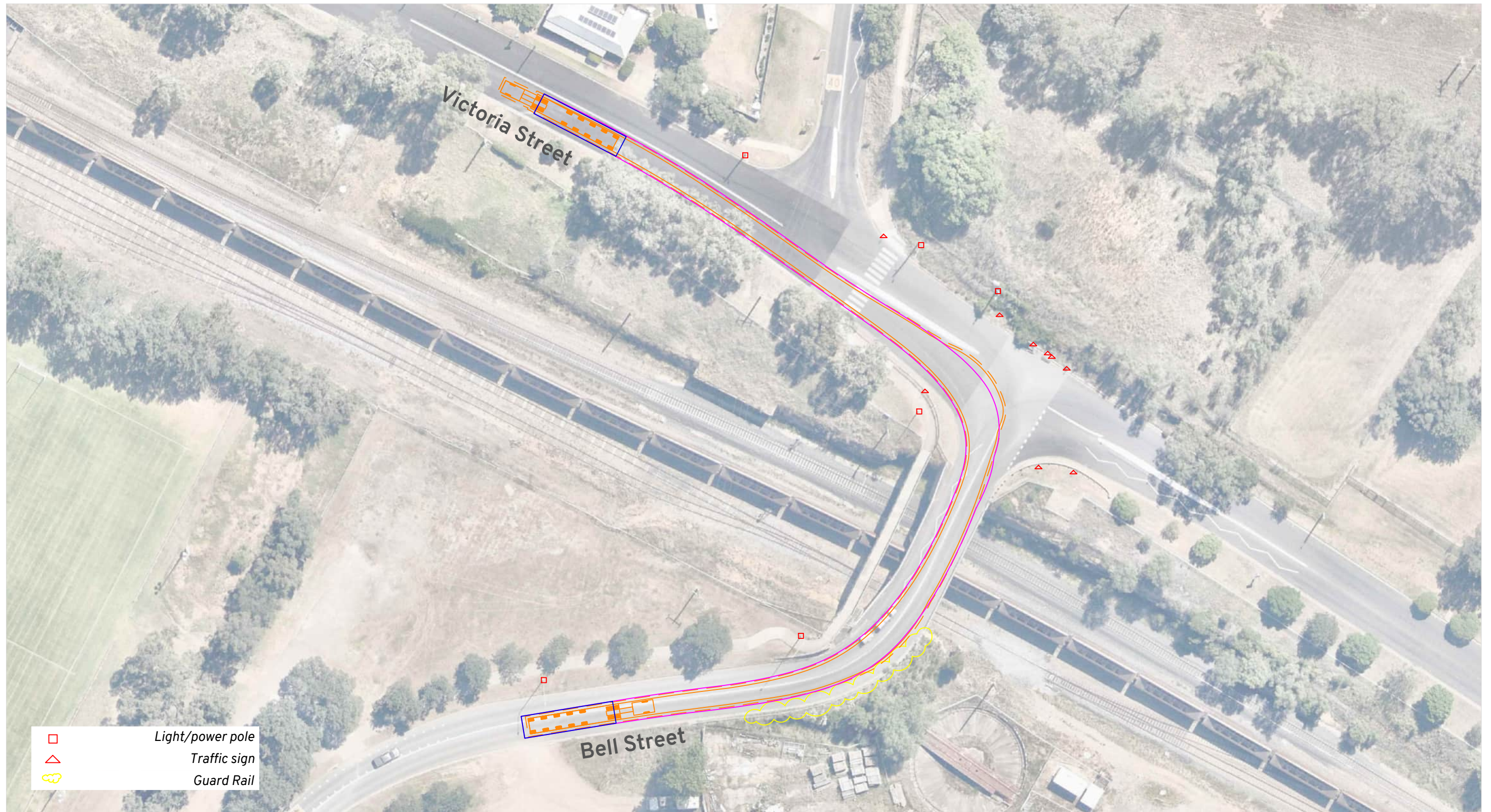


DRAWN: WC

DATE: 14/10/2025

DWG NO: 1387 RA01C - MGA56

SCALE at A3: 1:750m



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

Notes:

Escorts to control traffic as necessary and facilitate use of multiple/opposing traffic lanes.
Spotter(s) to monitor path of travel and impact to existing infrastructure.

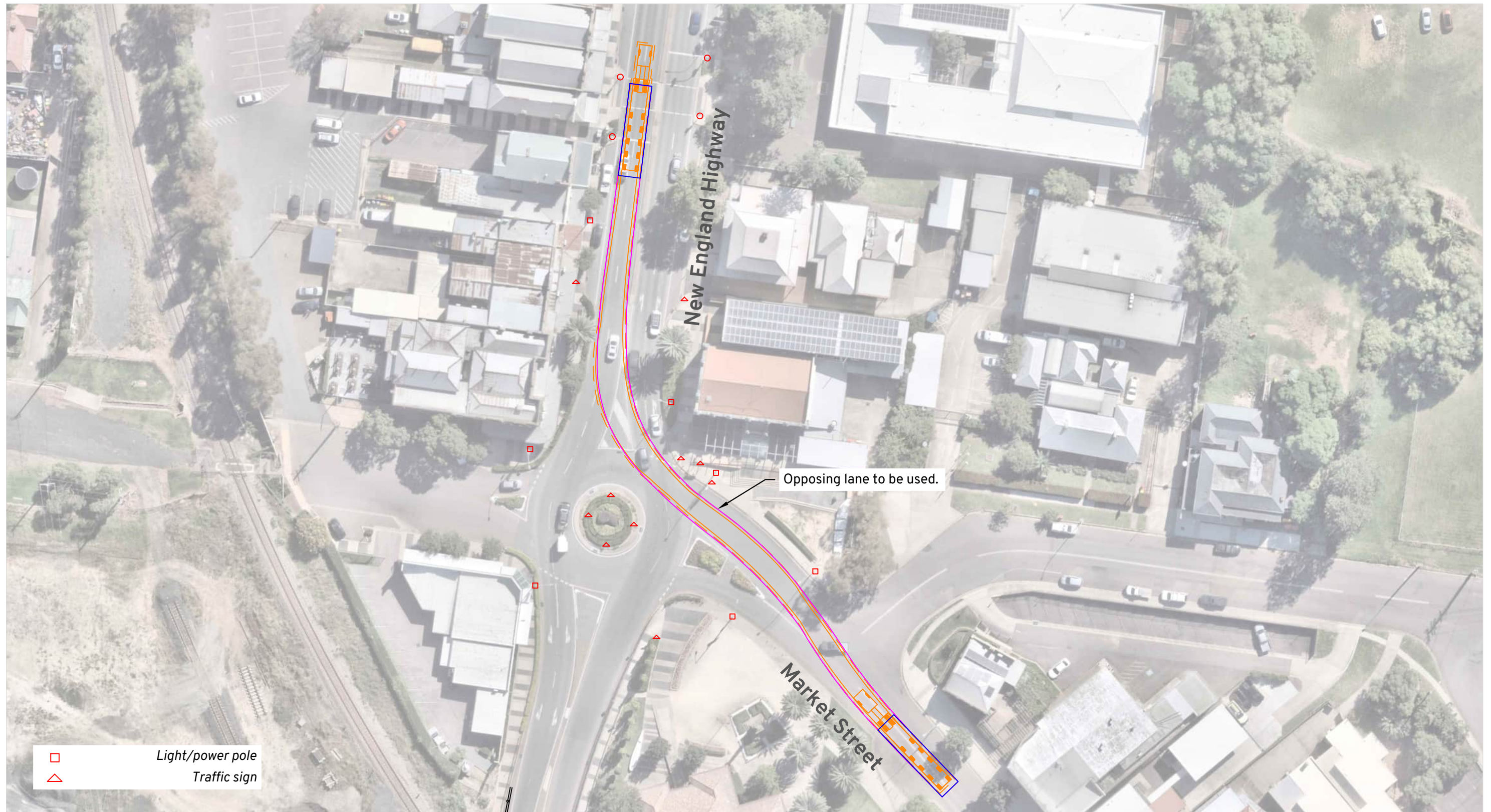
Location:

Muswellbrook NSW 2333
<https://maps.app.goo.gl/bU1V7mf4JJAY2cQF9>

Route Assessment: Port Of Newcastle
Stoney Creek BESS
Swept Path Assessment



DRAWN: WC
DATE: 14/10/2025
DWG NO: 1387 RA01C - MGA56
SCALE at A3: 1:750m



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as necessary and facilitate use of multiple/opposing traffic lanes.

Spotter(s) to monitor path of travel and impact to existing infrastructure.

Location:

Muswellbrook NSW 2333

<https://maps.app.goo.gl/CZpBFLC6AqjfLcBPA>

Route Assessment: Port Of Newcastle

Stoney Creek BESS

Swept Path Assessment



DRAWN: WC

DATE: 14/10/2025

DWG NO: 1387 RA01C - MGA56

SCALE at A3: 1:750m



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.

Location:
Blandford NSW 2338
<https://maps.app.goo.gl/k3ZkZ1KQSJYaZA6A7>



Route Assessment: Port Of Newcastle
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 14/10/2025
DWG NO: 1387 RA01C - MGA56
SCALE at A3: 1:750m



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as necessary and facilitate use of multiple traffic lanes.

Spotter(s) to monitor path of travel and impact to existing infrastructure.

Location:

Willow Tree NSW 2339

<https://maps.app.goo.gl/Hsna9pM2yAhssEyt7>

Route Assessment: Port Of Newcastle

Stoney Creek BESS

Swept Path Assessment

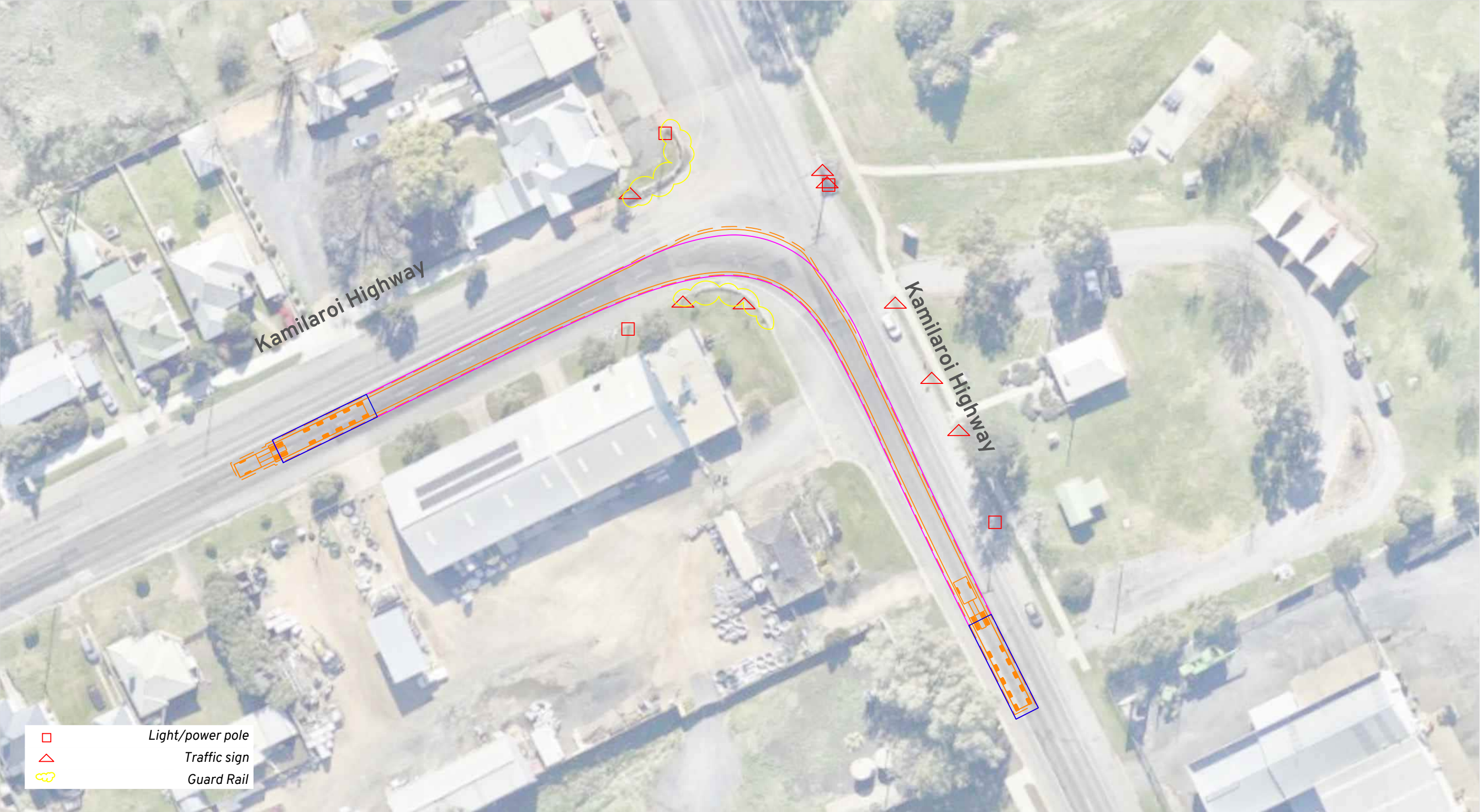


DRAWN: WC

DATE: 14/10/2025

DWG NO: 1387 RA01C - MGA56

SCALE at A3: 1:1000m



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

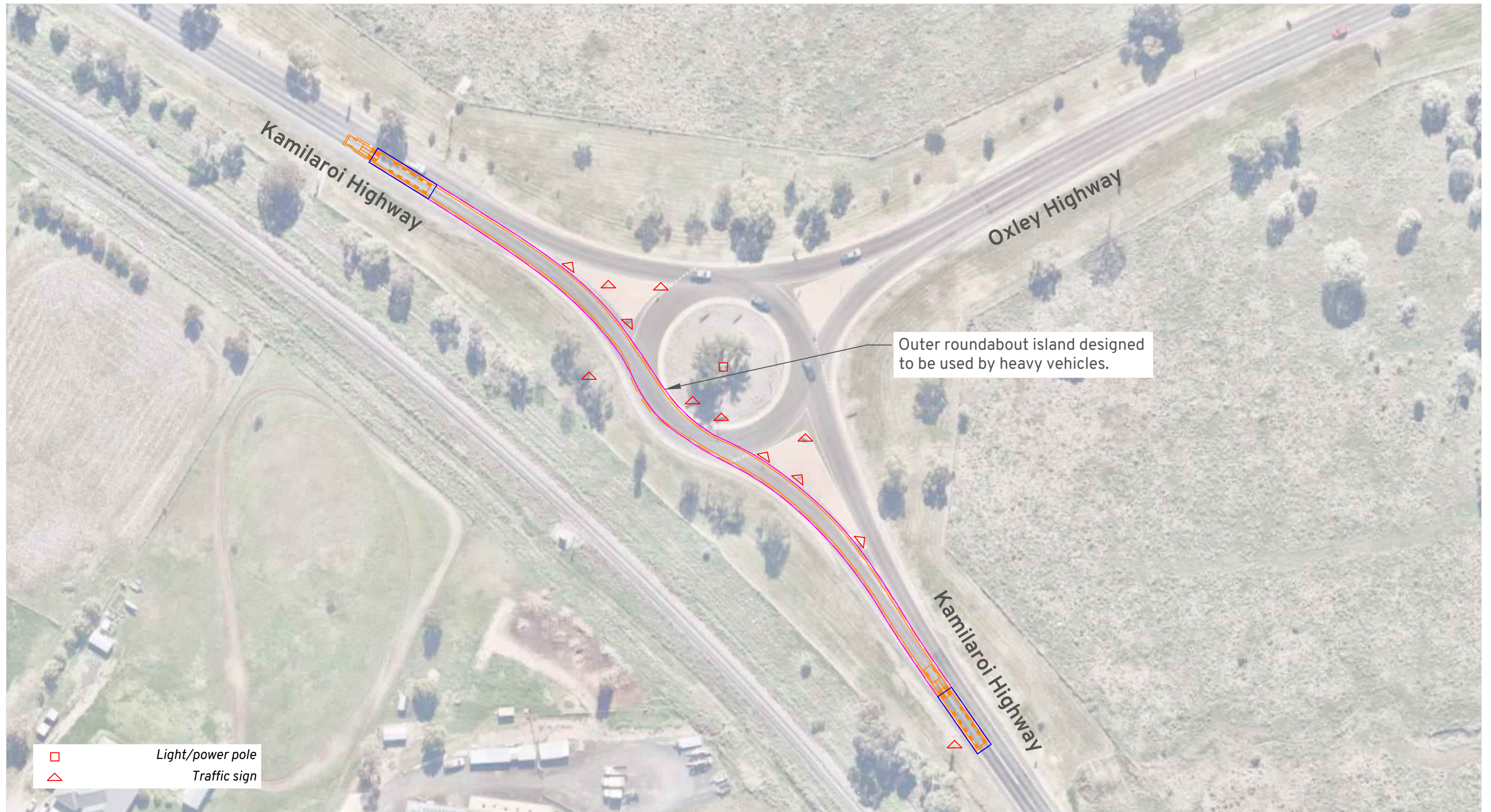
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
Spotter(s) to monitor path of travel and impact to existing infrastructure.

Location:
Quirindi NSW 2343
<https://maps.app.goo.gl/AHRcMh1XHLkFDB9S9>



Route Assessment: Port Of Newcastle
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 14/10/2025
DWG NO: 1387 RA01C - MGA56
SCALE at A3: 1:750m



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as necessary and facilitate use of opposing traffic lanes.

Spotter(s) to monitor path of travel and impact to existing infrastructure.

Outer roundabout island designed to be used by heavy vehicles.

Location:

Gunnedah NSW 2380

<https://maps.app.goo.gl/NriK1fszrHThGSQPA>

Route Assessment: Port Of Newcastle

Stoney Creek BESS

Swept Path Assessment

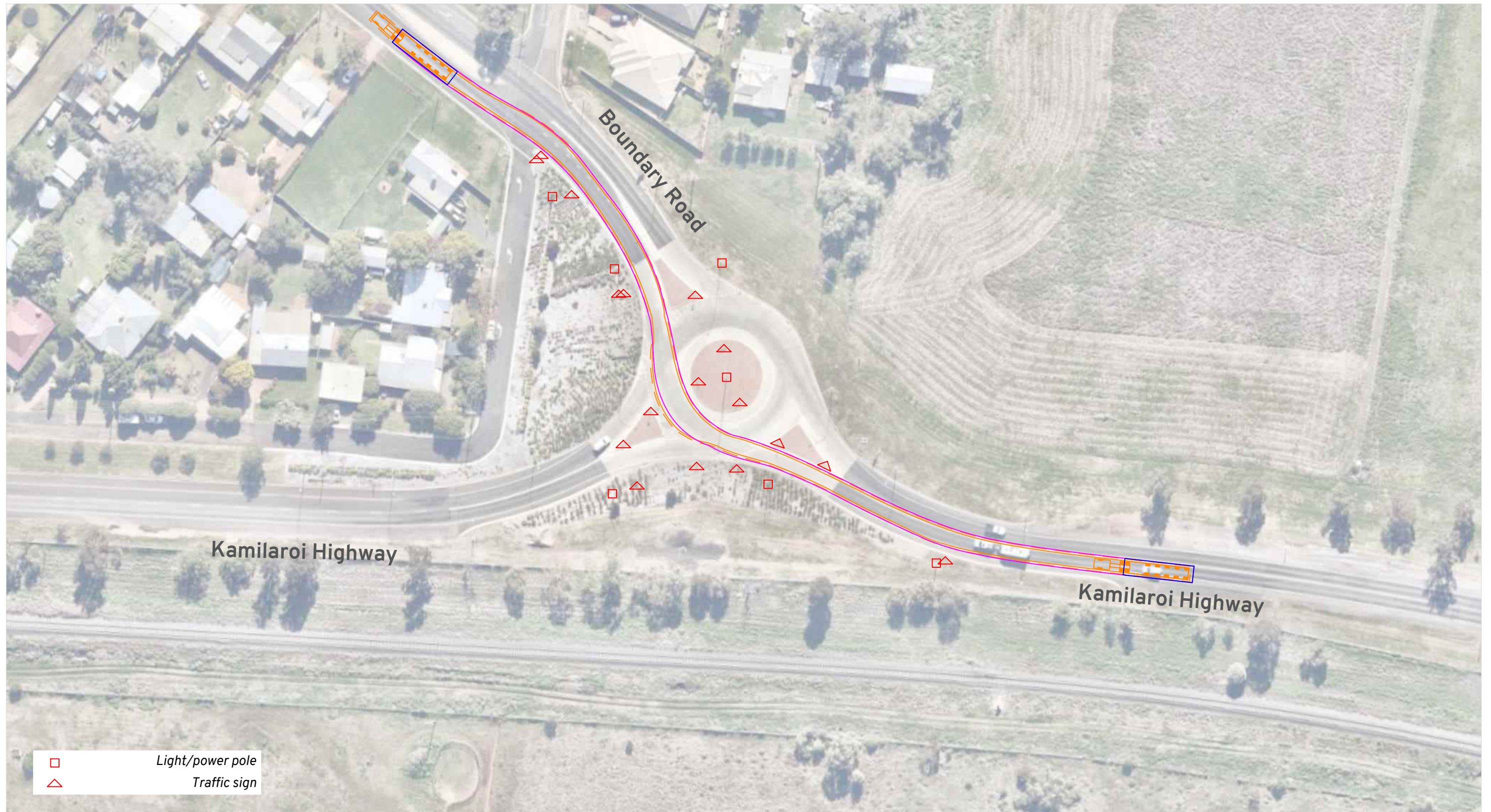
DRAWN: WC

DATE: 14/10/2025

DWG NO: 1387 RA01C - MGA56

SCALE at A3: 1:1000m





Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as necessary and facilitate use of opposing traffic lanes.

Spotter(s) to monitor path of travel and impact to existing infrastructure.

Location:

Gunnedah NSW 2380

<https://maps.app.goo.gl/v1Tvy79ApRvxVHhd7>

Route Assessment: Port Of Newcastle

Stoney Creek BESS

Swept Path Assessment

DRAWN: WC

DATE: 14/10/2025

DWG NO: 1387 RA01C - MGA56

SCALE at A3: 1:1000m





□ Light/power pole
△ Traffic sign

Vehicle Envelope
 0.5m Clearance
 Load Outlines
 Load Path

Notes:

Escorts to control traffic as necessary and facilitate use of opposing traffic lanes.
 Spotter(s) to monitor path of travel and impact to existing infrastructure.

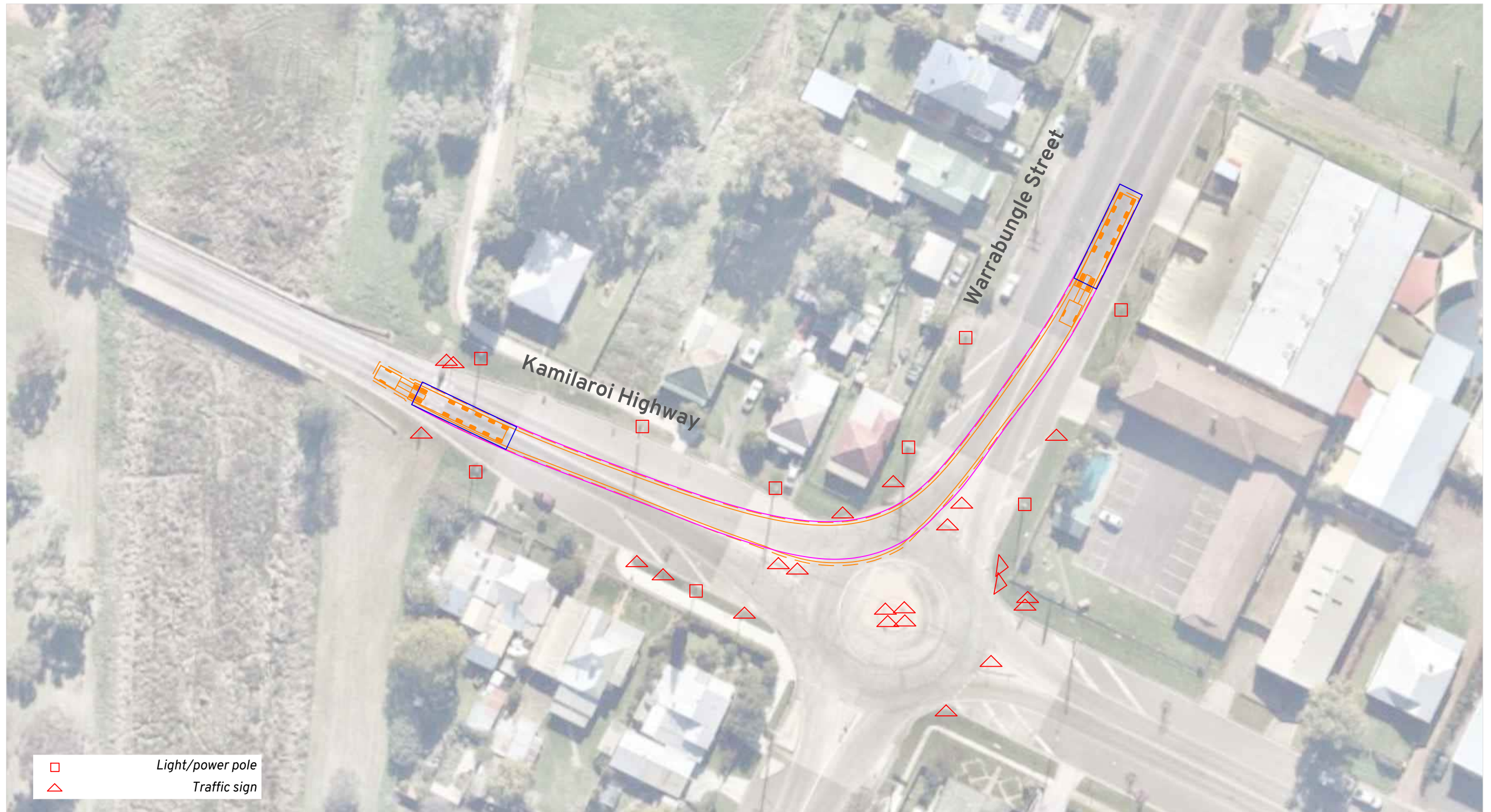
Location:

Gunnedah NSW 2380
<https://maps.app.goo.gl/EK4UUbf9pwDXL91Z6>

Route Assessment: Port Of Newcastle
 Stoney Creek BESS
 Swept Path Assessment



DRAWN: WC
 DATE: 14/10/2025
 DWG NO: 1387 RA01C - MGA56
 SCALE at A3: 1:750m



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as necessary and facilitate use of opposing traffic lanes.

Spotter(s) to monitor path and impact to existing infrastructure.

Location:

Gunnedah NSW 2380

<https://maps.app.goo.gl/HLP3UpAawxd8tQeN6>

Route Assessment: Port Of Newcastle

Stoney Creek BESS

Swept Path Assessment

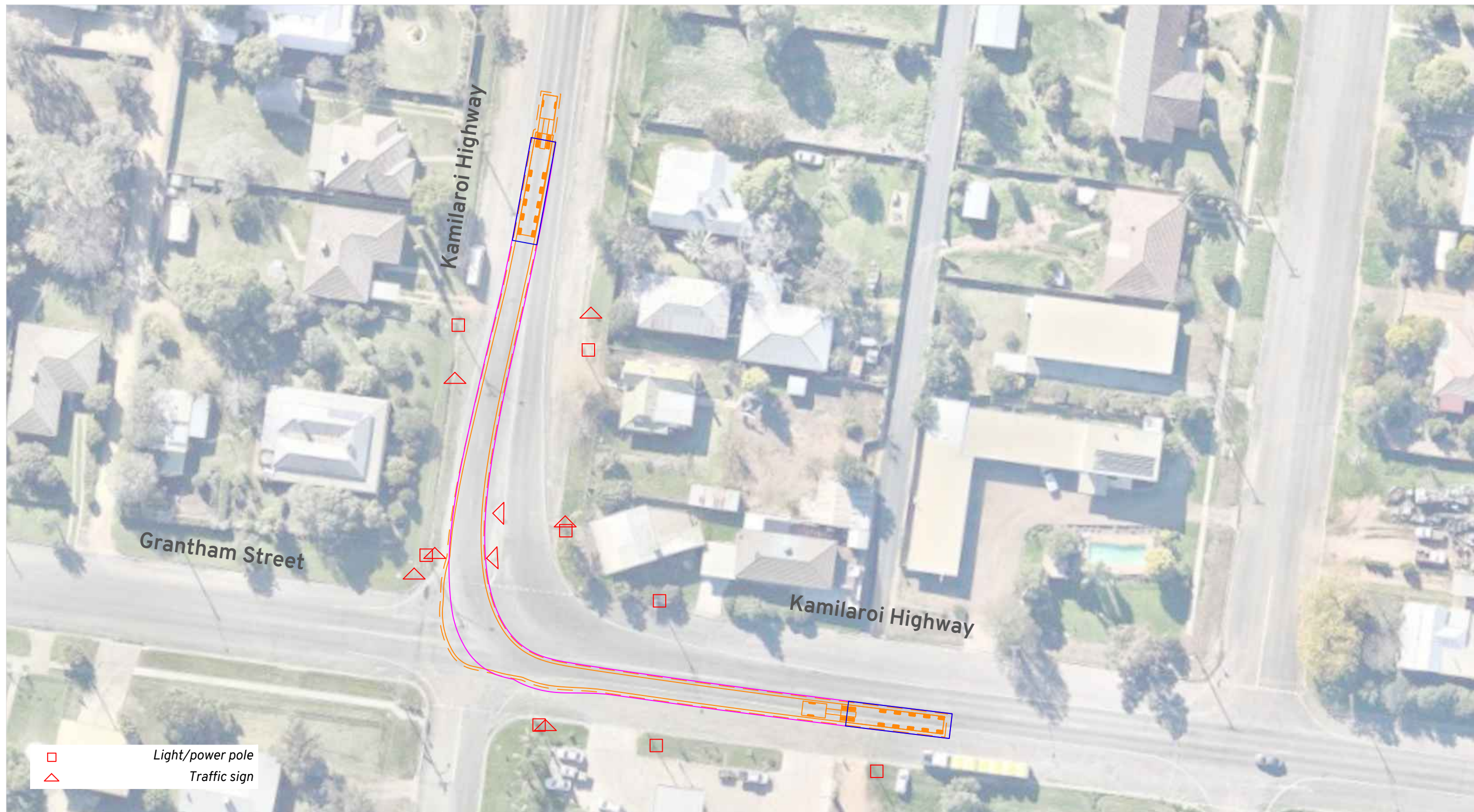


DRAWN: WC

DATE: 14/10/2025

DWG NO: 1387 RA01C - MGA56

SCALE at A3: 1:750m



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as necessary and facilitate use of opposing traffic lanes.

Spotter(s) to monitor path of travel and impact to existing infrastructure.

Location:

Boggabri NSW 2382

<https://maps.app.goo.gl/M6uNW77Kc1qU1DxA6>

Route Assessment: Port Of Newcastle

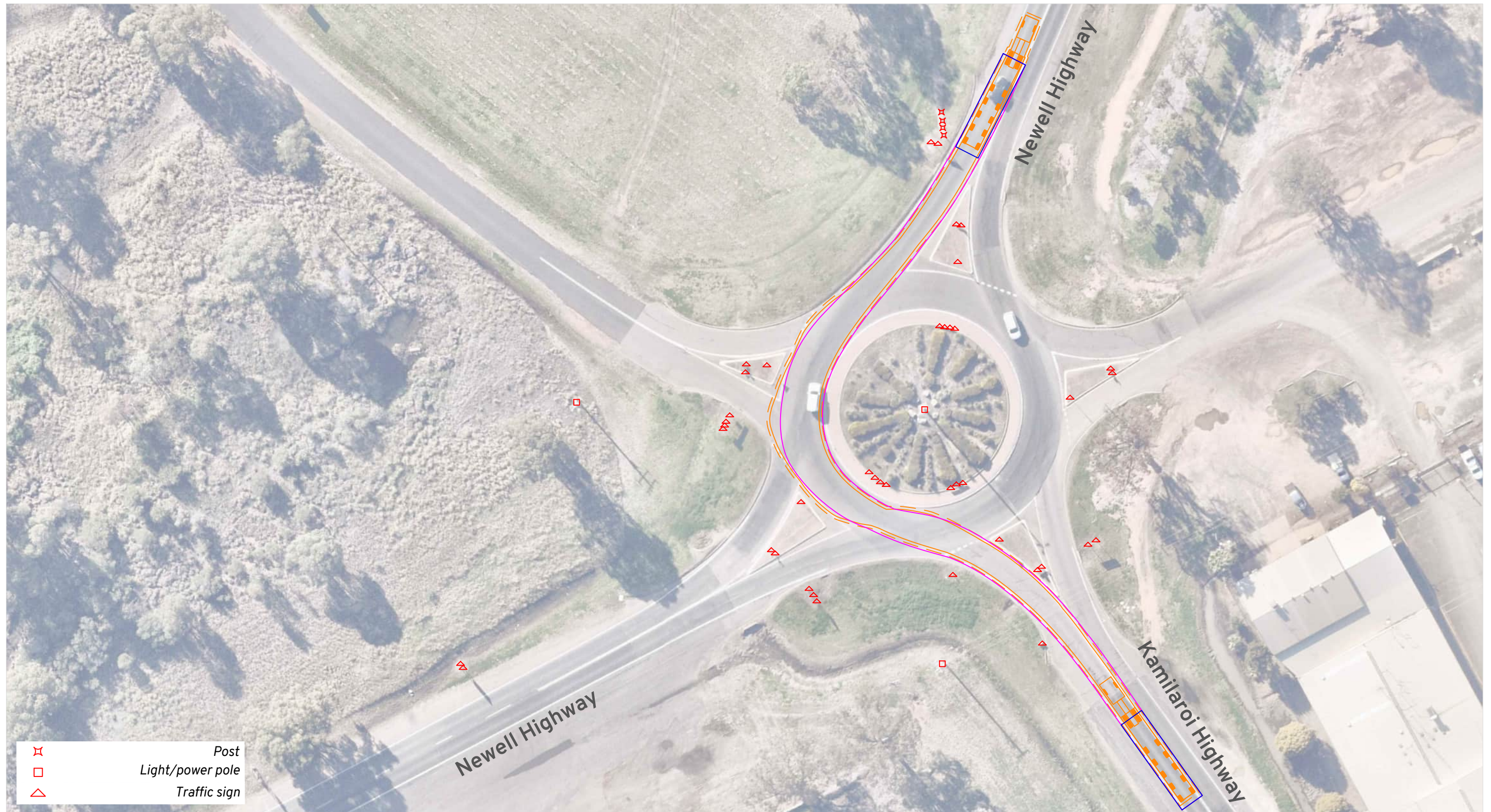
Stoney Creek BESS

Swept Path Assessment



DRAWN: WC
DATE: 14/10/2025
DWG NO: 1387 RA01C - MGA56
SCALE at A3: 1:750m

Amber 16



Vehicle Envelope
 0.5m Clearance
 Load Outlines
 Load Path

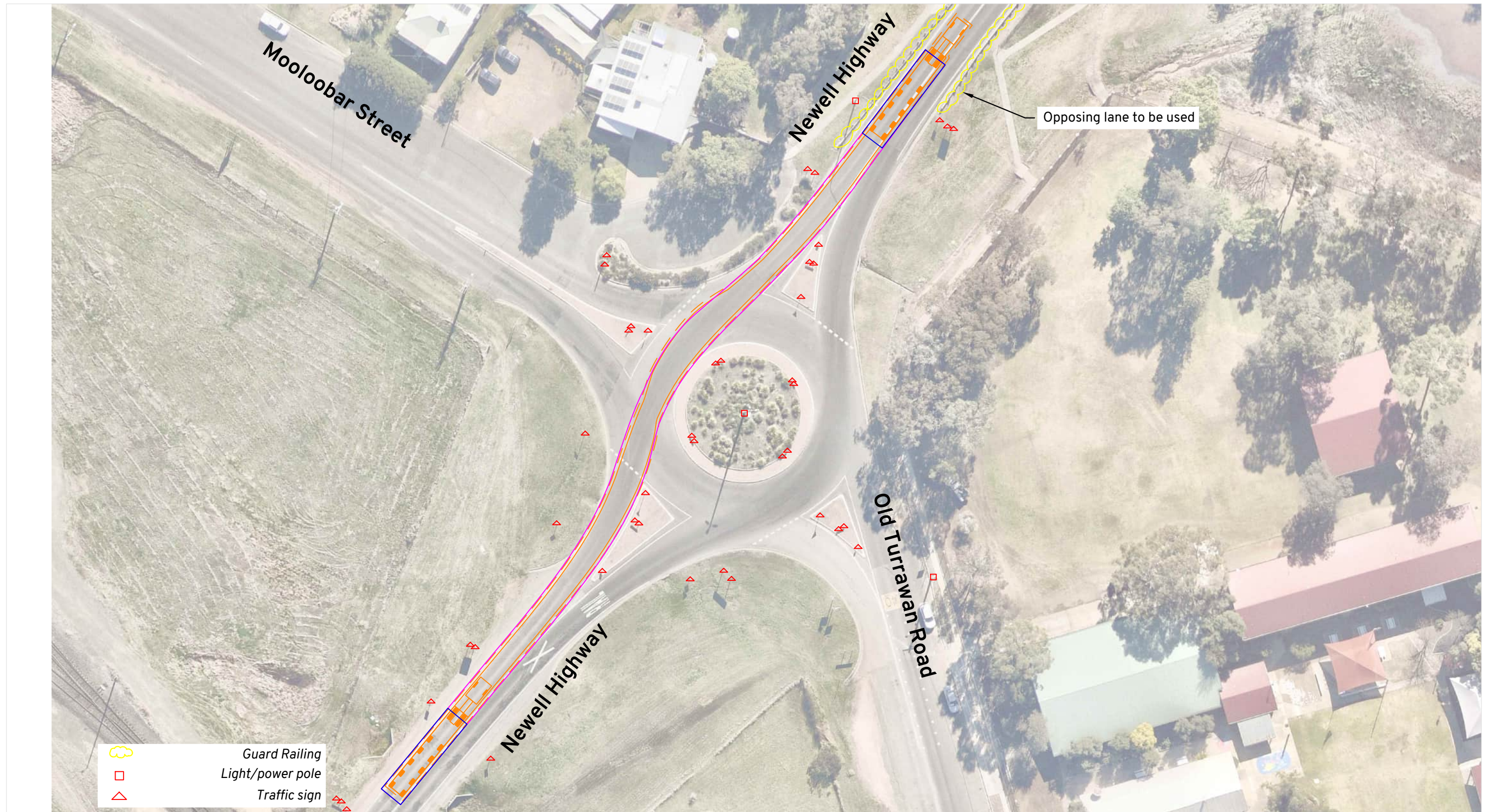
Notes:
 Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
 Spotter(s) to assist to ensure vehicle and load are clear of infrastructure.

Location:
 Narrabri NSW 2390
[Online Map Link](#)



Route Assessment: Glen Waverley
 Stoney Creek BESS
 Swept Path Assessment

DRAWN: WC
 DATE: 12/09/2025
 DWG NO: 1387 RA01C - MGA55
 SCALE at A3: 1:750



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

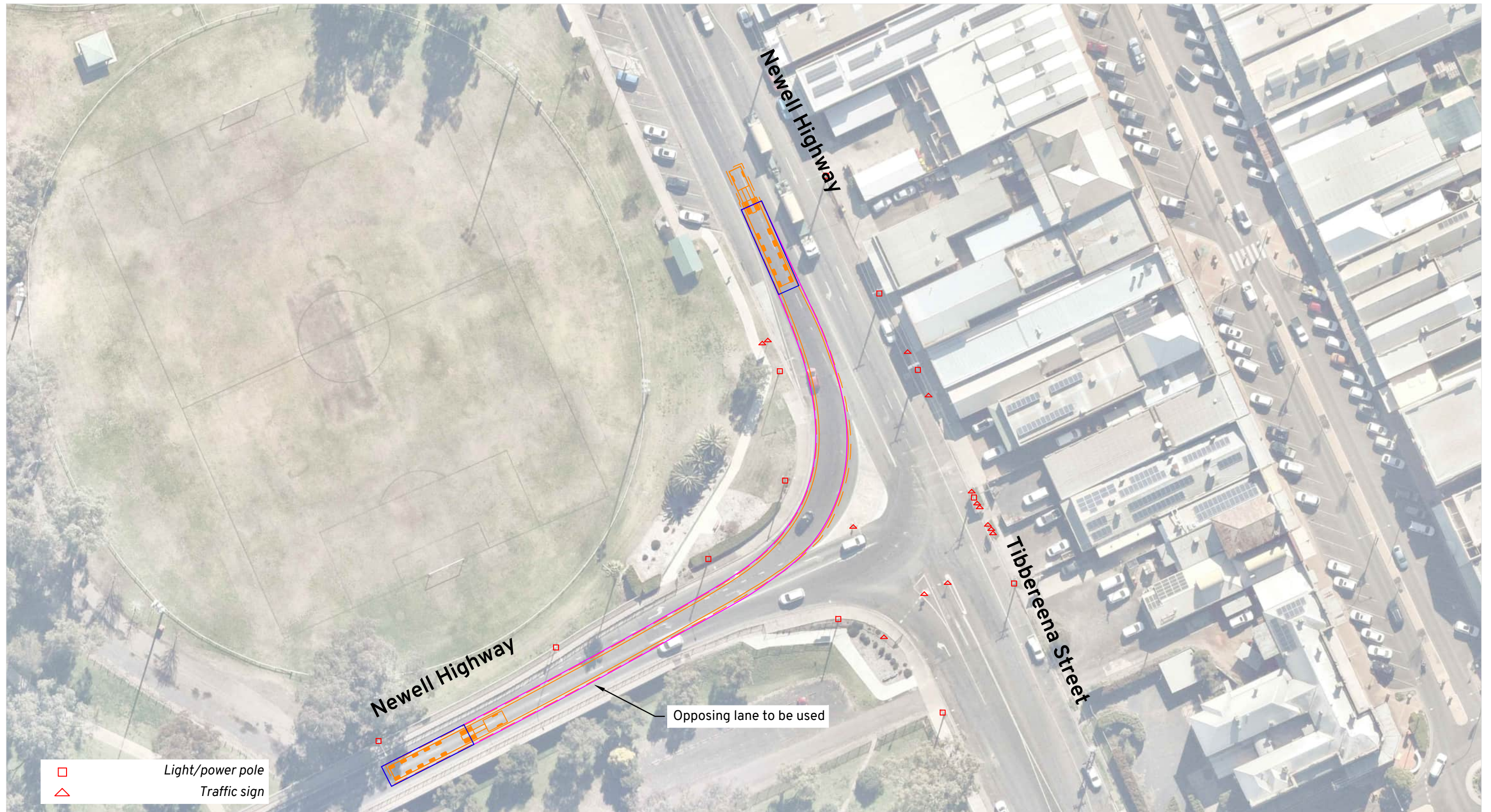
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing lanes.
Spotters to monitor path of travel and impact to existing infrastructure.

Location:
Narrabri NSW 2390
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 12/09/2025
DWG NO: 1387 RA01C - MGA55
SCALE at A3: 1:750



- Vehicle Envelope
- 0.5m Clearance
- Load Outlines
- Load Path

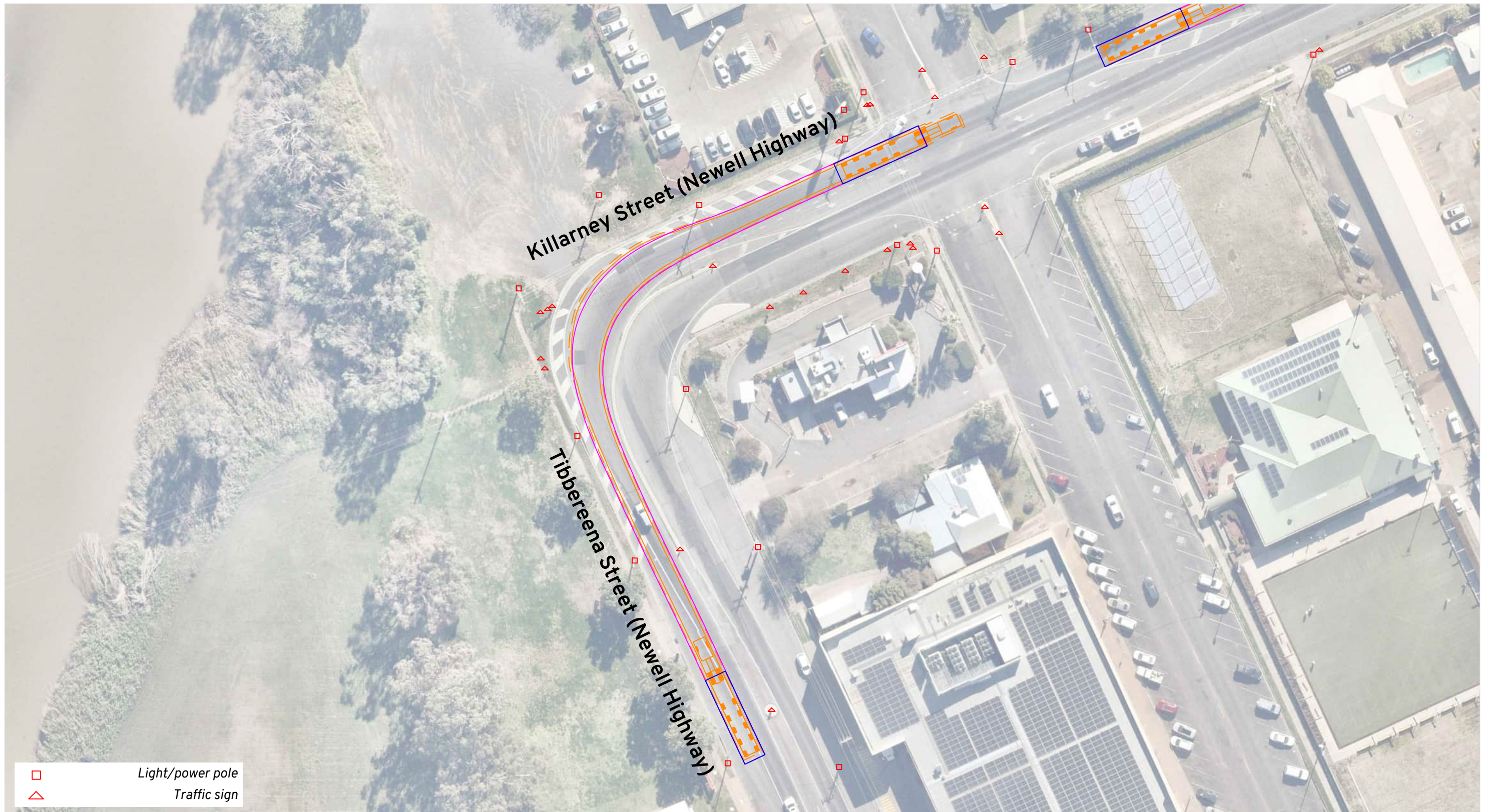
Notes:
 Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
 Spotters to monitor path of travel and impact to existing infrastructure.

Location:
 Narrabri NSW 2390
[Online Map Link](#)



Route Assessment: Glen Waverley
 Stoney Creek BESS
 Swept Path Assessment

DRAWN: WC
 DATE: 12/09/2025
 DWG NO: 1387 RA01C - MGA55
 SCALE at A3: 1:750



□ Light/power pole
△ Traffic sign

Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
Spotters to monitor path of travel and impact to existing infrastructure.

Location:

Narrabri NSW 2390
[Online Map Link](#)

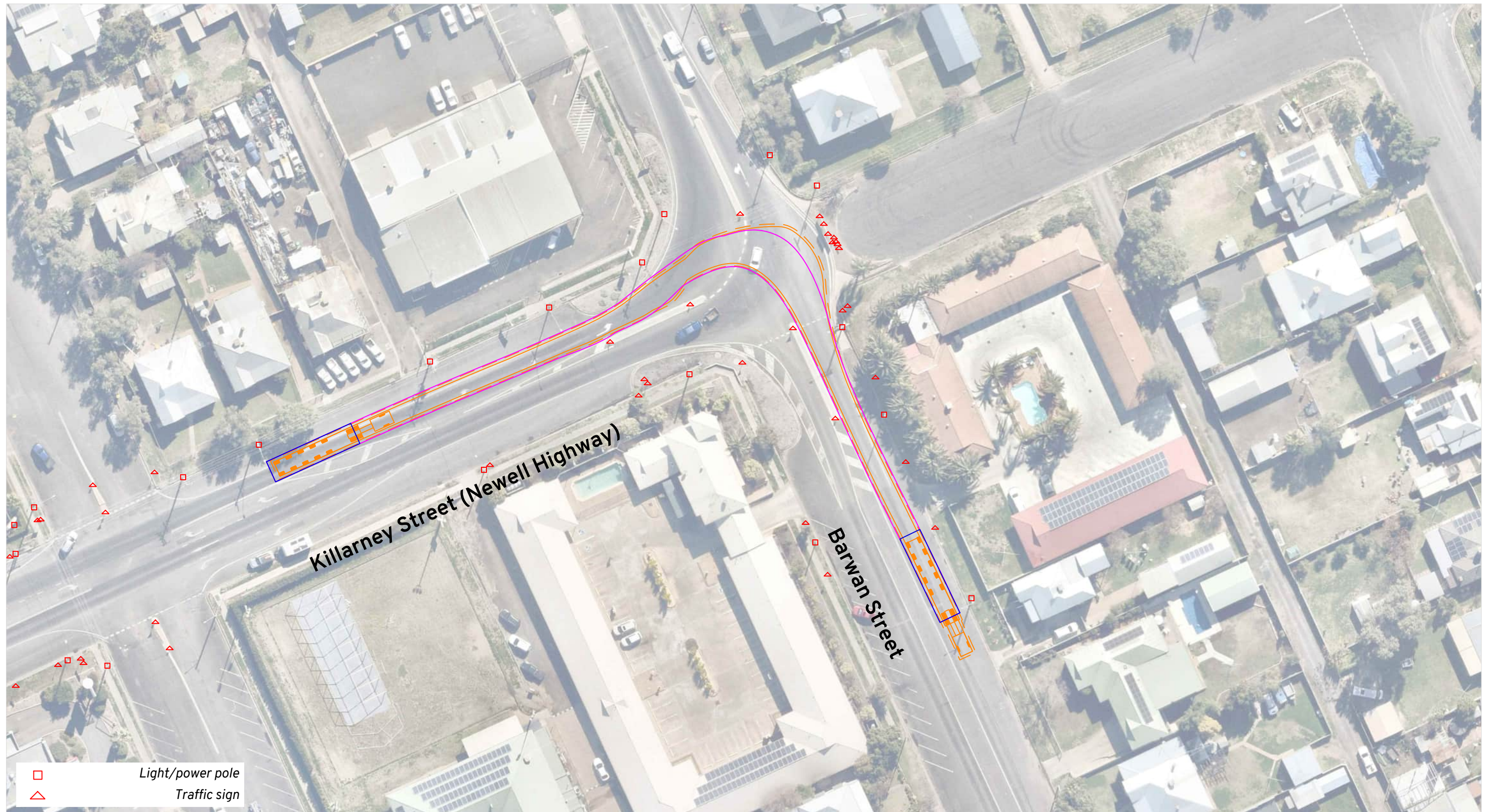


Route Assessment: Glen Waverley

Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 12/09/2025
DWG NO: 1387 RA01C - MGA55
SCALE at A3: 1:750

Amber 20



Vehicle Envelope
 0.5m Clearance
 Load Outlines
 Load Path

Notes:
 Escorts to control traffic as required and facilitate use of multiple/opposing traffic lanes.
 Spotters to monitor path of travel and impact to existing infrastructure.

Location:
 Narrabri NSW 2390
[Online Map Link](#)



Route Assessment: Glen Waverley
 Stoney Creek BESS
 Swept Path Assessment

DRAWN: WC
 DATE: 12/09/2025
 DWG NO: 1387 RA01C - MGA55
 SCALE at A3: 1:750





- ⬠ Bike rail
- Light/power pole
- △ Traffic sign

- Vehicle Envelope
- 0.5m Clearance
- Load Outlines
- Load Path

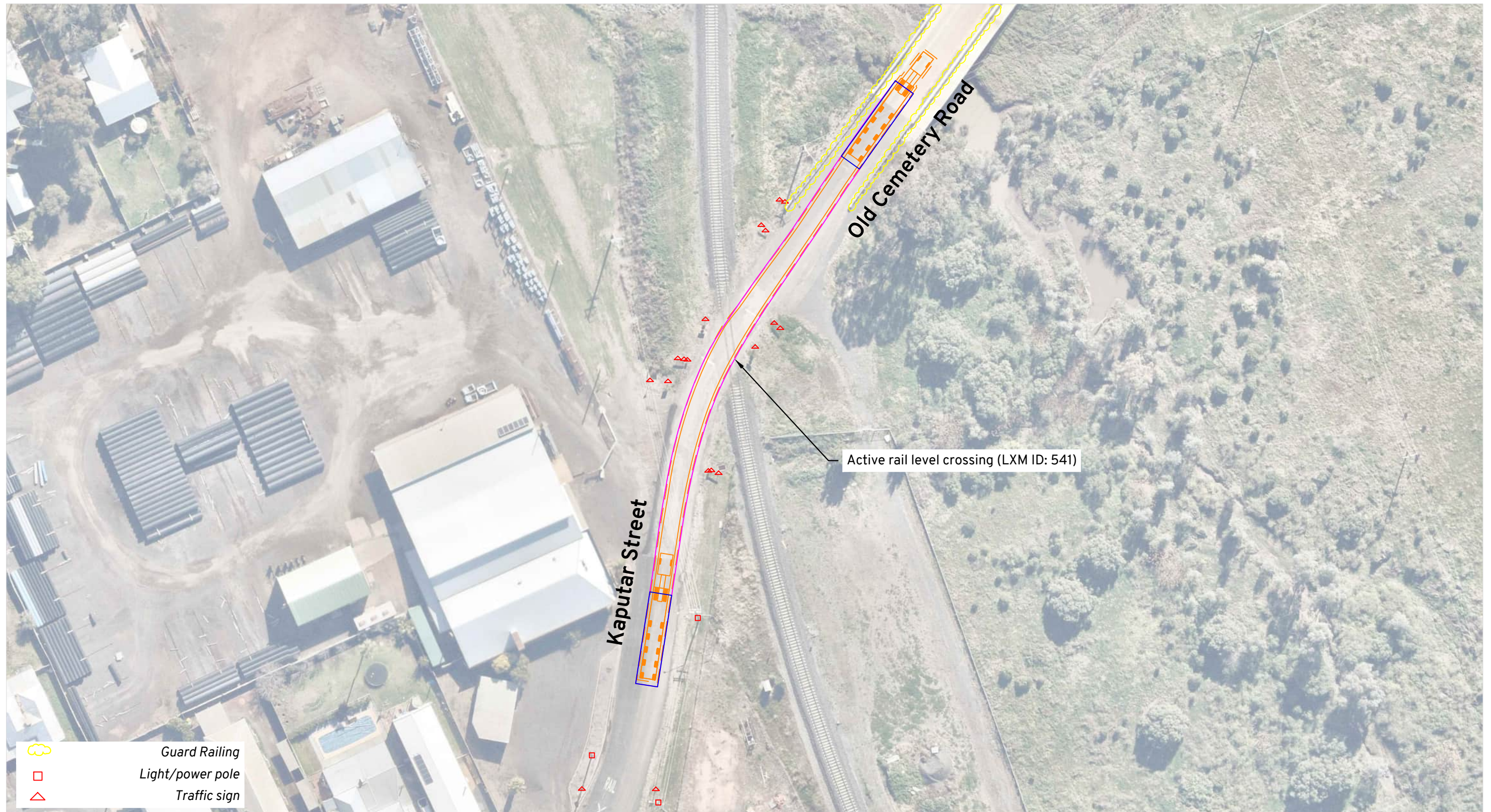
Notes:
 Escorts to control traffic as required and facilitate use of multiple/opposing lanes.
 Spotters to monitor path of travel and impact to existing infrastructure.

Location:
 Narrabri NSW 2390
[Online Map Link](#)



Route Assessment: Glen Waverley
 Stoney Creek BESS
 Swept Path Assessment

DRAWN: WC
 DATE: 12/09/2025
 DWG NO: 1387 RA01C - MGA55
 SCALE at A3: 1:750



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

- Escorts to control traffic as required and facilitate use of multiple/opposing lanes.
- Spotters to monitor path of travel and impact to existing infrastructure.
- Active rail level crossing requires permit from ARTC before crossing - LXM ID 541

Location:

Narrabri NSW 2390

[Online Map Link](#)



Route Assessment: Glen Waverley

Stoney Creek BESS

Swept Path Assessment

DRAWN: WC

DATE: 12/09/2025

DWG NO: 1387 RA01C - MGA55

SCALE at A3: 1:750

Amber 23



Vehicle Envelope
0.5m Clearance
Load Outlines
Load Path

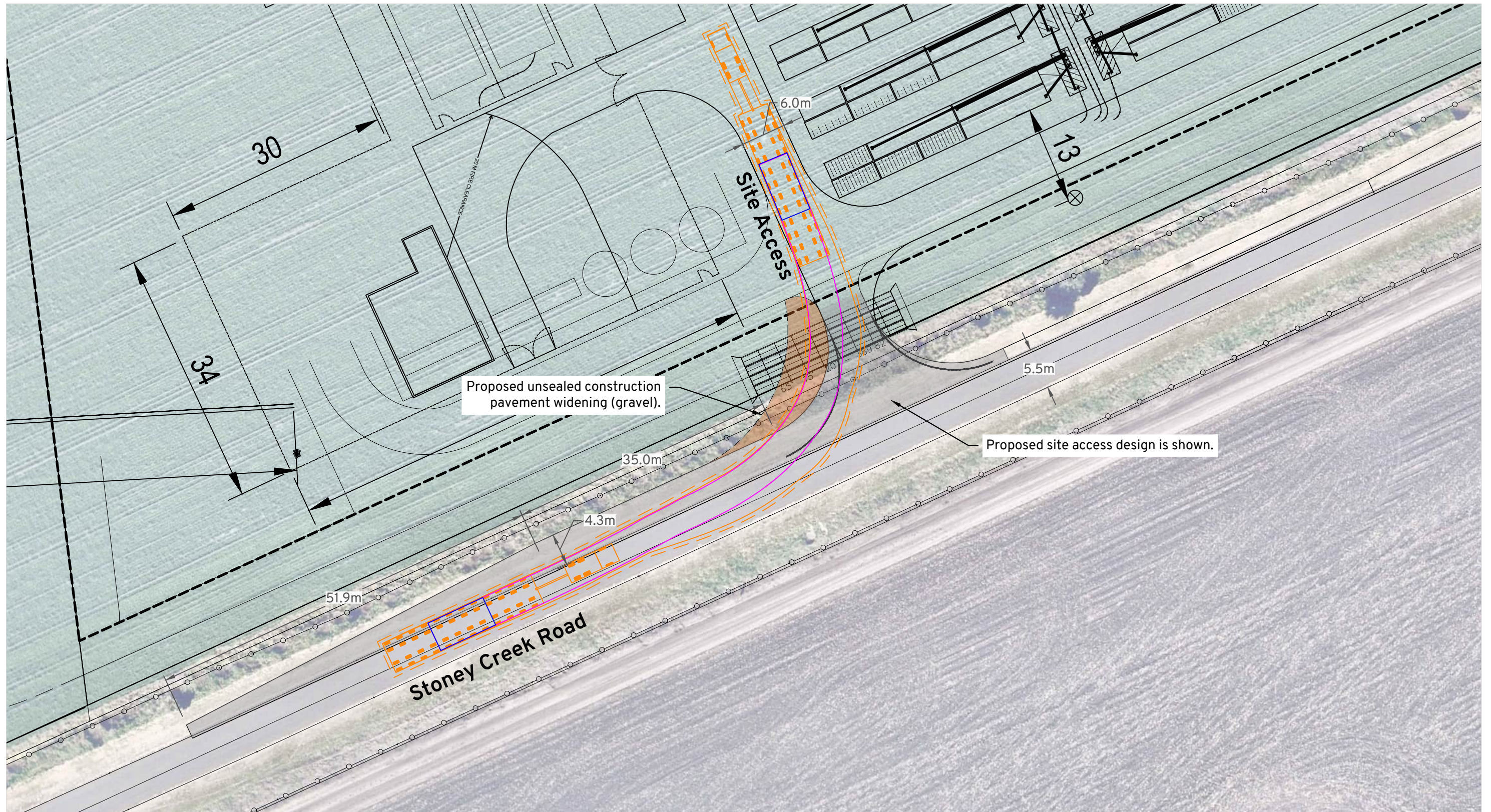
Notes:
Escorts to control traffic as required and facilitate use of multiple/opposing lanes.
Spotters to monitor path of travel and impact to existing infrastructure.

Location:
Narrabri NSW 2390
[Online Map Link](#)



Route Assessment: Glen Waverley
Stoney Creek BESS
Swept Path Assessment

DRAWN: WC
DATE: 12/09/2025
DWG NO: 1387 RA01C - MGA55
SCALE at A3: 1:750



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as required and facilitate use of multiple/opposing lanes.

Location:

Narrabri NSW 2390

[Online Map Link](#)

Route Assessment: Glen Waverley

Stoney Creek BESS

Swept Path Assessment

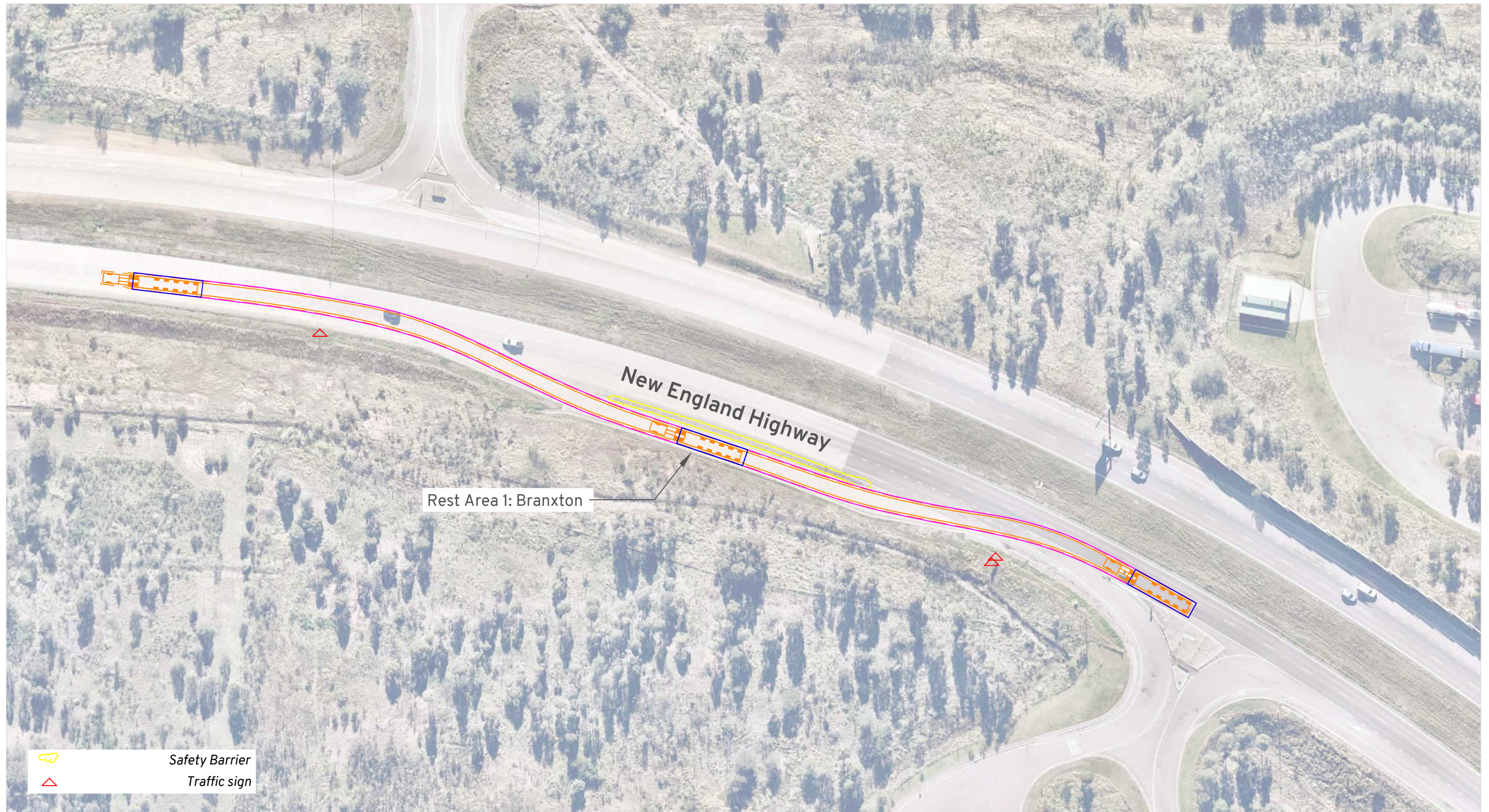
DRAWN: WC

DATE: 12/09/2025

DWG NO: 1387 RA01C - MGA55

SCALE at A3: 1:500





Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as necessary and facilitate use of multiple traffic lanes.

Spotters to monitor path of travel and impact to existing infrastructure.

Location:

Branxton NSW 2335

<https://maps.app.goo.gl/CYcMM6JNNikMb7GS8>

Route Assessment: Port Of Newcastle

Stoney Creek BESS

Swept Path Assessment - Rest Area 1

DRAWN: WC

DATE: 14/10/2025

DWG NO: 1387 RA01C - MGA56

SCALE at A3: 1:1000m



Amber RA1



 Traffic sign

Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as necessary and facilitate use of multiple traffic lanes.

Spotters to monitor path of travel and impact to existing infrastructure.

Location:

Ardglan NSW 2338

<https://maps.app.goo.gl/4cs7hw7QyRELSquD6>

Route Assessment: Port Of Newcastle

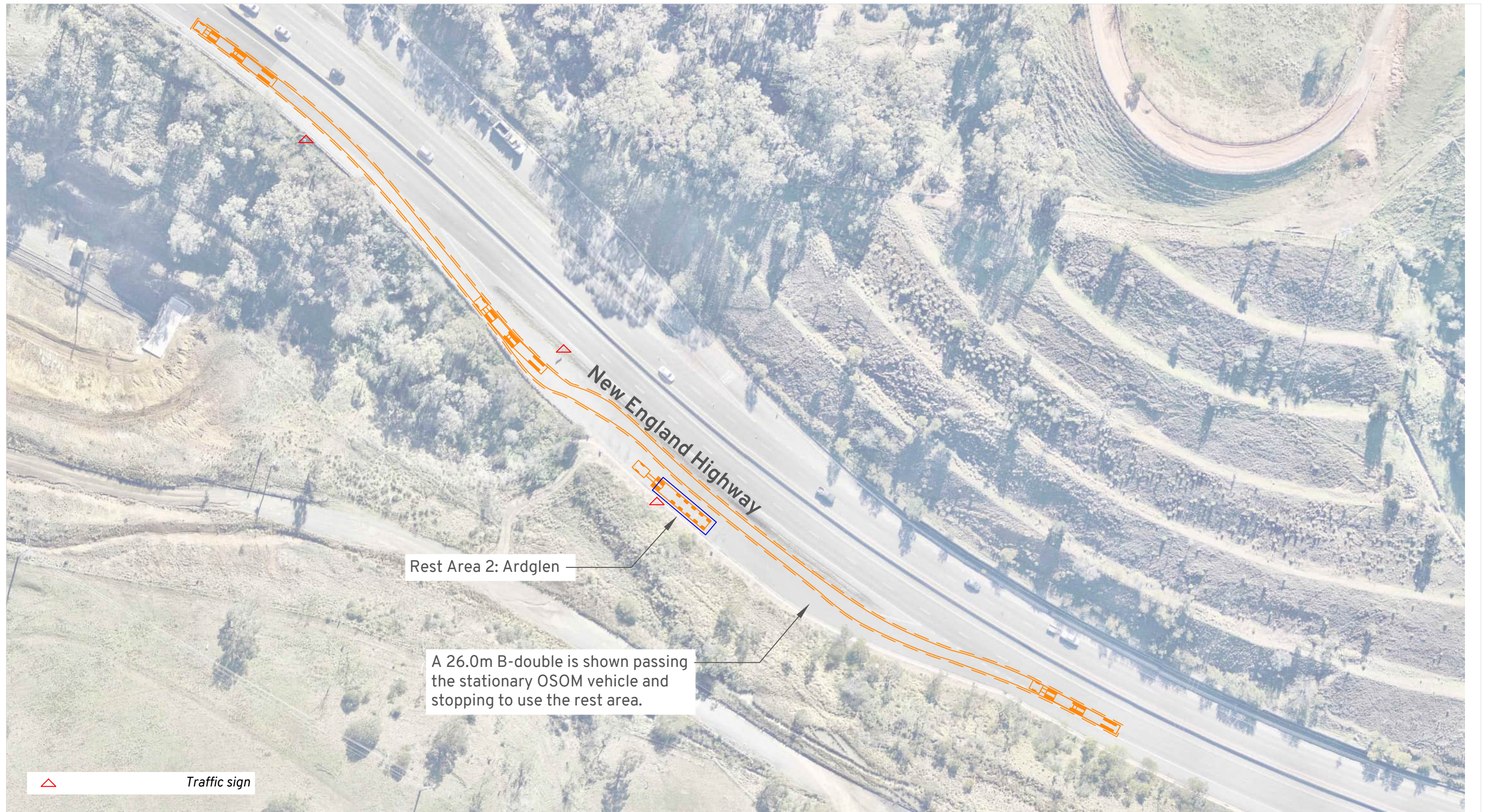
Stoney Creek BESS

Swept Path Assessment - Rest Area 2



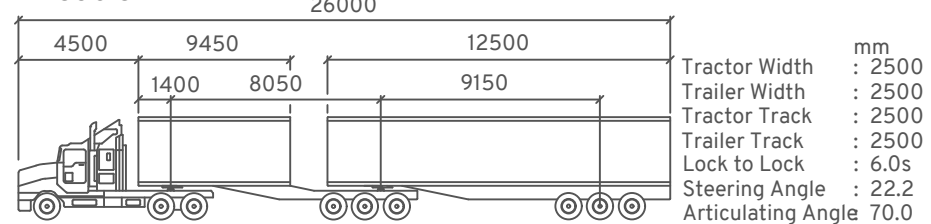
DRAWN: WC
DATE: 14/10/2025
DWG NO: 1387 RA01C - MGA56
SCALE at A3: 1:1000m

Amber RA2A



Vehicle Envelope
 500mm Clearance
 Reverse Manoeuvre
 Min. Design Speed 5km/h

26.0m B-Double



Route Assessment: Port Of Newcastle Stoney Creek BESS Swept Path Assessment - Rest Area 2

DRAWN: WC
 DATE: 14/10/2025
 DWG NO: 1387 RA01C - MGA56
 SCALE at A3: 1:1000m

Amber RA2B



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as necessary and facilitate use of multiple/opposing traffic lanes.

Spotters to monitor path of travel and impact to existing infrastructure.

Location:

Quirindi NSW 2343

<https://maps.app.goo.gl/HDpZV1fk9CJ8Kwnn8>

Route Assessment: Port Of Newcastle

Stoney Creek BESS

Swept Path Assessment - Rest Area 3

DRAWN: WC

DATE: 14/10/2025

DWG NO: 1387 RA01C - MGA56

SCALE at A3: 1:1000m



Amber RA3A



Vehicle Envelope
 0.5m Clearance
 Load Outlines
 Load Path

Notes:

Escorts to control traffic as necessary and facilitate use of opposing/multiple traffic lanes.
 Spotters to monitor path of travel and impact to existing infrastructure.

Location:

Quirindi NSW 2343
<https://maps.app.goo.gl/HDpZV1fk9CJ8Kwnn8>

Route Assessment: Port Of Newcastle

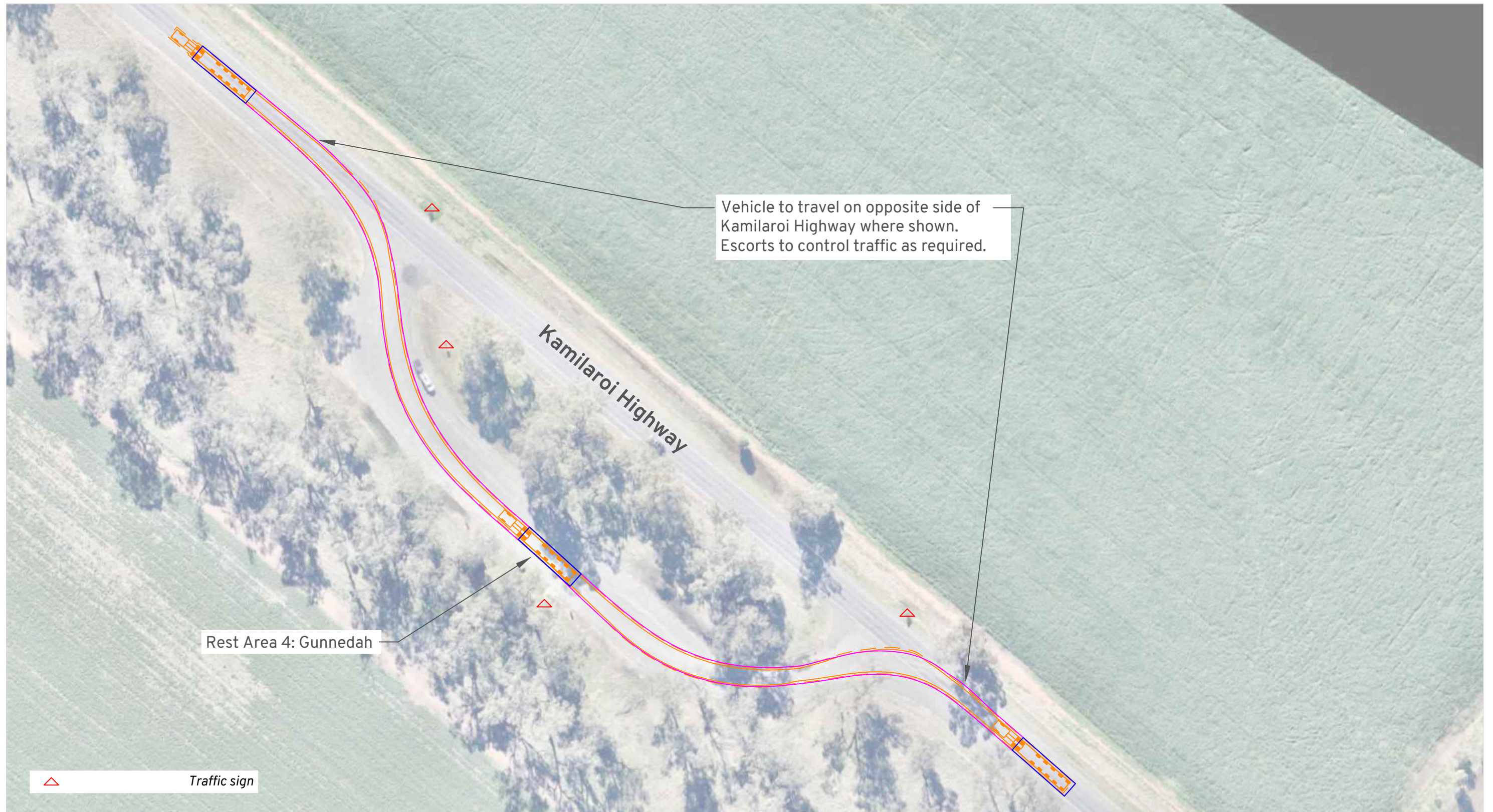
Stoney Creek BESS

Swept Path Assessment - Rest Area 3



DRAWN: WC
 DATE: 14/10/2025
 DWG NO: 1387 RA01C - MGA56
 SCALE at A3: 1:1000m

Amber RA3B



Vehicle Envelope

0.5m Clearance

Load Outlines

Load Path

Notes:

Escorts to control traffic as necessary and facilitate use of opposing/multiple traffic lanes.

Spotters to monitor path of travel and impact to existing infrastructure.

Location:

Gunnedah NSW 2380

<https://maps.app.goo.gl/WGbhic5EPEKSzWVB8>

Route Assessment: Port Of Newcastle

Stoney Creek BESS

Swept Path Assessment - Rest Area 4

DRAWN: WC

DATE: 14/10/2025

DWG NO: 1387 RA01C - MGA56

SCALE at A3: 1:1000m



Amber RA4

Appendix C

Bridge and Culvert Assessment Submission Details – Transformer



Project [Stoney Creek Battery Energy Storage System \(SSD-75680468\) | Planning Portal - Department of Planning and Environment](#)
Status Preliminary assessment at request of TfNSW Development Renewables Team
Vehicle Description OSOM vehicle combination carrying Transformer
Origin Metro Melbourne
Destination Narrabri
NHVR Route ID: 20496-2 (Please note that the OSOM vehicle will turn right onto Barwan Street from Killarney Street and will not turn onto Maitland Street)

Width	Length	Min. Height	Forward projection	Rear overhang
4.2m	43.5m	5.0m	N/A	N/A

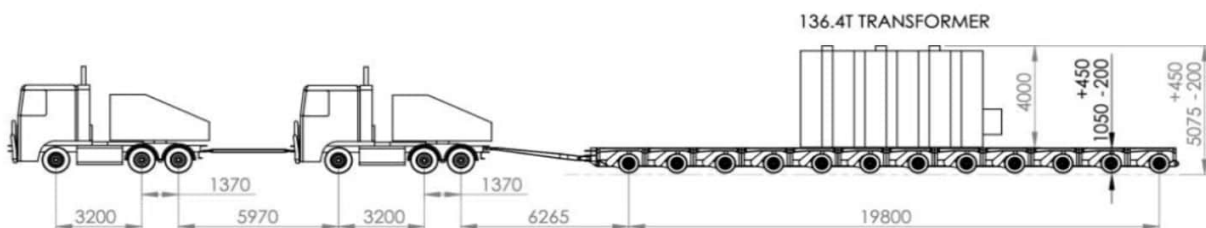
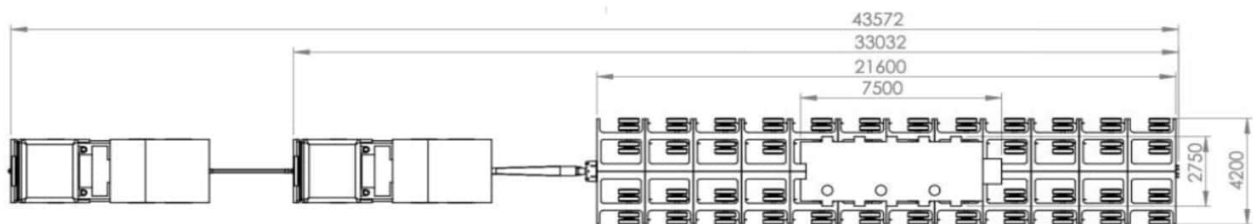
Total mass (approx.)	Euro VI compliant	Are you operating in a convoy?
149T	No	No

Loaded axle mass and spacings

Axle - Axle #	No. Tyres	Spacing	Axle group mass	Tyre size	Steerable	Ground contact width	Load sharing
Prime mover 1-2 axle - Block Truck #1							
Steer - 1	2		6	315mm	Yes	1.0m	No
Drive - 1	4	3.2m	9.25	315mm	No	2.0m	Yes
Drive - 2	4	1.37m	9.25	315mm	No	2.0m	Yes

Prime mover 1-2 axle - Block Truck #2							
Steer - 1	2	5.9m	6	315mm	Yes	1.0m	No
Drive - 1	4	3.2m	9.25	315mm	No	2.0m	Yes
Drive - 2	4	1.37m	9.25	315mm	No	2.0m	Yes

12x8 Platform Trailer							
Trailer - 1	8	6.2m	14.9	215mm	Yes	4.2m	Yes
Trailer - 2	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 3	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 4	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 5	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 6	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 7	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 8	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 9	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 10	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 11	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 12	8	1.8m	14.9	215mm	Yes	4.2m	Yes



11R22.5
T 6.0T
P 0.0T
G 6.0T

11R22.5
T 18.5T
P 0.0T
G 18.5T

11R22.5
T 6.0T
P 0.0T
G 6.0T

11R22.5
T 18.5T
P 0.0T
G 18.5T

12X8 215/75R17.5 @4.2m
T 43.2T
P 136.4T
G 179.6T (14.97T/ROW)

Appendix D

Bridge and Culvert Assessment Submission Details – Control Room



Project	Stoney Creek Battery Energy Storage System (SSD-75680468) Planning Portal - Department of Planning and Environment			
Status	Preliminary assessment at request of TNSW Development Renewables Team			
Vehicle Description	Control room vehicle combination			
Origin	Port of Newcastle			
Destination	Narrabri			
NHVR Route ID:	2055Y-4			

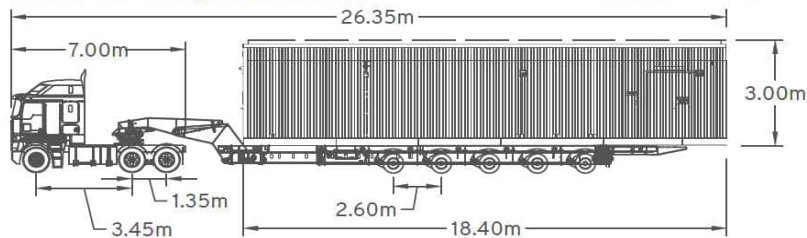
Width	Length	Min. Height	Forward projection	Rear overhang
4.4m	26.35m	4.14m	N/A	N/A

Total mass (approx.)	Euro VI compliant	Are you operating in a convoy?
76T	No	No

Loaded axle mass and spacings							
Axle - Axle #	No. Tyres	Spacing	Axle group mass	Tyre size	Steerable	Ground contact width	Load sharing
Prime mover 1-2 axle							
Steer - 1	2		6	315mm	Yes	1.0m	No
Drive - 1	4	3.45m	9.5	315mm	No	2.0m	Yes
Drive - 2	4	1.35m	9.5	315mm	No	2.0m	Yes
5x4 Platform Trailer							
Trailer - 1	4	12.4m	13	215mm	No	4.4m	Yes
Trailer - 2	4	2.6m	13	215mm	No	4.4m	Yes
Trailer - 3	4	2.6m	13	215mm	No	4.4m	Yes
Trailer - 4	4	2.6m	13	215mm	No	4.4m	Yes
Trailer - 5	4	2.6m	13	215mm	No	4.4m	Yes

OSOM Truck Specifications

Transgrid 5x4 Platform Trailer with Control Room



Overall Length	: 26.35m
Overall Width	: 4.40m
Lock to Lock Time	: 6.0s
Curb to Curb Radius (Truck)	: 12.50m
Min Outer Radius (Trailer)	: 17.35m
Overall Height	: 4.14m

OSOM Configuration calibrated against similar OSOM configurations and is based on information available at the time of assessment

Appendix E

Consultation with Authorities



From: [Tobias Shannon](#)
To: [Will Cavey](#)
Subject: RE: Stoney Creek BESS (SSD-75680468) - Bridge and Culvert Assessment
Date: Tuesday, 21 October 2025 9:19:09 AM
Attachments: [image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Will,

Sorry for the delay in response but both of the proposed combinations do not require a bridge assessment and are covered by TfNSW Internal HLP Map.

Kind Regards

Tobias Shannon
A/ Manager Road Access
Freight Branch
Planning, Integration and Passenger

Transport for NSW

T 1300 656 371 E tobias.shannon@transport.nsw.gov.au

transport.nsw.gov.au

Cnr Grey & Ferguson St
Glen Innes NSW 2370



I acknowledge the Aboriginal people of the country on which I work, their traditions, culture and a shared history and identity. I also pay my respects to Elders past and present and recognise the continued connection to country.

Please consider the environment before printing this email.

OFFICIAL

From: Stuart Murray <Stuart.A.MURRAY@transport.nsw.gov.au> **On Behalf Of** special_permits_unit@rms.nsw.gov.au
Sent: Thursday, 2 October 2025 3:54 PM
To: Tobias Shannon <Tobias.SHANNON@transport.nsw.gov.au>
Subject: FW: Stoney Creek BESS (SSD-75680468) - Bridge and Culvert Assessment

FYI

Stuart Murray

Road Access Officer
Freight Branch
Planning, Integration and Passenger

Transport for NSW

T 1300 656 371 E stuart.a.murray@transport.nsw.gov.au



OFFICIAL

From: Will Cavey <wcavey@amberorg.com.au>
Sent: Thursday, 2 October 2025 3:39 PM
To: Development Renewables <development.renewables@transport.nsw.gov.au>;
special_permits_unit@rms.nsw.gov.au <spu@transport.nsw.gov.au>
Cc: Tom Dwyer <tdwyer@amberorg.com.au>
Subject: Stoney Creek BESS (SSD-75680468) - Bridge and Culvert Assessment

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi SPU,

We **are undertaking a preliminary OSOM route assessment for a renewable energy project and anticipate receiving** feedback from the TfNSW Development Renewables team to seek a bridge and culvert assessment in relation to the proposed Stoney Creek Battery Energy Storage System (BESS). (<https://www.planningportal.nsw.gov.au/major-projects/projects/stoney-creek-battery-energy-storage-system>)

We have provided the anticipated OSOM vehicle combination transporting the transformer from suburban Melbourne and transporting the control room from Port of Newcastle.

The transformer is anticipated to be approximately 105.65T and carried by way of a 12 x 8 platform with prime mover/s.

The control room is anticipated to be approximately 33T and carried by a 5 x 4 platform with prime mover/s.

The proposed routes are as follows:

- Transformer (Melbourne): NHVR Route ID: 20496-2
- Control Room (Port of Newcastle): NHVR Route ID: 2055Y-4

Excerpts of excel spreadsheets are attached with key details to inform the assessment.

Please feel free to contact me if any further information is required.

Cheers

William Cavey

BE (Civ)(Hons)

Traffic Engineer

Ph: +61 478 787 067



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Consider the environment. Please don't print this e-mail unless really necessary.

From: [Rhys Hayne](#)
To: [Tom Dwyer](#)
Subject: Re: Stoney Creek BESS (SSD-75680468) - Bridge and Culvert Assessment - Old Cemetery Road
Date: Friday, 31 October 2025 9:26:05 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)
[image010.png](#)
[image011.png](#)
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[2c590f56-f475-47e6-beaf-2d8322cbfb8c.png](#)
[070d0dfa-6a13-402d-b87c-ebb4bb308e1.png](#)

Hi Tom,

Apologies for the delayed response.

I've completed a preliminary bridge assessment using an external source, and below is the summary of the findings:

Summary:

- The control room vehicle is fine based on M1600 loading.
- The transformer vehicle will need further analysis, including an understanding of the bridge span length, width, etc., to determine if the design actions are less than M1600 loading. There are things like load factor and Dynamic load allowance that can potentially be adjusted if the vehicle loads are known so it could well work subject to that assessment. Otherwise, if the bridge was designed for either HLP320 or HLP400 loading then it is fine.

Based on the above, an additional assessment is required to confirm suitability for the transformer vehicle. We're happy to proceed with this, however, please note that it will incur an additional charge. If you're comfortable with this, let me know and I can arrange a quote to get things moving.

Best regards,

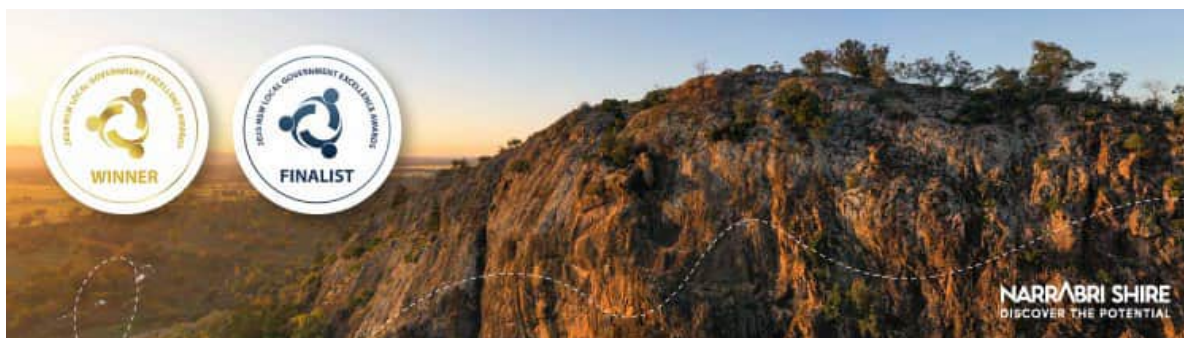
Rhys Hayne

Design Engineer

Phone: 02 6799 6866

Email: rhysh@narrabri.nsw.gov.au

NARRABRI SHIRE
DISCOVER THE POTENTIAL



From: Tom Dwyer <tdwyer@amberorg.com.au>

Sent: Tuesday, October 21, 2025 11:09 AM

To: Rhys Hayne <rhysh@narrabri.nsw.gov.au>

Cc: Casey De Pereira <caseydep@narrabri.nsw.gov.au>; Will Cavey <wcavey@amberorg.com.au>
Subject: RE: Stoney Creek BESS (SSD-75680468) - Bridge and Culvert Assessment - Old Cemetery Road

Hi Rhys

Thanks for the detailed feedback – much appreciated. We'll pass onto the project team for their comment and review.

I take it from your feedback that there aren't any issues with the structural capacity of the concrete bridge on Old Cemetery Road over Horsearm Creek (<https://maps.app.goo.gl/vg94kRvKwDfuf9uXA>)? For your reference we received the attached today from TfNSW which indicates that the route is otherwise OK in terms of impacts to bridges and culverts.

Thanks again for the help and appreciate the detailed feedback.

Cheers
Tom

Tom Dwyer

BEng (CivInfra) (Hons) GradDipUrbPlanEnv MIEAust NER RPEV
Senior Associate / Branch Manager (VIC)
Ph: +61 481 959 464



From: Rhys Hayne <rhysh@narrabri.nsw.gov.au>
Sent: Tuesday, 21 October 2025 10:31 AM
To: Tom Dwyer <tdwyer@amberorg.com.au>
Cc: Casey De Pereira <caseydep@narrabri.nsw.gov.au>
Subject: RE: Stoney Creek BESS (SSD-75680468) - Bridge and Culvert Assessment - Old Cemetery Road

Hi Tom,

I've reviewed the proposed location for the transformer on Stoney Creek Rd and have identified a route that I believe is best suited for the OSOM movement.

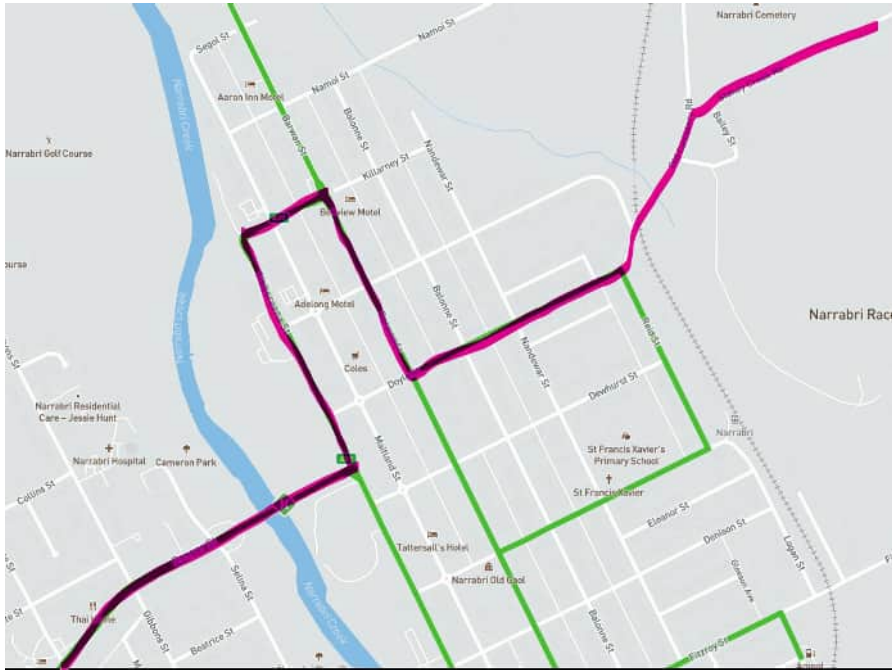
The recommended route will require careful planning, as several precautions must be taken to ensure public safety during the move.

I suggest using the Newell/Kamilaroi Highway up to Barwan Street. This will require traffic to be temporarily stopped to allow the OSOM vehicle to make a right-hand turn across the median. Although this is typically a left-turn-only intersection, it appears to be the safest option to reach the destination.

From Barwan Street, the vehicle would turn onto Doyle Street and continue through to Stoney Creek Rd. At the intersection of Barwan and Doyle, the OSOM vehicle will also need to mount the medians to complete the turn safely. This area includes Narrabri Public School, so school hours should be avoided. Due to the manoeuvrability requirements of the OSOM vehicle, a weekend move would be ideal.

Additionally, there is a café on the corner of Doyle and Barwan that tends to be busy on weekend mornings. Parked vehicles in this area could pose a challenge, so I recommend scheduling the move for the afternoon if possible to minimize disruption.

I have added a map to illustrate the route.



Let me know your thoughts or if you'd like to discuss further.

Best regards,

Rhys Hayne

Design Engineer

Phone: 02 6799 6866

Email: rhysh@narrabri.nsw.gov.au

NARRABRI SHIRE
DISCOVER THE POTENTIAL



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Appendix F

Bridge and Culvert Assessment from Council



Our Ref: 25-222-CV

Rhys Hayne
Design Engineer
Narrabri Shire Council
46-48 Maitland Street
Narrabri NSW 2390

27 November 2025

RE: Horsearm creek bridge load assessment

Dear Rhys

This memorandum is in relation to the request for BK. Engineering Consulting Solutions (BK.) to undertake a load assessment of Horsearm Creek Bridge, located in Narrabri LGA. The existing bridge was recently replaced in 2021 and the Issued For Construction design plans nominate the design load as SM1600.

As a summary, BK. have assessed the existing bridge has sufficient capacity for the OSOM loads. The following pages provide a justification for this assessment.

1.1. Bridge geometry

The bridge has the following geometry:

Table 1 Bridge Geometry

Structure detail	Geometry
No of spans and span length	2 spans at 18.225m
Overall bridge length	36.45m
Number of travel lanes	2
Number of pedestrian lanes	1
Overall bridge deck width	13.638m
Superstructure type	400 deep precast plank
Deck thickness	Min 180mm

1.2. Oversize vehicle

Narrabri Shire Council have received a request for an Over Size Over Mass (OSOM) vehicle to cross the bridge. The OSOM vehicles consist of the following:

- Single prime mover towing a platform trailer with 33 Tonne control room.
- Two prime movers towing a heavy load platform with 136.6 Tonne transformer.

The provided OSOM vehicles and axle loading are saved in Appendix A.

1.3. Load assessment

The IFC design plans indicate the existing bridge has been designed for M1600 loading thus BK. have assumed the structure has sufficient capacity for this reference vehicle.

To undertake the load assessment, BK. have compared the loading from the OSOM vehicles with M1600 loading from AS 5100.5. Provided the loading from the OSOM vehicle is less than the loading from an M1600 vehicle, the design actions on the structure due to the OSOM will be less than the design actions from an M1600 vehicle and it can be inferred the bridge will have sufficient capacity without having to undertake a full analysis and capacity check.

1.3.1. Single prime mover towing control room

BK. have assessed the following:

- The prime mover steer and drive axle loads (6T and 9.5T respectively) are less than the 12T M1600 axle load
- The trailer has 13T axle loads and axles are spaced 2.6m apart. The tri axle group load for an M1600 vehicle is 36T over a width of 2.5m
- The total load of the prime mover and trailer is $6T + 2 \times 9.5T + 5 \times 13T = 90T$. The total M1600 load is 144T

Based on the above, the loads from the OSOM vehicle towing the control room are less than the loads from an M1600 reference vehicle, thus the bridge would be expected to have sufficient capacity for this vehicle.

1.3.2. Two prime movers towing a Transformer

BK. have assessed the following:

- The Tare load of the heavy load platform carrying the transformer is 43.2T over 12 axles, which equates to 3.6T per axle
- We have assumed the transformer load is distributed over 8 axles (based on its size). With a total load of 136.4 T, this equates to 17.05T per axle
- The combined axle load under the transformer is 20.65T
- The load of an HLP400 vehicle from AS 5100.2 is 25T, thus the OSOM vehicle has smaller axle load than an HLP400 vehicle
- The total load of the OSOM vehicle is approximately 1870 kN

- BK. have compared the ULS bending moment in the girders for the HLP400 vehicle and the M1600 vehicle to determine the governing vehicle.
- The design actions for these two vehicles are presented below

Table 2 Design action comparison between M1600 and HLP400

Design Action	M1600	HLP400
Total Load (kN)	2013	2845
ULS Bending (kNm)	1722	1697
SLS Bending (kNm)	954	940
ULS bearing reaction (kN)	322	455

The above table demonstrates the ULS bending moment from the M1600 vehicle governs and the bridge was originally designed for the M1600 loading, thus the bridge would be expected to have sufficient capacity for this vehicle.

Whilst the ULS bearing reaction is higher for the HLP400 vehicle, the OSOM axle loading of 20.65T is less than the 25T HLP400 axle load and the total load of 1800kN is less than the 2845kN. The actual vehicle is approximately 35% lighter than the HLP400 loading, thus once the ULS bearing reaction for the HLP400 load has been reduced by 35% to reflect the actual vehicle, the M1600 bearing reaction governs.

Regards



Daniel Stewart
 Civil Operations Manager
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 e: daniel.s@bk-ecs.com.au

Appendix A – OSOM Vehicle loading



Project	Stoney Creek Battery Energy Storage System (SSD-75680468) Planning Portal - Department of Planning and Environment			
Status	Preliminary assessment at request of TNSW Development Renewables Team			
Vehicle Description	Control room vehicle combination			
Origin	Port of Newcastle			
Destination	Narrabri			
NHVR Route ID:	2055Y-4			

Width	Length	Min. Height	Forward projection	Rear overhang
4.4m	26.35m	4.14m	N/A	N/A

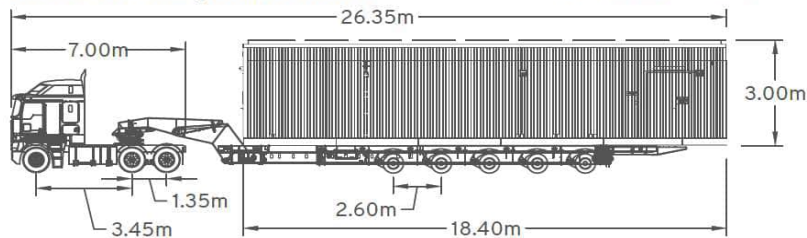
Total mass (approx.)	Euro VI compliant	Are you operating in a convoy?
76T	No	No

Loaded axle mass and spacings

Axle - Axle #	No. Tyres	Spacing	Axle group mass	Tyre size	Steerable	Ground contact width	Load sharing
Prime mover 1-2 axle							
Steer - 1	2		6	315mm	Yes	1.0m	No
Drive - 1	4	3.45m	9.5	315mm	No	2.0m	Yes
Drive - 2	4	1.35m	9.5	315mm	No	2.0m	Yes
5x4 Platform Trailer							
Trailer - 1	4	12.4m	13	215mm	No	4.4m	Yes
Trailer - 2	4	2.6m	13	215mm	No	4.4m	Yes
Trailer - 3	4	2.6m	13	215mm	No	4.4m	Yes
Trailer - 4	4	2.6m	13	215mm	No	4.4m	Yes
Trailer - 5	4	2.6m	13	215mm	No	4.4m	Yes

OSOM Truck Specifications

Transgrid 5x4 Platform Trailer with Control Room



Overall Length	: 26.35m
Overall Width	: 4.40m
Lock to Lock Time	: 6.0s
Curb to Curb Radius (Truck)	: 12.50m
Min Outer Radius (Trailer)	: 17.35m
Overall Height	: 4.14m

OSOM Configuration calibrated against similar OSOM configurations and is based on information available at the time of assessment

Project [Stoney Creek Battery Energy Storage System \(SSD-75680468\) | Planning Portal - Department of Planning and Environment](#)
Status Preliminary assessment at request of TfNSW Development Renewables Team
Vehicle Description OSOM vehicle combination carrying Transformer
Origin Metro Melbourne
Destination Narrabri
NHVR Route ID: 20496-2 (Please note that the OSOM vehicle will turn right onto Barwan Street from Killarney Street and will not turn onto Maitland Street)

Width	Length	Min. Height	Forward projection	Rear overhang
4.2m	43.5m	5.0m	N/A	N/A

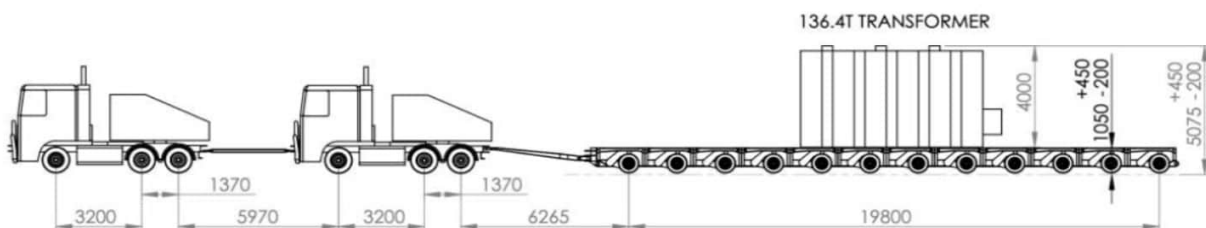
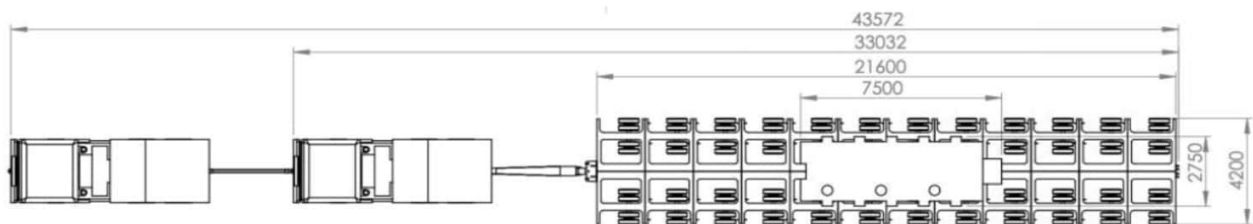
Total mass (approx.)	Euro VI compliant	Are you operating in a convoy?
149T	No	No

Loaded axle mass and spacings

Axle - Axle #	No. Tyres	Spacing	Axle group mass	Tyre size	Steerable	Ground contact width	Load sharing
Prime mover 1-2 axle - Block Truck #1							
Steer - 1	2		6	315mm	Yes	1.0m	No
Drive - 1	4	3.2m	9.25	315mm	No	2.0m	Yes
Drive - 2	4	1.37m	9.25	315mm	No	2.0m	Yes

Prime mover 1-2 axle - Block Truck #2							
Steer - 1	2	5.9m	6	315mm	Yes	1.0m	No
Drive - 1	4	3.2m	9.25	315mm	No	2.0m	Yes
Drive - 2	4	1.37m	9.25	315mm	No	2.0m	Yes

12x8 Platform Trailer							
Trailer - 1	8	6.2m	14.9	215mm	Yes	4.2m	Yes
Trailer - 2	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 3	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 4	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 5	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 6	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 7	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 8	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 9	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 10	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 11	8	1.8m	14.9	215mm	Yes	4.2m	Yes
Trailer - 12	8	1.8m	14.9	215mm	Yes	4.2m	Yes



11R22.5
T 6.0T
P 0.0T
G 6.0T

11R22.5
T 18.5T
P 0.0T
G 18.5T

11R22.5
T 6.0T
P 0.0T
G 6.0T

11R22.5
T 18.5T
P 0.0T
G 18.5T

12X8 215/75R17.5 @4.2m
T 43.2T
P 136.4T
G 179.6T (14.97T/ROW)



Appendix L:

Traffic Surveys



Vehicle Volume Report - Hourly



Project: 25037 - ATC - Newell Highw
Site: Newell Highway (Dangar St
Start Date: 25-02-2025

1. Newell Highway (Dangar Street) - NARRABRI - -30.326834, 149.781426

Time	Mon		Tue		Wed		Thu		Fri		Sat		Sun		7 Day Total	
	03-Mar		25-Feb		26-Feb		27-Feb		28-Feb		01-Mar		02-Mar			
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
0:00	19	15	35	40	40	37	36	40	28	25	52	47	55	43	265	247
1:00	10	5	20	21	26	27	29	18	16	21	29	25	29	27	159	144
2:00	12	15	39	39	28	25	20	16	26	32	13	11	18	18	156	156
3:00	9	15	35	28	34	42	34	35	29	33	19	27	22	20	182	200
4:00	36	56	37	62	58	72	53	52	36	64	34	43	24	30	278	379
5:00	73	143	113	156	126	182	104	156	97	149	57	83	33	46	603	915
6:00	178	228	190	281	215	307	201	308	198	240	84	132	57	87	1123	1583
7:00	303	371	314	450	369	448	328	443	307	378	154	213	100	156	1875	2459
8:00	384	593	424	629	437	622	434	559	438	572	252	328	186	237	2555	3540
9:00	446	483	461	538	446	513	461	520	434	488	339	436	275	295	2862	3273
10:00	431	403	406	420	436	439	490	435	452	396	413	415	332	313	2960	2821
11:00	455	382	442	405	467	438	443	424	497	372	477	371	370	366	3151	2758
12:00	470	404	432	391	486	414	517	398	492	425	492	374	392	340	3281	2746
13:00	441	352	493	406	476	394	484	420	458	380	372	307	390	287	3114	2546
14:00	411	360	401	371	446	435	459	389	465	369	324	289	343	263	2849	2476
15:00	546	471	562	484	577	506	579	509	539	494	307	250	315	286	3425	3000
16:00	588	448	623	456	606	512	591	446	557	410	309	268	321	262	3595	2802
17:00	619	383	677	424	594	456	617	414	502	382	287	259	292	313	3588	2631
18:00	360	339	377	328	362	317	370	351	380	353	260	273	247	282	2356	2243
19:00	247	229	300	270	269	209	263	262	270	246	302	254	200	198	1851	1668
20:00	208	143	177	155	217	142	222	198	261	183	188	180	146	122	1419	1123
21:00	139	103	154	123	111	99	142	103	181	113	157	121	46	65	930	727
22:00	107	73	87	83	65	66	70	55	98	96	72	59	43	48	542	480
23:00	69	67	60	51	45	56	46	52	52	44	49	29	21	28	342	327
07-19	5454	4989	5612	5302	5702	5494	5773	5308	5521	5019	3986	3783	3563	3400	35611	33295
06-22	6226	5692	6433	6131	6514	6251	6601	6179	6431	5801	4717	4470	4012	3872	40934	38396
06-00	6402	5832	6580	6265	6624	6373	6717	6286	6581	5941	4838	4558	4076	3948	41818	39203
00-00	6561	6081	6859	6611	6936	6758	6993	6603	6813	6265	5042	4794	4257	4132	43461	41244
Percent	51.90%	48.10%	50.92%	49.08%	50.65%	49.35%	51.43%	48.57%	52.10%	47.90%	51.26%	48.74%	50.75%	49.25%	51.31%	48.69%

Location Tibbereena Street Duration 6:00 - 09:00
 Tibbereena Street 15:00 - 18:00
 Newell Highway Date Tuesday, 25 February 2025
 Suburb NARRABRI Weather -

All Vehicles		NORTH										EAST													
Time Per 15 Mins		Tibbereena Street										-													
		L		T		R						L		T		R						TOTAL			
		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	PEDS	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	PEDS	LIGHT	HEAVY	TOTAL	TOTAL	
6:00	- 6:15				5	1	6	22	1	23	29	0										88	9	97	
6:15	- 6:30				3	0	3	18	5	23	26	0										100	10	110	
6:30	- 6:45				14	0	14	18	3	21	35	0										107	16	123	
6:45	- 7:00				5	2	7	27	8	35	42	0										132	26	158	
7:00	- 7:15				14	1	15	21	6	27	42	0										130	19	149	
7:15	- 7:30				8	1	9	26	2	28	37	0										140	15	155	
7:30	- 7:45				13	2	15	34	8	42	57	0										183	23	206	
7:45	- 8:00				14	1	15	47	4	51	66	0										226	25	251	
8:00	- 8:15				10	2	12	37	11	48	60	0										211	35	246	
8:15	- 8:30				20	1	21	32	9	41	62	0										238	32	270	
8:30	- 8:45				24	2	26	46	12	58	84	0										254	28	282	
8:45	- 9:00				21	3	24	49	12	61	85	0										271	28	299	
Period End					151	16	167	377	81	458	625	0										2080	266	2346	
15:00	- 15:15				16	1	17	75	13	88	105	0										221	35	256	
15:15	- 15:30				32	6	38	90	15	105	143	0										245	41	286	
15:30	- 15:45				22	5	27	76	4	80	107	0										281	29	310	
15:45	- 16:00				22	2	24	62	13	75	99	0										232	24	256	
16:00	- 16:15				25	1	26	87	16	103	129	0										253	31	284	
16:15	- 16:30				20	0	20	94	12	106	126	0										261	25	286	
16:30	- 16:45				30	2	32	89	7	96	128	0										255	25	280	
16:45	- 17:00				22	0	22	83	16	99	121	0										257	31	288	
17:00	- 17:15				34	2	36	124	3	127	163	0										316	10	326	
17:15	- 17:30				28	1	29	97	9	106	135	0										278	24	302	
17:30	- 17:45				25	0	25	96	10	106	131	0										253	20	273	
17:45	- 18:00				24	2	26	80	10	90	116	0										235	20	255	
Period End					300	22	322	1053	128	1181	1503	0										3087	315	3402	

All Vehicles		SOUTH										WEST													
Time Per 15 Mins		Tibbereena Street										Newell Highway													
		L		T		R						L		T		R						TOTAL			
		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	PEDS	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	TOTAL	PEDS	LIGHT	HEAVY	TOTAL	TOTAL	
6:00	- 6:15	7	0	7	6	0	6				13	0	37	5	42				55	0	88	9	97		
6:15	- 6:30	13	0	13	8	0	8				21	0	42	5	47			16	0	16	63	0	100	10	110
6:30	- 6:45	20	1	21	9	2	11				32	0	15	0	15			31	10	41	56	0	107	16	123
6:45	- 7:00	28	2	30	9	1	10				40	0	43	10	53			20	3	23	76	0	132	26	158
7:00	- 7:15	15	1	16	5	2	7				23	0	61	7	68			14	2	16	84	0	130	19	149
7:15	- 7:30	28	5	33	4	0	4				37	0	48	6	54			26	1	27	81	0	140	15	155
7:30	- 7:45	32	3	35	6	0	6				41	0	75	8	83			23	2	25	108	0	183	23	206
7:45	- 8:00	41	6	47	7	1	8				55	0	92	7	99			25	6	31	130	0	226	25	251
8:00	- 8:15	43	2	45	6	2	8				53	0	85	17	102			30	1	31	133	0	211	35	246
8:15	- 8:30	44	0	44	2	0	2				46	0	99	17	116			41	5	46	162	0	238	32	270
8:30	- 8:45	38	1	39	10	0	10				49	0	107	11	118			29	2	31	149	0	254	28	282
8:45	- 9:00	52	4	56	9	0	9				65	0	95	6	101			45	3	48	149	0	271	28	299
Period End		361	25	386	81	8	89				475	0	799	99	898			311	37	348	1246	0	2080	266	2346
15:00	- 15:15	31	7	38	1	3	4				42	0	70	11	81			28	0	28	109	0	221	35	256
15:15	- 15:30	45	7	52	2	0	2				54	1	55	10	65			21	3	24	89	0	245	41	286
15:30	- 15:45	44	3	47	9	0	9				56	0	94	13	107			36	4	40	147	0	281	29	310
15:45	- 16:00	49	3	52	8	0	8				60	0	56	3	59			35	3	38	97	0	232	24	256
16:00	- 16:15	52	1	53	2	0	2				55	0	59	11	70			28	2	30	100	0	253	31	284
16:15	- 16:30	49	0	49	5	1	6				55	0	56	9	65			37	3	40	105	0	261	25	286
16:30	- 16:45	40	2	42	5	0	5				47	0	59	13	72			32	1	33	105	0	255	25	280
16:45	- 17:00	43	1	44	11	1	12				56	0	59	11	70			39	2	41	111	0	257	31	288
17:00	- 17:15	54	3	57	6	0	6				63	1	70	2	72			28	0	28	100	0	316	10	326
17:15	- 17:30	61	2	63	5	0	5				68	2	57	11	68			30	1	31	99	0	278	24	302
17:30	- 17:45	43	0	43	2	0	2				45	1	57	8	65			30	2	32	97	0	253	20	273
17:45	- 18:00	41	1	42	7	0	7				49	0	58	7	65			25	0	25	90	0	235	20	255
Period End		552	30	582	63	5	68				650	5	750	109	859			369	21	390	1249	0	3087	315	3402

Location Tibbereena Street Duration 6:00 - 09:00
 - -
 Tibbereena Street 15:00 - 18:00
 Newell Highway Date Tuesday, 25 February 2025
 Suburb NARRABRI Weather -

All Vehicles		NORTH										EAST														
Time Per Hour		Tibbereena Street										-														
		L			T			R			TOTAL	PEDS	L			T			R			TOTAL	PEDS	TOTAL		
		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ			LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ			LIGHT	HEAVY	TOTAL
6:00 - 7:00					27	3	30	85	17	102	132	0												427	61	488
6:15 - 7:15					36	3	39	84	22	106	145	0												469	71	540
6:30 - 7:30					41	4	45	92	19	111	156	0												509	76	585
6:45 - 7:45					40	6	46	108	24	132	178	0												585	83	668
7:00 - 8:00					49	5	54	128	20	148	202	0												679	82	761
7:15 - 8:15					45	6	51	144	25	169	220	0												760	98	858
7:30 - 8:30					57	6	63	150	32	182	245	0												858	115	973
7:45 - 8:45					68	6	74	162	36	198	272	0												929	120	1049
8:00 - 9:00					75	8	83	164	44	208	291	0												974	123	1097
Period End																										
15:00 - 16:00					92	14	106	303	45	348	454	0												979	129	1108
15:15 - 16:15					101	14	115	315	48	363	478	0												1011	125	1136
15:30 - 16:30					89	8	97	319	45	364	461	0												1027	109	1136
15:45 - 16:45					97	5	102	332	48	380	482	0												1001	105	1106
16:00 - 17:00					97	3	100	353	51	404	504	0												1026	112	1138
16:15 - 17:15					106	4	110	390	38	428	538	0												1089	91	1180
16:30 - 17:30					114	5	119	393	35	428	547	0												1106	90	1196
16:45 - 17:45					109	3	112	400	38	438	550	0												1104	85	1189
17:00 - 18:00					111	5	116	397	32	429	545	0												1082	74	1156
Period End																										

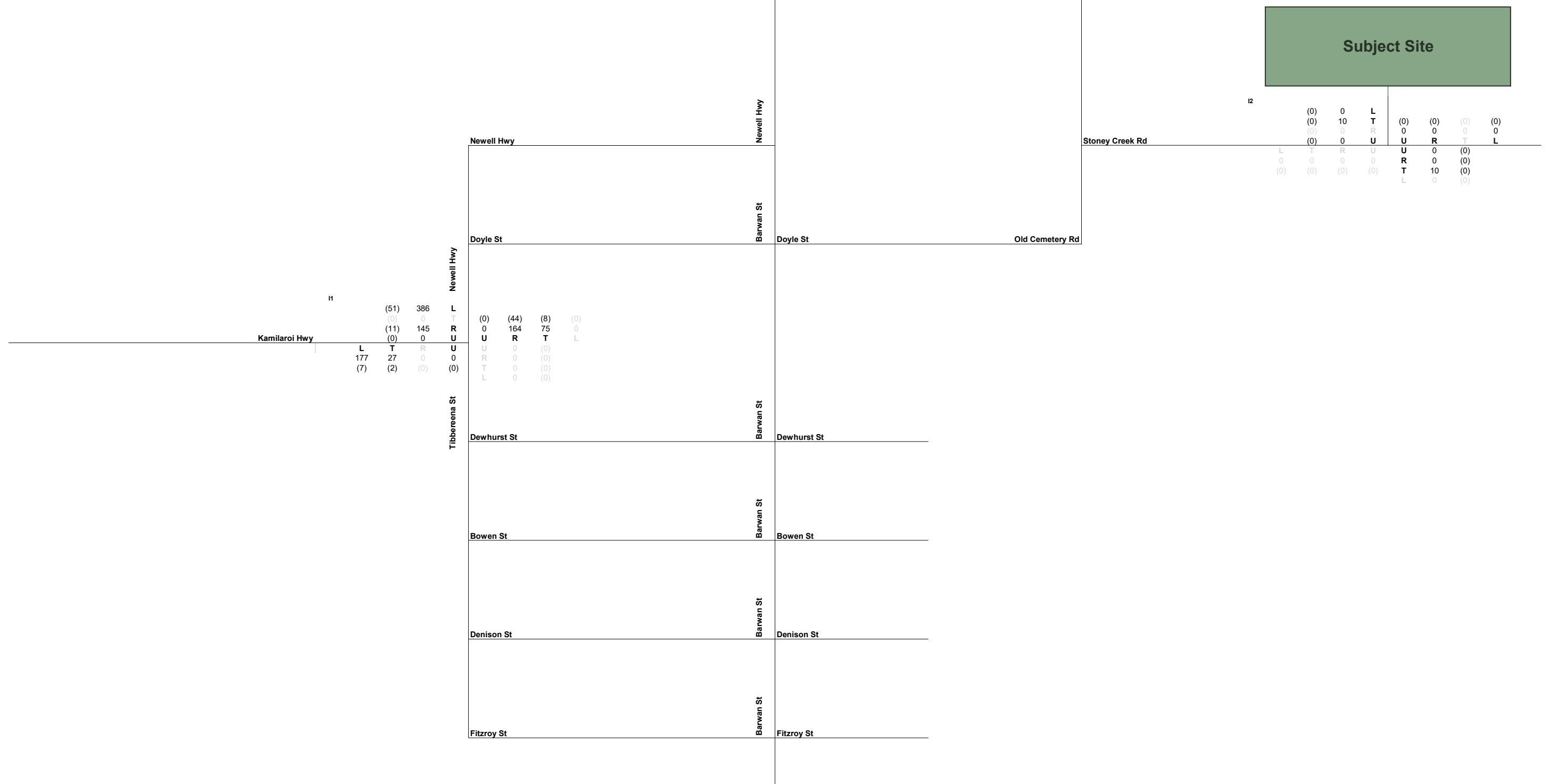
All Vehicles		SOUTH										WEST														
Time Per Hour		Tibbereena Street										Newell Highway														
		L			T			R			TOTAL	PEDS	L			T			R			TOTAL	PEDS	TOTAL		
		LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ			LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ	LIGHT	HEAVY	Σ			LIGHT	HEAVY	TOTAL
6:00 - 7:00		68	3	71	32	3	35				106	0	137	20	157				78	15	93	250	0	427	61	488
6:15 - 7:15		76	4	80	31	5	36				116	0	161	22	183				81	15	96	279	0	469	71	540
6:30 - 7:30		91	9	100	27	5	32				132	0	167	23	190				91	16	107	297	0	509	76	585
6:45 - 7:45		103	11	114	24	3	27				141	0	227	31	258				83	8	91	349	0	585	83	668
7:00 - 8:00		116	15	131	22	3	25				156	0	276	28	304				88	11	99	403	0	679	82	761
7:15 - 8:15		144	16	160	23	3	26				186	0	300	38	338				104	10	114	452	0	760	98	858
7:30 - 8:30		160	11	171	21	3	24				195	0	351	49	400				119	14	133	533	0	858	115	973
7:45 - 8:45		166	9	175	25	3	28				203	0	383	52	435				125	14	139	574	0	929	120	1049
8:00 - 9:00		177	7	184	27	2	29				213	0	386	51	437				145	11	156	593	0	974	123	1097
Period End																										
15:00 - 16:00		169	20	189	20	3	23				212	1	275	37	312				120	10	130	442	0	979	129	1108
15:15 - 16:15		190	14	204	21	0	21				225	1	264	37	301				120	12	132	433	0	1011	125	1136
15:30 - 16:30		194	7	201	24	1	25				226	0	265	36	301				136	12	148	449	0	1027	109	1136
15:45 - 16:45		190	6	196	20	1	21				217	0	230	36	266				132	9	141	407	0	1001	105	1106
16:00 - 17:00		184	4	188	23	2	25				213	0	233	44	277				136	8	144	421	0	1026	112	1138
16:15 - 17:15		186	6	192	27	2	29				221	1	244	35	279				136	6	142	421	0	1089	91	1180
16:30 - 17:30		198	8	206	27	1	28				234	3	245	37	282				129	4	133	415	0	1106	90	1196
16:45 - 17:45		201	6	207	24	1	25				232	4	243	32	275				127	5	132	407	0	1104	85	1189
17:00 - 18:00		199	6	205	20	0	20				225	4	242	28	270				113	3	116	386	0	1082	74	1156
Period End																										

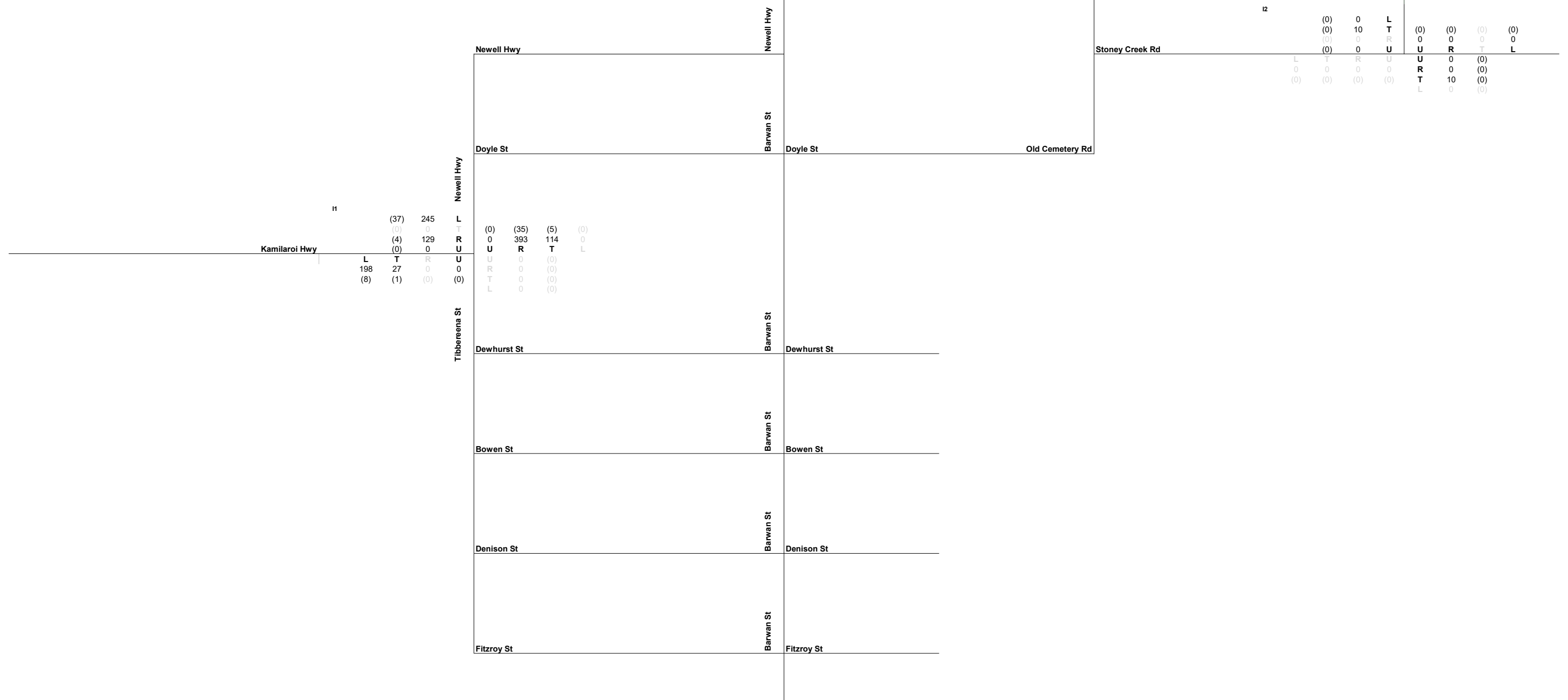


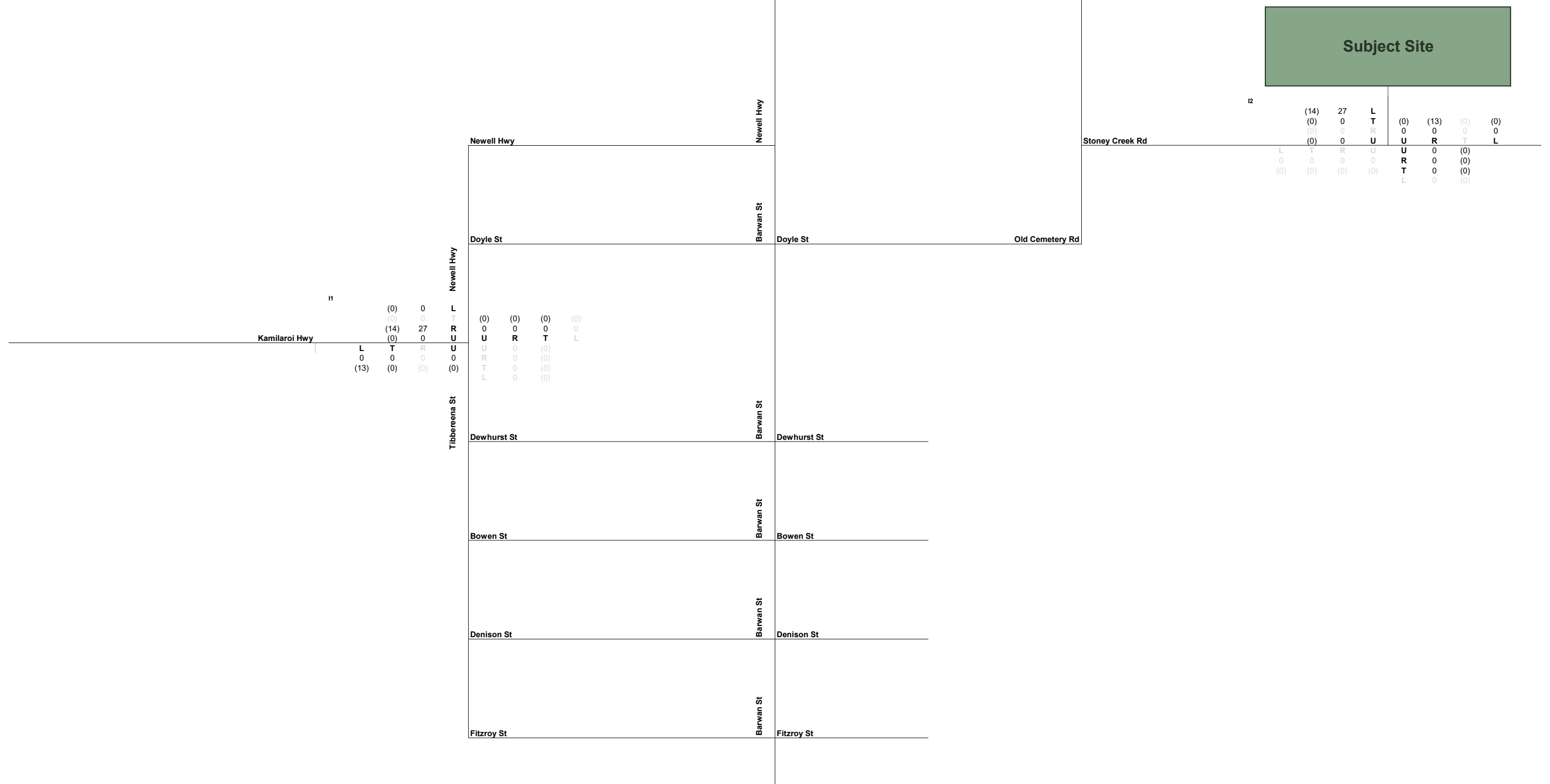
Appendix M:

Desktop Models











M8
2026 Background with Development Traffic Volumes PM
620.31316.00015
Narrabri BESS

L Left Turn
T Through
R Right Turn
U U-Turn

Legend

00

Light Vehicles

00

Heavy Vehicles

Subject Site





Appendix N:

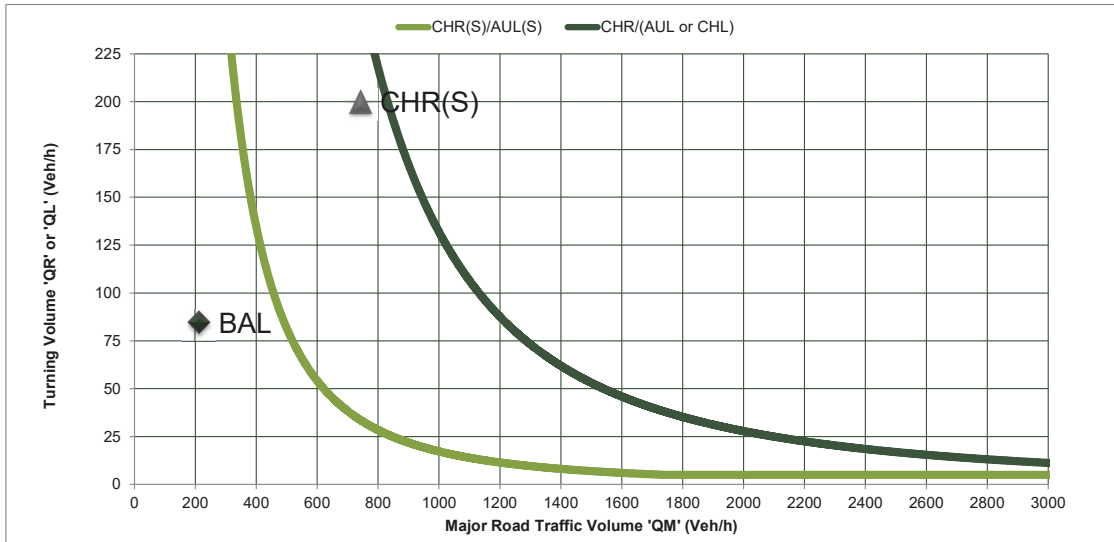
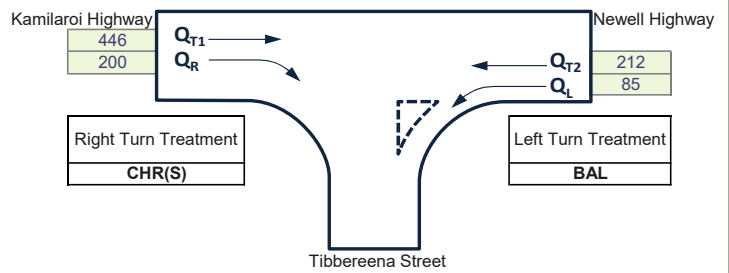
Turn Warrant Assessments



Assessment Year	2026
Peak Period	AM
Scenario	Background + Dev

Design Domain	Extended Design Domain
Design Year	10
Lane Count	2L2W
Design Speed	<= 70km/h
Splitter Island?	No

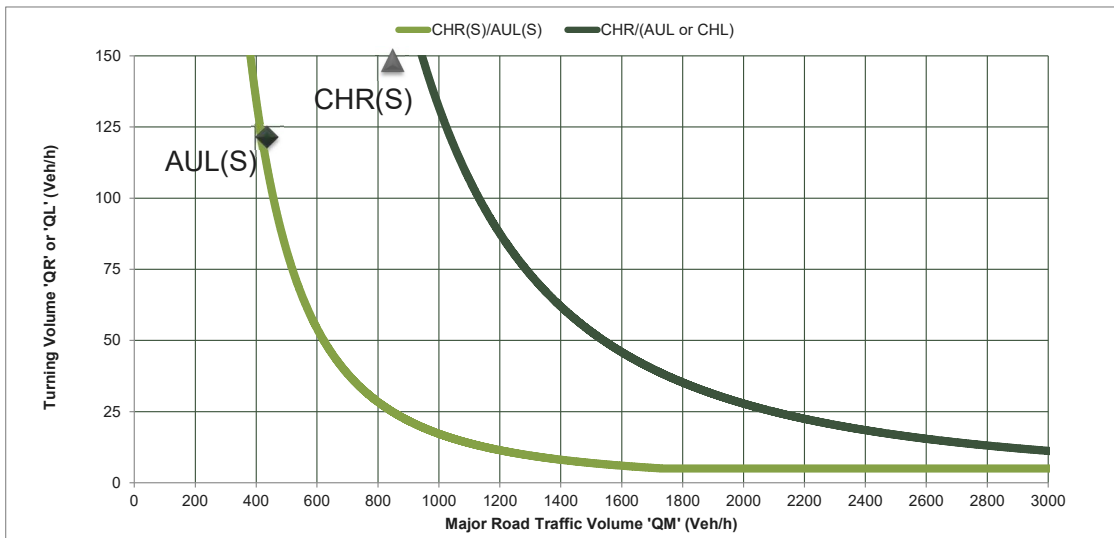
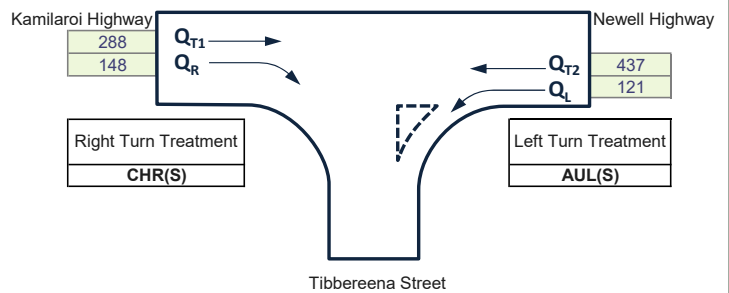
Q_M	Q_R/Q_L	
743	199.7866667	Right
212	84.66	Left



Assessment Year	2026
Peak Period	PM
Scenario	Background + Dev

Design Domain	Extended Design Domain
Design Year	10
Lane Count	2L2W
Design Speed	<= 70km/h
Splitter Island?	No

Q_M	Q_R/Q_L	
846	148.3266667	Right
437	121.38	Left



Reflects changes made in RPDM (Ed2: Vol3) Supplement to Austroads Part 4A (DTMR - August, 2014)

Turn Warrant Assessment

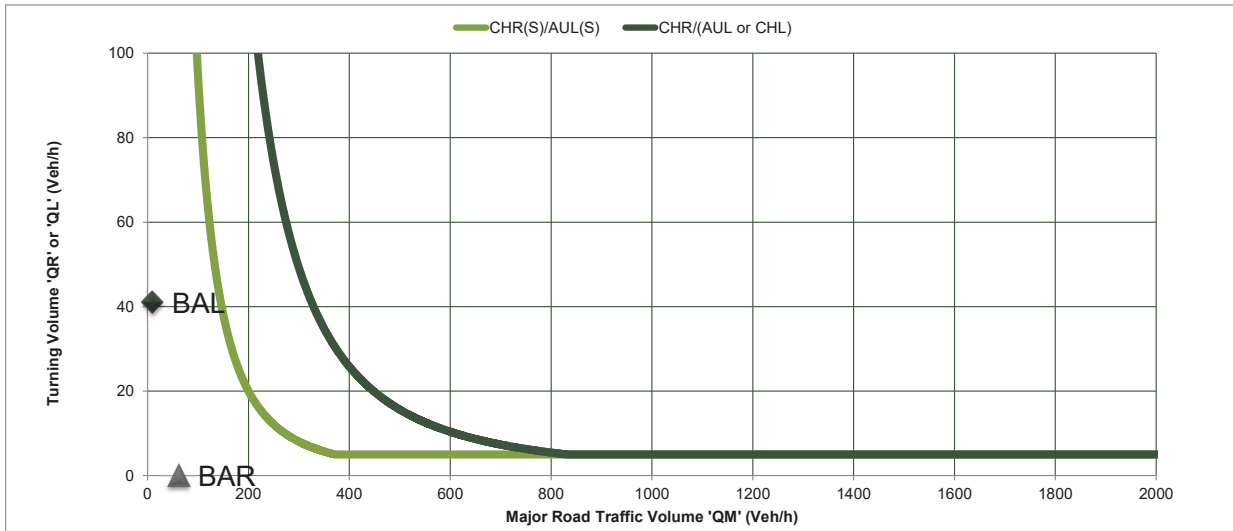
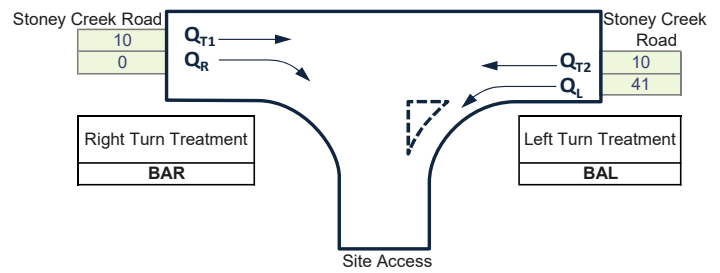
Kamilaroi Highway / Newell Highway / Tibbereena Street
620.31316.00015
15 10 2025



Assessment Year	2026
Peak Period	AM
Scenario	Background + Dev

Design Domain	Normal Design Domain
Design Year	10
Lane Count	2L2W
Design Speed	>= 100km/h
Splitter Island?	No

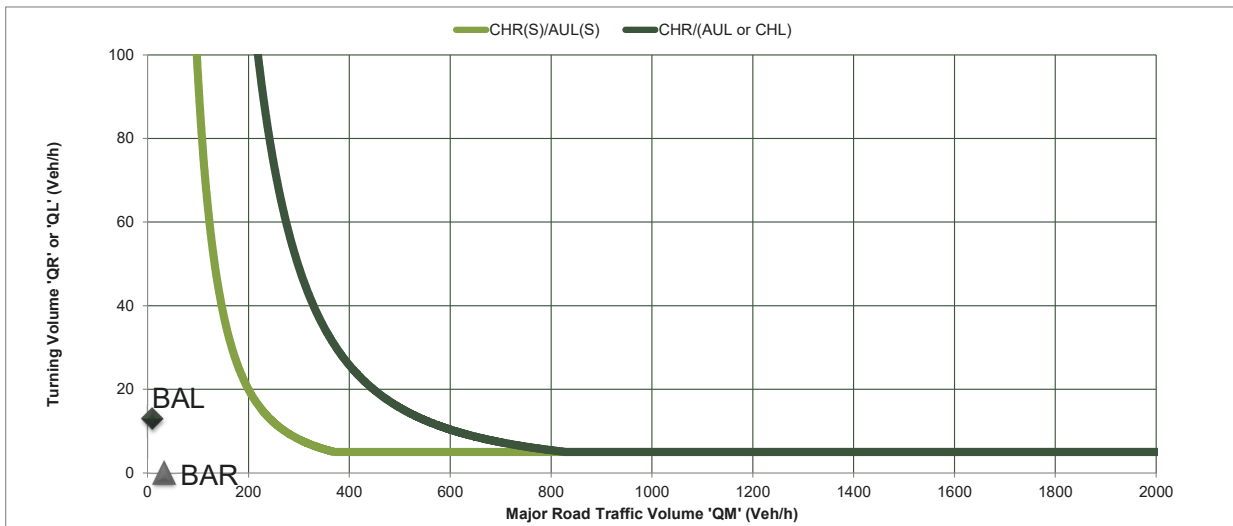
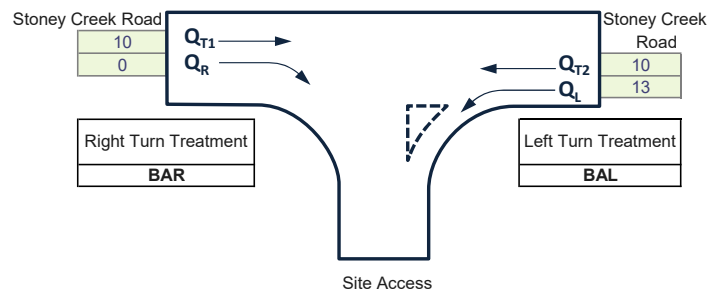
Q_M	Q_R/Q_L	
61	0	Right
10	41	Left



Assessment Year	2026
Peak Period	PM
Scenario	Background + Dev

Design Domain	Normal Design Domain
Design Year	10
Lane Count	2L2W
Design Speed	>= 100km/h
Splitter Island?	No

Q_M	Q_R/Q_L	
33	0	Right
10	13	Left



Reflects changes made in RPDM (Ed2: Vol3) Supplement to Austroads Part 4A (DTMR - August, 2014)

Turn Warrant Assessment

Major Road / Minor Intersection
620.31316.00015
03 02 2026





Appendix O:

SIDRA Outputs



SITE LAYOUT

▽ Site: I1 [2025 Survey AM (Site Folder: General)]

Newell Highway/Kamilaroi Highway/Tibbereena Street Intersection

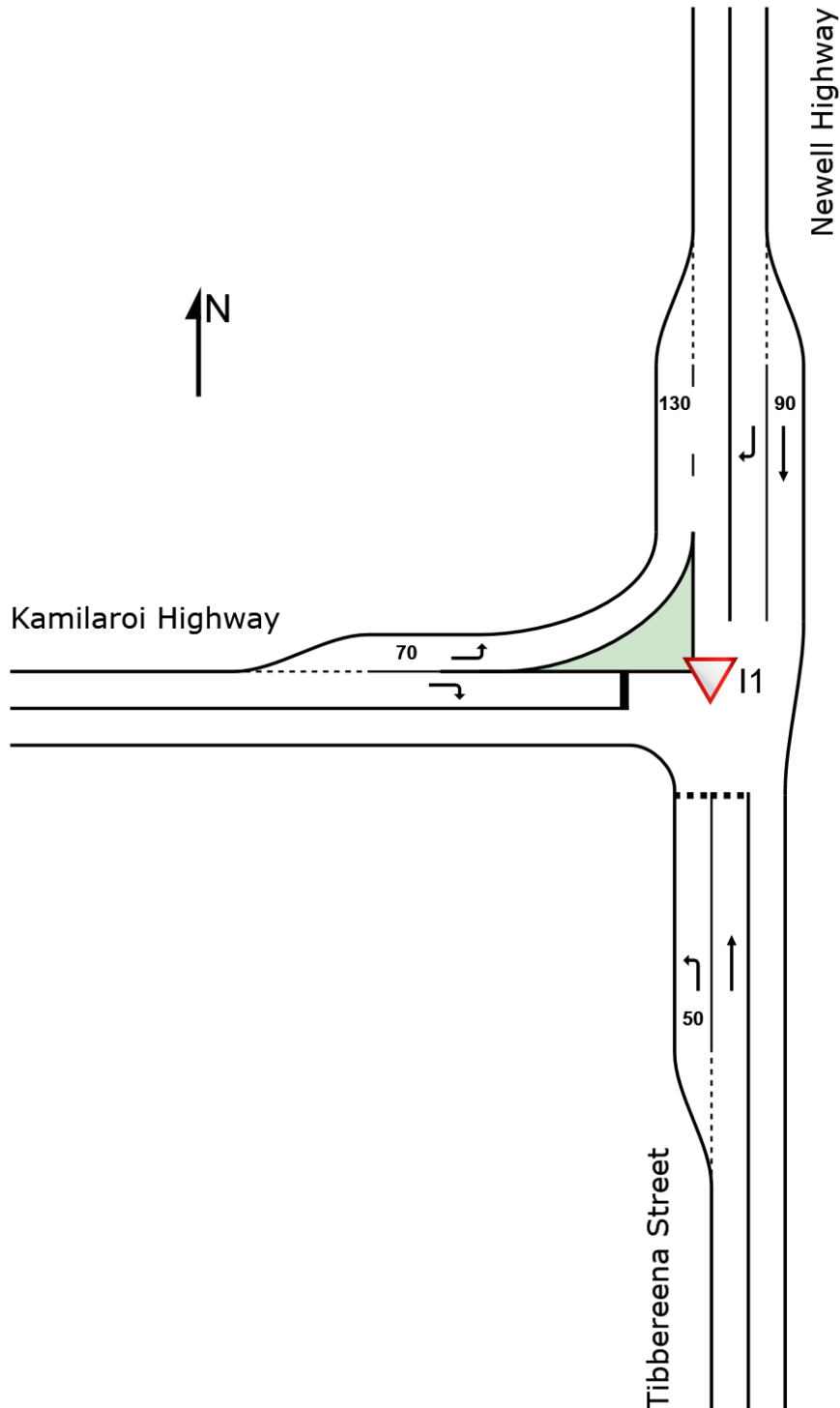
Prepared by: JC

Checked by: NN

Site Category: Existing Design

Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

▼ Site: I1 [2025 Survey AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Newell Highway/Kamilaroi Highway/Tibbereena Street Intersection
Prepared by: JC
Checked by: NN
Site Category: Existing Design
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				
South: Tibbereena Street															
1	L2	All MCs	194	3.8	194	3.8	0.150	5.5	LOS A	0.6	4.6	0.35	0.57	0.35	45.1
2	T1	All MCs	31	6.9	31	6.9	0.046	7.2	LOS A	0.2	1.1	0.55	0.70	0.55	44.7
Approach			224	4.2	224	4.2	0.150	5.7	LOS A	0.6	4.6	0.37	0.59	0.37	45.1
North: Newell Highway															
8	T1	All MCs	87	9.6	87	9.6	0.048	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
9	R2	All MCs	219	21.2	219	21.2	0.136	4.8	LOS A	0.0	0.0	0.00	0.52	0.00	45.6
Approach			306	17.9	306	17.9	0.136	3.4	NA	0.0	0.0	0.00	0.37	0.00	46.8
West: Kamilaroi Highway															
10	L2	All MCs	460	11.7	460	11.7	0.268	4.6	LOS A	0.0	0.0	0.00	0.46	0.00	46.3
12	R2	All MCs	164	7.1	164	7.1	0.256	11.1	LOS A	1.0	7.1	0.52	0.97	0.54	42.9
Approach			624	10.5	624	10.5	0.268	6.3	LOS A	1.0	7.1	0.14	0.59	0.14	45.4
All Vehicles			1155	11.2	1155	11.2	0.268	5.4	NA	1.0	7.1	0.15	0.53	0.15	45.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: H:\Projects-SLR\620-BNE\620-BNE\620.31316.00000 BESS Narrabri 3400\08 TD\0015 TA\02 Analysis\2025 03 17 - SIDRA \620.31316.00015 - SIDRA v0.1 - 2025 10 15.sip9

MOVEMENT SUMMARY

▼ Site: I1 [2025 Survey PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Newell Highway/Kamilaroi Highway/Tibbereena Street Intersection
Prepared by: JC
Checked by: NN
Site Category: Existing Design
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Tibbereena Street															
1	L2	All MCs	217	3.9	217	3.9	0.217	6.8	LOS A	0.9	6.5	0.51	0.69	0.51	44.7
2	T1	All MCs	29	3.6	29	3.6	0.046	7.5	LOS A	0.2	1.1	0.58	0.72	0.58	44.6
Approach			246	3.8	246	3.8	0.217	6.9	LOS A	0.9	6.5	0.52	0.69	0.52	44.7
North: Newell Highway															
8	T1	All MCs	125	4.2	125	4.2	0.066	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
9	R2	All MCs	451	8.2	451	8.2	0.257	4.7	LOS A	0.0	0.0	0.00	0.53	0.00	45.8
Approach			576	7.3	576	7.3	0.257	3.7	NA	0.0	0.0	0.00	0.41	0.00	46.6
West: Kamilaroi Highway															
10	L2	All MCs	297	13.1	297	13.1	0.175	4.6	LOS A	0.0	0.0	0.00	0.46	0.00	46.3
12	R2	All MCs	140	3.0	140	3.0	0.308	14.7	LOS B	1.2	8.6	0.67	1.05	0.81	41.3
Approach			437	9.9	437	9.9	0.308	7.8	LOS A	1.2	8.6	0.21	0.65	0.26	44.6
All Vehicles			1259	7.5	1259	7.5	0.308	5.7	NA	1.2	8.6	0.18	0.55	0.19	45.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

▼ Site: I1 [2026 BG AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Newell Highway/Kamilaroi Highway/Tibbereena Street Intersection
Prepared by: JC
Checked by: NN
Site Category: Existing Design
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Tibbereena Street															
1	L2	All MCs	198	3.7	198	3.7	0.154	5.5	LOS A	0.7	4.7	0.35	0.57	0.35	45.1
2	T1	All MCs	32	6.7	32	6.7	0.049	7.3	LOS A	0.2	1.2	0.56	0.71	0.56	44.7
Approach			229	4.1	229	4.1	0.154	5.8	LOS A	0.7	4.7	0.38	0.59	0.38	45.0
North: Newell Highway															
8	T1	All MCs	89	9.4	89	9.4	0.049	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
9	R2	All MCs	223	21.2	223	21.2	0.138	4.8	LOS A	0.0	0.0	0.00	0.52	0.00	45.6
Approach			313	17.8	313	17.8	0.138	3.4	NA	0.0	0.0	0.00	0.37	0.00	46.8
West: Kamilaroi Highway															
10	L2	All MCs	469	11.7	469	11.7	0.274	4.6	LOS A	0.0	0.0	0.00	0.46	0.00	46.3
12	R2	All MCs	167	6.9	167	6.9	0.263	11.2	LOS A	1.0	7.5	0.52	0.98	0.55	42.9
Approach			637	10.4	637	10.4	0.274	6.4	LOS A	1.0	7.5	0.14	0.60	0.15	45.3
All Vehicles			1179	11.2	1179	11.2	0.274	5.5	NA	1.0	7.5	0.15	0.54	0.15	45.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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620.31316.00015 - SIDRA v0.1 - 2025 10 15.sip9

MOVEMENT SUMMARY

▼ Site: I1 [2026 BG PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Newell Highway/Kamilaroi Highway/Tibbereena Street Intersection
Prepared by: JC
Checked by: NN
Site Category: Existing Design
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist] m				km/h
South: Tibbereena Street															
1	L2	All MCs	221	3.8	221	3.8	0.211	6.5	LOS A	0.9	6.3	0.49	0.67	0.49	44.8
2	T1	All MCs	31	3.4	31	3.4	0.047	7.4	LOS A	0.2	1.1	0.57	0.72	0.57	44.7
Approach			252	3.8	252	3.8	0.211	6.6	LOS A	0.9	6.3	0.50	0.68	0.50	44.8
North: Newell Highway															
8	T1	All MCs	160	23.7	160	23.7	0.095	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
9	R2	All MCs	427	1.2	427	1.2	0.232	4.6	LOS A	0.0	0.0	0.00	0.53	0.00	45.9
Approach			587	7.3	587	7.3	0.232	3.4	NA	0.0	0.0	0.00	0.38	0.00	46.9
West: Kamilaroi Highway															
10	L2	All MCs	303	13.2	303	13.2	0.179	4.6	LOS A	0.0	0.0	0.00	0.46	0.00	46.3
12	R2	All MCs	143	2.9	143	2.9	0.318	14.9	LOS B	1.3	9.0	0.68	1.05	0.83	41.2
Approach			446	9.9	446	9.9	0.318	7.9	LOS A	1.3	9.0	0.22	0.65	0.27	44.6
All Vehicles			1285	7.5	1285	7.5	0.318	5.6	NA	1.3	9.0	0.17	0.53	0.19	45.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: H:\Projects-SLR\620-BNE\620-BNE\620.31316.00000 BESS Narrabri 3400\08 TD\0015 TA\02 Analysis\2025 03 17 - SIDRA \620.31316.00015 - SIDRA v0.1 - 2025 10 15.sip9

MOVEMENT SUMMARY

Site: I1 [2026 BG+Dev AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Newell Highway/Kamilaroi Highway/Tibbereena Street Intersection
Prepared by: JC
Checked by: NN
Site Category: Existing Design
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh]	[Dist m]				km/h
South: Tibbereena Street															
1	L2	All MCs	212	10.0	212	10.0	0.172	5.7	LOS A	0.7	5.6	0.36	0.57	0.36	45.0
2	T1	All MCs	32	6.7	32	6.7	0.049	7.3	LOS A	0.2	1.2	0.56	0.71	0.56	44.7
Approach			243	9.5	243	9.5	0.172	5.9	LOS A	0.7	5.6	0.39	0.59	0.39	45.0
North: Newell Highway															
8	T1	All MCs	89	9.4	89	9.4	0.049	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
9	R2	All MCs	223	21.2	223	21.2	0.138	4.8	LOS A	0.0	0.0	0.00	0.52	0.00	45.6
Approach			313	17.8	313	17.8	0.138	3.4	NA	0.0	0.0	0.00	0.37	0.00	46.8
West: Kamilaroi Highway															
10	L2	All MCs	469	11.7	469	11.7	0.274	4.6	LOS A	0.0	0.0	0.00	0.46	0.00	46.3
12	R2	All MCs	211	12.5	211	12.5	0.353	12.6	LOS A	1.6	12.3	0.56	1.03	0.70	42.3
Approach			680	11.9	680	11.9	0.353	7.1	LOS A	1.6	12.3	0.17	0.64	0.22	45.0
All Vehicles			1236	12.9	1236	12.9	0.353	5.9	NA	1.6	12.3	0.17	0.56	0.19	45.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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\620.31316.00015 - SIDRA v0.1 - 2025 10 15.sip9

MOVEMENT SUMMARY

▼ Site: I1 [2026 BG+Dev PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Newell Highway/Kamilaroi Highway/Tibbereena Street Intersection
Prepared by: JC
Checked by: NN
Site Category: Existing Design
Give-Way (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[Total HV]	%	[Total HV]	%				[Veh. veh	Dist] m				
			veh/h	%	veh/h	%	v/c	sec							km/h
South: Tibbereena Street															
1	L2	All MCs	264	8.8	264	8.8	0.279	7.3	LOS A	1.2	9.2	0.54	0.72	0.56	44.4
2	T1	All MCs	31	3.4	31	3.4	0.049	7.6	LOS A	0.2	1.2	0.58	0.74	0.58	44.5
Approach			295	8.2	295	8.2	0.279	7.3	LOS A	1.2	9.2	0.54	0.72	0.56	44.4
North: Newell Highway															
8	T1	All MCs	127	4.1	127	4.1	0.067	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
9	R2	All MCs	460	8.2	460	8.2	0.262	4.7	LOS A	0.0	0.0	0.00	0.53	0.00	45.8
Approach			587	7.3	587	7.3	0.262	3.7	NA	0.0	0.0	0.00	0.41	0.00	46.6
West: Kamilaroi Highway															
10	L2	All MCs	303	13.2	303	13.2	0.179	4.6	LOS A	0.0	0.0	0.00	0.46	0.00	46.3
12	R2	All MCs	157	11.4	157	11.4	0.408	17.9	LOS B	1.7	13.0	0.74	1.10	1.01	40.0
Approach			460	12.6	460	12.6	0.408	9.1	LOS A	1.7	13.0	0.25	0.68	0.34	44.0
All Vehicles			1342	9.3	1342	9.3	0.408	6.4	NA	1.7	13.0	0.21	0.57	0.24	45.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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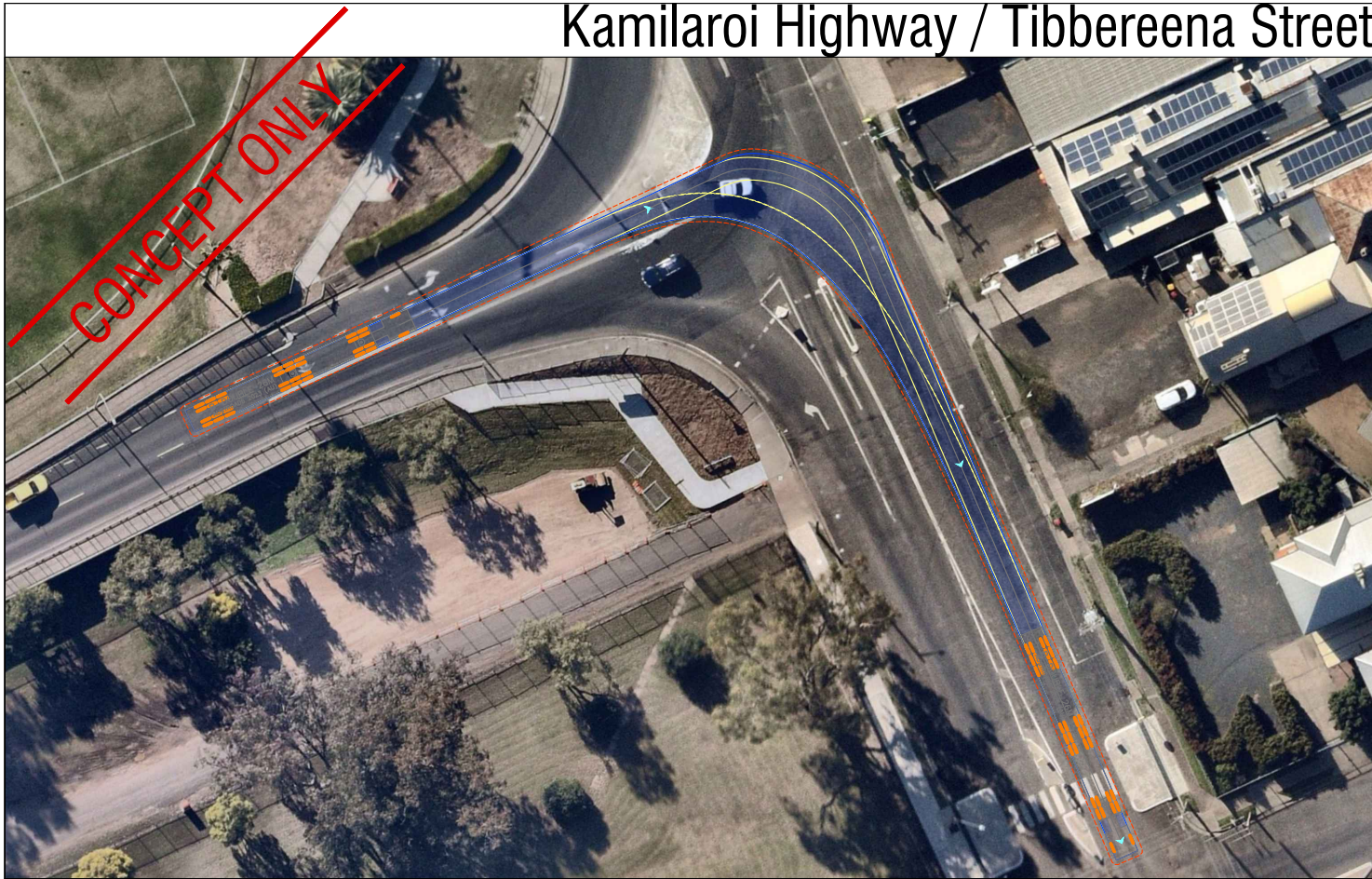
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Appendix P:

Swept Path Assessments





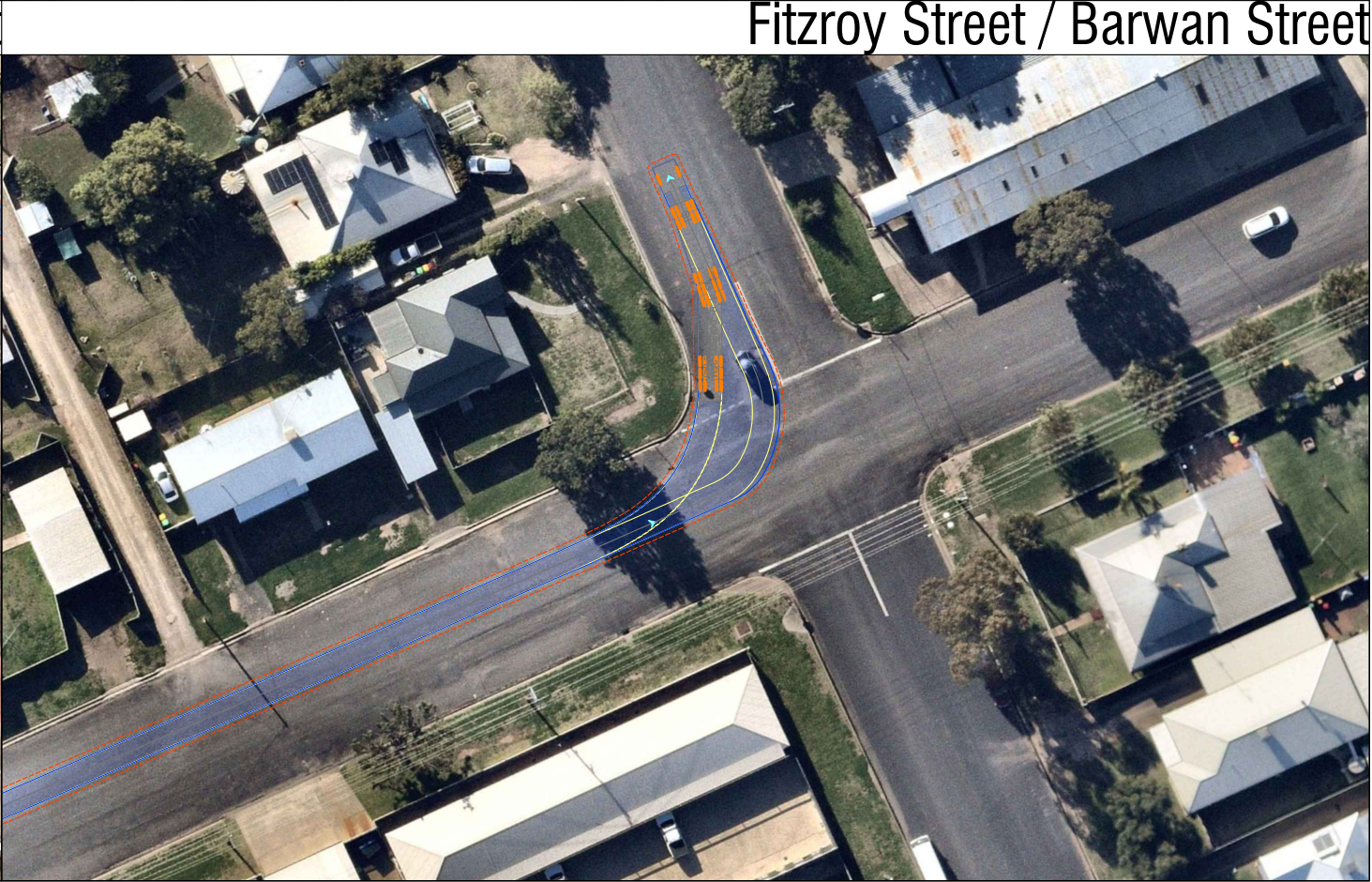
Kamilaroi Highway / Tibbereena Street



Barwan Street / Doyle Street



Fitzroy Street / Tibbereena Street



Fitzroy Street / Barwan Street

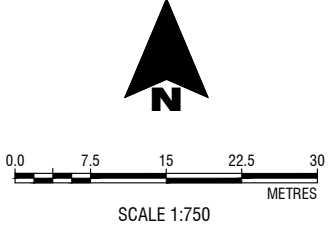
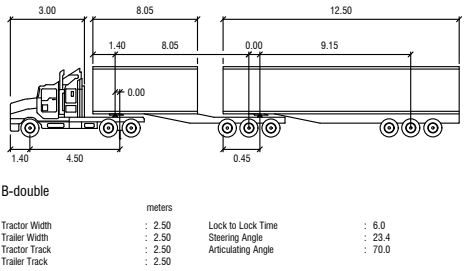


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- SWEPT PATH LEGEND**
- Vehicle Path
 - Vehicle Body
 - Body Clearance
 - Front Wheels



Enervest

Stoney Creek BESS

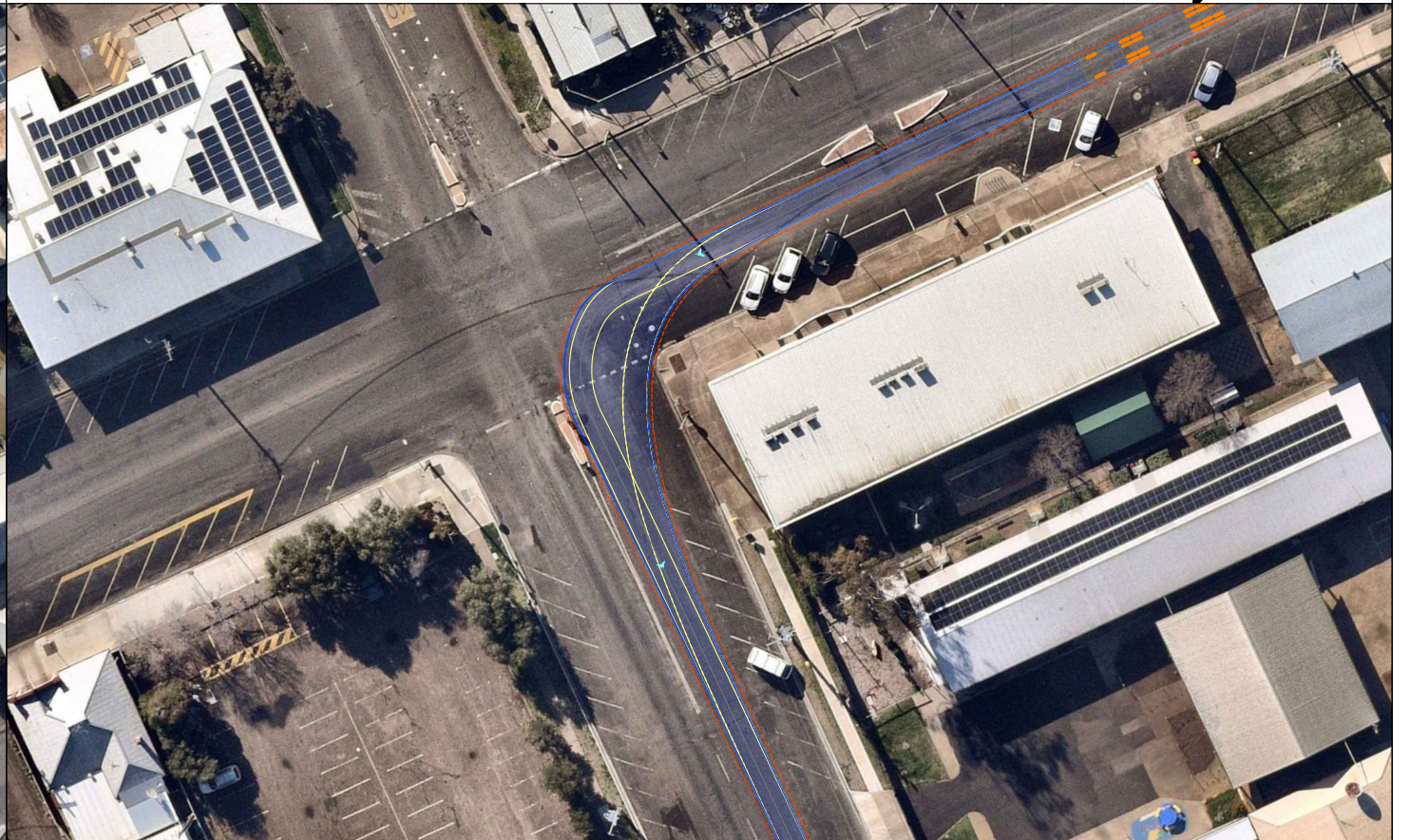
26m B-Double Design Vehicle - Inbound

FIGURE SK-01

Kamilaroi Highway / Tibbereena Street



Barwan Street / Doyle Street



Fitzroy Street / Tibbereena Street



Fitzroy Street / Barwan Street



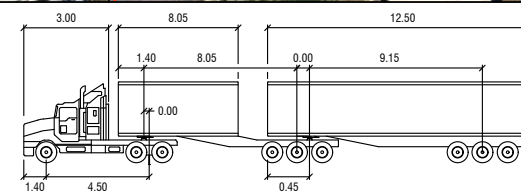
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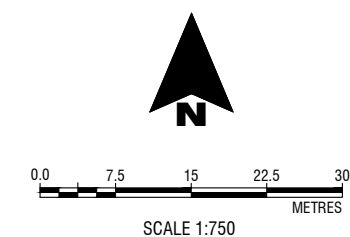
SWEPT PATH LEGEND

- Vehicle Path
- Vehicle Body
- Body Clearance
- Front Wheels



B-DOUBLE 26M

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 23.4
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



Enervest

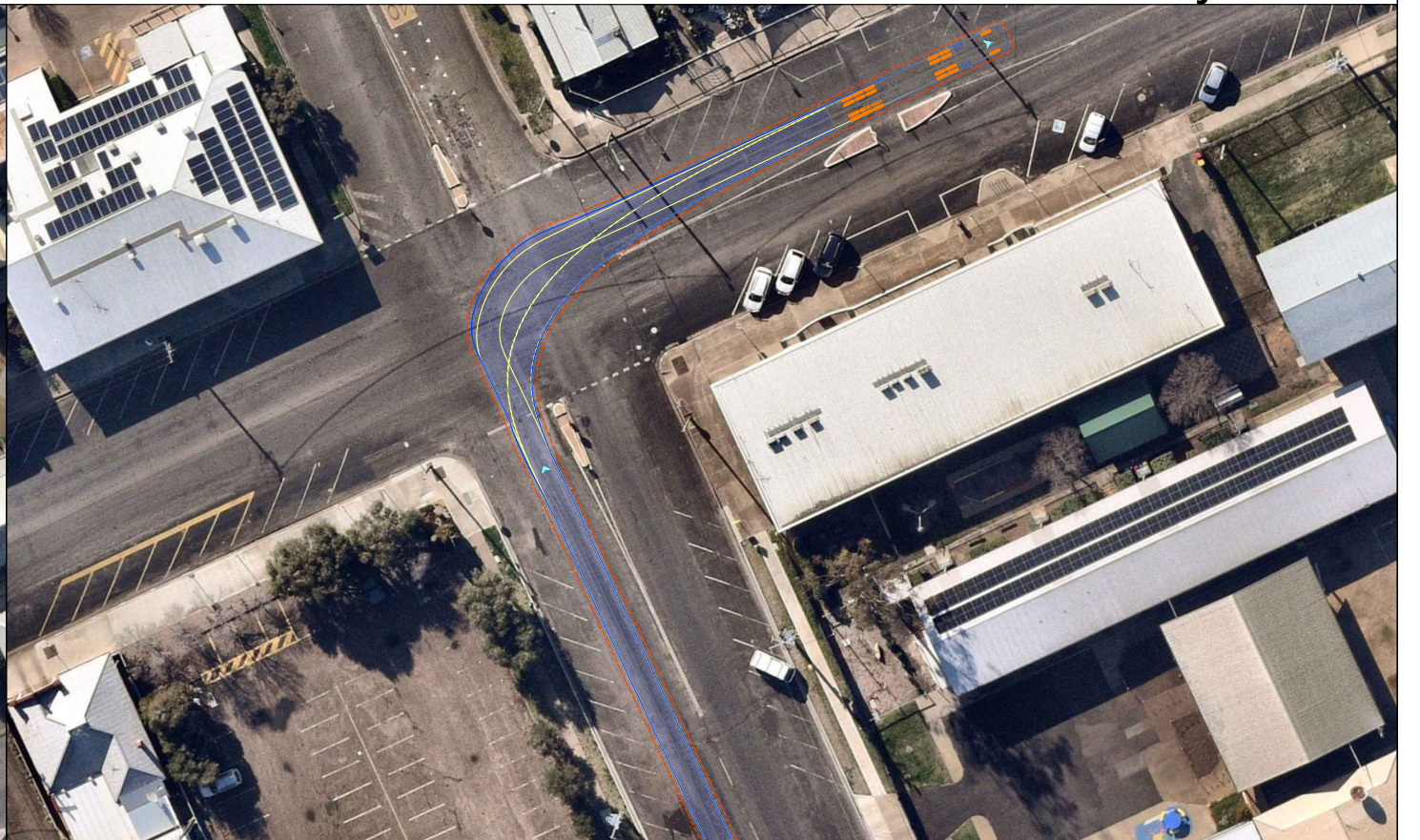
Stoney Creek BESS

26m B-Double Design Vehicle - Outbound

FIGURE SK-02

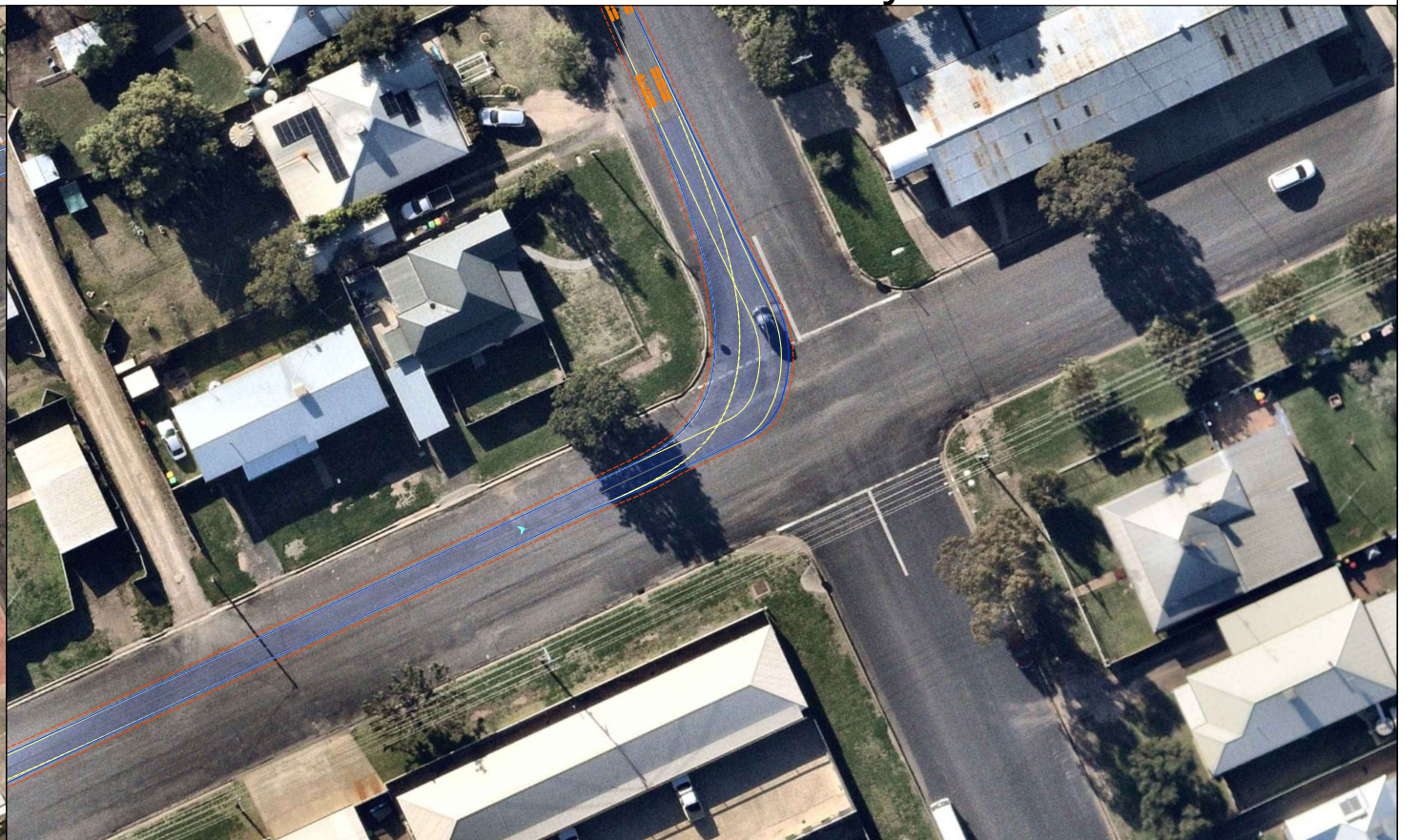
Kamilaroi Highway / Tibbereena Street

Barwan Street / Doyle Street



Fitzroy Street / Tibbereena Street

Fitzroy Street / Barwan Street



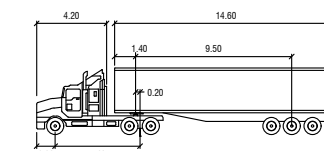
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SWEPT PATH LEGEND

- Vehicle Path
- Vehicle Body
- Body Clearance
- Front Wheels



AV

Tractor Width
Trailer Width
Tractor Track
Trailer Track

metres
: 2.50
: 2.50
: 2.50
: 2.50

Lock to Lock Time
Steering Angle
Articulating Angle

: 6.0
: 28.3
: 72.0



0.0 7.5 15 22.5 30
METRES
SCALE 1:750

Enervest

Stoney Creek BESS

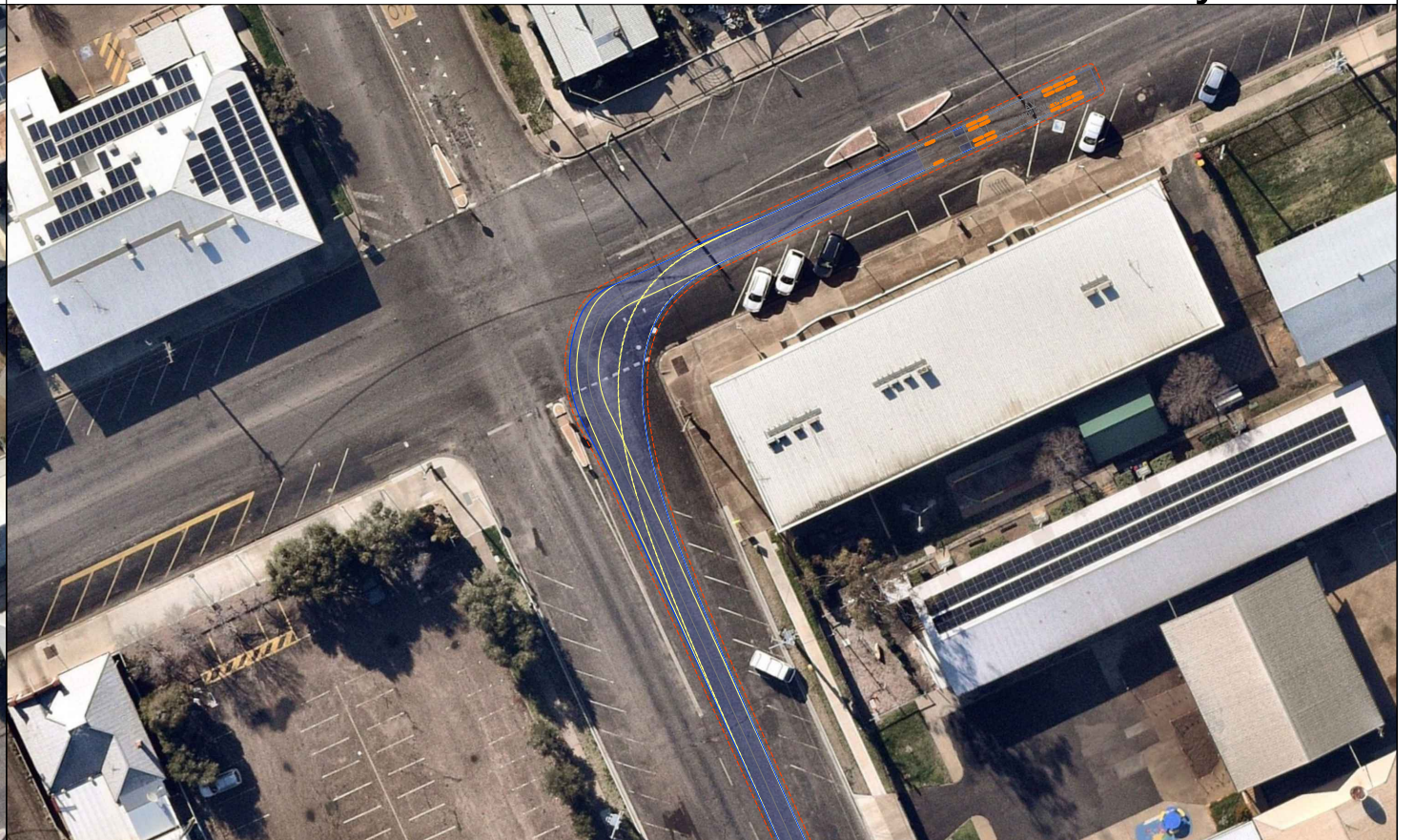
**20m AV Design Vehicle -
Inbound**

FIGURE SK-03

Kamilaroi Highway / Tibbereena Street



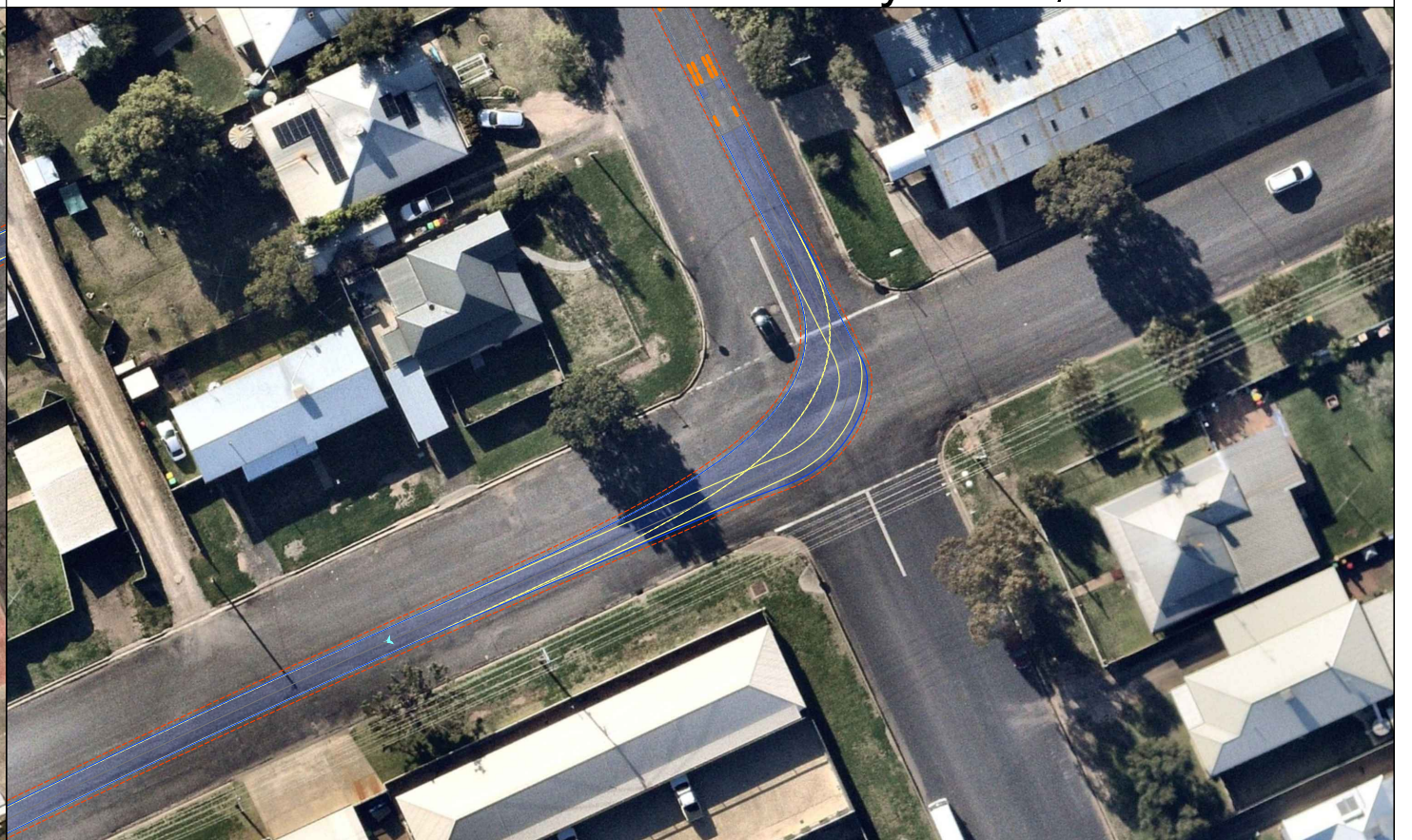
Barwan Street / Doyle Street



Fitzroy Street / Tibbereena Street



Fitzroy Street / Barwan Street



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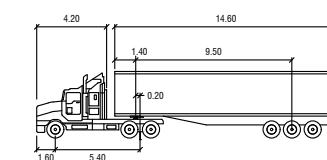
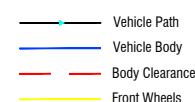
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Projection: GDA2020 MGA Zone 55

SWEPT PATH LEGEND



AV

Tractor Width
Trailer Width
Tractor Track
Trailer Track

meters		
: 2.50	Lock to Lock Time	: 6.0
: 2.50	Steering Angle	: 28.3
: 2.50	Articulating Angle	: 72.0
: 2.50		



Enervest

Stoney Creek BESS

20m AV Design Vehicle - Outbound

FIGURE SK-04



Appendix Q:

Drivers' Code of Conduct



DRIVERS CODE OF CONDUCT

Safe Driving Policy for Narrabri Battery Energy Storage System (BESS), Stoney Creek Road NSW.

1. Objectives

- To minimise the impact of earthworks and construction on the local and state road network:
 - Minimise conflict with other road users.
 - Minimise road traffic noise.
 - Ensure truck drivers use specified routes.

2. Code of Conduct

All vehicle operators accessing the site must:

- Take reasonable care for his or her own personal health and safety.
- Not adversely, by way of actions or otherwise, impact on the health and safety of other persons.
- Notify their employer if they are not fit for duty prior to commencing their shift.
- Obey all applicable road rules and laws at all times.
- In the event an emergency vehicle is behind your vehicle, pull over and allow the emergency vehicle to pass immediately.
- Obey the applicable driving hours per legislation and take all reasonable steps to manage your fatigue and not drive with high drowsiness.
- Obey all on-site signposted speed limits and comply with directions of traffic control supervisors in relation to movements in and around temporary or fixed work areas.
- Ensure all loads are safely restrained, as necessary.
- If available and required, drive over cattle grids that are located at the site's access to vibrate off any loose material attached to construction vehicles.
- Operate your vehicles in a safe and professional manner, with consideration for all other road users.
- Hold a current Australian State or Territory issued driver's licence.
- Notify your employer or operator immediately should the status or conditions of their driver's licence change in any way.
- Comply with other applicable workplace policies, including a zero tolerance of driving while under the influence of alcohol and/or illicit drugs.
- Not use mobile phones when driving a vehicle or operating equipment. If the use of a mobile device is required, the driver shall pull over in a safe and legal location before using any mobile device.
- Advise management of any situations in which you know or think may present a threat to workplace health and safety.



- Drive according to prevailing conditions (such as during inclement weather) and reduce speed, if necessary.
- Have necessary identification documentation at hand and ready to present to security staff on entry and departure from the site, as necessary, to avoid unnecessary delays to other vehicles.

3. Crash or Incident Procedure

- Stop your vehicle as close to it as possible to the scene, making sure you are not hindering traffic.
- Ensure your safety first, then help injured people and seek assistance immediately if required.
 - Ensure the following information is noted:
 - Details of the other vehicles and registration numbers.
 - Names and addresses of the other vehicle drivers.
 - Names and addresses of witnesses.
 - Insurers details.
- Give the following information to the involved parties:
 - Name, address, and company details.
- If the damaged vehicle is not occupied, provide a note with your contact details for the owner to
- contact the company.
- Ensure that the Police are contacted should the following circumstances occur:
 - If there is a disagreement over the cause of the crash.
 - If there are injuries.
 - If you damage property other than your own.
- As soon as reasonably practical, report all details gathered to your manager.





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