Department of Planning, Housing and Infrastructure

Our ref: SSD-57107216-PA-26

Michele Nettlefold

Manager Land and Approvals – Ops

AGL Macquarie Pty Limited

200 George Street

Sydney, NSW, 2000

16/12/2025

Tomago BESS – Traffic Management Plan Stage 1

Dear Ms Nettlefold

Thank you for submitting the Traffic Management Plan Stage 1 in accordance with Condition, B8 Schedule 2 of the consent for the Tomago BESS (SSD-57107216). I also acknowledge your response to the Department's review comments and request for additional information.

I note the Traffic Management Plan has been prepared in consultation with TfNSW and Port Stephens Council; and contains the information required by the conditions of approval.

Accordingly, as nominee of the Planning Secretary, I approve the revised Traffic Management Plan Stage 1 (Rev V3.3, December 2025).

You are reminded that if there are any inconsistencies between the Plan and the conditions of approval, the conditions prevail.

Please ensure you make the document publicly available on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Charissa Pillay on 02 99955944.

Yours sincerely

Iwan Davies
Director
Energy Assessments

As nominee of the Planning Secretary

Traffic Management Plan – Stage 1

Tomago BESS, Old Punt Road, NSW

Prepared for:

Fluence Energy Pty Ltd

New South Wales, Australia

Prepared by:

SLR Consulting Australia Pty Ltd

Level 16, 175 Eagle Street, Brisbane QLD 4000, Australia

SLR Project No.: 630.032549.00001

3 December 2025

Revision: v3.3

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
v0.1	13 August 2025	A. Moxon / D. Nguyen	B. Rheinberger	
v0.2	26 August 2025	A. Moxon / D. Nguyen	B. Rheinberger	
v0.3	5 September 2025	A. Moxon / D. Nguyen	B. Rheinberger	
v1.0	11 September 2025	A. Moxon / D. Nguyen	B. Rheinberger	B. Rheinberger
v2.0	26 September 2025	A. Moxon / D. Nguyen	B. Rheinberger	B. Rheinberger
v2.1	30 September 2025	A. Moxon / D. Nguyen	B. Rheinberger	B. Rheinberger
v3.1	18 November 2025	A. Moxon / D. Nguyen	C.Seventekin	B.Rheinberger
v3.2	26 November 2025	A. Moxon / D. Nguyen	B. Rheinberger	B. Rheinberger
v3.3	3 December 2025	A. Moxon / D. Nguyen	B. Rheinberger	B. Rheinberger

Basis of Report

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Fluence Energy Pty Ltd (the Proponent). 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 Project Principal. 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 Project Principal and others in respect of any matters outside the agreed scope of the work.

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1.0 Introduction

1.1 Context

SLR Consulting Australia Pty Ltd (**SLR**) has been engaged by Fluence Energy Pty Ltd (**Fluence Energy**), to prepare this Traffic Management Plan (**TMP**). The TMP has been prepared on behalf of AGL Energy Limited (the Project Principal) as trustee for the Tomago Battery Energy Storage System (**BESS**) project. This Stage 1 TMP supports Stage 2a of the construction and operation of the BESS located at Old Punt Road, Tomago, New South Wales 2322 (Lot 5 and Lot 6 DP1286735).

This TMP must satisfy Conditions of the Development Consent issued by the New South Wales Government's Department of Planning, Housing and Infrastructure (**DPHI**) on 08 November 2024 reproduced in **Table 1**. It is understood that this TMP must be endorsed by DPHI prior to the commencement of the development to comply with the Development Consent.

It is important to note that Tomago BESS is proposing to Stage the development and the TMP, specifically for works that require High Risk OSOM Transport. This staging approach has been approved by DPHI; their consent can be found at **Appendix I**. On this basis, the applicant commits to reconsulting with all stakeholders as part of drafting the Stage 2 TMP, prior to seeking approval for the Stage 2 TMP by DPHI. The Stage 2 TMP will include the recommended OSOM Material Transportation Route Study.

This TMP has been prepared under the supervision of Brendyn Rheinberger, who is a suitably qualified and experienced person. Brendyn holds the following accreditation:

- Engineers Australia, Chartered Professional Engineer (**CPEng**).
- SafeWork NSW Traffic Control Work, Prepare A Work Zone Traffic Management Plan, Number: TCT1044529.
- Queensland Department of Transport and Main Roads, Traffic Management Design (**TMD**), Number: OP 951.

Brendyn's CV is provided at **Appendix A** for further details.

1.2 Conditions of Permit

The TMP has been prepared to satisfy the requirements of the Development Consent in relation to application number SSD 57107216 issued by the Minister for Planning and Public Spaces on 08 November 2024 under the Port Stephens Local Government Area (**LGA**), and to manage the potential impacts of the traffic demands associated with the construction and operation phases of the Development on the surrounding road network. The specific requirements of the Development Consent relevant to this TMP are produced in **Table 1** along with a response as to how each requirement has been addressed herein.

Table 1 Planning Permit: TMP Requirements

Item No.	Condition Requirement	TMP Section
B1	**Heavy Vehicles Requiring Escort and Heavy Vehicle Restrictions** Unless the Planning Secretary agrees otherwise, the Applicant must ensure that the:	
(a)	development does not generate more than:	Section 3.4

Item No.	Condition Requirement	TMP Section
	(i) 50 heavy vehicle movements a day (a maximum of 33 heavy vehicle movements per hour) during construction, upgrading or decommissioning; and (ii) 12 movements of heavy vehicles requiring escort during construction, upgrading and decommissioning; and	Concept OSOM Material Transportation Route Study
(b)	length of any vehicles (excluding heavy vehicles requiring escort) used for the development does not exceed 26 metres.	
B2	The Applicant must keep accurate records of the number of heavy vehicles requiring escort and heavy vehicles entering or leaving the site each day for the duration of the project.	Section 7.2 and 7.4
B3	**Access Route** Unless the Planning Secretary agrees otherwise, all heavy vehicles and heavy vehicles requiring escort associated with the development must travel to and from the:	Section 3.6 and 3.5.1
(a)	BESS site via the Pacific Highway, Tomago Road and Old Punt Road (vehicles exiting the site must turn left onto the Pacific Highway only);	
(b)	NGSF Construction Laydown area via the Pacific Highway, Tomago Road, Old Punt Road and the NGSF private access road (vehicles exiting the site must turn left onto the Pacific Highway only);	
(c)	electricity transmission line via the Pacific Highway, Tomago Road and Old Punt Road (vehicles exiting the site must turn left onto the Pacific Highway only);	
	as identified in the figure in Appendix 4.	
B4	**Site Access** Unless the Planning Secretary agrees otherwise, all vehicles associated with the development must enter and exit in the following manner:	Section 3.5
(a)	the BESS site via the 'Primary Access Point' off Old Punt Road;	
(b)	the NGSF Construction Laydown area via the 'NGSF Laydown Area Access Point' off the NGSF private access road; and	
(c)	the electricity transmission line via the 'ETL Access Point' off Old Punt Road,	
	as identified in Figure 1 of Appendix 1. *Note: Other site access points may be used for emergency purposes.*	
B5	**Road Upgrades** Unless the Planning Secretary agrees otherwise, prior to commencing construction, a new access point off Old Punt Road must be provided as shown in Appendix 5. The upgrade must be designed and constructed in accordance with the Austroads Guide to Road Design Guidelines, unless the Secretary agrees otherwise.	Section 2.4
B6	**Road Maintenance** The Applicant must:	Section 3.9
(a)	undertake an independent dilapidation survey to assess the: (i) condition of Old Punt Road from the Pacific Highway to the intersection of Old Punt Road and Tomago Road, and Tomago Road from the Pacific Highway to the intersection of Old Punt Road and Tomago Road, prior to construction, upgrading and decommissioning activities; and	

Item No.	Condition Requirement	TMP Section
	(ii) condition of Old Punt Road from the Pacific Highway to the intersection of Old Punt Road and Tomago Road, and Tomago Road from the Pacific Highway to the intersection of Old Punt Road and Tomago Road, following the completion of construction, upgrading and decommissioning activities;	
(b)	on completion of the dilapidation reports undertaken in conditions B6(a)(i) and B6(a)(ii) provide a copy to the relevant roads' authorities; and	
(c)	repair and/or make good any development-related damage to Tomago Road and Old Punt Road identified in dilapidation surveys during construction, upgrading or decommissioning works in consultation with the relevant roads authority.	
	If there is a dispute between the Applicant and the relevant roads authority about repairs required under this condition, then either party may refer the matter to the Planning Secretary for resolution.	
B7	**The Applicant must ensure:**	
(a)	The internal roads are constructed as all-weather roads;	Section 2.3 and 3.1
(b)	there is sufficient parking on site for all vehicles, and no parking occurs on the public road network in the vicinity of the site, unless required for emergency work to avoid the loss of life, property or prevent material harm to the environment;	Section 3.6
(c)	the capacity of the existing roadside drainage network is not reduced;	Section 2.4
(d)	all vehicles are loaded and unloaded on site, and enter and leave the site in a forward direction; and	Section 3.5 and 6.3
(e)	development-related vehicles leaving the site are in a clean condition to minimise dirt being tracked onto the sealed public road network.	Table 14
B8	**Traffic Management Plan** Prior to commencing construction, the Applicant must prepare a Traffic Management Plan for the development in consultation with TfNSW and Port Stephens Council, and to the satisfaction of the Planning Secretary. Unless the Planning Secretary agrees otherwise, this plan must include:	-
(a)	Details of the transport route to be used for development-related traffic.	Section 3.7
(b)	A reconciliation table to demonstrate all traffic-related management measures and recommendations identified in the EIS have been included in the plan	Table 2
(c)	Details of the measures that would be implemented to minimise traffic impacts during construction, upgrading or decommissioning works, including:	
	(i) details of the dilapidation surveys required by condition B6 of this consent;	Section 3.9
	(ii) temporary traffic controls, including detours and signage;	Section 6.2 - No detours are proposed.
	(iii) notifying the local community about project-related traffic impacts;	Section 7.5
	(iv) procedures for receiving and addressing complaints from the community about development related traffic;	Section 7.5

Item No.	Condition Requirement		TMP Section
	(v)	minimising potential for conflict with school buses and other road users as far as practicable, including preventing queuing on the public road network;	Section 3.8
	(vi)	minimising potential cumulative traffic impacts with other projects in the area during construction, upgrading or decommissioning works;	Section 1.4
	(vii)	minimising dirt tracked onto the public road network from development-related traffic;	Table 14 and Appendix D
	(viii)	measures for managing light vehicle peak numbers, including employee use of shuttle bus services, carpooling or ride sharing by employees;	Section 3.6
	(ix)	details and volume of the employee shuttle bus service, including pick-up and drop-off points and associated parking arrangements for construction workers, and measures to ensure employee use of this service; scheduling of heavy vehicle movements to minimise convoy length or platoons, and to minimise conflict with light vehicles;	Section 3.6
	(x)	SIDRA modelling of the turning lanes from the Pacific Highway onto Tomago Road, and mitigation measures to ensure that project traffic does not result in an exceedance of the capacity of the turning lanes, including prior, during or after any future intersection upgrades (including intersections with the M1 Extension Project (SSI-7319));	Section 4.0
	(xi)	responding to local climate conditions that may affect road safety such as fog, dust, wet weather;	Section 6.4.3 and Appendix F
	(xii)	responding to any emergency repair or maintenance requirements; and	Section 3.9
	(xiii)	a traffic management system for managing heavy vehicles requiring escort;	Concept OSOM Material Transportation Route Study
(d)	A driver's code of conduct that addresses: (i) driver fatigue; (ii) procedure to ensure that drivers adhere to the designated transport route and speed limits; and (iii) procedures to ensure that drivers implement safe driving practices;		Appendix D
(e)	A program to ensure drivers working on the development receive suitable training on the code of conduct and any other relevant obligations under the Traffic Management Plan; and		Section 6.1
(f)	A flood response plan detailing procedures and options for safe access to and from site in the event of flooding.		Section 5.4
	Following the Planning secretary's approval, the Applicant must implement the Traffic Management Plan		Noted.
B15	The following activities may be carried out outside the hours specified in condition B14:		
(a)	commissioning activities that are inaudible at non-associated receivers;		

Item No.	Condition Requirement	TMP Section
(b)	the delivery or dispatch of materials, plant or equipment as requested by the NSW Police Force or other public authorities for safety reasons; or	Section 3.2
(c)	emergency work to avoid the loss of life, property or prevent material harm to the environment.	
C2	**Environmental Management and Reporting** The applicant must:	
(a)	update the strategies, plans or programs required under this consent to the satisfaction of the Planning Secretary prior to carrying out any upgrading or decommissioning activities on site; and	Noted.
(b)	review and, if necessary, revise the strategies, plans or programs required under this consent to the satisfaction of the Planning Secretary within 1 month of the: (i) submission of an incident report under condition C10 of Schedule 2; (ii) submission of an audit report under condition C13 of Schedule 2; or **(iii)** any modification to the conditions of this consent.	Noted.

Table 2 Traffic-related management measures and recommendations identified in the EIS

Item No	Mitigation Measures identified	TMP Section
T-1	Consultation would be carried out between Port Stephens council, TfNSW, emergency services and other relevant authorities to minimise transport impacts during construction and secure additional approvals (e.g. for OSOM movements or as required under the Roads Act 1993 (NSW))	Section 1.3
T-2	Community consultation would be carried out, and notifications would be issues in advance for proposed road, bus or pedestrian network changes through appropriate channels and forms of communication.	Section 7.5
T-3	A Construction Traffic Management Plan (CTMP) would be prepared and include the following measures:	
	• Vehicle access to and from the Project Area will be managed to minimise safety risk to pedestrians, cyclists and motorists. To minimise traffic impacts on the surrounding network, heavy vehicles will enter and exit the Project Area in a forward direction and outside of peak periods, where this is feasible	Appendix E – Traffic Guidance Schemes
	• Near the proposed site access, appropriate signage, line marking and/or traffic control measures will be used to direct and guide pedestrians, cyclists and motorists past the Project Area during oversized delivery and high usage times	Appendix E – Traffic Guidance Schemes
	• Workers will be encouraged to utilise the shuttle buses if deemed to be required as part of the Project or carpool	Section 3.6
	• The proposed Site access will be designed to ensure construction vehicles (including, OSOM, heavy and light vehicles) can safely enter the Site	Section 2.4 and Concept OSOM Material Transportation Route Study
	• Heavy vehicle drivers associated with the construction work will be directed to access the Site via the signal-controlled intersection of Old Punt Road and the Pacific Highway	Section 3.7

Item No	Mitigation Measures identified	TMP Section
	• Potential provision of a channelised right turn treatment at the intersection of Old Punt Road with the site access, subject to further evaluation in later design stage	Section 3.5.1.1 and 3.5.1.2
T-4	The primary access point off Old Punt Road will be constructed in accordance with Port Stephens Council requirements and relevant Austroads guidelines.	Section 2.4

Other specific requirements of the Development Consent relevant to this TMP, including other Administrative Conditions are addressed within the Environmental Management Strategy (EMS), dated 18 August 2025 prepared by AECOM.

The EMS applies to activities associated with the development and operation of the Tomago BESS, covering all relevant works during the construction, operation and decommissioning phases of the Project.

The EMS incorporates all relevant requirements of the Development Consent, EIS, and any associated licences, permits and approvals required for the BESS Project. It applies to all Project Stakeholders, including AGL personnel, Fluence and Sub-Contractors carrying out works associated with the Project.

The EMS has been prepared to provide a strategic framework for the environmental management of the Project. The EMS describes how the Project will comply with all relevant statutory requirements, manage potential environmental impacts, and ensure appropriate controls are in place to minimise and prevent risks to the environment. It identifies key personnel roles and responsibilities, and procedures for project communications and complaints handling.

This TMP should be read and implemented in conjunction with the EMS, and other relevant project management plans (refer to Section 6 of the EMS).

1.3 Reference Documents and Stakeholder Consultation

Reference is made to the following documents, which have been previously prepared in relation to the development as part of the Planning Permit Application:

- *Tomago Battery Energy Storage System (BESS) Traffic and Transport Impact Assessment,* dated 14 February 2024 prepared by AECOM.
- *Tomago Battery Energy Storage System (BESS) Environmental Management Strategy,* dated 18 August 2025 prepared by AECOM.
- *Tomago Battery Energy Storage System (BESS) Environmental Impact Statement,* dated 3 November 2023 prepared by AECOM.

The above traffic and project-related report is referred to herein where necessary.

Further to the above, this TMP has been prepared to meet the requirements outlined in Appendix A and Appendix E, Section E.2 of the Transport for NSW (**TfNSW**) *Traffic Control at Work Sites* (**TCAWS**) *Technical Manual* (Issue No. 6.1, Feb 2022).

This TMP has been developed in consultation with Transport for New South Wales (TfNSW), DPHI and Port Stephens Council as the key stakeholders. Feedback from all stakeholders has been received, considered and incorporated into this TMP (Version 3.2). Refer to **Appendix H** for consultation correspondence evidence.

TfNSW comments regarding oversize/overmass (OSOM) material transportation will be addressed through a Concept Level OSOM Material Transportation Route Study, which is recommended in Section 3.7 and will be undertaken at a later stage.

This TMP will be issued to DPHI for approval by the Planning Secretary.

Table 3 has been updated following receipt of Port Stephens Council endorsement.

Table 3 Port Stephens Council Endorsement Conditions

Condition
Please:
Accept this email as support for the attached TMP in addressing Condition B8 of the subject consent and your requirement to consult with Council.
Notify Council, by reply-all to this email, of any changes triggered by the proposed quarterly review or as otherwise requested by the on-site co-ordinator.
Be aware Council, as Road Authority, maintains the right to alter the TMP or otherwise issue directions to ensure the safe and efficient operation of the road network.

Table 4 will be updated in due course following receipt of DPHI endorsement conditions as required.

Table 4 DPHI Endorsement Conditions

No.	Condition
1	To be completed following receipt of DPHI endorsement conditions.
2	
3	
4	
5	
6	
7	

1.4 M1 Highway Extension Upgrade Project

The proposed BESS site is located off Old Punt Road, Tomago, directly south of the M1 Extension project, which is situated on the northern side of the Pacific Motorway. We acknowledge the proximity of this major infrastructure project and its potential to generate significant construction traffic within the surrounding road network. To ensure our construction traffic and subsequent deliveries do not coincide with peak delivery periods associated with the M1 Extension works, we have attempted to engage with the project team to obtain information regarding their delivery schedules and construction programming (correspondence is attached in **Appendix C**). It is noted that at the time of writing this report, no information has been provided by the M1 Extension project team. Therefore, consideration of this concurrent activity has been incorporated into our assessment based on SLR's assumptions, with potential traffic impacts at the Tomago Road/Pacific Motorway intersection further examined within the SIDRA analysis presented in **Section 4.1**.

However, the principal contractor will do everything within their control to engage with the M12RT project team via 12Rt@transport.nsw.gov.au prior to construction movements. If the Principal Contractor is successful engaging with the project team, they will initiate an inception meeting and subsequent quarterly reviews to ensure ongoing coordination of construction vehicle movements.

2.0 Development Overview

2.1 Site Location

The site is located at Old Punt Road, Tomago, New South Wales 2322, formally identified as Lot 5 and Lot 6 DP 1286735. It is situated southwest of Heatherbrae in the western ward of the Port Stephens LGA.

The site is approximately 21 hectares in area and is currently vacant land. The topography is generally flat and vegetated, with ground disturbance evident from vehicle access tracks. The subject site is within Employment Land as outlined in the Port Stephens Council Planning Scheme.

The proposed BESS infrastructure is to be located within the eastern area of the Project site, with connections across Old Punt Road to the existing Tomago Substation, located south-east of the Project site.

The site is shown in the context of the surrounding area at **Figure 1**.

Figure 1 Site Location

2.2 Surrounding Road Network

Details of the key roads surrounding the subject site are provided in **Table 5**.

Table 5 Key Roads

Road Name	Classification	Description	Posted Speed
Pacific Highway	Freeway	Dual carriageway, two-lane two-way freeway with 7.5m central grassed median. 3.3m travel lanes with 3.0m sealed shoulders in both directions.	80 km/h
Old Punt Road	Local Road (Gazetted B-Double)	Single 7m wide two-lane two-way sealed carriageway with 1m gravel sealed shoulders. There is no provision for bicycles or pedestrians along this section of Old Punt Road.	60 km/h
Tomago Road	Arterial Road (Gazetted B-Double)	Single 7m wide two-lane two-way sealed carriageway with 2.5m wide sealed shoulders in both directions of travel. There is a staged pedestrian crossing facility 330m north of the roundabout along this section of Tomago Road.	60 km/h

2.3 Approved Development

The Project will involve the construction and operation of the Tomago BESS site with an indicative output of 500MW/2000MWh, designed as two (2) generating systems of 250MW/1000MWh each. The Project will involve the installation of the following infrastructure and associated buildings and works including:

- Installation of the 500MW/2000MWh BESS (including installation of a 132/33kV transformer).
- Ancillary infrastructure including an onsite substation an operational and maintenance facility and a control room.
- New security fencing around the outside of the BESS.
- New internal all-weather roads.
- Two (2) new underground 132 kV transmission line connections to the existing Tomago Substation (MWTS).
- Primary access to the subject site is proposed from a new access point from Old Punt Road.
- The proposed secondary access route (emergency uses only) is located on the north-east corner of the site via the Pacific Highway.

The layout of the proposed development is shown at **Figure 2** and provided at **Appendix B.**

Figure 2 Approved Estate Layout and External Access Arrangements

2.4 External Works

Prior to the commencement of construction of the BESS project, a new site access crossover on Old Punt Road is required to be constructed in accordance with Condition B5 of the Development Consent. Works within the road corridor will be limited to the construction of this crossover, which will be designed and constructed in accordance with relevant standards and guidelines and with consideration to existing drainage within the road corridor. To facilitate these external works, a Section 138 approval from Council is required, along with the preparation of site-specific Traffic Guidance Schemes (**TGSs**), with further details of the TGS requirements provided at **Section 6.2**.

3.0 Construction Phase Overview

3.1 Construction Activities and Staging

Planned construction activities and staging information is provided as follows:

- Site clearing and vegetation removal;
- Site establishment activities include:
  - Construction of internal all-weather roads;
  - Development of hardstands and laydown areas for equipment and material storage;
  - Construction of temporary site office/compound with amenities;
  - Preparation of construction vehicle and shuttle bus parking spaces;
- Construction activities include:
  - Preparation of footings;
  - Construction of permanent operations buildings;
  - Delivery and installation of prefabricated items (terminal sub-station, battery storage facility cabling, other ancillary electricity infrastructure, etc.).

Table 6 details the proposed construction programme as it currently stands at the time of writing. All dates are indicative only and subject to change based on approvals, weather, or construction sequencing.

Table 6 Planned Construction Programme

Construction Activity	Estimated Duration	Date for Works
Site office setup, temporary fencing and signage	1 month	November 2025 – December 2025
Bulk earthworks, drainage, UG services, earth grid	5 months	December 2025 – April 2026
Foundations, fencing, landscaping and final surfacing	13 months	February 2026 – March 2027
Equipment installation – mechanical, electrical and punch list closure	9 months	April 2026 – January 2027
Switch room, control room and O&M building commissioning	2 months	August 2026 – October 2026
Total Construction Period	**Up to 16.5 months**	**November 2025 – March 2027**

3.2 Construction Hours

All construction works will be undertaken within the following hours:

- Monday to Friday: 7am to 6pm;
- Saturday: 8am to 1pm.

It is acknowledged that no work will be undertaken on Sundays and public holidays. Works outside of these hours may be undertaken in the following circumstances:

- works that are inaudible at the nearest sensitive receivers;
- works agreed to in writing by the Planning Secretary;

- for the delivery of materials required outside these hours by the New South Wales Police Force or other authorities for safety reasons; or
- where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

3.3 Site Contact Details

The site contact procedure will be detailed at the entrance to the site by a sign with the instruction "All visitors must report to site office", along with contact phone numbers for the relevant manager and supervisor/s.

The nominated contact person during the construction activities is as follows:

- Vishnu Gopal
  - Role/Position: Senior Project Manager
  - Mobile No.: 0468 930 472
  - Email: vishnu.gopal@fluenceenergy.com

3.4 Construction Phase Traffic Demands

The following construction movement volumes have been provided by Fluence Energy and indicate the maximum vehicle movement volumes expected, as described in **Table 7** and **Table 8.**

Table 7 Construction Vehicle Movement volumes (Peak Hour Periods)

Vehicle Type	AM Peak			PM Peak		
	Inbound	Outbound	TOTAL	Inbound	Outbound	TOTAL
Heavy Vehicles (Truck Movements)	33	33	**33**	33	33	**33**
Light Vehicles (Staff movements)	136 [1]	0	**68** [2]	0	136 [1]	**68** [2]

[1] Assumed 20% carpooling from 170 workers (max. workforce count)

[2] As per the definition outlined in the DPHI Development Consent, a *Vehicle Movement* is considered as '*One vehicle entering and leaving the site*'. Based on this definition, the total staff movements during each peak is calculated as 136/2 = 68 vehicles.

Table 8 Construction Vehicle Movement Volumes (Daily Volumes)

Vehicle Type	Daily Volumes		
	Inbound	Outbound	TOTAL
Heavy Vehicles	50	50	**50**
Light Vehicles	136	136	**136**

Table 7 describes the peak number of light vehicles to be generated by construction activities as 68 vehicle movements per peak hour. This would equate to a maximum daily volume of 136 vehicle movements, as shown in **Table 8**.

Heavy vehicles consisting of no larger than 26m B-Double vehicles would reach a maximum of 33 (33 in/33 out) movements per hour and 50 vehicle movements per day (50 in/50 out). Heavy vehicle movements associated with the delivery of materials will be scheduled to arrive to site outside of peak traffic periods.

The delivery of the Main Power transformers will be carried by a beam set combination mounted on two platform trailers, which are pulled/ pushed by up to five prime movers. As mentioned in **Section 2.3**, two (2) transformers will be delivered to site. These, however, will be isolated deliveries and not reflective of the main construction vehicle types. Further details regarding this vehicle type, classified as Oversize and/or Overmass (**OSOM**), are provided in the subsequent section. Therefore, the anticipated maximum number of construction vehicles generated is:

- Maximum Daily Construction Vehicle Movements = 136 LV and 50 HV
- Maximum Peak Hour Construction Vehicle Movements = 68 LV and 33 HV.

The AM and PM peak hour periods relating to this assessment are for time periods as follows:

- AM Peak Hour = 7am to 8am.
- PM Peak Hour = 5pm to 6pm.

3.5 Site Access

3.5.1 Construction Access Arrangements

Access for all vehicles associated with the development will be via Old Punt Road for both heavy and light vehicles. The intent is for a new site access intersection to be constructed and serve as the primary site access for vehicles entering and exiting the construction site. It is recommended that this new site access intersection be designed in accordance with Austroads Guide to Road Design, Part 4A: *Unsignalised and Signalised Intersections*.

In addition, an emergency site access and egress track is proposed at the north-east corner of the site, providing a connection to the Pacific Highway. It is understood that an agreement was made between AGL and TfNSW in February 2023, confirming that TfNSW would provide an emergency access and egress track for the Project (the secondary access) following the completion of the M1 Extension project. As such, the secondary access construction does not form part of this Project.

Further details of site access arrangements are provided at **Figure 2**.

All heavy vehicles and heavy vehicles requiring escort associated with the development will travel to and from the Electricity Transmission Line via the Pacific Highway, Tomago Road and Old Punt Road. Drivers will access the ‘ETL Access Point’ off Old Punt Road, as identified in **Appendix B**.

3.5.1.1 Heavy Vehicle Access

Construction heavy vehicles will be restricted to accessing the site via the Pacific Highway and Tomago Road to the west and south of the subject site. As per DPHI Condition B3, construction heavy vehicles must perform a left-turn from Tomago Road to the Pacific Highway when exiting the site. This is discussed in further detail in **Section 3.7**.

To accommodate the anticipated heavy vehicle entry movements to the site, localised widening is recommended to facilitate a Basic Left-turn (**BAL**) treatment, with the length of widening determined by how much space is needed for a 20m AV to decelerate within the left-turn lane without impacting northbound through traffic on Old Punt Road.

3.5.1.2 Light Vehicle Access

Construction light vehicles will travel to the designated parking locations, which will include a combination of on-site parking and overflow parking at an agreed off-site location later in the planned construction programme. This will depend on the project’s workforce requirements

and the requirement to ensure queuing from the site access does not extend onto Old Punt Road. This is further discussed in **Section 3.6**.

Light vehicles will be permitted to access the site via Old Punt Road from all directions. This would include the future use of shuttle buses when the overflow parking facility is in operation. As such, localised widening is recommended to facilitate a Basic Right-turn (BAR) treatment suitable for storing a shuttle bus within the right-turn lane without impacting southbound through traffic along Old Punt Road.

3.6 Workforce Transport Arrangements

It is intended that the construction site can provide sufficient light vehicle parking for the majority of the construction programme – up to 12 months out of the total 16.5-month construction programme, noting the site can accommodate up to 90 light vehicles. Therefore, the development has committed to 20% of the workforce carpooling to/from site. Should queues start to form at the site access, the Principal Contractor will be instructed to stagger worker start and finish times to spread out the number of vehicles entering the site at any one time.

For the remaining 3.5 months, an overflow parking facility will be designated for use, and shuttle buses will be utilised to transport workers to/from the site and the overflow parking facility. An agreed location for overflow parking is yet to be decided. The option to utilise Newcastle Gas Storage Facility (NGSF), located at Lot 9 DP1286735 and Lot 1201 DP1229590, to the east of the Project Site will be considered. Should the facility be utilised, it must be accessed via the access point via the NGSF private access road shown in **Figure 4**. However, as overflow parking is not anticipated to be required until July 2026, there is ample time to obtain relevant agreements and nominate a suitable location for this. This TMP will be updated and submitted to the Department for review incorporating these new overflow parking arrangements at such time.

The steps above will ensure there is sufficient parking available for the anticipated demands. Parking on the public road reserve in the vicinity of the site will not be permitted, unless required for emergency work to avoid loss of life, property or prevent material harm to the environment.

It is also worth noting that current construction planning indicates that during the peak construction period, a maximum of up to 170 workers will be on-site at any one time, to occur for one month in late 2026.

3.7 Construction Vehicle Routes

The routes to be utilised by all construction vehicles travelling to and from the site are represented below in **Figure 3** and **Figure 4.**

Truck movements to and from the site, electricity transmission line and NGSF Construction laydown area (should this facility be utilised) will be restricted to designated routes on the main road network. Heavy vehicle drivers associated with the construction work will be directed to access the site via the signalised intersection of Old Punt Road and the Pacific Highway. Vehicles departing the site must turn left onto the Pacific Highway only. The designated truck routes are as follows:

- Approach routes:
  - Quayside Close from Port of Newcastle (southbound).
  - Selwyn Street (westbound).
  - Industrial Drive (westbound).
  - Maitland Road (northbound)

- Pacific Highway (eastbound).
- Tomago Road (southbound).
- Old Punt Road to site access (eastbound).

- Departure routes:
  - Old Punt Road from site access (westbound).
  - Tomago Road (northbound).
  - Pacific Highway (westbound).
  - Maitland Road (southbound).
  - Industrial Drive (eastbound).
  - Selwyn Street (eastbound).
  - Quayside Court to Port of Newcastle (northbound).

Figure 3 Construction Vehicle Routes

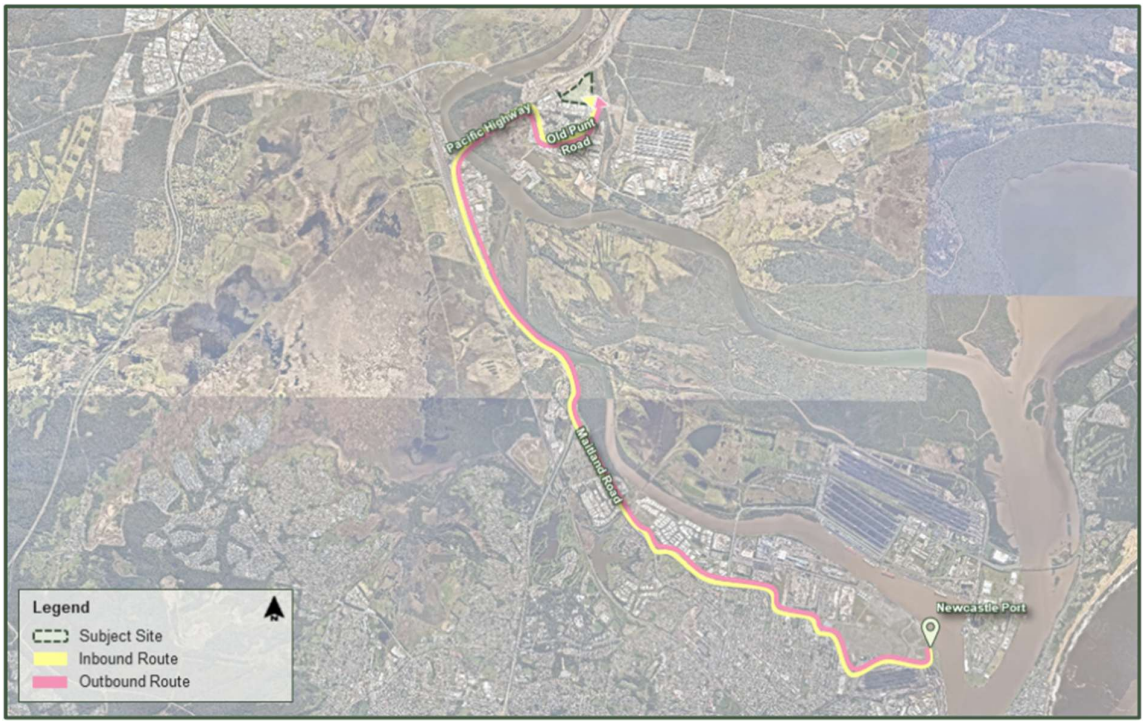
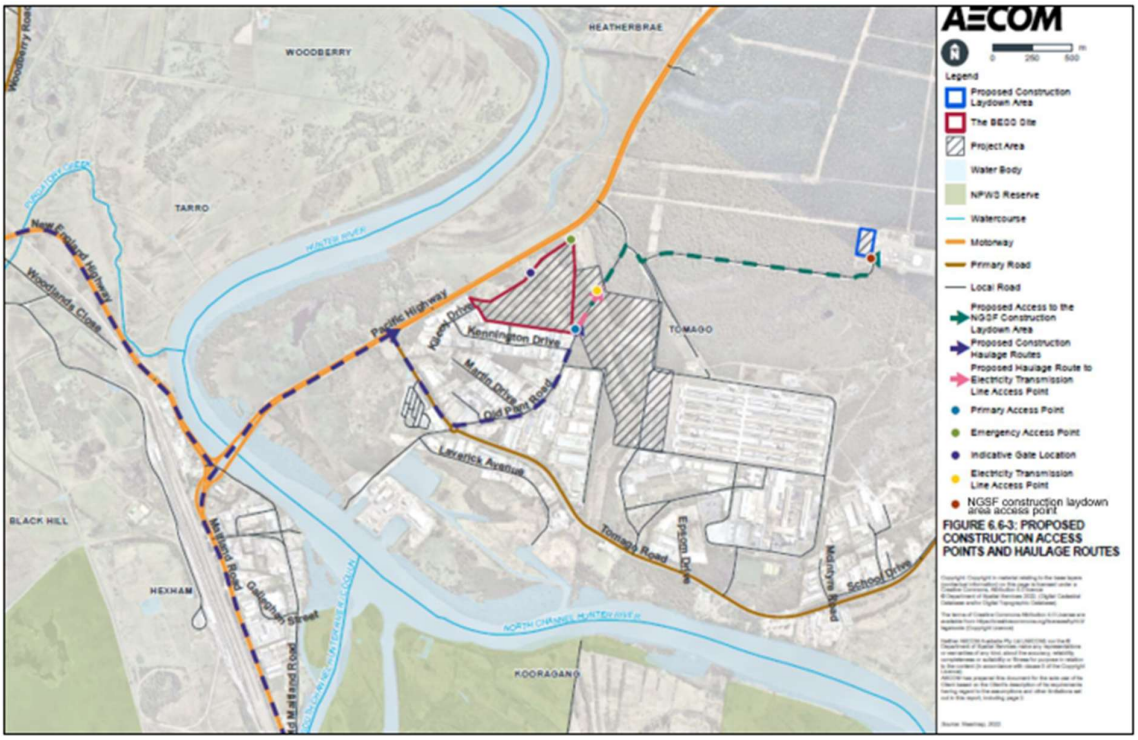


Figure 4 Construction Vehicle Access and Egress



Source: Consent Condidions: Appendix 4

3.8 Existing Public Transport Services

A review of the Transport for New South Wales (**TfNSW**) website indicates that public transport services are present adjacent to the Project site. The bus routes surrounding the site have been reproduced in **Figure 5**, with a summary of the operating bus routes included in **Table 9**.

Figure 5 Public Transport Route Map

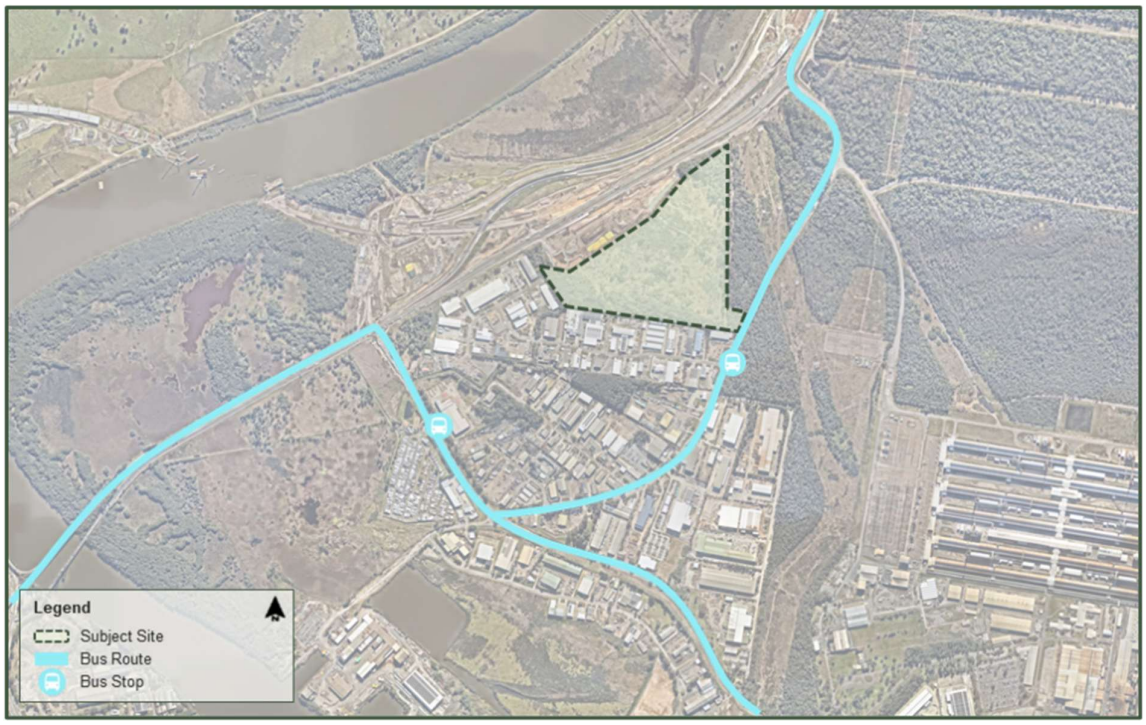


Table 9 Surrounding Public Transport Network

Bus Route No.	Bus Route	Frequency
140	Newcastle Interchange to Raymond Terrace, via Old Punt Road and Tomago Road.	30 mins (only between 6:30am – 10:00am and 3:30pm – 7:00pm)
2555 (School bus)	St Peters Primary School to Williamtown Primary School, via Old Punt Road.	1 bus at 4:00pm
1262 (School bus)	Raymond Terrace Primary School to Pommie High and Tomago, via Tomago Road near Old Punt Road.	1 bus at 3:30pm
1292 (School bus)	San Clemente High School to Raymond Terrace, via Tomago Road near Old Punt Road.	1 bus at 8:30am
S567 (School bus)	Hunter Valley Grammar School to Salamander Bay, via Tomago Road near Old Punt Road.	1 bus at 3:15pm

Based on the nominated construction hours detailed in **Section 3.2** above, public transport services are expected to occur within construction traffic hours. It is noted, however, that the frequency of bus services is not anticipated to generate significant queuing along any of the external roads, as only two (2) buses would be generated at most in any given hour. In addition, the road cross section at the bus stop locations is sufficiently wide to accommodate two-way traffic in addition to a parked bus, ensuring that bus operations will not obstruct through movements.

Construction traffic would also have minimal impact on the existing school bus routes, noting that peak construction demand would occur outside of the school bus operating hours.

3.9 Dilapidation Survey

In accordance with Condition B6 of the consent, a dilapidation survey has been undertaken by SLR Consulting Australia prior to the commencement of construction works. The scope of services included:

- Visual observations along Old Punt Road, and Tomago Road (between the intersection with Pacific Motorway and the roundabout with Old Punt Road) with a record of observations compiled to establish the baseline condition of the relevant road assets.
- Preparation of a Pavement Baseline Condition Report presenting the findings of the completed visual inspections of the approximately 700 m long section of Tomago Rd and approximately 2012 m long section of Old Punt Rd prior to construction. This report will provide the reference condition against which any potential construction-related impacts can be measured.

Upon completion of the dilapidation report undertaken in conditions B6(a)(i) and B6(a)(ii), a copy will be provided to the relevant roads' authorities.

In accordance with Condition B6 of the consent, further inspections will be carried out, which will include the following scope of services:

- Throughout the construction period (refer to **Table 6** for the construction programme), regular monitoring of Old Punt Road, and Tomago Road (between the intersection with Pacific Motorway and the roundabout with Old Punt Road) will be undertaken by the contractor. Any defects identified during this period attributed to the project will be promptly repaired to ensure the safe and efficient movement of traffic.

Upon completion of construction activities, a final inspection along Old Punt Road, and Tomago Road (between the intersection with Pacific Motorway and the roundabout with Old Punt Road) will be carried out. Any defects identified during this inspection, compared against the pre-construction condition report attributed to the project, in consultation and agreement with the relevant road authorities will be repaired.

If there is a dispute between the Applicant and the relevant roads authority about repairs required under this condition, then either party may refer the matter to the Planning Secretary for resolution.

3.10 Internal Site Layout Arrangements

During construction, the following areas will be designated within the site boundary. The location will vary depending on the build sequence and phase of works:

- An area for laydown shall be provided to facilitate the loading/unloading of heavy vehicles.
- An area for material stockpiling/storage shall be provided within the site.
- All mobile crane locations from within the site will vary but will be contained within the site boundary.
- An on-site turning area will be provided so that movements to/from the site are undertaken in a forward direction at all times.
- An on-site car parking area that will accommodate shuttle buses transporting construction workers, with 90 spaces dedicated to light vehicle parking.

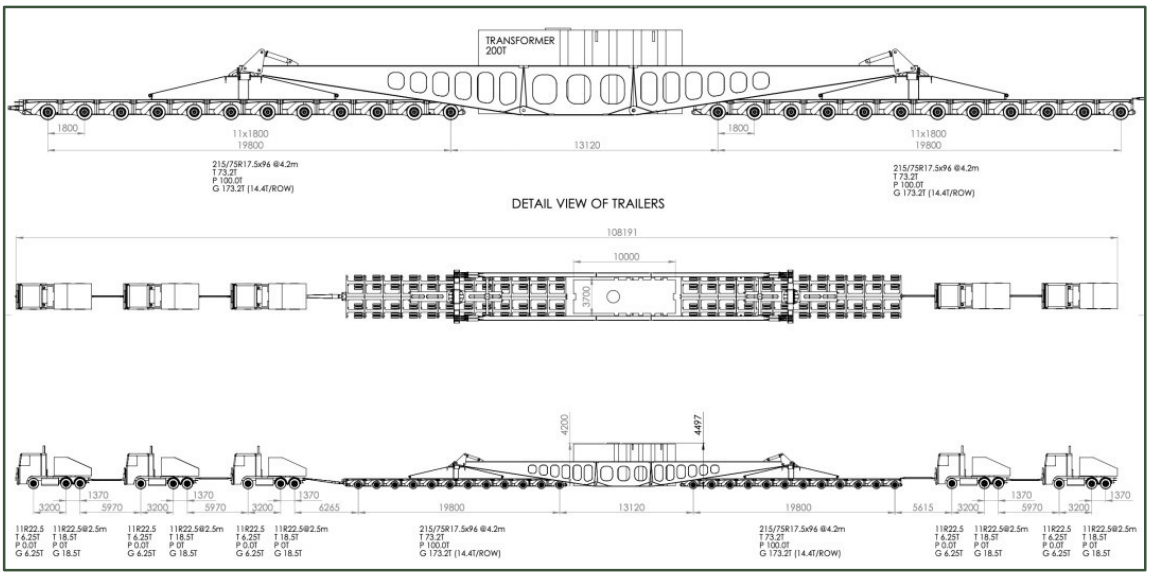
3.11 OSOM Material Transport

Oversize and/or Overmass vehicles are defined by the National Heavy Vehicle Regulator (**NHVR**) as '*a heavy vehicle that is carrying or specifically designed to carry a large indivisible*

item'. Based on a review of NHVR, the haulage route detailed in **Section 3.7** is generally approved for transportation of OSOM materials. It is noted that a section of the Pacific Highway is '*Approved with Conditions*', with a requirement that the operator must contact the Hexham Straight Widening Project a minimum of five (5) days prior to the proposed commencement date.

Transportation of OSOM materials will be required for the two Main Power transformers, which are understood to weigh approximately 257 tonnes each. As mentioned in **Section 3.4**, the delivery of these OSOM loads will be facilitated by a beam set combination mounted on two platform trailers, which are pulled/ pushed by up to five prime movers. The total length of the convoy may be as long as 80m. An example of a transformer transportation on a beam set combination is provided in **Figure 6**.

Figure 6 Example 280t Transformer Delivery Vehicle



Source: https://www.planningportal.nsw.gov.au/major-projects - Rex J Andrews Engineered Transportation

3.11.1 OSOM Transport Approvals and Requirements

Applicable approvals for transporting these OSOM loads will be obtained closer to the time of material delivery. It is the responsibility of the transporting company to prepare and provide an appropriate traffic management system for escorting OSOM vehicles when required.

It is recommended that the applicant commissions a Concept Level OSOM Material Transportation Route Study for the elements that are considered high risk by TfNSW *due to the vehicle/ load dimensions and/ or weight.* The route study will cover Item 3 raised by TfNSW consultation requirements (**Appendix H**) and Condition B1 (ii) of the consent conditions in **Table 1**.

3.11.2 Staged Development Approach

Tomago BESS is proposing to stage the development and the Traffic Management Plan, specifically for works requiring high risk OSOM transport. On this basis, the applicant commits to:

- Reconsult with all stakeholders as part of drafting the Stage 2 TMP;
- Seek approval for the Stage 2 TMP from DPHI;
- Include the recommended OSOM Material Transportation Route Study in the Stage 2 TMP.

4.0 External Road Network Operations

An assessment of the external road network has been undertaken to assess the performance of Old Punt Road and the Pacific Highway/Tomago Road intersection.

To ascertain the existing traffic demands of the external road network, SLR commissioned TIS to undertake intersection turning count surveys at the Pacific Highway/Tomago Road intersection on Wednesday, 27 August 2025. A review of the survey data indicated that the intersection peak hours were as follows:

- Weekday AM peak: 6:15am to 7:15am
- Weekday PM peak: 2:30pm to 3:30pm

Based on a review of the intersection survey footage provided by TIS, construction traffic movements relating to the M1 Highway Extension Upgrade Project were captured and therefore, considered in the assessment herein.

4.1 SIDRA Assessment – Tomago Road / Pacific Highway

A SIDRA assessment has been undertaken for the Tomago Road/Pacific Highway intersection, in accordance with Condition B8 (c)(x) of the Development Consent, taking into consideration the expected construction traffic volumes (as discussed in **Section 3.4**) generated by the development.

4.1.1 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 DOS, queues, and delays.

According to *Austroads Guide to Traffic Management Part 12: Integrated Transport Assessments for Developments* (**AGTM12-20**), the maximum DOS thresholds identified for each intersection type are reproduced in **Table 10**.

Table 10 Degree of Saturation Thresholds

Intersection Type	DOS Threshold
Signalised intersections	Less than or equal to 0.90
Roundabout	Less than or equal to 0.85
Priority-controlled intersections	Less than or equal to 0.80

DOS values exceeding those presented in **Table 10** indicate that an intersection is nearing its practical capacity and upgrade works may be required. Above these threshold values, users of the intersection are likely to experience increasing delays and queues.

In addition, the RMS (now TfNSW) *Guide to Traffic Generating Developments (2002)* recommends that the worst delay statistic for the critical movement provides a better indication of intersection performance and safety for roundabouts and priority-controlled intersections than DOS. A summary of the delay thresholds recommended by TfNSW is provided in **Table 11**.

Table 11 Critical Delay Thresholds

LOS	Description	Critical Delay (sec/vehicle)
A	Good operation	< 14 sec
B	Acceptable delays and spare capacity	15 – 28 sec
C	Satisfactory	29 – 42 sec
D	Near capacity	43 – 56 sec
E	At capacity, requires other control mode	57 – 70 sec

The operational performance documented herein has been conducted considering the above performance criteria.

4.1.2 Analysis Assumptions

1. In consultation with the client, it is understood that 50% of the workforce will originate from Williamtown, east of the subject site.

   Therefore, to undertake the SIDRA assessment, it has been assumed that 68 vehicles per hour (50% of the 136 vehicles as noted in **Section 3.4**) associated with construction workers travelling to/from the site via the subject intersection, originate from the south-west. Furthermore, heavy vehicles are not included as they will be scheduled to arrive to site outside of peak hour periods.

2. Peak hour on the existing network aligns with the AM peak hour of construction light vehicle movements, which have therefore been included in the analysis. It does not, however, align with the peak hour of construction heavy vehicles and consequently, these have not been included within the SIDRA analysis.

4.1.3 SIDRA Results

Tomago Road/Pacific Highway is currently a 3-way signalised intersection with a fourth leg facilitating access for the M1 Extension project site. The existing layout and the assessed SIDRA intersection form are shown on **Figure 7**. A summary of the output from the SIDRA assessment is presented in **Table 12**, with detailed outputs provided in **Appendix G.** It is noted that the queuing results presented in **Table 12** are for the right-turn lanes on the western approach of the Pacific Highway.

Figure 7 Tomago Road / Pacific Highway – Intersection Form

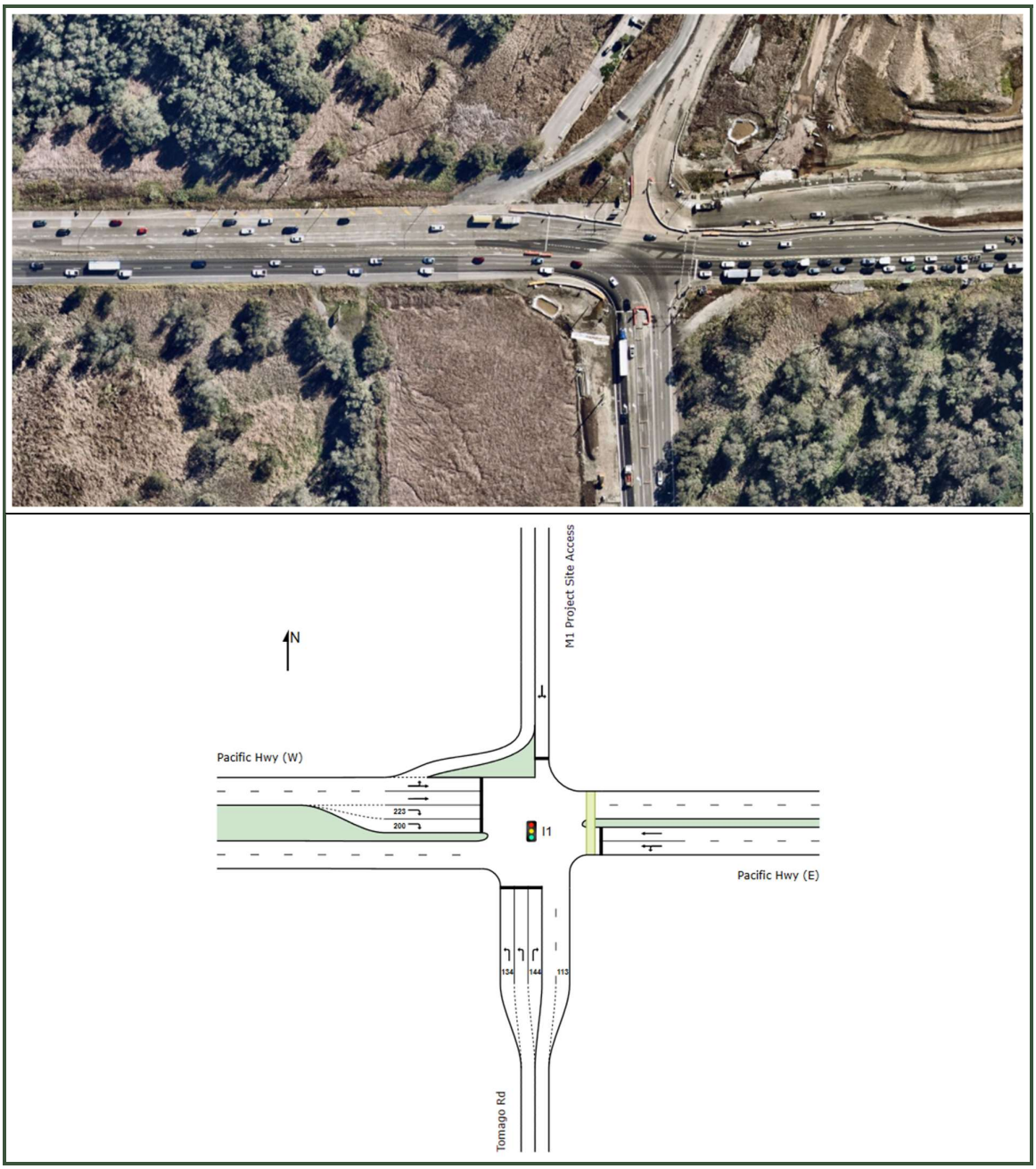


Table 12 Tomago Rd / Pacific Hwy, West Approach Right Turn – SIDRA Output

Scenario	AM Peak Hour				PM Peak Hour			
	DOS	Ave Delay (sec)	95thile Queue (m)	Ave Queue (m)	DOS	Ave Delay (sec)	95thile Queue (m)	Ave Queue (m)
2025 Without Construction	0.87	57	240	147	0.56	44	137	84

Scenario	AM Peak Hour				PM Peak Hour			
	DOS	Ave Delay (sec)	95th ile Queue (m)	Ave Queue (m)	DOS	Ave Delay (sec)	95th ile Queue (m)	Ave Queue (m)
2025 With Construction	0.91	62	270	178	0.56	44	109	67

The development consent condition B8(c)(x) states:

"details of the measures that would be implemented to minimise traffic impacts during construction, upgrading or decommissioning works, including:

(x) SIDRA modelling of the turning lanes from the Pacific Highway onto Tomago Road, and mitigation measures to ensure that project traffic does not result in an exceedance of the capacity of the turning lanes, including prior, during or after any future intersection upgrades (including interactions with the M1 Extension Project (SSI-7319))."

Reflective of the above, the existing right turn lane storage capacity is approximately 225m and 200m for the two right turn lanes respectively. As such, for the purposes of assessing capacity exceedance of these right turn lanes, any queuing extending beyond 225m is considered an exceedance. According to **Table 12**, the results highlight that queuing within the right turn lanes during the AM peak period, currently exceeds the storage capacity approximately 5% of the time (i.e., 95th percentile queue lengths). On average, queuing remains within the right turn lane storage capacity. When construction vehicle traffic, associated with the proposed BESS project, is added to existing traffic volumes, queuing distances extend further as expected, however, the same conclusions can be drawn from the results.

As the right turn storage capacity may only be exceeded approximately 5% of the time within the AM peak period only, it is recommended that from the commencement of construction activities, traffic operations at the Pacific Highway/Tomago Road intersection are monitored by the Transport Management Centre (TMC) while construction vehicle routes are maintained as per **Section 3.7**. The contractor will be required to keep a daily log of construction vehicle entry/exit movements at the site access to ensure these volumes do not exceed the maximum peak hour and daily movements documented in **Section 3.4**.

Should the surveillance identify congestion issues due to the right turn queue lengths extending beyond the available storage, construction vehicle routes can be modified to travel straight through the intersection travelling eastbound and instead turn right at Old Punt Road. This mitigation option has also been assessed in SIDRA, and the results summary is provided in **Table 13**. The AM peak hour period has been assessed as this is the critical peak hour period.

Table 13 Tomago Rd/Pacific Hwy, West Approach Right Turn, Mitigation Option - SIDRA Outputs

Scenario	AM Peak Hour			
	DOS	Ave Delay (sec)	95th ile Queue (m)	Ave Queue (m)
2025 With Construction	0.87	57	240	147

As per **Table 13**, modifying the construction route to utilise the right turn lane at Pacific Highway/Old Punt Road intersection, rather than at Pacific Highway/Tomago Road intersection, reduces anticipated queuing back to pre-construction traffic conditions (BESS project only). Importantly, to enable this mitigation option, existing construction activities at the Pacific Highway/Old Punt Road intersection need to be completed. It is currently understood that Stage 1 works are currently underway, resulting in banning the right turn movement at this intersection. This is expected to continue as the works progress into Stage 2, which is anticipated to be completed by February 2026. These works are associated with the TfNSW M1 Pacific Motorway extension to Raymond Terrace – Black Hill to Tomago project.

5.0 Safety Assessment

5.1 Site Access

Construction vehicle access to the site will be via a newly constructed access point on Old Punt Road, as detailed in **Section 3.5.1** and depicted in **Figure 2**. The safety of vehicle and pedestrian movements will be managed at this access point by implementing site-specific Traffic Guidance Scheme (**TGS**). This is further discussed in **Section 6.2**.

5.2 Emergency Vehicles

There will be no disruption to emergency vehicles on any roads during the construction works.

5.3 Closest Hospital / Medical Centre

There are several Medical Centres located in proximity to the site. Perhaps the most accessible is the Hunter Valley Private Hospital at 20 Mawson Street, Shortland, located approximately 11.5km from the subject site. The closest Public Hospital is Calvary Mater Newcastle, located on Edith Street, Waratah, approximately 13 km from the subject site.

5.4 Flood Risk

Review of the Port Stephens Council flood mapping indicates that the majority of the proposed BESS site is located outside of identified flood-prone land, as shown in **Figure 8**. A small portion of the southern boundary is within the mapped flood extent; however, this area lies wholly within the designated exclusion zone and will not be occupied or accessed during operations as shown in **Figure 9**. The primary site access point from Old Punt Road is located outside the flood-affected area, ensuring that safe egress can be maintained under all foreseeable flood scenarios. In the event of partial inundation of the site, all personnel will be able to evacuate via Old Punt Road without exposure to flood hazards.

Figure 8 Flood Mapping Port Stephens LGA

Figure 9 Site Layout with Exclusion Zone

6.0 Construction Phase Traffic Management Measures

6.1 Drivers' Code of Conduct

A Drivers' Code of Conduct was prepared by SLR. This has been reproduced at **Appendix D** and is suitable to be applied to the proposed site. Vehicle operators accessing the construction site shall attend an induction, including the Drivers' Code of Conduct as a requirement, prior to entering the site. The Contractor is to maintain a register of inducted operators with evidence of induction in the form of operator signatures being captured.

6.2 Traffic Guidance Scheme

6.2.1 Old Punt Road/New Access Road Construction

Indicative TGSs have been prepared by SLR to manage the construction of the new access road and intersection located on Old Punt Road. The intent is for the Principal Contractor to engage a Traffic Control company to design and implement site-specific TGS plans once the construction methodology is known. The TGSs prepared by SLR are indicative of what's likely required but should not be implemented, as they do not have the benefit of being designed as per the detailed methodology and staging requirements. These are provided in **Appendix E**.

6.2.2 Internal Site Works

Following the delivery of a new access road and intersection on Old Punt Road, construction of the BESS facility can commence. At this point, another TGS will need to be implemented to manage heavy vehicle movements entering/exiting via the new access and Old Punt Road. A generic TGS extracted from TCAWS v6.1 is also provided at **Appendix E** showing a typical site access TGS. It is anticipated that the Principal Contractor will engage a suitably qualified Traffic Control company to prepare and implement a site specific TGS associated with managing this access.

6.2.3 Weekly Inspections

Following implementation of all TGSs (once approved), weekly inspections of the temporary traffic management (**TTM**) on-site shall be conducted as per **Section 7.3** herein.

6.3 Site Management

The following procedures are to be observed by all vehicle drivers accessing the subject site:

- The construction site has a drug and alcohol policy which includes random testing;
- Drivers are to obey all site signage and the directions of site personnel;
- Vehicles are to use designated circulation roads within the site where possible;
- All vehicles are to park and load/unload within the site using designated parking and loading areas.
- 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 subject site.
- All vehicles are to enter and leave the site in a forward direction.

6.4 Heavy Vehicle Management

6.4.1 General Requirements

All heavy vehicle drivers accessing the subject site must abide by the following:

- Undertake a site induction carried out by authorised site personnel or suitably qualified person under the direction of the site manager;
- All drivers must hold a valid driver's licence which is appropriate for the class of vehicle under their operation;
- All drivers are to ensure their load is legal, covered and secure before entering or exiting the site;
- All drivers must comply with Chain of Responsibility legislation;
- Vehicles entering the subject site are to be registered, roadworthy, and of sound mechanical condition. Site management may request to inspect any vehicle or request maintenance records for any vehicle and reserves the right to prohibit any vehicle from entering the subject site should there be any indication that the vehicle is not roadworthy or safe to operate; and
- Any accidents, incidents, complaints, hazards, spillages or near misses must be reported immediately to the site manager. This includes incidents on the external road network.

6.4.2 Noise Management

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

- Heavy vehicles using Tomago Road or Old Punt 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, and vehicle speeds are to be restricted to 20km/h within the site;
- Vehicles are to be turned off when not in use.

6.4.3 Dust Management

To minimise the potential for dust production within the subject site, drivers are to abide by the following requirements:

- Vehicle speeds are to be restricted to 20km/h within the subject site;
- Vehicles are to use designated circulation roads within the site where possible;
- Drivers are to report excessive dust production from internal circulation roads to the site manager;

Water trucks will be used to wet down internal circulation roads during dry conditions and when excessive dust production is reported to the site manager on an as required basis.

6.5 Mitigation Measures

The impacts of construction traffic and the mitigating measures to be implemented are outlined in **Table 14**.

Table 14 Mitigation Measures – Responsibility and Timing

Mitigation Measures	Responsibility	Timing
Construction Traffic on Old Punt Road: Construction traffic will use the construction access to enter/exit the site for the works. Construction traffic entering and exiting the site will be monitored, and should queues start to form, worker start and finish times will be staggered to ensure the impacts to motorists within the area are kept to a minimum.	Site Engineer	Weekly
Management of deliveries: The site manager will manage deliveries to ensure that construction vehicle movements will remain low.	Site Manager	As required
Managing dirt on the public road network: The Old Punt Road access will be a stabilised access and the use of water trucks and sweeper trucks shall ensure the existing network is kept free of dirt from the site. Wheel wash bays will be utilised on site to ensure development-related vehicles leaving the site are in a clean condition.	Site Manager	As required
Managing the condition of Public Roads throughout Construction: A dilapidation survey will be undertaken by SLR Consulting prior to the commencement of construction works. The scope of services includes: • Visual observations along Old Punt Road, and Tomago Road (between the intersection with Pacific Motorway and the roundabout with Old Punt Road) with a record of observations compiled to establish the baseline condition of the relevant road assets. • A Baseline Condition Report will be prepared to present the findings, including, where possible, a limited assessment of the normal traffic loads the roads are expected to support for a given design life, and commentary on any observed pavement failures and their likely causes. This report will provide the reference condition against which any potential construction-related impacts can be measured.	SLR Consulting and Site Manager	Pre-construction, during and post-construction
Safety during construction: Safety to motorists and the public throughout the area will be maintained during construction through the preparation and execution of Traffic Guidance Schemes (TGSs). Several TGSs will be implemented, to manage internal and external works associated with the new site access intersection and the BESS facility. They identify all reasonably foreseeable hazards, assess the hazards, and manage the hazards as best possible by either eliminating or minimising the risks. The TGSs shall be monitored and updated accordingly throughout the project.	Project Manager	Reviewed at each stage of construction
Reporting: Reporting and monitoring of the daily movements of heavy vehicle and heavy vehicles requiring	Site Engineer	Daily

Mitigation Measures	Responsibility	Timing
escort are to be undertaken to ensure that drivers are adhering to restricted times, and that the project does not exceed approved vehicle movement limits.		
Induction to Drivers Code of Conduct: Vehicle operators accessing the construction site shall attend an induction including the Drivers Code of Conduct (**Appendix D**) as a requirement, prior to entering the site. The Contractor is to maintain a register of inducted operators with evidence of induction by way of operator signatures being captured.	Site Manager/ Project Manager	As required

6.6 Risk Assessment

A risk assessment is intended to identify hazards and risks associated with the construction activities. The purpose is to determine the controls required for the protection of road workers and road users. A Risk Assessment associated with the construction works of this site has been completed and is attached at **Appendix F**.

6.7 Emergency Repair and Maintenance

In the event that emergency repairs or maintenance are required during construction, the Principal Contractor will implement the following measures to minimise traffic impacts:

Scheduling: Works will be scheduled during off-peak periods (preferably nighttime) to minimise disruption to the external road network;

Traffic Management: Where off-peak scheduling is not feasible due to the urgent nature of the works, temporary traffic management measures will be implemented, including:

- Advanced warning signage to alert motorists
- Traffic control personnel where required
- Appropriate delineation and guidance around work zones
- Compliance with relevant traffic management guidelines and standards

Stakeholder Notification: Affected stakeholders, including local residents and relevant authorities, will be notified as soon as practicable when emergency works are required;

Duration: Emergency works will be completed as quickly as possible while maintaining safety standards to minimise the duration of traffic impacts.

All emergency traffic management measures will be undertaken in accordance with the Traffic Control at Work Sites Manual (Roads and Maritime Services) and relevant Australian Standards.

7.0 TMP Monitoring / Review & Improvement Process

7.1 Implementation

In accordance with Condition B8 of the Development Consent:

- Following the Planning Secretary's approval, the Applicant must implement the Traffic Management Plan.
- Contact with the M12RT team will be done by AGL via 12Rt@transport.nsw.gov.au

7.2 Monitoring and Review

This TMP shall be subject to a quarterly review and will be updated accordingly. Regular reviews will be undertaken by the on-site coordinator during the implementation and execution of this TMP. Monitoring of this TMP shall also be picked up in the Environmental checklists, with any incidents being reported within the weekly site meeting.

All and any reviews undertaken should be documented, however, key considerations regarding the review of the TMP shall be:

- To ensure the implementation of the TMP and TGS's are consistent with the intent of this report, and that the most recent version of the TMP and TGS (as approved by the Planning Secretary) is being implemented.
- To identify any shortfalls and develop an updated action plan to address issues that may arise during construction (parking and access issues).
- To ensure TGS's are updated (if necessary) by suitably qualified traffic management practitioners to ensure they remain consistent with the set-up on-site.
- Regular checks to ensure all loads are entering and leaving the site covered as outlined within this TMP.
- An initial meeting with the M12RT project team and quarterly review, to discuss the traffic impacts and dilapidation requirements with the M12RT project team.

As such, **Table 15** provides triggers to monitor and review this TMP.

Where conditions of this consent require consultation with an identified party, the Applicant must:

a. consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and
b. provide details of the consultation undertaken including:
    i. the outcome of that consultation, matters resolved and unresolved; and
    ii. details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.

Table 15 TMP Monitoring and Review - Triggers

Type of Review	Frequency	Considerations
Scheduled	The scheduled TMP review must be undertaken quarterly or as specified otherwise.	The scheduled TMP review must consider the following: • TMP and TGSs are approved; • Identify required variations to the TGSs and ensure that they are updated, recorded, and approved; • Review any departures or variations of the TMP and/or TGSs to ensure they have been documented and approved by the relevant authorities. • Speed control effectiveness; • Construction vehicle entry/egress suitability, with no queuing on the public road network at any time; • Ensuring public transport and school bus operations are not impacted. • Construction vehicle daily/peak hour movements are compliant with approved volumes, with quarterly reviews of the contractor's daily logbook of vehicles required; • Periodic checks to ensure that heavy vehicles are using the correct access route; • Periodic checks of noise-generating items to ensure they are less than the prescribed noise limits.
Change Generated Review	The change-generated review must be undertaken when implementing new traffic stages, switches, or other construction-based activities.	The change-generated TMP review must consider the following: • The work site is operating safely; • Delineation is effective with appropriate signage installed for changed conditions; • Safe passage is provided for all road users; • Road Safety Audits are arranged or confirmed as required; • Accountability for approval and inspection is well understood and documented.
Non-Compliance, Post Incident or Near Miss Review	The non-compliance, post-incident or near miss review must be undertaken following an incident or near miss.	Any non-compliance must be reported immediately to the supervisor. A non-compliance is anything other than 'Condition Green' as outlined in **Table 17**. All workplace incidents must be reported immediately to the supervisor, who will determine the responsibility for investigating the incident. The incident and investigation must also be recorded in an incident reporting system as applicable. The post-incident or near miss TMP review must consider: • Causal factors; • Contributory factors or changes required; and • Identified changes to TGS are completed, approved, recorded, and communicated. For any incidents or near misses (where required), a safety alert must also be prepared and distributed by the Site Manager to share learnings with other work sites (as applicable).

7.3 Work Site Inspections, Recording and Reporting

Recording and reporting of the monitoring programs shall be done in accordance with Section E.3 (Weekly TTM inspection checklist), E.4 (Shift/Daily TTM inspection checklist) and E.5 (Post completion inspection checklist) of the TfNSW TCAWS Technical Manual Issue No. 6.1. As such, the structure, schedule, and frequency of these activities have been considered and identified.

To inspect, review and audit the TTM arrangements implemented on-site, the actions presented in **Table 16** are to be undertaken by suitably qualified personnel in accordance with TCAWS 6.1 requirements during all phases of construction.

Table 16 Review of Activities – Example Template

Activity			Frequency or Details
Shift Inspections	□ YES	□ NO	
Regular Inspections	□ YES	□ NO	
TMP Review	□ YES	□ NO	
Road Safety Audit	□ YES	□ NO	
Other	□ YES	□ NO	
Comments			

Given the duration of construction (16.5 months) and that no regular works have been proposed external to the site, monthly TTM inspections are considered to be sufficient.

7.3.1 Incident Management

For the purposes of this TMP, an 'incident' is an occurrence or set of circumstances that causes or threatens to cause material harm, and which may or may not be or cause a non-compliance. Furthermore, a 'non-compliance' is an occurrence, set of circumstances or development that is a breach of the consent.

All traffic-related incidents, including those of the Principal Contractor, subcontractors, and/or visitors that occur during construction works will be managed in conjunction with the requirements outlined in the Incident and Non-compliance Response and Handling Procedure (Section 9 of the AECOM Environmental Management Strategy (2025)).

Whilst it is noted that key Contractors will be implementing their own environmental management system procedures and processes, The Project Proponent will be responsible for ensuring that these systems and processes satisfy the requirements of the EMS, including the incident management components.

The Project Manager must be notified immediately of any environmental incident or near miss related to traffic. Such incidents may include, but are not limited to:

- Vehicle crash or injury resulting from construction traffic related to the project;
- Queuing onto Old Punt Road, in breach of the requirements set out under this TMP;
- Spill of any dangerous goods or hazardous substances to ground or water;
- Substantiated complaints received from members of the community or regulatory authorities relating to traffic management;

The Project Manager must be notified immediately of any incidents as listed above.

The Applicant must notify DPHI within 24 hours of becoming aware of an incident. The notifications must be made via the NSW planning portal (Major projects) and address details of the incident as per Condition 10. A subsequent incident report must be provided to DPHI within 7 days as per Section 9 of the EMS.

In the event of a notifiable non-compliance incident arising, the Principal Contractor will notify AGL Project Manager immediately, who is then required to notify DPHI in writing (via the Planning Portal) within 7 days, as per Condition C12 of the conditions. The notification must:

- identify the development, including the application number;
- set out the condition of consent that the development is non-compliant with;
- explain the way in which it does not comply;
- provide the reasons for the non-compliance (if known); and
- detail what actions have been taken, or will be undertaken, to address the non-compliance.

The Project Manager is responsible for all notifiable environmental incidents in line with the regulatory notification requirements (Section 9 of the EMS).

7.4 Contingency Plan

A contingency plan shall be established by the Contractor and is to be included in the overarching CEMP in Section 6. Notwithstanding, **Table 17** outlines an indicative plan to be undertaken by the Contractor in the event that the monitoring program identifies the CEMP as not effectively managing the construction impacts.

Table 17 Contingency Plan

Risk		Condition Green	Condition Amber	Condition Red
Construction Movements	Trigger	Both peak hour and daily Construction traffic volumes are in accordance with volume and time constraints as outlined within Section 3.2 and Section 3.6 (136 LV & 50 HV movements per day / 68 LV & 33 HV movements in peak hour periods).	Construction traffic volumes exceed programmed peak hour volumes but is within permissible daily volume constraints (136 LV & 50 HV movements per day / 68 LV & 33 HV movements in peak hour periods).	Construction traffic volumes exceed permissible volume and time constraints (136 LV & 50 HV movements per day / 68 LV & 33 HV movements in peak hour periods).
	Response	No response required.	Review and investigate construction activities, and where appropriate, implement additional remediation measures such as: • Review TMP and update where necessary;	As per Condition Amber, plus: • If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies.

Risk		Condition Green	Condition Amber	Condition Red
			• Provide additional training.	• Temporarily postpone transportation into and out of the site until an investigation into the contributing factors of the exceedance are identified.
Queuing	Trigger	No queuing identified.	Queuing identified to impact Old Punt Road traffic by more than 30 seconds but less than 120 seconds.	Queuing identified to impact Old Punt Road traffic by more than 120 seconds.
	Response	No response required. Continue monitoring program.	Review the delivery schedule prepared. If drivers are not following the correct schedule, then they should be provided with additional training and a reminder of the Driver Code of Conduct. Revise delivery schedule to ensure arrivals and departures are spread more evenly throughout the day.	As per Condition Amber, plus: • If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. • Temporarily postpone transportation into and out of the site until an investigation into the contributing factors of the exceedance are identified. • Revise transportation delivery schedule into and out of the site to stagger/limit construction vehicle movements throughout the day, reducing the peak hour deliveries • Review TMP and update where necessary, provide additional training.

Risk		Condition Green	Condition Amber	Condition Red
Noise	Trigger	Noise levels do not exceed imposed noise limits, as outlined within the EPA Publication 1826.4 nor has there been a traffic noise related complaint.	Noise levels in minor excess (<10dBA) of imposed noise limits per EPA publication 1826.4, or receipt of a single noise complaint.	Noise levels greatly in excess (>10dBA) of imposed noise limits per EPA publication 1826.4, or consistent noise complaints.
	Response	No response required.	Develop and implement a Predictive Noise Assessment with mitigation measures	As with Condition Amber if noise levels cannot be kept below applicable limits, then a different construction method or equipment must be utilised.
Traffic Guidance Scheme	Trigger	No observable issues (TGS implemented according to plan).	Minor inconsistencies with TGS to onsite operations (such as covered signs, missing signs, fallen cones, etc.).	Near miss or incident occurring regardless of / as a result of the TGS being implemented.
	Response	No response required.	Traffic Controller to amend TGS on site and to keep a log of all changes.	Stop work until an investigation has been undertaken into the incident. There are to be changes made to the TGS to ensure that the safety of all workers, students and civilians are catered for.
Dust	Trigger	No observable dust.	Minor quantities of dust in the air and tracking onto the road.	Large quantities of dust in the air and tracking onto the road.
	Response	No response required.	Review and investigate construction activities and respective control measures, where appropriate. Implement additional remedial measures, such as: • Deployment of additional water sprays. • Relocation or modification of dust-generating sources. • Check condition of vibrating grids to ensure they are functioning correctly.	As per Condition Amber, plus: • If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. • Implement relevant responses and undertake immediate review to avoid such occurrences in future.

Risk		Condition Green	Condition Amber	Condition Red
			Temporary halting of activities and resuming when conditions have improved.	

7.5 Communications Strategy

In accordance with Condition B8(iii) of the Development Consent and the AECOM Environmental Management Strategy (2025), AGL and the Contractor will implement a proactive communication process to notify the local community and relevant stakeholders of traffic-related impacts arising from the Project. AGL's Environment Communications Procedure (AGL-HSE-SDM-006) outlines the framework for keeping the community informed about operational and environmental performance. Consistent with this, the Contractor will support AGL by providing timely and accurate information regarding traffic activities, road changes, or temporary restrictions to ensure transparent and accessible community engagement.

Notifications and updates will be issued through one or more of the following channels:

- AGL's Project Website, which will include current project information, approved plans, and upcoming traffic changes.
- Public notices or fact sheets distributed to directly affected residents, businesses, and local community groups.
- Updates presented at the Newcastle Gas Storage Facility Community Dialogue Group meetings, held quarterly.
- Local newspaper advertisements and social media notifications (as appropriate).
- Direct consultation with Transport for NSW and Port Stephens Council, in accordance with the consultation requirements set out in Table 5-1 of the EMS.

The Contractor must also ensure that any planned works likely to cause significant traffic disruption are communicated to the Principal and affected parties at least seven days prior to commencement, or sooner if directed by the Principal. All community notifications are to be logged and referenced in the TMP communications register.

7.6 Complaints Handling

Complaints regarding traffic or construction impacts will be managed in accordance with AGL's Community Complaints and Feedback Policy (EMS Section 5.3) and the requirements of the Principal's Work Delivery Specification Section 4.1.1(i) within the Principal Requirements.

- AGL Procedure
    - Community members may submit complaints or enquiries via:
    - AGL Complaints and Enquiries Hotline: 1800 039 600
    - Email: AGLCommunity@agl.com.au
    - Mail: AGL Community Complaints and Enquiries, Locked Bag 14120 MCMC, Melbourne VIC 8001

All complaints received on site or by the Contractor will be referred immediately to the AGL Environment Manager. A Case Manager from AGL's Government & Community Relations team will then assess and respond to the complaint.

Response timeframes are as follows:

- Urgent feedback – within 24 hours
- Standard feedback – within 5 days
- Complex feedback – within 30 days

Unresolved complaints will be escalated to the Senior Manager, Government & Community Relations and, if required, to an independent mediator or external authority (e.g. NSW Land and Water Commissioner or Department of Planning). All complaints and actions taken will be recorded in AGL's Community Complaints Register (AGL-HSE-REG-008.09.2) and reported via the AGL website.

- Principal's Requirements

The Contractor must address any stakeholder or community concerns or complaints and promptly forward details to the Principal for resolution.

The Contractor must provide the Principal with the following information for each complaint:

- Time, date, and contact details of the complainant;
- Reason for the complaint and a summary of actions taken.

The Contractor must maintain a record of all complaints, responses, and outcomes within the TMP register.

Appendix A Curriculum Vitae – Brendyn Rheinberger

Brendyn is a highly dedicated and driven Traffic and Transport Engineer who thrives on working in a complex, challenging and problem-solving environment. Brendyn has extensive professional experience with over 15 years working in traffic and transport engineering, civil engineering, and project management roles in both public and private contexts throughout Queensland and NSW.

Skilled in integrated transport planning, traffic analysis, construction traffic management, traffic signal design, road network operations, road safety, car park design and project management. Brendyn has a proven ability to develop and foster strong relationships with organisations and authorities, through communication, honesty, and integrity.

Education and Qualifications

- Master of Engineering (Engineering Management), Griffith University (2015)
- Bachelor of Engineering (Civil), Griffith University (2012)
- Chartered Professional Engineer of Australia (CPEng)
- Professional Engineer of Queensland (RPEQ)
- Professional Engineer of Victoria (RPEV)
- Traffic Management Design (TMD) accredited, Department of Transport and Main Roads
- Prepare Traffic Management Plans and Traffic Guidance Schemes (TCT1044529), NSW Government
- Road Safety Auditor (RSA), Department of Transport and Main Roads

Project Experience

Springwood to Browns Plains Passenger Transport Corridor Study, TMR (2020)**
Brendyn and his team were commissioned by the Department of Transport and Main Roads to investigate public transport demands and infrastructure requirements between Springwood and Browns Plains to support future growth and improved multi-modal transport outcomes.

Brendyn was involved in the review of the existing bus network, setting strategic objectives and developed the options analysis framework for assessing proposed corridors.

Lae Drive, Runaway Bay Corridor Master Plan, CoGC (2020)**
Brendyn and his team were engaged by City of Gold Cost (CoGC) to provide a multi-modal corridor master plan for the Lae Drive corridor in Runaway Bay. The corridor includes numerous signalised and unsignalised intersections and roundabouts which were assessed, and intersection upgrades proposed as part of the project. The solutions for the corridor included individual intersection upgrades as well as corridor connections to suit the demographics and user profile of the corridor. The team prepared three briefing notes, a technical summary report and a graphically designed corridor master plan for public issue.

Brendyn oversaw the investigations into both the active and public transport networks for the corridor and provided guidance on intersection analysis using SIDRA intersection performance software.

Brendyn led workshops internally with the project team to determine individual mode-based solutions and derive the most suitable options using a SWOT analysis methodology.

Mackay Waterfront PDA Transport Model Analysis, MRC (2020)**
Brendyn and his team were engaged by Mackay Regional Council (MRC) to undertake an options analysis on the Sydney Street/River Street intersection located near the Pioneer River in the Mackay CBD. MRC and the Department of Transport and Main Roads identified

an issue with connectivity for the Blue Water Trail, an active transport shared path that travels along the Pioneer River coastline predominantly used for recreation. The existing intersection configuration of Sydney Street/River Street forced pedestrians and cyclists travelling along the trail to cross in two stages resulting in significant delays. The project investigated various options to modify the intersection and surrounding Blue Water Trail alignment to improve connectivity for pedestrians and cyclists. The project resulted in providing MRC with three preferred options suited to three differing timeframes for implementation, as well as enabling each option to be built upon one another as a progression of sorts towards an end vision for the Waterfront PDA.

Brendyn managed the project's budgetary and time requirements and was the key contact representing his project team. He oversaw the options development, intersection analysis and provided guidance on concept designs.

Brisbane Metro Program Management, TransLink (2019-2021)**
Brendyn undertook a role in representing Queensland Government for the Brisbane Metro project. He was responsible for coordinating design reviews of all design packages under Brisbane Move's scope. He was also responsible for briefing TransLink's executive team on upcoming bus service disruptions as a result of planned construction activities. Brendyn was a liaison for TransLink within several working groups and interfaced with BCC, the Project Verifiers and Brisbane Move representatives.

Kellyville Station Bus Interchange Concept Design, Sydney Metro (2019)**
Brendyn was the project manager for the concept design of the bus interchange at Kellyville station. This involved developing several options for buses to circulate through the station precinct including providing provisions for bus stop and bus priority infrastructure. Brendyn was in constant communication with Roads and Maritime, Transport for NSW and The Hills Shire Council in regard to road operational impacts, bus route service planning, bus lane enforcement and parking and signage changes. The work Brendyn performed was pivotal to all stakeholders coming to agreement and deciding on a preferred option to be added to the Station Precinct Design Plan.

Sydenham Temporary Bussing Optioneering, Sydney Metro (2019)**
Due to the proposed changes to the surrounding road network of Sydenham station as part of Metro upgrade works, new rail replacement bus routes and stop locations were required as a result of impacts to the existing Sydney Trains bus specifications during rail possessions. Brendyn developed eight different options for bus routes and stop locations and assessed each against a common set of criteria as part of a multi-criteria analysis. Through this process Brendyn was able to determine a preferred option and presented the findings of this optioneering assessment numerous times to Roads and Maritime, Sydney Coordination Office, Transport for NSW, Sydney Trains and Inner West Council. Brendyn ascertained in-principle support and approvals from the relevant stakeholders which was instrumental in implementing the preferred option.

Kellyville Park N Ride Demand Investigation, Sydney Metro (2019)**
Brendyn provided support to the investigation of the Park n Ride facility at Kellyville. This multi-storey car park consists of 1350 spaces and it was Brendyn's responsibility to assist with providing comparative findings of the forecasted demands versus the observed demands of the facility during peak traffic periods. These findings informed the traffic analysis that Brendyn managed for the precinct streets of Kellyville station and the surrounding key intersections. By understanding the demand profile of traffic volumes entering and exiting the Park n Ride facility, Brendyn was able to accurately stress test the local road network to determine its current design life before requiring capacity upgrades.

Sydenham To Bankstown Integrated Transport Planning, Sydney Metro (2019)**
Across the ten future southwest Metro stations, Brendyn's role was to oversee the identification of potential improvement opportunities to pedestrian and cyclist facilities, bus

stops and kiss n ride spaces surrounding the station precincts. Improvements included undertaking pedestrian capacity assessments, surrounding land use investigations, identifying pedestrian desire lines, a walking and cycling strategy, traffic modelling, concept designs and bus stop operational assessments of which Brendyn facilitated. Brendyn organised workshops to further develop concept designs and presented the recommended improvements to relevant stakeholders for in-principle agreement prior to the submission of a technical report for final approval. The improvement opportunities were selected to align with Transport for NSW's Movement and Place Framework.

Bankstown Line Temporary Transport Plan, Sydney Metro (2019)**
This project involved the development of a temporary transport plan designed to be implemented during the possession of the existing Bankstown heavy rail line to facilitate conversion works. Across a three week period, rail replacement bus services are planned to be in operation to transport rail customers inconvenienced by the Bankstown line rail possession. As Traffic Manager, Brendyn was responsible for assessing the road network planned to be utilised by rail replacement buses. The main objective of Brendyn's role was to ensure reliability and to improve bus travel time through a congested road network. Through traffic modelling, Brendyn was able to effectively identify locations suitable for temporary changes to on-street parking, traffic signal phasing modifications and locations for pedestrian management, all to support the temporary bus services. Finally, the list of recommended modifications and the justification behind each was presented as part of a handover by Brendyn to members of the Sydney Coordination Office and Transport Management Centre, who were tasked with operating the TTP.

Traffic Engineer, Sydney Light Rail Project, Acciona Infrastructure (2016-2018)**
This project involved the construction of a light rail network travelling through the Sydney CBD and extending through Surry Hills, Randwick, Kensington and Kingsford suburbs. The project addressed the capacity issues on the south eastern suburbs bus network by providing a high frequency 'turn up and go' service connecting the inner west suburbs with the south eastern suburbs through 12km of light rail network. As a Traffic Engineer on this high profile project, Brendyn's primary role was to prepare site-specific traffic management plans to facilitate construction of various utility and civil components throughout the Randwick, Kensington and Kingsford sections. In designing each TMP, Brendyn had a strong focus on pedestrian and cyclist safety as these facilities were designed in a temporary configuration in the vicinity of construction vehicle movements and activities. Overseeing all aspects of TMP development and obtaining approvals from state and local authorities was Brendyn's ultimate objective and was vital for construction activities to proceed.

Safer Roads Sooner Program, TMR (2016)**
As part of the south coast region for Transport and Main Roads, Brendyn oversaw the determination of potential road improvement projects where deficiencies in safety were evident due to historical accident data and trends being identified. Brendyn was responsible for undertaking cost benefit analysis for each potential project to develop a short list for submission to the Land Transport Safety team within TMR. For each of the short listed road improvement projects, Brendyn prepared a business case which highlighted the justification and benefits the projects would provide to the state controlled road network. These business cases were submitted to the Land Transport Safety team to determine funding allocations for the south coast region under the Safer Roads Sooner program.

M1 Motorway Exit 54 Interchange Upgrade, Traffic Signal Operational Support, TMR (2015-2016)**
As part of the Network Optimisation team within Transport and Main Roads, Brendyn provided traffic signal design and operational support to the contractor during each stage of construction of the Exit 54 interchange upgrade. This involved developing traffic signal plans that dictated the cycle times and phasing for the varying traffic demands throughout each day. Brendyn monitored the live traffic utilising a combination of permanent and temporary

CCTV cameras during the critical AM and PM peak periods to ensure queuing did not exceed the capacity of the on and off-ramps to the M1 motorway. Brendyn attended meetings with the contractor regularly and provided advice on construction staging in regard to traffic signal operations.

Metricon Stadium Venue Transport Planning, TMR (2020)**
Brendyn provided support to the Gold Coast Suns AFL club in regard to the operation of traffic signals as part of the Metricon Stadium transport planning for AFL game days. Liaising with the Gold Coast Suns, Queensland Police, QLD Ambulance, QLD Fire and Emergency, City of Gold Coast and the Traffic Management Centre, Brendyn was able to develop game day specific traffic signal plans for Nerang Broadbeach Road that catered for the needs of each stakeholder. This included the coordination of the corridor to support the major direction of traffic flow, extending pedestrian crossing times at key locations which would be supported by on-site traffic controllers, and providing bus priority signal phasing to assist with transporting spectators to and from games.

Memberships and Associations

- Member of Institution of Engineers Australia (MIEAust)
- Member of Australian Institute of Traffic Planning and Management (AITPM)

Appendix B Site Plans

APPENDIX 1:
GENERAL LAYOUT OF DEVELOPMENT

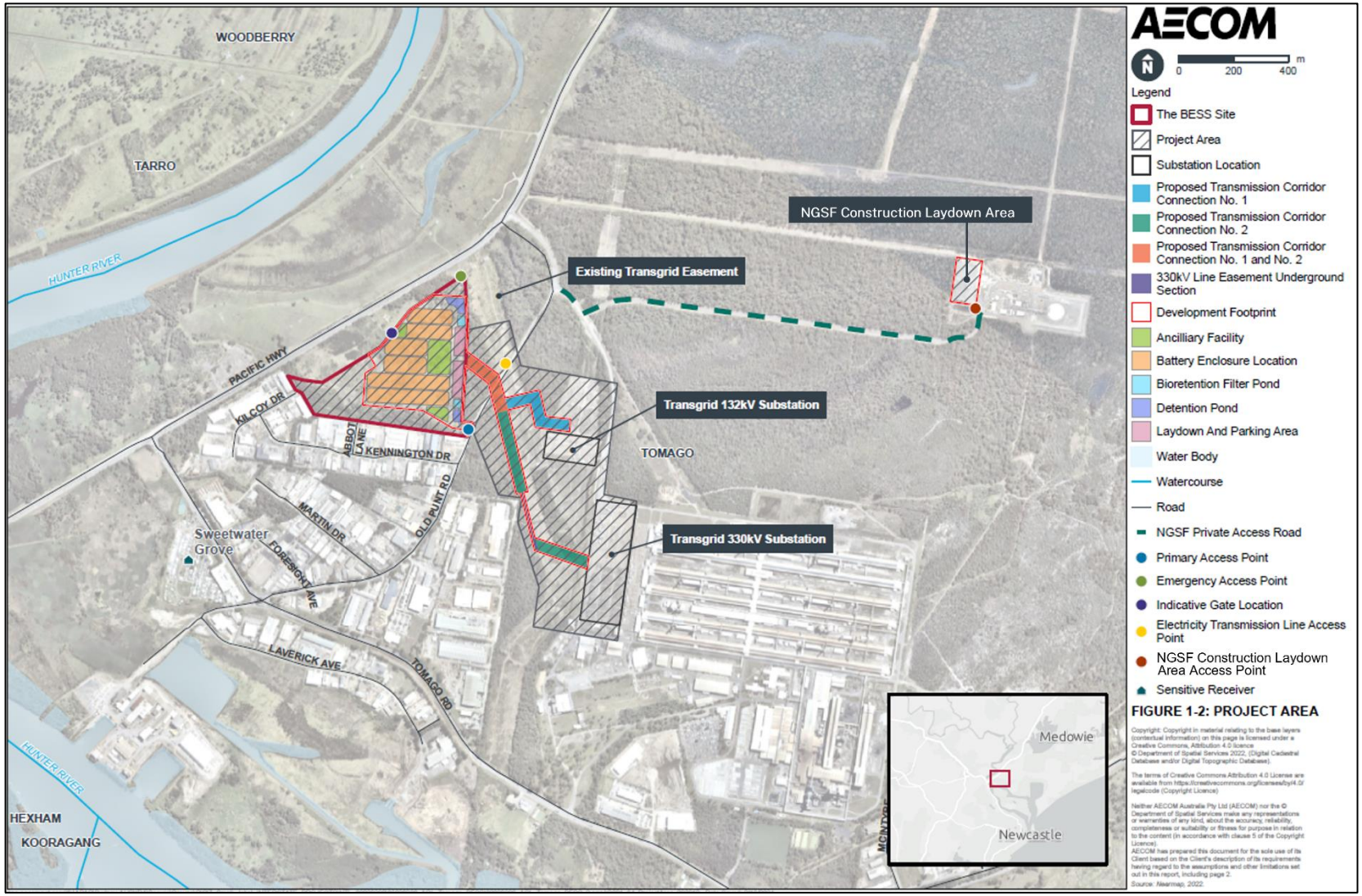


Figure 1 | *Project Site*

***Figure 2** | The BESS Site*

Appendix C Correspondence with M1 Extension Project Team

Brendyn Rheinberger

From: Alexandra Moxon
Sent: Monday, 18 August 2025 5:33 PM
To: M12RT@jacobs.com
Cc: Duong Nguyen; Brendyn Rheinberger
Subject: Re: Coordination of Construction Traffic - BESS Project near Old Punt Road, Tomago

Good afternoon,

Could I please get an update on the query below as we're keen to have a conversation regarding the M1 Extension Project programme to be able to assess the road network and our sites construction traffic volumes effectively.

Kind regards
Alex

Alexandra Moxon ***(she/her/hers)***
Senior Project Consultant - Transport Advisory

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Level 16, 175 Eagle Street, Brisbane, QLD, Australia 4000

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.

From: Alexandra Moxon <Alexandra.Moxon@slrconsulting.com>
Sent: Friday, August 8, 2025 3:49 PM
To: M12RT@jacobs.com <M12RT@jacobs.com>
Cc: Duong Nguyen <duong.nguyen@slrconsulting.com>; Brendyn Rheinberger <brheinberger@slrconsulting.com>
Subject: Coordination of Construction Traffic - BESS Project near Old Punt Road, Tomago

Good afternoon,

My name is Alex Moxon, and I'm currently preparing a Construction Traffic Management Plan (CTMP) on behalf of our client for a Battery Energy Storage System (BESS) project located off Old Punt Road, Tomago.
As part of the development approval conditions, the CTMP must demonstrate that construction vehicle volumes will not negatively impact the nearby Pacific Motorway/Tomago Road intersection.
We are aware of the M1 Extension project occurring directly north of the Pacific Motorway and are seeking to understand the anticipated peak periods of construction traffic associated with that project. This information will help us schedule any OSOM vehicle movements and high-volume deliveries to avoid potential conflicts.
Could you please direct this enquiry to the appropriate team member who may be able to assist?

Many thanks,
Alex

Alexandra Moxon ***(she/her/hers)***
Senior Project Consultant - Transport Advisory

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Appendix D Drivers Code of Conduct

Drivers' Code of Conduct

Safe Driving Policy for as Lot 5 and Lot 6 DP1286735, situated off Old Punt Road, Tomago, New South Wales, 2322.

FOR ALL DRIVERS OF PLANT, TRUCKS & VEHICLES THAT ACCESS THIS PROJECT SITE.

Drivers' Code of Conduct (Conditions of entry):

- All drivers shall follow instructions of Contractor staff at all times;
- All drivers are to adhere to all signposted directions;
- Primary entry and exit points are via Old Punt Road via the all-movements crossover;
- Vehicles shall not queue onto Old Punt Road from the site access;
- Vehicles shall enter and exit the site in a safe and orderly manner;
- Movements within the site are restricted to 20km/h;
- Vehicles shall follow the designated construction vehicle routes at all times. These routes have been reproduced overleaf in **Figure 1** for reference;
- Drivers must maintain a safe 'buffer' distance from any person/ or plant being operated by a person whilst moving on/ around the site;
- Drivers (of deliveries) are not to move their vehicles around site with 'unrestrained loads'. This means, any and all items must be adequately chained or tied down to the vehicle, prior to the vehicle's movement on or around the site;
- All loads being removed from site shall be secured and/ or covered appropriately;
- All parking shall be within designated areas unless approved by the Site Supervisor; and
- Appropriate measures will be put in place (i.e. wheel wash zones, water trucks and sweeper trucks) to ensure that vehicles leaving the site do not deposit dirt or mud on surrounding roadways. Drivers are responsible for notifying the Site Supervisor if excessive dirt or dust can be seen surrounding the site.
- Drivers are to operate their vehicles in a safe and professional manner, with consideration for all other road users.
- Drivers must not report for duty if fatigued or unable to perform their duties.
- Drivers must take adequate breaks during shifts to ensure fatigue does not occur.
- Drivers are to minimise vehicle noise where possible by limiting the use of engine or compression braking systems, turning off vehicles when not in use and travelling at posted speed limits.
- As school bus routes operate adjacent to the Project site, drivers should reduce their speed to 40km/hr when passing flashing buses picking up or dropping off school children.

The routes utilised by all construction vehicles travelling to and from the site are represented below in **Figure 1**.

Truck movements to and from the site on the surrounding road network will be restricted to designated truck routes and will be confined to the main road network through the area. The designated routes are as follows:

- Approach routes:
  - Quayside Close from Port of Newcastle (southbound).
  - Selwyn Street (westbound).
  - Industrial Drive (westbound).
  - Maitland Road (northbound)
  - Pacific Highway (eastbound).
  - Tomago Road (southbound).
  - Old Punt Road to site access (eastbound).
- Departure routes:
  - Old Punt Road from site access (westbound).
  - Tomago Road (northbound).
  - Pacific Highway (westbound).
  - Maitland Road (southbound).
  - Industrial Drive (eastbound).
  - Selwyn Street (eastbound).
  - Quayside Court to Port of Newcastle (northbound).

Figure 1 Designated Construction Vehicle Routes

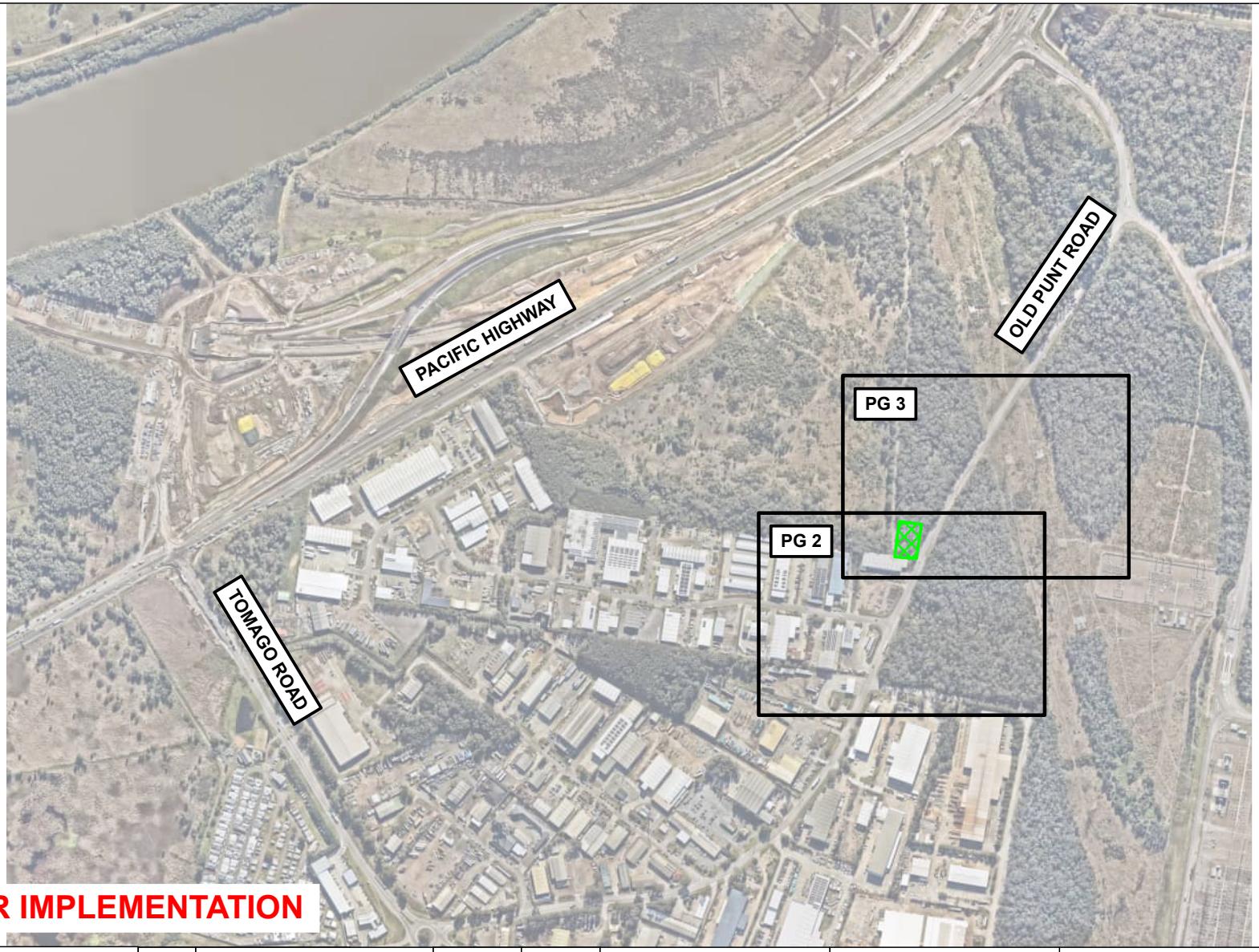
Sign Off Register

By signing the table below, you are confirming that you have read, understood, and agree to the Drivers' Code of Conduct for Old Punt Road, Tomago BESS Site.

Name	Signature	Date

If you have any questions, please contact the Construction Site Supervisor.

Appendix E Traffic Guidance Schemes



NOT FOR IMPLEMENTATION

Prepared by

SLR

Prepared for

FLUENCE
A Siemens and AES Company

Issue	Description	Date	Auth.
B	Final Issue	09/09/25	BJR
A	Initial Issue	09/09/25	BJR

Project Title
Tomago BESS

Drawing Title
COVER SHEET

DURING CONSTRUCTION HOURS

TRAFFIC GUIDANCE SCHEME (TGS)

Drawn by:
DN

Design by:
BJR, PWZTMP
TCT1044529

Checked by:
BJR, PWZTMP
TCT1044529

Project No.
630.032549

Drawing No.
TGS-001

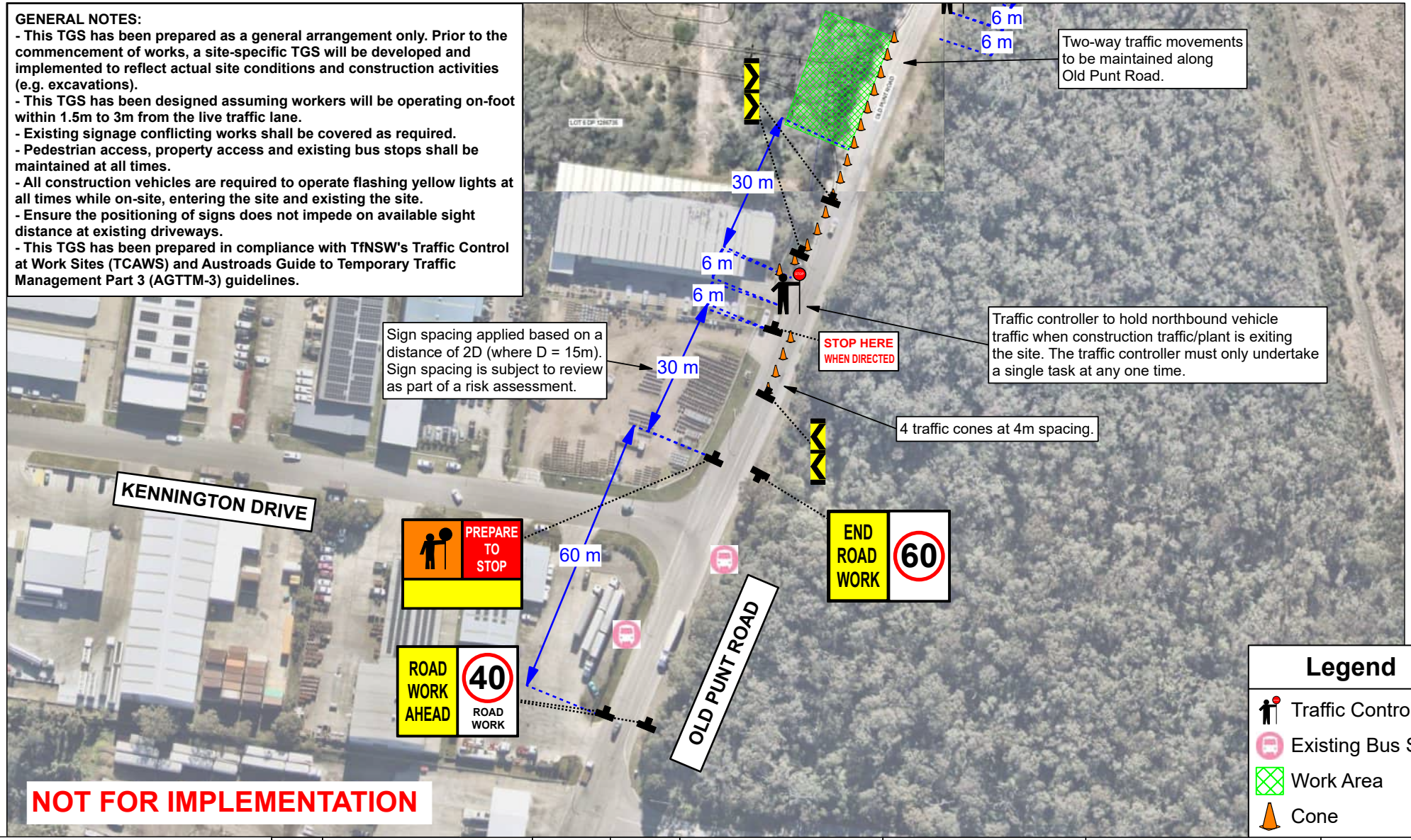
Design Status
FINAL

Scale
NTS

Sheet
1 of 3

Rev.
B

GENERAL NOTES:
- This TGS has been prepared as a general arrangement only. Prior to the commencement of works, a site-specific TGS will be developed and implemented to reflect actual site conditions and construction activities (e.g. excavations).
- This TGS has been designed assuming workers will be operating on-foot within 1.5m to 3m from the live traffic lane.
- Existing signage conflicting works shall be covered as required.
- Pedestrian access, property access and existing bus stops shall be maintained at all times.
- All construction vehicles are required to operate flashing yellow lights at all times while on-site, entering the site and existing the site.
- Ensure the positioning of signs does not impede on available sight distance at existing driveways.
- This TGS has been prepared in compliance with TfNSW's Traffic Control at Work Sites (TCAWS) and Austroads Guide to Temporary Traffic Management Part 3 (AGTTM-3) guidelines.



NOT FOR IMPLEMENTATION

Prepared by
SLR

Prepared for
FLUENCE
A Siemens and AES Company

Issue	Description	Date	Auth.
B	Final Issue	09/09/25	BJR
A	Initial Issue	09/09/25	BJR

Project Title
Tomago BESS

Drawing Title
DURING CONSTRUCTION HOURS

TRAFFIC GUIDANCE SCHEME (TGS)

Drawn by: DN

Design by: BJR, PWZTMP TCT1044529

Checked by: BJR, PWZTMP TCT1044529

Design Status FINAL

Scale NTS

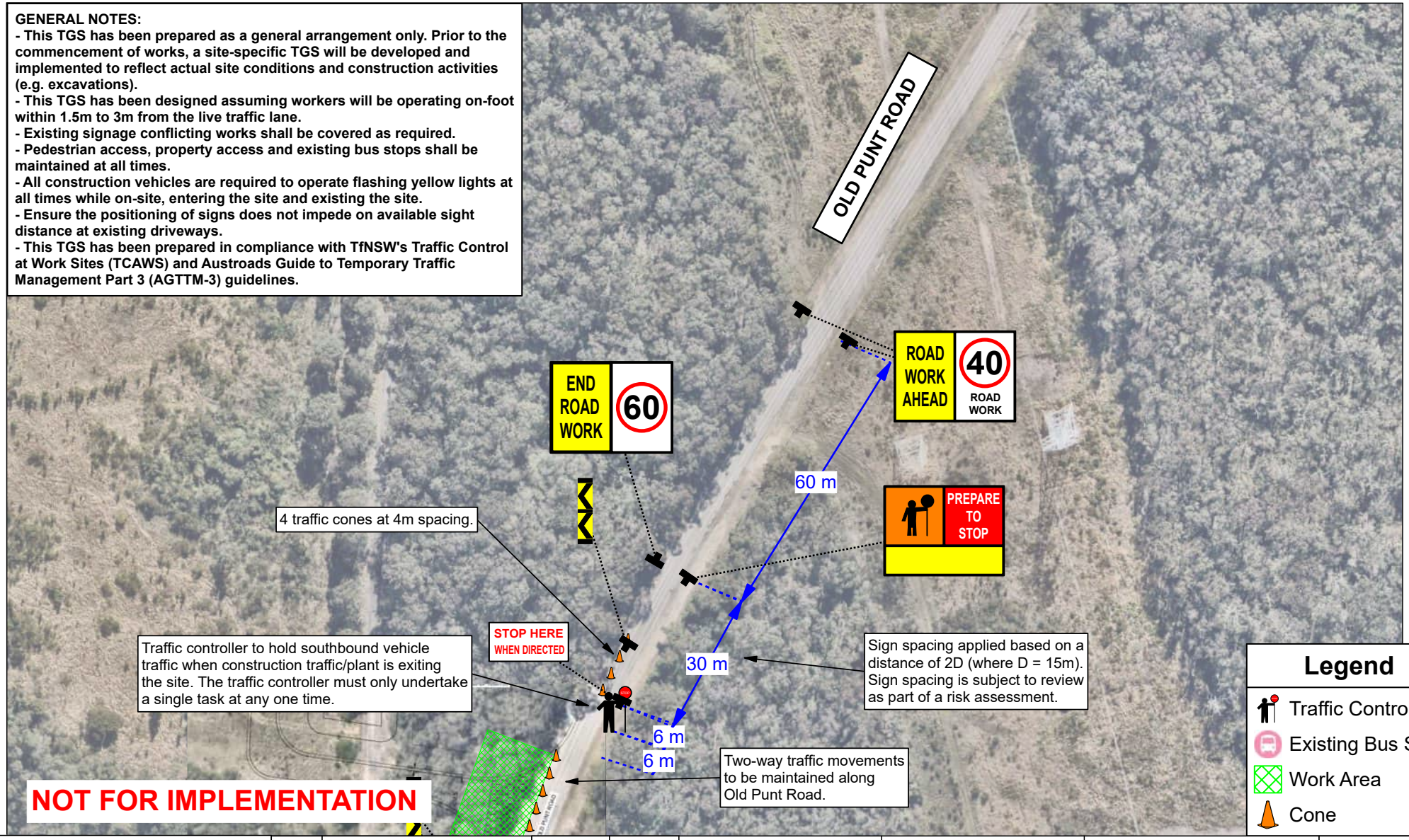
Project No. 630.032549

Drawing No. TGS-001

Sheet 2 of 3

Rev. B

GENERAL NOTES:
- This TGS has been prepared as a general arrangement only. Prior to the commencement of works, a site-specific TGS will be developed and implemented to reflect actual site conditions and construction activities (e.g. excavations).
- This TGS has been designed assuming workers will be operating on-foot within 1.5m to 3m from the live traffic lane.
- Existing signage conflicting works shall be covered as required.
- Pedestrian access, property access and existing bus stops shall be maintained at all times.
- All construction vehicles are required to operate flashing yellow lights at all times while on-site, entering the site and existing the site.
- Ensure the positioning of signs does not impede on available sight distance at existing driveways.
- This TGS has been prepared in compliance with TfNSW's Traffic Control at Work Sites (TCAWS) and Austroads Guide to Temporary Traffic Management Part 3 (AGTTM-3) guidelines.



Prepared by
SLR

Prepared for
FLUENCE
A Siemens and AES Company

Issue	Description	Date	Auth.
B	Final Issue	09/09/25	BJR
A	Initial Issue	09/09/25	BJR

Project Title
Tomago BESS

Drawing Title
DURING CONSTRUCTION HOURS

TRAFFIC GUIDANCE SCHEME (TGS)

Drawn by: DN

Design by: BJR, PWZTMP TCT1044529

Checked by: BJR, PWZTMP TCT1044529

Project No. 630.032549

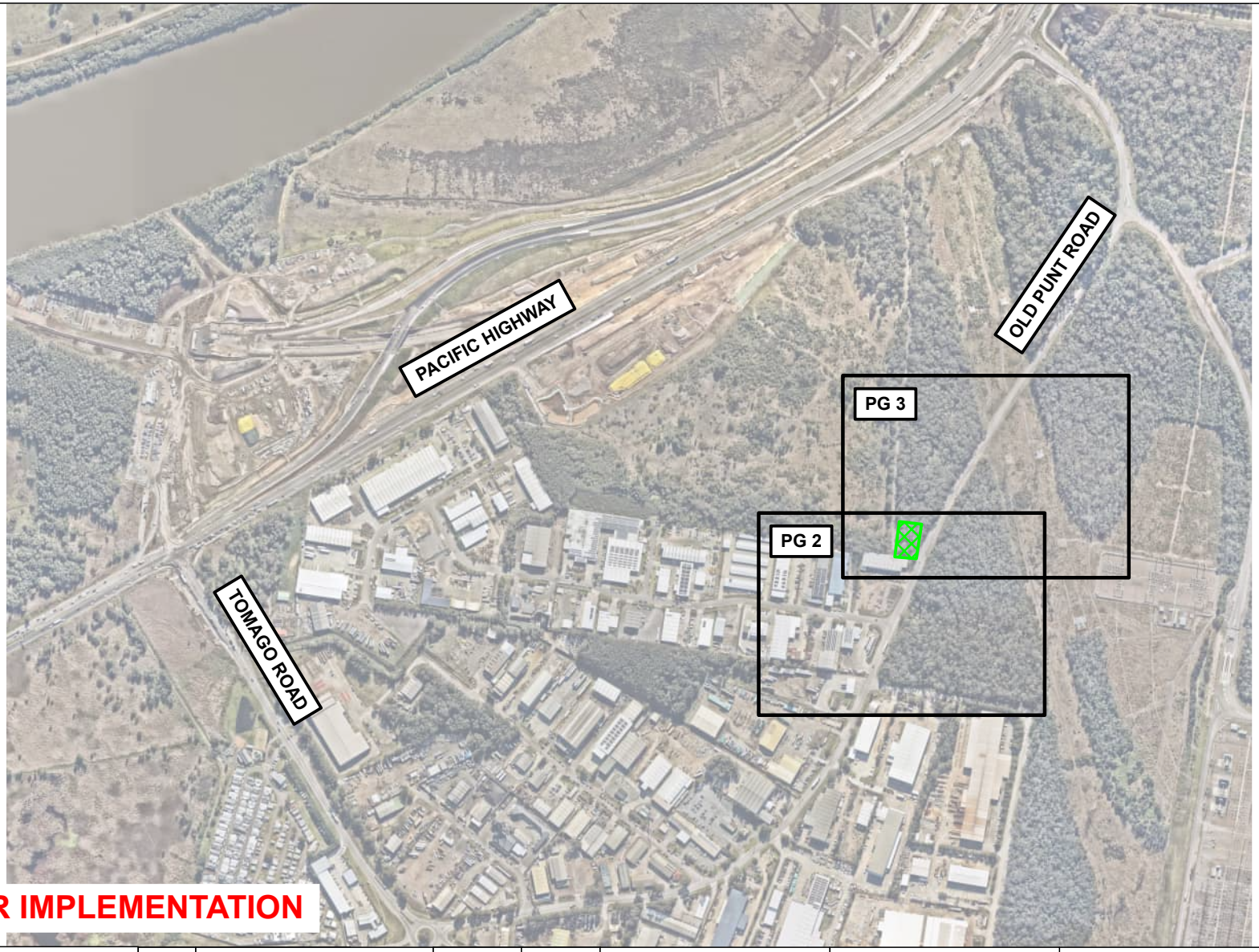
Drawing No. TGS-001

Design Status FINAL

Scale NTS

Sheet 3 of 3

Rev. B



NOT FOR IMPLEMENTATION

Prepared by

SLR

Prepared for

FLUENCE
A Siemens and AES Company

Issue	Description	Date	Auth.
B	Final Issue	09/09/25	BJR
A	Initial Issue	09/09/25	BJR

Project Title

Tomago BESS

Drawing Title

COVER SHEET

OUTSIDE CONSTRUCTION HOURS

TRAFFIC GUIDANCE SCHEME (TGS)

Drawn by:
DN

Design by:
BJR, PWZTMP
TCT1044529

Checked by:
BJR, PWZTMP
TCT1044529

Project No.
630.032549

Drawing No.
TGS-002

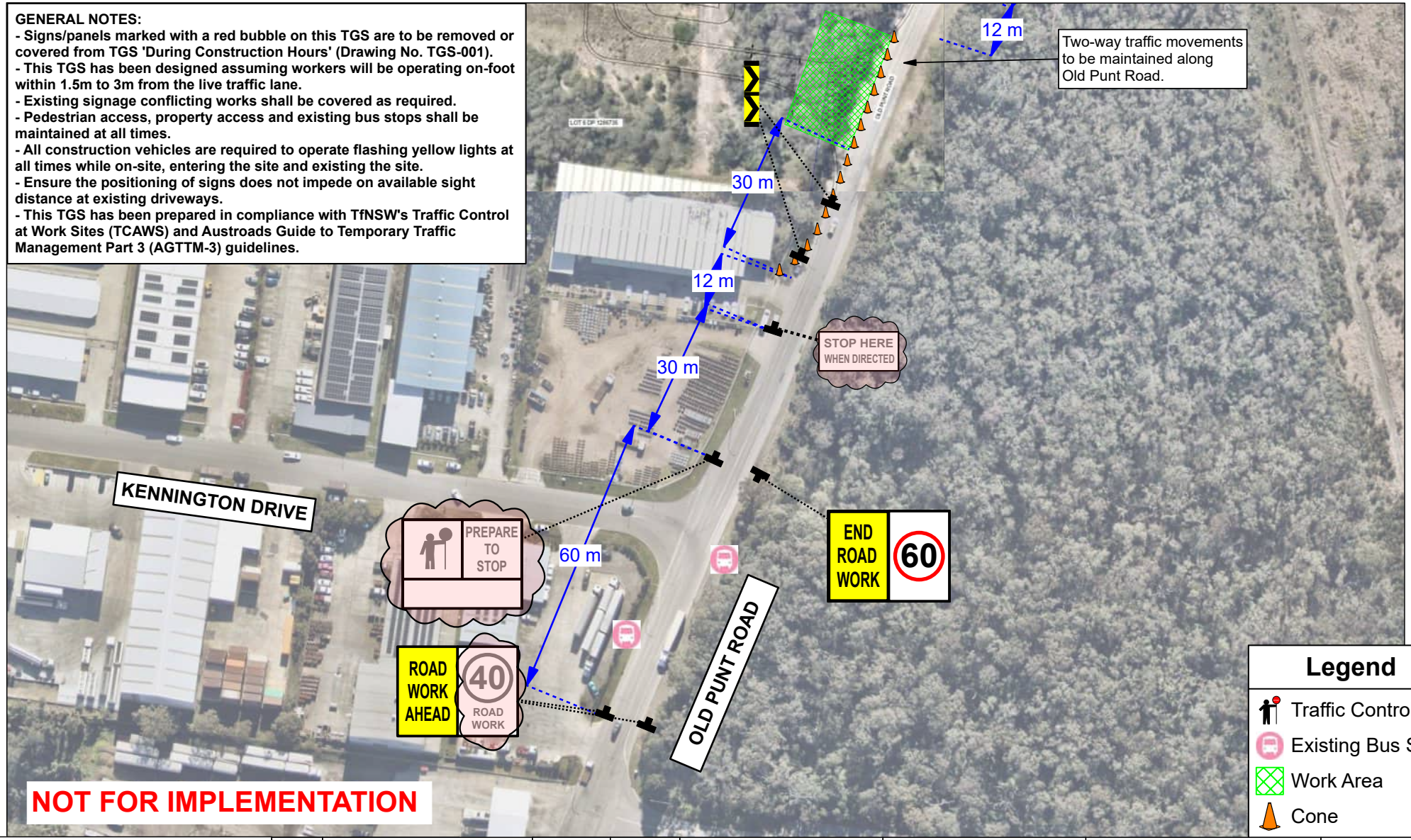
Design Status
FINAL

Scale
NTS

Sheet
1 of 3

Rev.
B

GENERAL NOTES:
- Signs/panels marked with a red bubble on this TGS are to be removed or covered from TGS 'During Construction Hours' (Drawing No. TGS-001).
- This TGS has been designed assuming workers will be operating on-foot within 1.5m to 3m from the live traffic lane.
- Existing signage conflicting works shall be covered as required.
- Pedestrian access, property access and existing bus stops shall be maintained at all times.
- All construction vehicles are required to operate flashing yellow lights at all times while on-site, entering the site and existing the site.
- Ensure the positioning of signs does not impede on available sight distance at existing driveways.
- This TGS has been prepared in compliance with TfNSW's Traffic Control at Work Sites (TCAWS) and Austroads Guide to Temporary Traffic Management Part 3 (AGTTM-3) guidelines.



NOT FOR IMPLEMENTATION

Prepared by

SLR

Prepared for

FLUENCE
A Siemens and AES Company

Issue	Description	Date	Auth.
B	Final Issue	09/09/25	BJR
A	Initial Issue	09/09/25	BJR

Project Title
Tomago BESS

Drawing Title
OUTSIDE CONSTRUCTION HOURS

TRAFFIC GUIDANCE SCHEME (TGS)

Drawn by: DN

Design by: BJR, PWZTMP TCT1044529

Checked by: BJR, PWZTMP TCT1044529

Project No. 630.032549

Drawing No. TGS-002

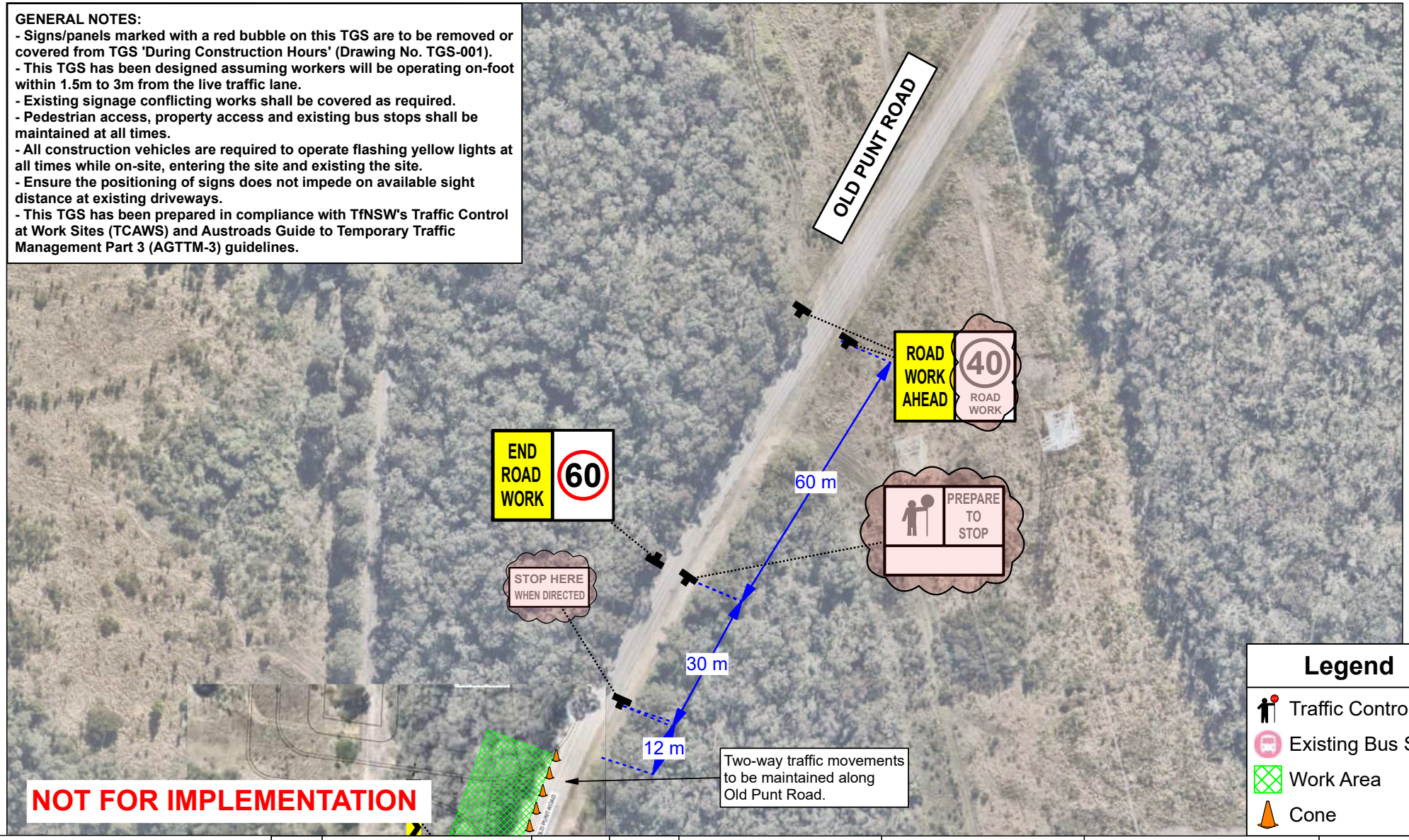
Design Status FINAL

Scale NTS

Sheet 2 of 3

Rev. B

GENERAL NOTES:
- Signs/panels marked with a red bubble on this TGS are to be removed or covered from TGS 'During Construction Hours' (Drawing No. TGS-001).
- This TGS has been designed assuming workers will be operating on-foot within 1.5m to 3m from the live traffic lane.
- Existing signage conflicting works shall be covered as required.
- Pedestrian access, property access and existing bus stops shall be maintained at all times.
- All construction vehicles are required to operate flashing yellow lights at all times while on-site, entering the site and existing the site.
- Ensure the positioning of signs does not impede on available sight distance at existing driveways.
- This TGS has been prepared in compliance with TfNSW's Traffic Control at Work Sites (TCAWS) and Austroads Guide to Temporary Traffic Management Part 3 (AGTTM-3) guidelines.



NOT FOR IMPLEMENTATION

Prepared by
SLR

Prepared for
FLUENCE
A Siemens and AES Company

Issue	Description	Date	Auth.
B	Final Issue	09/09/25	BJR
A	Initial Issue	09/09/25	BJR

Project Title
Tomago BESS

Drawing Title
OUTSIDE CONSTRUCTION HOURS

TRAFFIC GUIDANCE SCHEME (TGS)

Drawn by: DN

Design by: BJR, PWZTMP TCT1044529

Checked by: BJR, PWZTMP TCT1044529

Design Status FINAL

Scale NTS

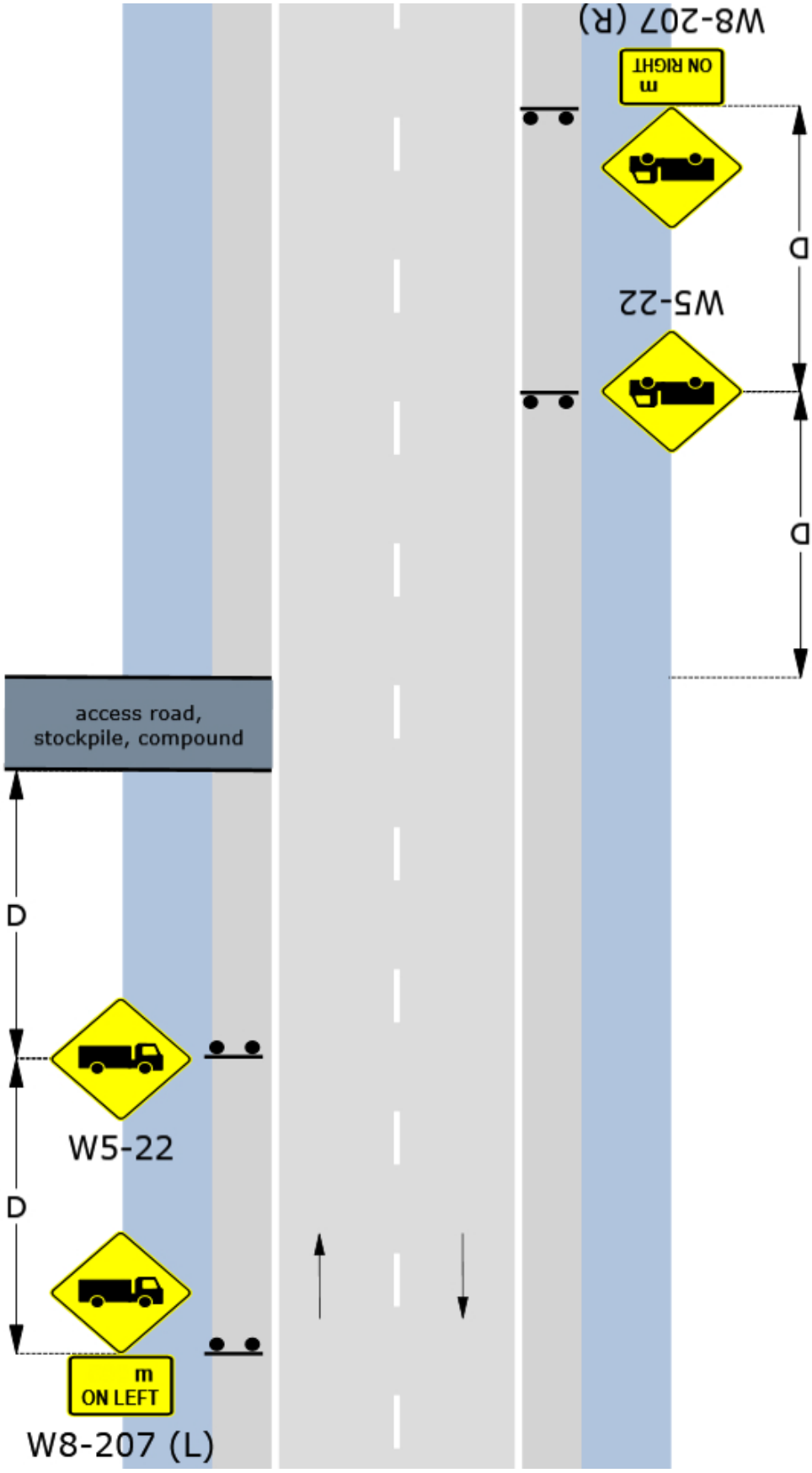
Project No. 630.032549

Drawing No. TGS-002

Sheet 3 of 3

Rev. B

D.4.7 Static: Access to depot, stockpile, quarry, gravel pit etc. all roads (formerly TCP 195)



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Appendix F Risk Assessment

SLR Consulting Australia
Level 16, 175 Eagle Street, Brisbane QLD 4000, Australia

Tomago BESS

Old Punt Road, Tomago, NSW

RISK ASSESSMENT AND COMMUNICATION TOOL

Project Number	630.032549.00001
Project Name	Tomago BESS
Site Location	Old Punt Road, Tomago
Date of Assessment	13 August 2025
Revision	Issue 1

Name	Company	Title

Document Control

Date Issued	Revision	Issued By	Checked By
13 August 2025	Draft	A.Moxon	B. Rheinberger

Risk Evaluation Matrix		**Consequences**					
Risk Ratings: Very high = **VH**; High = **H**; Medium = **M**; Low = **L**		Insignificant	Minor	Moderate	Major	Severe	Catastrophic
		C6	C5	C4	C3	C2	C1
Almost certain	L1	**M**	**H**	**H**	**VH**	**VH**	**VH**
Very likely	L2	**M**	**M**	**H**	**H**	**VH**	**VH**
Likely	L3	**L**	**M**	**M**	**H**	**H**	**VH**
Unlikely	L4	**L**	**L**	**M**	**M**	**H**	**H**
Very unlikely	L5	**L**	**L**	**L**	**M**	**M**	**H**
Almost unprecedented	L6	**L**	**L**	**L**	**L**	**M**	**M**

Consequence Rating	Description
Insignificant	• Illness, first aid or injury not requiring medical treatment. • No lost time.
Minor	• Minor injury or illness requiring medical treatment. • No lost time post medical treatment.
Moderate	Minor injuries or illnesses resulting in lost time.
Major	1 to 10 serious injuries or illnesses* resulting in lost time or potential permanent impairment.
Severe	Single fatality and/or 11 to 20 serious injuries or illnesses* resulting in lost time or potential permanent impairment.
Catastrophic	Multiple fatalities and/or more than 20 serious injuries or illnesses* resulting in lost time or potential permanent impairment.

* Serious injury or illness is defined by the WHS Act section 36

Likelihood Rating	Description
Almost certain	• Expected to occur multiple times (10 or more times) during any given year. • Expected to occur at least 1 in every 4 times the event or action occurs (more than 25% chance of occurrence). • This risk is known to occur frequently.
Very likely	• Expected to occur occasionally (1 to 10 times) during any given year. • Expected to occur between 1 in 4 and 1 in 10 times the event or action occurs (10 to 25% chance of occurrence). • This risk is known to occur often.
Likely	• Expected to occur once during any given year. • Expected to occur between 1 in 10 and 1 in 100 times the event or action. • occurs (1 to 10% chance of occurrence). • This risk is known to have occurred on occasions.
Unlikely	• Expected to occur once every 1 to10 years. • Expected to occur between 1 in 100 and 1 in 1,000 times the event or action occurs (0.1 to 1.0% chance of occurrence). • This risk could occur but not often.
Very unlikely	• Expected to occur once every 10 to100 years. • Expected to occur between 1 in 1,000 and 1 in 10,000 times the event or action occurs (0.01 to 0.1% chance of occurrence). • It is unusual that this risk occurs, but it has happened.
Almost unprecedented	• Not expected to occur in the next 100 years (less than once every 100 years). • Expected to occur less than 1 in 10,000 times (if ever) the event or action occurs (less than 0.01% chance of occurrence). • Any risk can occur, but it is very improbable that this risk will occur within a large number of events.

RISK ASSESSMENT AND COMMUNICATION TOOL

ID. Ref	Risk and/or Hazard	Risk Description	Location	Existing Control	Initial Risk Rating			Design Response to risk and/or hazard	Status of Risk	Assignment of risk or hazard	Residual risk rating		
					C	L	RR				C	L	RR
1	Unauthorised access to the site.	Site entry controls fail to prevent unauthorised access.	Entire site.	Nil.	3	3	High	Exclusion barriers will be provided as part of the main works. The design provides a defined separation between construction and work areas.	Design solution.	Main Contractor	5	4	Low
2	Interaction between pedestrians and vehicles.	Uncontrolled vehicle and pedestrian conflict points.	Entire site, car park and access road.	Nil.	2	3	High	Dedicated footpaths, pedestrian crossings and additional signage shall be provided to separate vehicles and pedestrians if required.	Design solution.	Main Contractor	4	4	Medium
3	Potential vehicle conflict points.	Vehicles can crash with each other while manoeuvring through the site.	Entire site, car park and access road.	Nil.	4	3	Medium	Roadways are capable of two-way flow. Nevertheless, Traffic Controllers shall limit movements within disrupted areas to limit any safety issues. Low speeds throughout the site also reduce the potential for crashes.	Design Solution.	Main Contractor	4	5	Low
4	Fatigue.	Injury caused by fatigue.	Entire site.	Nil.	2	3	High	Toolbox meetings and regular breaks (in line with WHS practices) to minimise fatigue.	Design Solution.	Main Contractor	2	5	Medium
5	Fall risks.	Injury due to falls (in general).	Entire site and car park area.	Nil.	1	4	High	Ensuring level changes across the site to be minimised as best possible, with additional black & yellow hazard tape/marking being installed where appropriate. Installation of handrails where level changes/ramp grades are significant.	Design Solution.	Main Contractor	2	5	Medium
6	Misdirected access into neighbouring site.	Vehicle in unsafe locations.	Entire site.	Nil.	4	4	Medium	Ensuring appropriate directional signage has been provided to ensure vehicles do not access the wrong construction site, which could create potential safety breaches and hazards for all parties.	Design Solution.	Main Contractor	4	5	Low
7	Conflicting traffic management.	Coordinating Traffic Controllers could create misleading and wrong advice.	Entire site.	Nil.	2	3	High	Toolbox meetings, regular liaison with all construction teams and review of signage plans on site in order to minimise contradicting signage	Design Solution.	Main Contractor	2	5	Medium
8	Workers on-foot.	Exposure of workers to construction vehicle movements.	Work area.	Nil.	2	3	High	Toolbox meetings, regular liaison and inductions with all construction teams to ensure appropriate working protocols are understood and complied to. Dedicated internal circulation roads are provided on-site for construction vehicle movements.	Administrative Control and Design Solution.	Main Contractor.	2	5	Medium

ID. Ref	Risk and/or Hazard	Risk Description	Location	Existing Control	Initial Risk Rating			Design Response to risk and/or hazard	Status of Risk	Assignment of risk or hazard	Residual risk rating		
					C	L	RR				C	L	RR
9	Adverse weather conditions affect the worksite.	Potential for accidents in low visibility conditions.	Entire site.	Nil.	2	2	Severe	Weather forecast will be obtained prior to start of the shift and inclement weather will be monitored where possible. Works are to be cancelled or rescheduled in the event of adverse weather events. If works have already commenced, all site crews are to follow the instructions of the Project Manager/ Site Supervisor.	Administrative Controls.	Main Contractor	3	5	Medium

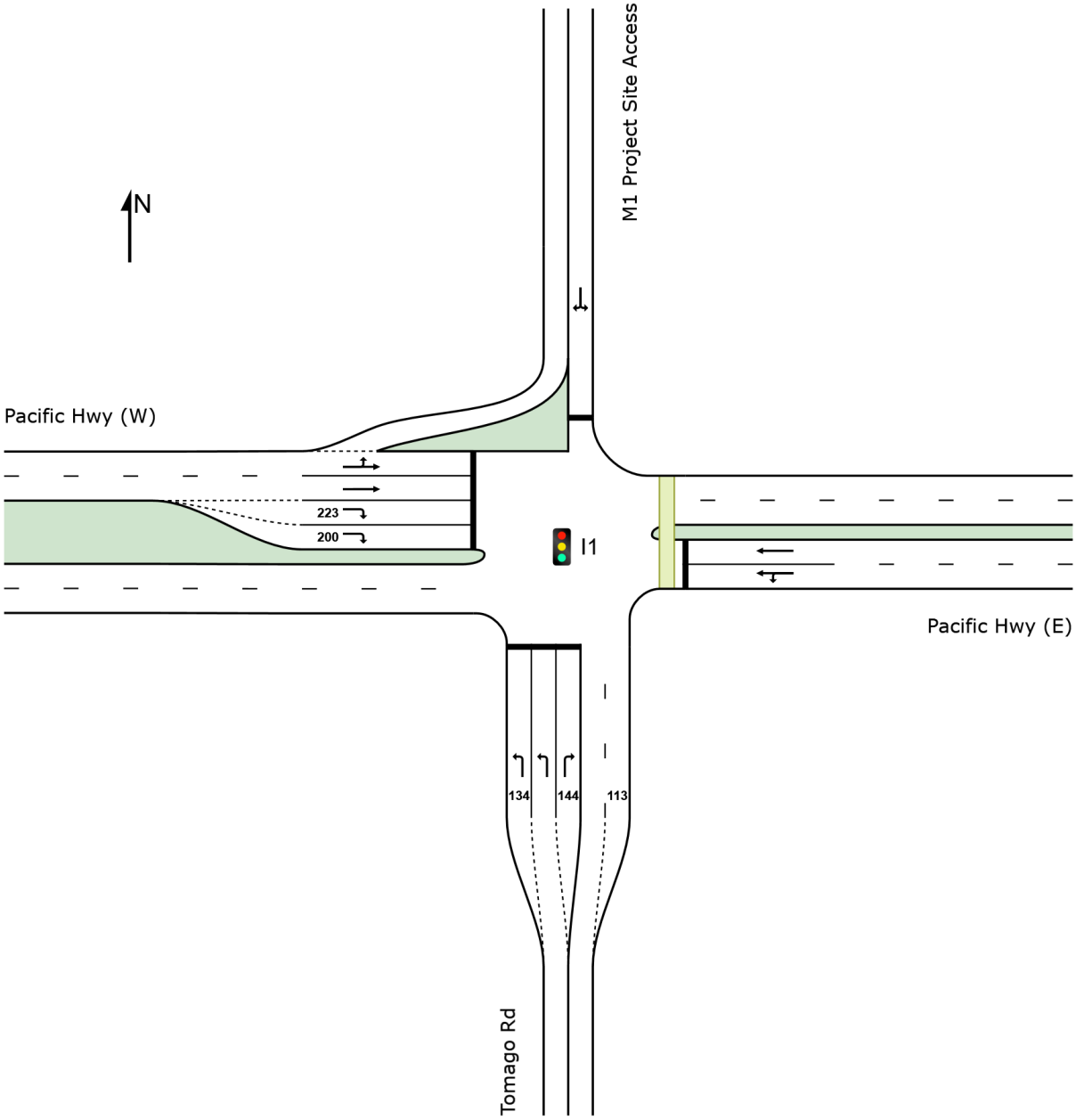
Appendix G Detailed SIDRA Outputs

SITE LAYOUT

Site: I1 [I1 Without Construction Traffic 2025 AM 95%ile Queue (Site Folder: General)]

Pacific Highway / Tomago Road / M1 Project Site Access
AM Peak Period: 6:15am to 7:15am
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: I1 [I1 Without Construction Traffic 2025 AM 95%ile Queue (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Pacific Highway / Tomago Road / M1 Project Site Access
AM Peak Period: 6:15am to 7:15am
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tomago Rd															
1	L2	All MCs	354	27.4	354	27.4	0.263	29.1	LOS C	6.6	56.8	0.68	0.75	0.68	39.0
3	R2	All MCs	40	57.5	40	57.5	* 0.607	73.3	LOS E	2.6	26.7	1.00	0.80	1.12	26.3
Approach			394	30.5	394	30.5	0.607	33.6	LOS C	6.6	56.8	0.71	0.76	0.72	37.1
East: Pacific Hwy (E)															
4	L2	All MCs	13	15.4	13	15.4	0.884	58.4	LOS E	33.8	276.3	1.00	1.03	1.16	31.9
5	T1	All MCs	1057	19.6	1057	19.6	* 0.884	50.4	LOS D	33.8	276.7	1.00	1.03	1.16	32.9
Approach			1070	19.5	1070	19.5	0.884	50.5	LOS D	33.8	276.7	1.00	1.03	1.16	32.9
North: M1 Project Site Access															
7	L2	All MCs	18	11.1	18	11.1	0.248	66.5	LOS E	1.5	13.2	0.98	0.72	0.98	28.0
9	R2	All MCs	7	85.7	7	85.7	* 0.248	67.4	LOS E	1.5	13.2	0.98	0.72	0.98	27.3
Approach			25	32.0	25	32.0	0.248	66.8	LOS E	1.5	13.2	0.98	0.72	0.98	27.8
West: Pacific Hwy (W)															
10	L2	All MCs	55	16.4	55	16.4	0.440	5.8	LOS A	12.4	99.8	0.41	0.41	0.41	51.9
11	T1	All MCs	1072	17.7	1072	17.7	0.440	6.8	LOS A	12.7	102.8	0.42	0.40	0.42	54.1
12	R2	All MCs	1000	11.4	1000	11.4	* 0.873	57.0	LOS E	31.2	239.9	1.00	0.96	1.15	30.6
Approach			2127	14.7	2127	14.7	0.873	30.4	LOS C	31.2	239.9	0.69	0.66	0.76	39.7
All Vehicles			3616	18.0	3616	18.0	0.884	36.9	LOS D	33.8	276.7	0.79	0.78	0.88	37.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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 Green.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Pacific Hwy (E)												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
All Pedestrians		5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: I1 [I1 Without Construction Traffic 2025 AM 95%ile Queue (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Pacific Highway / Tomago Road / M1 Project Site Access
AM Peak Period: 6:15am to 7:15am
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

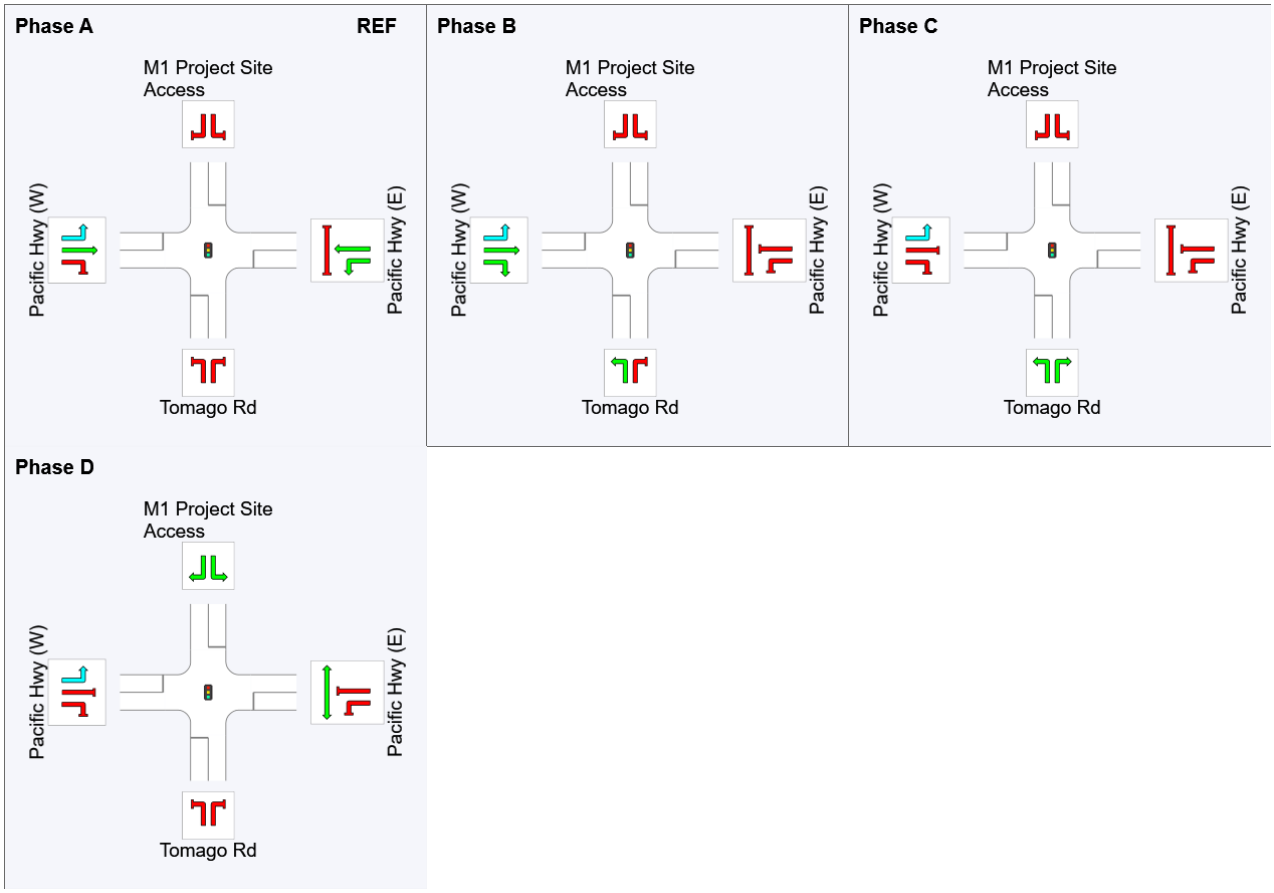
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A

Phase Timing Summary

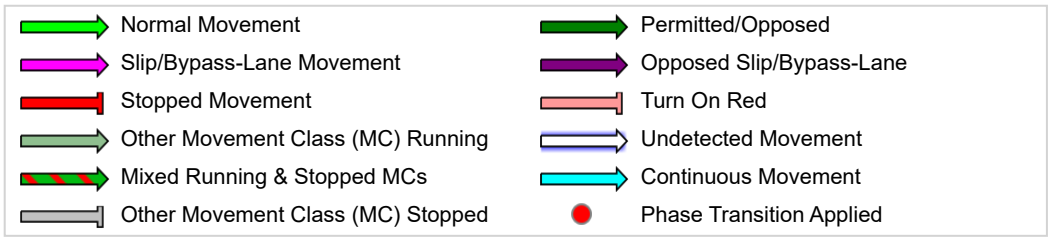
Phase	A	B	C	D
Phase Change Time (sec)	0	48	94	106
Green Time (sec)	42	40	6	8
Phase Time (sec)	48	46	12	14
Phase Split	40%	38%	10%	12%
Phase Frequency (%)	100.0	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: I1 [I1 Without Construction Traffic 2025 AM Ave Queue (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
AM Peak Period: 6:15am to 7:15am
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tomago Rd															
1	L2	All MCs	354	27.4	354	27.4	0.263	29.1	LOS C	4.0	34.8	0.68	0.75	0.68	39.0
3	R2	All MCs	40	57.5	40	57.5	* 0.607	73.3	LOS E	1.6	16.4	1.00	0.80	1.12	26.3
Approach			394	30.5	394	30.5	0.607	33.6	LOS C	4.0	34.8	0.71	0.76	0.72	37.1
East: Pacific Hwy (E)															
4	L2	All MCs	13	15.4	13	15.4	0.884	58.4	LOS E	20.7	169.3	1.00	1.03	1.16	31.9
5	T1	All MCs	1057	19.6	1057	19.6	* 0.884	50.4	LOS D	20.7	169.5	1.00	1.03	1.16	32.9
Approach			1070	19.5	1070	19.5	0.884	50.5	LOS D	20.7	169.5	1.00	1.03	1.16	32.9
North: M1 Project Site Access															
7	L2	All MCs	18	11.1	18	11.1	0.248	66.5	LOS E	0.9	8.1	0.98	0.72	0.98	28.0
9	R2	All MCs	7	85.7	7	85.7	* 0.248	67.4	LOS E	0.9	8.1	0.98	0.72	0.98	27.3
Approach			25	32.0	25	32.0	0.248	66.8	LOS E	0.9	8.1	0.98	0.72	0.98	27.8
West: Pacific Hwy (W)															
10	L2	All MCs	55	16.4	55	16.4	0.440	5.8	LOS A	7.6	61.1	0.41	0.41	0.41	51.9
11	T1	All MCs	1072	17.7	1072	17.7	0.440	6.8	LOS A	7.8	63.0	0.42	0.40	0.42	54.1
12	R2	All MCs	1000	11.4	1000	11.4	* 0.873	57.0	LOS E	19.1	147.0	1.00	0.96	1.15	30.6
Approach			2127	14.7	2127	14.7	0.873	30.4	LOS C	19.1	147.0	0.69	0.66	0.76	39.7
All Vehicles			3616	18.0	3616	18.0	0.884	36.9	LOS D	20.7	169.5	0.79	0.78	0.88	37.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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 Green.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Pacific Hwy (E)												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
All Pedestrians		5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: I1 [I1 Without Construction Traffic 2025 AM Ave Queue (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
AM Peak Period: 6:15am to 7:15am
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A

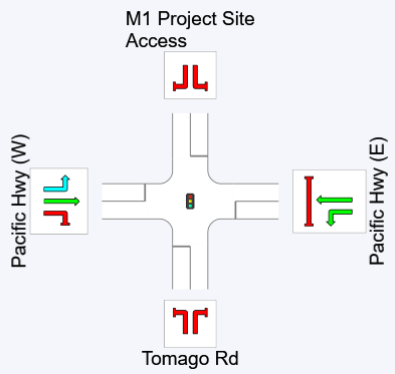
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	48	94	106
Green Time (sec)	42	40	6	8
Phase Time (sec)	48	46	12	14
Phase Split	40%	38%	10%	12%
Phase Frequency (%)	100.0	100.0	100.0	100.0

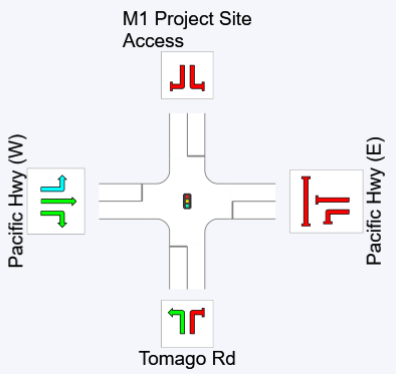
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

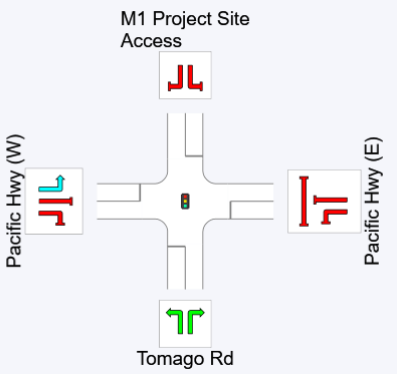
Phase A **REF**



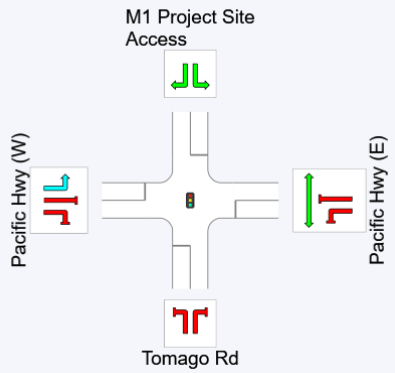
Phase B



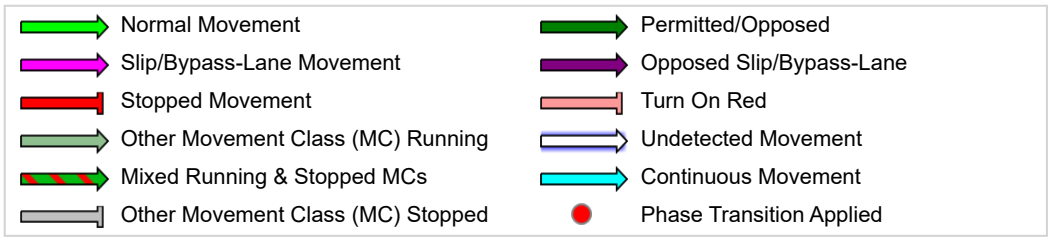
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: I1 [I1 Without Construction Traffic 2025 PM 95% Queue (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Pacific Highway / Tomago Road / M1 Project Site Access
PM Peak Period: 2:30pm to 3:30pm
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tomago Rd															
1	L2	All MCs	753	9.8	753	9.8	0.510	32.7	LOS C	16.1	122.0	0.79	0.81	0.79	37.8
3	R2	All MCs	75	12.0	75	12.0	* 0.526	65.5	LOS E	4.4	34.2	1.00	0.77	1.00	28.3
Approach			828	10.0	828	10.0	0.526	35.7	LOS D	16.1	122.0	0.81	0.81	0.81	36.7
East: Pacific Hwy (E)															
4	L2	All MCs	27	14.8	27	14.8	0.576	39.9	LOS D	17.3	136.1	0.86	0.76	0.86	37.3
5	T1	All MCs	707	14.4	707	14.4	* 0.576	33.4	LOS C	17.4	136.7	0.86	0.76	0.86	38.7
Approach			734	14.4	734	14.4	0.576	33.7	LOS C	17.4	136.7	0.86	0.76	0.86	38.7
North: M1 Project Site Access															
7	L2	All MCs	9	33.3	9	33.3	0.172	66.2	LOS E	1.0	9.1	0.97	0.70	0.97	27.9
9	R2	All MCs	8	37.5	8	37.5	* 0.172	66.3	LOS E	1.0	9.1	0.97	0.70	0.97	27.9
Approach			17	35.3	17	35.3	0.172	66.3	LOS E	1.0	9.1	0.97	0.70	0.97	27.9
West: Pacific Hwy (W)															
10	L2	All MCs	13	53.8	13	53.8	0.517	6.2	LOS A	16.9	134.2	0.50	0.46	0.50	49.5
11	T1	All MCs	1271	14.7	1271	14.7	0.517	8.8	LOS A	17.4	137.1	0.50	0.46	0.50	52.5
12	R2	All MCs	436	20.0	436	20.0	* 0.562	44.1	LOS D	13.3	109.0	0.88	0.81	0.88	33.9
Approach			1720	16.3	1720	16.3	0.562	17.7	LOS B	17.4	137.1	0.60	0.55	0.60	46.1
All Vehicles			3299	14.4	3299	14.4	0.576	26.0	LOS C	17.4	137.1	0.71	0.66	0.71	41.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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 Green.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Pacific Hwy (E)												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
All Pedestrians		5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: I1 [I1 Without Construction Traffic 2025 PM 95% Queue (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Pacific Highway / Tomago Road / M1 Project Site Access
PM Peak Period: 2:30pm to 3:30pm
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

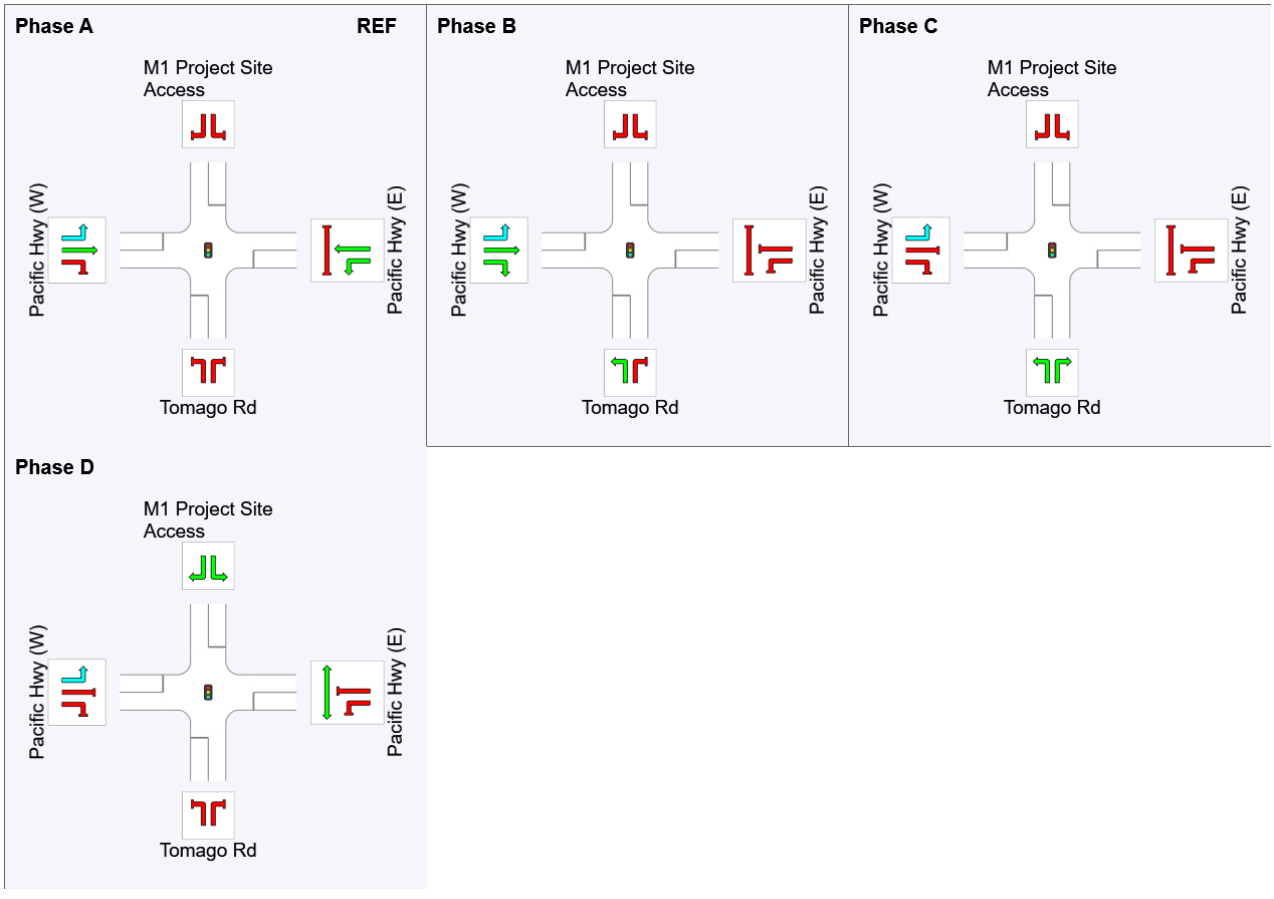
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A

Phase Timing Summary

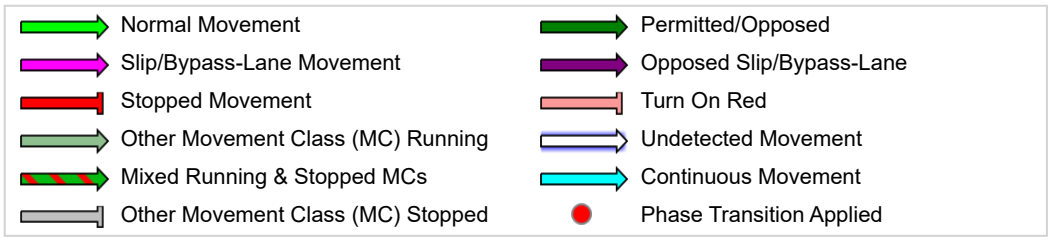
Phase	A	B	C	D
Phase Change Time (sec)	0	49	90	106
Green Time (sec)	43	35	10	8
Phase Time (sec)	49	41	16	14
Phase Split	41%	34%	13%	12%
Phase Frequency (%)	100.0	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: I1 [I1 Without Construction Traffic 2025 PM Ave Queue (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
PM Peak Period: 2:30pm to 3:30pm
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tomago Rd															
1	L2	All MCs	753	9.8	753	9.8	0.510	32.7	LOS C	9.9	74.8	0.79	0.81	0.79	37.8
3	R2	All MCs	75	12.0	75	12.0	* 0.526	65.5	LOS E	2.7	21.0	1.00	0.77	1.00	28.3
Approach			828	10.0	828	10.0	0.526	35.7	LOS D	9.9	74.8	0.81	0.81	0.81	36.7
East: Pacific Hwy (E)															
4	L2	All MCs	27	14.8	27	14.8	0.576	39.9	LOS D	10.6	83.4	0.86	0.76	0.86	37.3
5	T1	All MCs	707	14.4	707	14.4	* 0.576	33.4	LOS C	10.6	83.7	0.86	0.76	0.86	38.7
Approach			734	14.4	734	14.4	0.576	33.7	LOS C	10.6	83.7	0.86	0.76	0.86	38.7
North: M1 Project Site Access															
7	L2	All MCs	9	33.3	9	33.3	0.172	66.2	LOS E	0.6	5.6	0.97	0.70	0.97	27.9
9	R2	All MCs	8	37.5	8	37.5	* 0.172	66.3	LOS E	0.6	5.6	0.97	0.70	0.97	27.9
Approach			17	35.3	17	35.3	0.172	66.3	LOS E	0.6	5.6	0.97	0.70	0.97	27.9
West: Pacific Hwy (W)															
10	L2	All MCs	13	53.8	13	53.8	0.517	6.2	LOS A	10.4	82.2	0.50	0.46	0.50	49.5
11	T1	All MCs	1271	14.7	1271	14.7	0.517	8.8	LOS A	10.7	84.0	0.50	0.46	0.50	52.5
12	R2	All MCs	436	20.0	436	20.0	* 0.562	44.1	LOS D	8.2	66.8	0.88	0.81	0.88	33.9
Approach			1720	16.3	1720	16.3	0.562	17.7	LOS B	10.7	84.0	0.60	0.55	0.60	46.1
All Vehicles			3299	14.4	3299	14.4	0.576	26.0	LOS C	10.7	84.0	0.71	0.66	0.71	41.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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 Green.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Pacific Hwy (E)												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
All Pedestrians		5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: I1 [I1 Without Construction Traffic 2025 PM Ave Queue (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
PM Peak Period: 2:30pm to 3:30pm
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

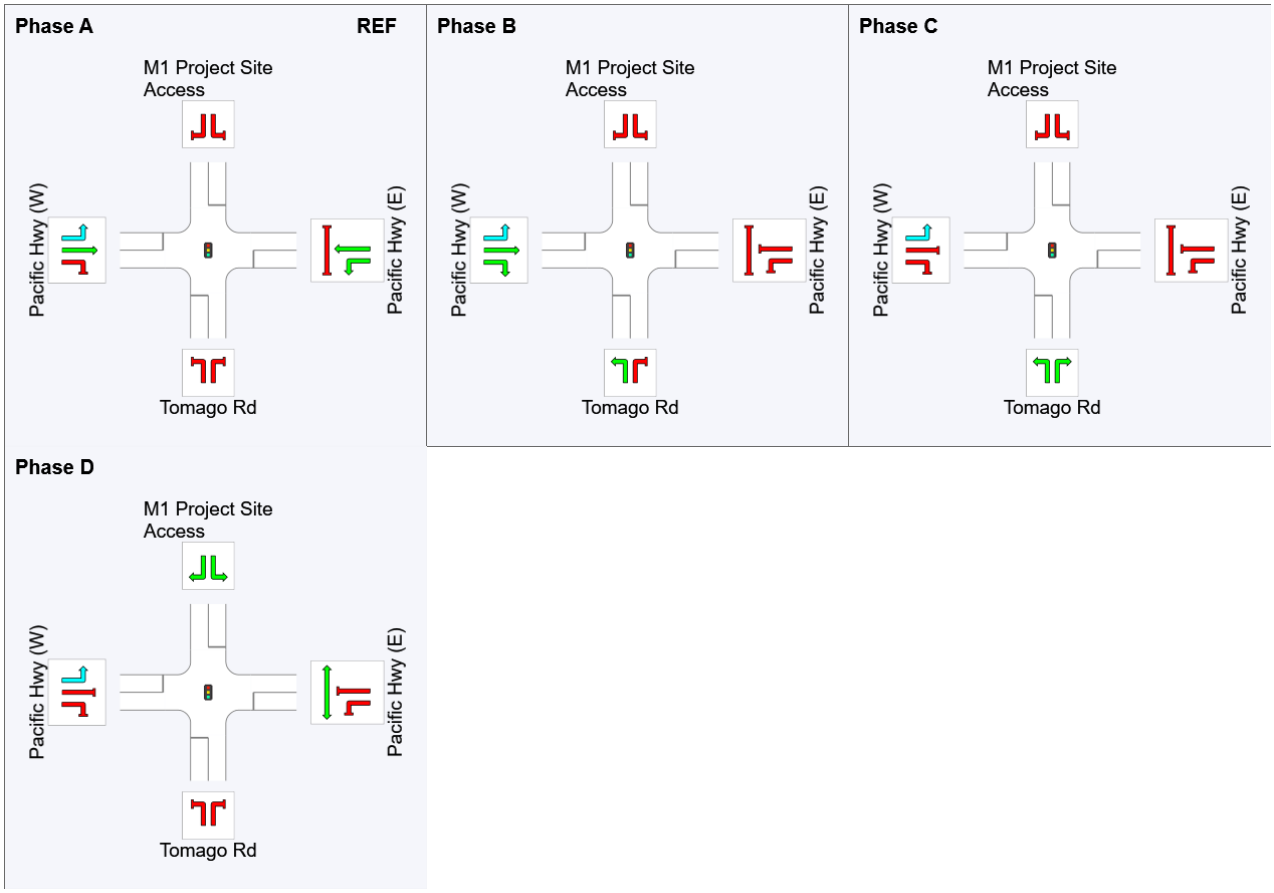
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A

Phase Timing Summary

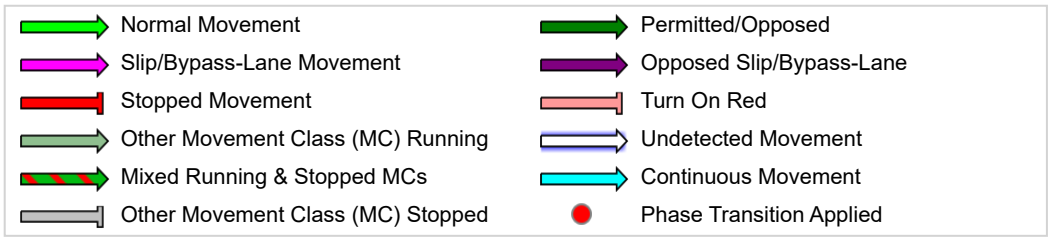
Phase	A	B	C	D
Phase Change Time (sec)	0	49	90	106
Green Time (sec)	43	35	10	8
Phase Time (sec)	49	41	16	14
Phase Split	41%	34%	13%	12%
Phase Frequency (%)	100.0	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: I1 [I1 With Construction Traffic 2025 AM - 50/50 (Queue Result: 95th %ile) (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
AM Peak Period: 6:15am to 7:15am
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tomago Rd															
1	L2	All MCs	354	27.4	354	27.4	0.258	28.4	LOS C	6.5	56.0	0.67	0.75	0.67	39.3
3	R2	All MCs	40	57.5	40	57.5	* 0.607	73.3	LOS E	2.6	26.7	1.00	0.80	1.12	26.3
Approach			394	30.5	394	30.5	0.607	32.9	LOS C	6.5	56.0	0.70	0.76	0.71	37.4
East: Pacific Hwy (E)															
4	L2	All MCs	13	15.4	13	15.4	0.906	63.4	LOS E	35.4	289.2	1.00	1.07	1.21	30.6
5	T1	All MCs	1057	19.6	1057	19.6	* 0.906	55.0	LOS E	35.4	289.6	1.00	1.07	1.21	31.6
Approach			1070	19.5	1070	19.5	0.906	55.1	LOS E	35.4	289.6	1.00	1.07	1.21	31.6
North: M1 Project Site Access															
7	L2	All MCs	18	11.1	18	11.1	0.248	66.5	LOS E	1.5	13.2	0.98	0.72	0.98	28.0
9	R2	All MCs	7	85.7	7	85.7	* 0.248	67.4	LOS E	1.5	13.2	0.98	0.72	0.98	27.3
Approach			25	32.0	25	32.0	0.248	66.8	LOS E	1.5	13.2	0.98	0.72	0.98	27.8
West: Pacific Hwy (W)															
10	L2	All MCs	55	16.4	55	16.4	0.440	5.8	LOS A	12.4	99.8	0.41	0.41	0.41	51.9
11	T1	All MCs	1072	17.7	1072	17.7	0.440	6.8	LOS A	12.7	102.8	0.42	0.40	0.42	54.1
12	R2	All MCs	1068	10.7	1068	10.7	* 0.906	62.1	LOS E	35.4	270.2	1.00	1.00	1.21	29.4
Approach			2195	14.3	2195	14.3	0.906	33.7	LOS C	35.4	270.2	0.70	0.69	0.80	38.4
All Vehicles			3684	17.6	3684	17.6	0.906	40.1	LOS D	35.4	289.6	0.79	0.81	0.91	35.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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 Green.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Pacific Hwy (E)												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
All Pedestrians		5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: I1 [I1 With Construction Traffic 2025 AM - 50/50 (Queue Result: 95th %ile) (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
AM Peak Period: 6:15am to 7:15am
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A

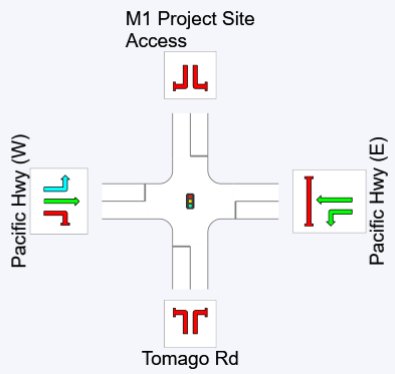
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	47	94	106
Green Time (sec)	41	41	6	8
Phase Time (sec)	47	47	12	14
Phase Split	39%	39%	10%	12%
Phase Frequency (%)	100.0	100.0	100.0	100.0

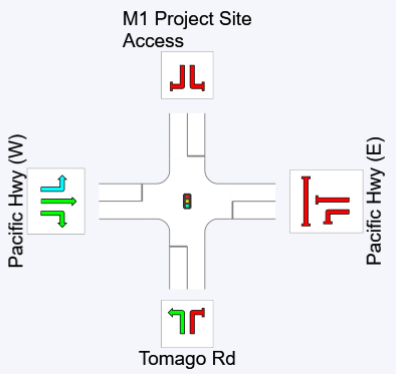
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

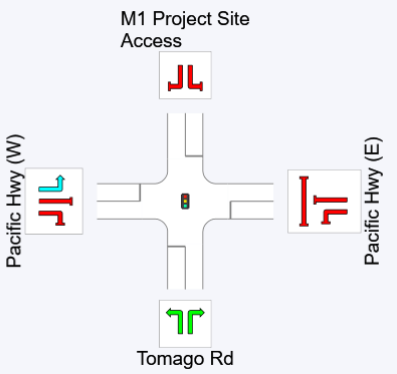
Phase A **REF**



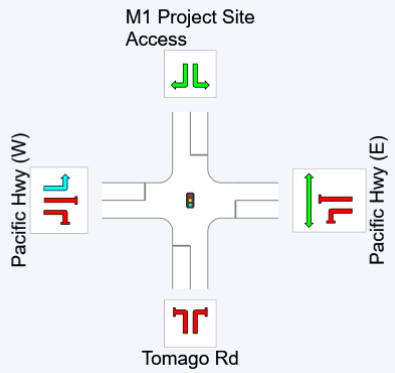
Phase B



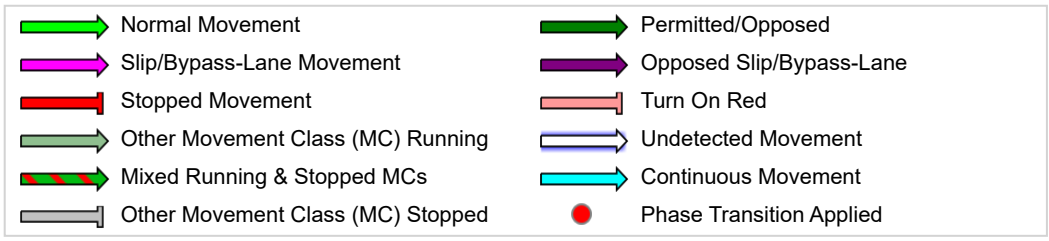
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: I1 [I1 With Construction 2025 AM - 50/50 (Queue Result: Ave) (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
AM Peak Period: 6:15am to 7:15am
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tomago Rd															
1	L2	All MCs	354	27.4	354	27.4	0.258	28.4	LOS C	4.0	34.3	0.67	0.75	0.67	39.3
3	R2	All MCs	40	57.5	40	57.5	* 0.607	73.3	LOS E	1.6	16.4	1.00	0.80	1.12	26.3
Approach			394	30.5	394	30.5	0.607	32.9	LOS C	4.0	34.3	0.70	0.76	0.71	37.4
East: Pacific Hwy (E)															
4	L2	All MCs	13	15.4	13	15.4	0.906	63.4	LOS E	21.7	177.2	1.00	1.07	1.21	30.6
5	T1	All MCs	1057	19.6	1057	19.6	* 0.906	55.0	LOS E	21.7	177.5	1.00	1.07	1.21	31.6
Approach			1070	19.5	1070	19.5	0.906	55.1	LOS E	21.7	177.5	1.00	1.07	1.21	31.6
North: M1 Project Site Access															
7	L2	All MCs	18	11.1	18	11.1	0.248	66.5	LOS E	0.9	8.1	0.98	0.72	0.98	28.0
9	R2	All MCs	7	85.7	7	85.7	* 0.248	67.4	LOS E	0.9	8.1	0.98	0.72	0.98	27.3
Approach			25	32.0	25	32.0	0.248	66.8	LOS E	0.9	8.1	0.98	0.72	0.98	27.8
West: Pacific Hwy (W)															
10	L2	All MCs	55	16.4	55	16.4	0.440	5.8	LOS A	7.6	61.1	0.41	0.41	0.41	51.9
11	T1	All MCs	1072	17.7	1072	17.7	0.440	6.8	LOS A	7.8	63.0	0.42	0.40	0.42	54.1
12	R2	All MCs	1068	10.7	1068	10.7	* 0.906	62.1	LOS E	21.7	165.6	1.00	1.00	1.21	29.4
Approach			2195	14.3	2195	14.3	0.906	33.7	LOS C	21.7	165.6	0.70	0.69	0.80	38.4
All Vehicles			3684	17.6	3684	17.6	0.906	40.1	LOS D	21.7	177.5	0.79	0.81	0.91	35.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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 Green.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Pacific Hwy (E)												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
All Pedestrians		5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: I1 [I1 With Construction 2025 AM - 50/50 (Queue Result: Ave) (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
AM Peak Period: 6:15am to 7:15am
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A

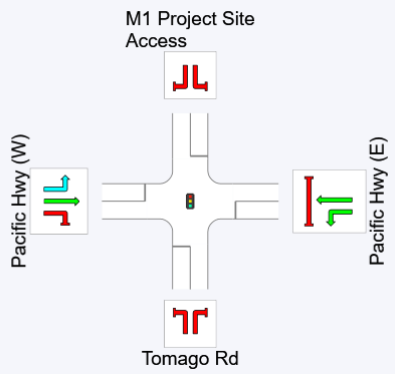
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	47	94	106
Green Time (sec)	41	41	6	8
Phase Time (sec)	47	47	12	14
Phase Split	39%	39%	10%	12%
Phase Frequency (%)	100.0	100.0	100.0	100.0

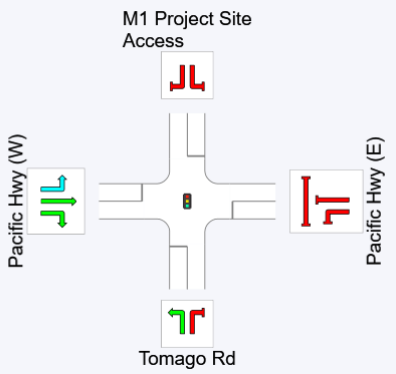
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

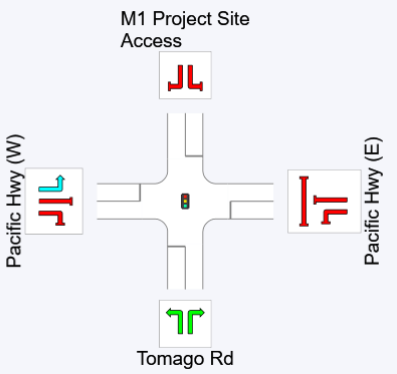
Phase A **REF**



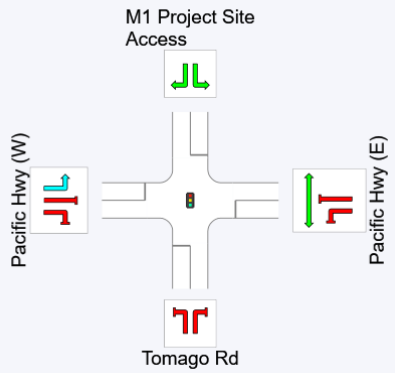
Phase B



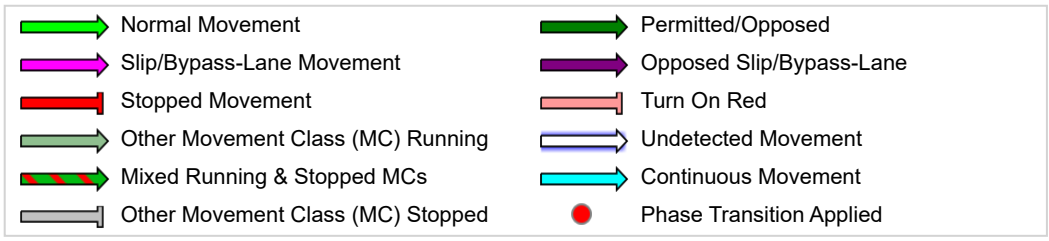
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: I1 [I1 With Construction 2025 PM - 50/50 (Queue Result: 95th %ile) (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
PM Peak Period: 2:30pm to 3:30pm
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tomago Rd															
1	L2	All MCs	821	9.0	821	9.0	0.554	33.4	LOS C	18.0	135.4	0.81	0.82	0.81	37.6
3	R2	All MCs	75	12.0	75	12.0	* 0.526	65.5	LOS E	4.4	34.2	1.00	0.77	1.00	28.3
Approach			896	9.3	896	9.3	0.554	36.1	LOS D	18.0	135.4	0.82	0.82	0.82	36.5
East: Pacific Hwy (E)															
4	L2	All MCs	27	14.8	27	14.8	0.576	39.9	LOS D	17.3	136.1	0.86	0.76	0.86	37.3
5	T1	All MCs	707	14.4	707	14.4	* 0.576	33.4	LOS C	17.4	136.7	0.86	0.76	0.86	38.7
Approach			734	14.4	734	14.4	0.576	33.7	LOS C	17.4	136.7	0.86	0.76	0.86	38.7
North: M1 Project Site Access															
7	L2	All MCs	9	33.3	9	33.3	0.172	66.2	LOS E	1.0	9.1	0.97	0.70	0.97	27.9
9	R2	All MCs	8	37.5	8	37.5	* 0.172	66.3	LOS E	1.0	9.1	0.97	0.70	0.97	27.9
Approach			17	35.3	17	35.3	0.172	66.3	LOS E	1.0	9.1	0.97	0.70	0.97	27.9
West: Pacific Hwy (W)															
10	L2	All MCs	13	53.8	13	53.8	0.517	6.2	LOS A	16.9	134.2	0.50	0.46	0.50	49.5
11	T1	All MCs	1271	14.7	1271	14.7	0.517	8.8	LOS A	17.4	137.1	0.50	0.46	0.50	52.5
12	R2	All MCs	436	20.0	436	20.0	* 0.562	44.1	LOS D	13.3	109.0	0.88	0.81	0.88	33.9
Approach			1720	16.3	1720	16.3	0.562	17.7	LOS B	17.4	137.1	0.60	0.55	0.60	46.1
All Vehicles			3367	14.1	3367	14.1	0.576	26.3	LOS C	18.0	137.1	0.72	0.67	0.72	41.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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 Green.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Pacific Hwy (E)												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
All Pedestrians		5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: I1 [I1 With Construction 2025 PM - 50/50 (Queue Result: 95th %ile) (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
PM Peak Period: 2:30pm to 3:30pm
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

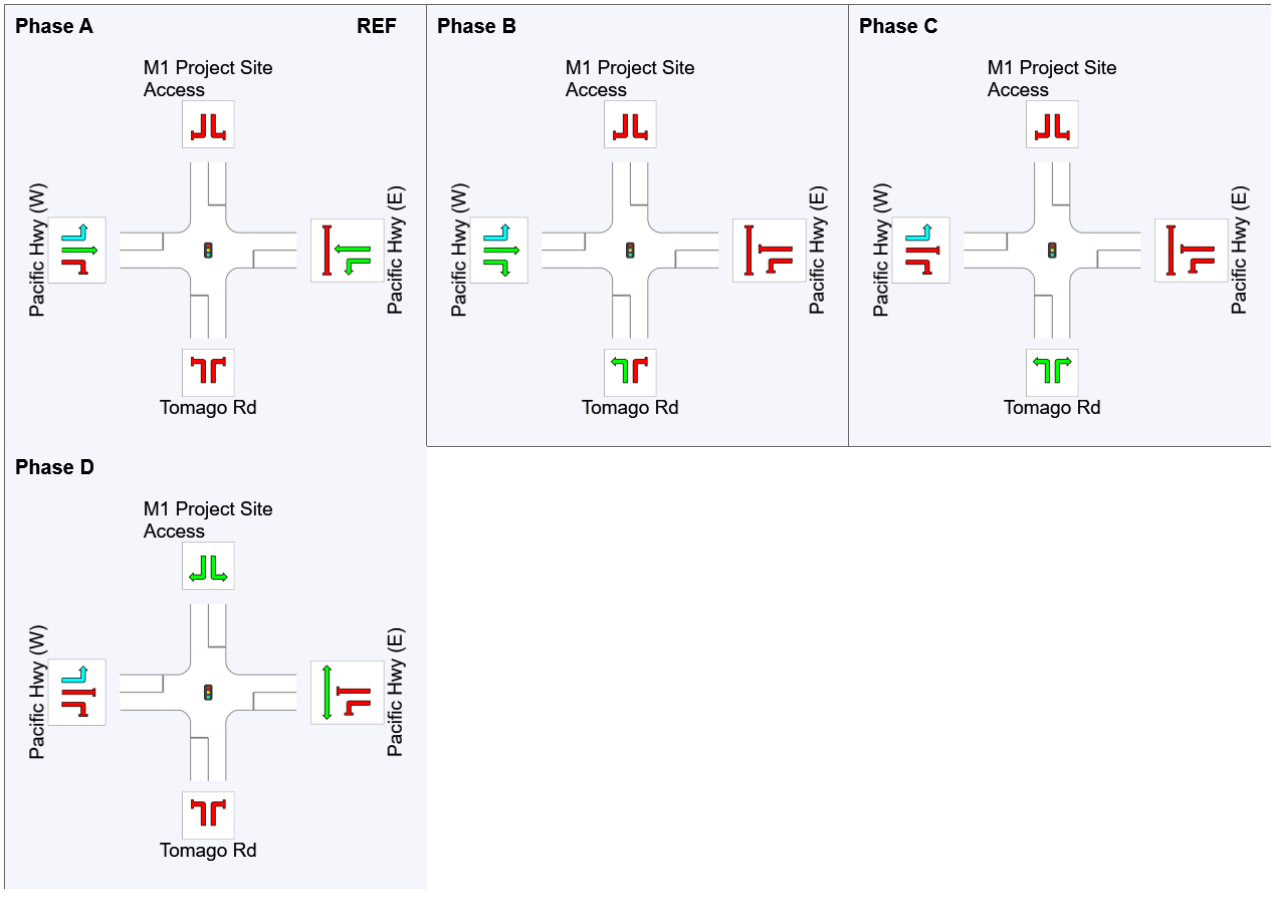
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A

Phase Timing Summary

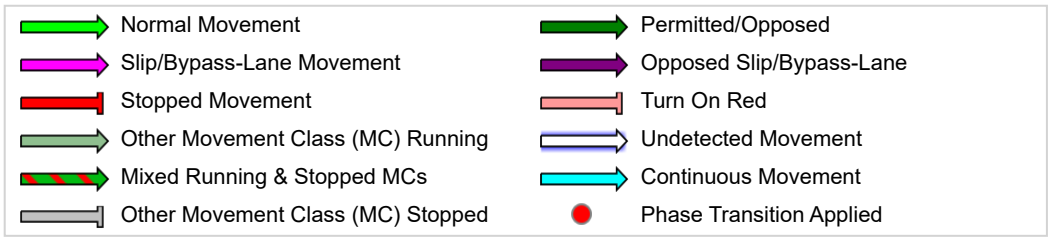
Phase	A	B	C	D
Phase Change Time (sec)	0	49	90	106
Green Time (sec)	43	35	10	8
Phase Time (sec)	49	41	16	14
Phase Split	41%	34%	13%	12%
Phase Frequency (%)	100.0	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: I1 [I1 With Construction 2025 PM - 50/50 (Queue Result: Average) (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
PM Peak Period: 2:30pm to 3:30pm
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tomago Rd															
1	L2	All MCs	821	9.0	821	9.0	0.554	33.4	LOS C	11.0	83.0	0.81	0.82	0.81	37.6
3	R2	All MCs	75	12.0	75	12.0	* 0.526	65.5	LOS E	2.7	21.0	1.00	0.77	1.00	28.3
Approach			896	9.3	896	9.3	0.554	36.1	LOS D	11.0	83.0	0.82	0.82	0.82	36.5
East: Pacific Hwy (E)															
4	L2	All MCs	27	14.8	27	14.8	0.576	39.9	LOS D	10.6	83.4	0.86	0.76	0.86	37.3
5	T1	All MCs	707	14.4	707	14.4	* 0.576	33.4	LOS C	10.6	83.7	0.86	0.76	0.86	38.7
Approach			734	14.4	734	14.4	0.576	33.7	LOS C	10.6	83.7	0.86	0.76	0.86	38.7
North: M1 Project Site Access															
7	L2	All MCs	9	33.3	9	33.3	0.172	66.2	LOS E	0.6	5.6	0.97	0.70	0.97	27.9
9	R2	All MCs	8	37.5	8	37.5	* 0.172	66.3	LOS E	0.6	5.6	0.97	0.70	0.97	27.9
Approach			17	35.3	17	35.3	0.172	66.3	LOS E	0.6	5.6	0.97	0.70	0.97	27.9
West: Pacific Hwy (W)															
10	L2	All MCs	13	53.8	13	53.8	0.517	6.2	LOS A	10.4	82.2	0.50	0.46	0.50	49.5
11	T1	All MCs	1271	14.7	1271	14.7	0.517	8.8	LOS A	10.7	84.0	0.50	0.46	0.50	52.5
12	R2	All MCs	436	20.0	436	20.0	* 0.562	44.1	LOS D	8.2	66.8	0.88	0.81	0.88	33.9
Approach			1720	16.3	1720	16.3	0.562	17.7	LOS B	10.7	84.0	0.60	0.55	0.60	46.1
All Vehicles			3367	14.1	3367	14.1	0.576	26.3	LOS C	11.0	84.0	0.72	0.67	0.72	41.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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 Green.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Pacific Hwy (E)												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
All Pedestrians		5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: I1 [I1 With Construction 2025 PM - 50/50 (Queue Result: Average) (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
PM Peak Period: 2:30pm to 3:30pm
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A

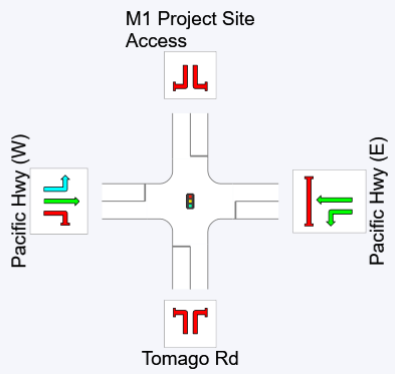
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	49	90	106
Green Time (sec)	43	35	10	8
Phase Time (sec)	49	41	16	14
Phase Split	41%	34%	13%	12%
Phase Frequency (%)	100.0	100.0	100.0	100.0

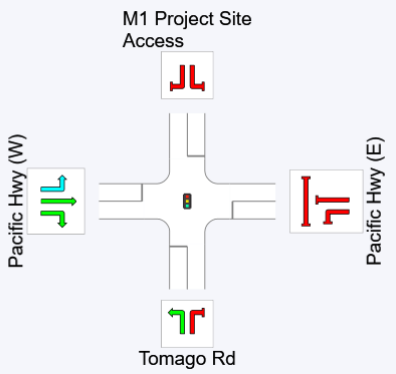
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

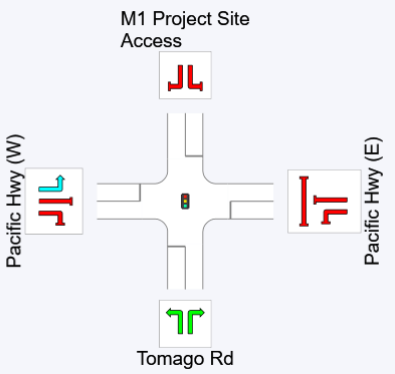
Phase A **REF**



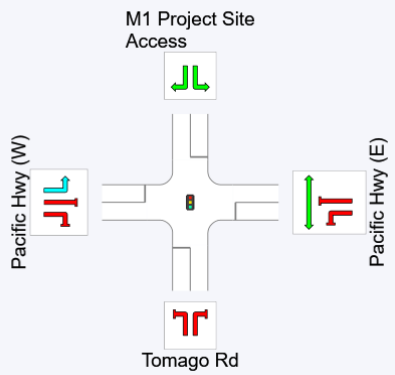
Phase B



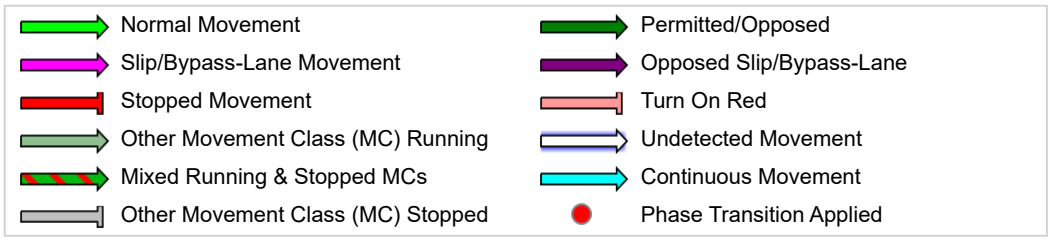
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: I1 [I1 With Construction 2025 AM - 50/50 (Queue Result: 95th %ile) - Mitigation Measure (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
AM Peak Period: 6:15am to 7:15am
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tomago Rd															
1	L2	All MCs	354	27.4	354	27.4	0.263	29.1	LOS C	6.6	56.8	0.68	0.75	0.68	39.0
3	R2	All MCs	40	57.5	40	57.5	* 0.607	73.3	LOS E	2.6	26.7	1.00	0.80	1.12	26.3
Approach			394	30.5	394	30.5	0.607	33.6	LOS C	6.6	56.8	0.71	0.76	0.72	37.1
East: Pacific Hwy (E)															
4	L2	All MCs	13	15.4	13	15.4	0.884	58.4	LOS E	33.8	276.3	1.00	1.03	1.16	31.9
5	T1	All MCs	1057	19.6	1057	19.6	* 0.884	50.4	LOS D	33.8	276.7	1.00	1.03	1.16	32.9
Approach			1070	19.5	1070	19.5	0.884	50.5	LOS D	33.8	276.7	1.00	1.03	1.16	32.9
North: M1 Project Site Access															
7	L2	All MCs	18	11.1	18	11.1	0.248	66.5	LOS E	1.5	13.2	0.98	0.72	0.98	28.0
9	R2	All MCs	7	85.7	7	85.7	* 0.248	67.4	LOS E	1.5	13.2	0.98	0.72	0.98	27.3
Approach			25	32.0	25	32.0	0.248	66.8	LOS E	1.5	13.2	0.98	0.72	0.98	27.8
West: Pacific Hwy (W)															
10	L2	All MCs	55	16.4	55	16.4	0.464	5.8	LOS A	13.5	107.8	0.43	0.42	0.43	51.8
11	T1	All MCs	1140	16.7	1140	16.7	0.464	6.9	LOS A	13.9	111.0	0.43	0.41	0.43	53.9
12	R2	All MCs	1000	11.4	1000	11.4	* 0.873	57.0	LOS E	31.2	239.9	1.00	0.96	1.15	30.6
Approach			2195	14.3	2195	14.3	0.873	29.7	LOS C	31.2	239.9	0.69	0.66	0.76	40.0
All Vehicles			3684	17.6	3684	17.6	0.884	36.4	LOS D	33.8	276.7	0.78	0.78	0.87	37.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
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 Green.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Pacific Hwy (E)												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
All Pedestrians		5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: I1 [I1 With Construction 2025 AM - 50/50 (Queue Result: 95th %ile) - Mitigation Measure (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
AM Peak Period: 6:15am to 7:15am
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

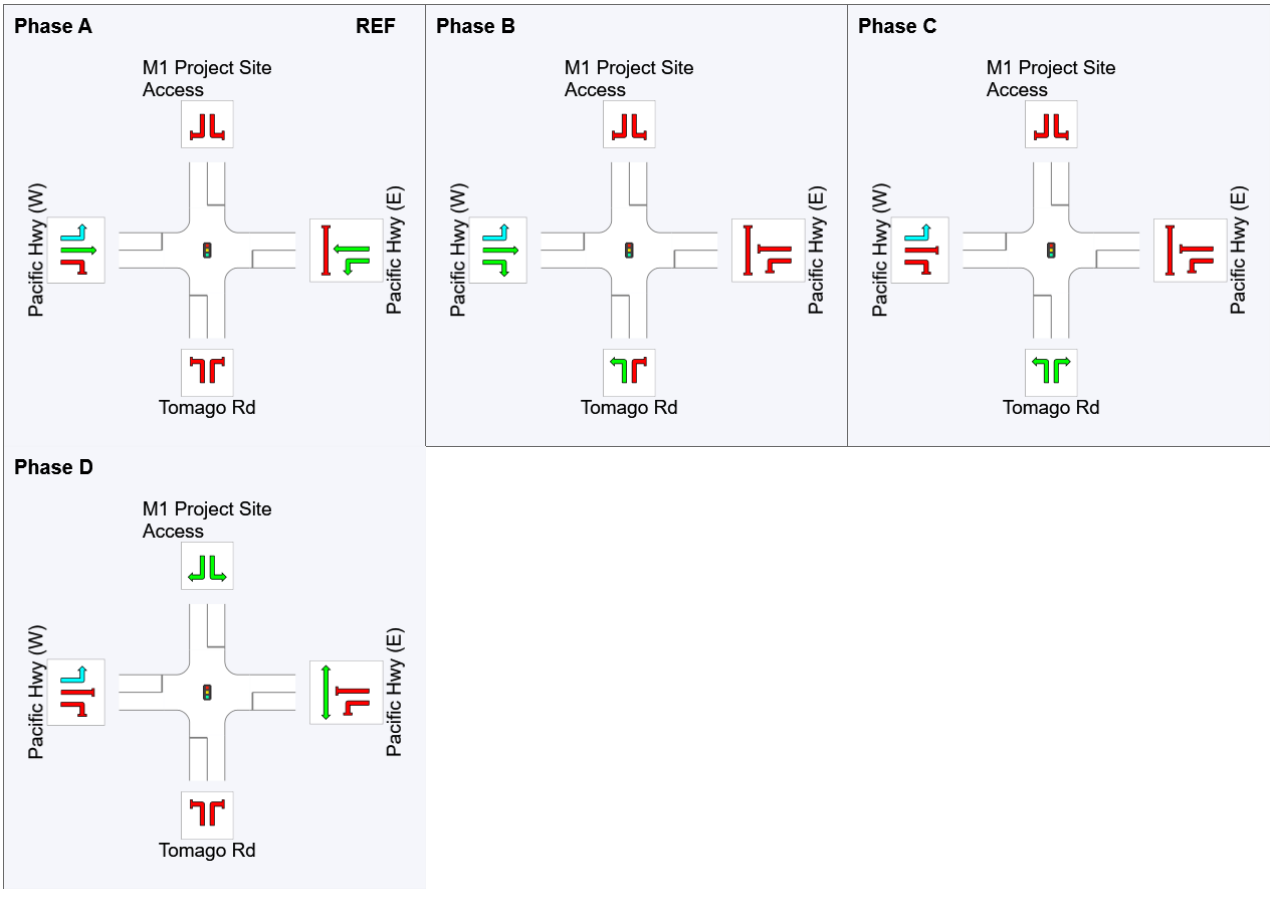
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A

Phase Timing Summary

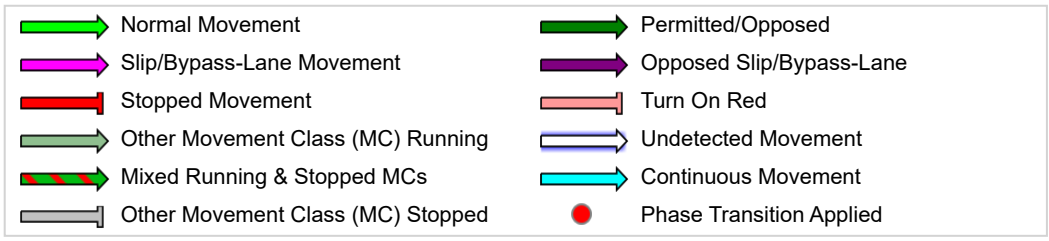
Phase	A	B	C	D
Phase Change Time (sec)	0	48	94	106
Green Time (sec)	42	40	6	8
Phase Time (sec)	48	46	12	14
Phase Split	40%	38%	10%	12%
Phase Frequency (%)	100.0	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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MOVEMENT SUMMARY

Site: I1 [I1 With Construction 2025 AM - 50/50 (Queue Result: Ave) - Mitigation Measure (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
AM Peak Period: 6:15am to 7:15am
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Tomago Rd															
1	L2	All MCs	354	27.4	354	27.4	0.263	29.1	LOS C	4.0	34.8	0.68	0.75	0.68	39.0
3	R2	All MCs	40	57.5	40	57.5	* 0.607	73.3	LOS E	1.6	16.4	1.00	0.80	1.12	26.3
Approach			394	30.5	394	30.5	0.607	33.6	LOS C	4.0	34.8	0.71	0.76	0.72	37.1
East: Pacific Hwy (E)															
4	L2	All MCs	13	15.4	13	15.4	0.884	58.4	LOS E	20.7	169.3	1.00	1.03	1.16	31.9
5	T1	All MCs	1057	19.6	1057	19.6	* 0.884	50.4	LOS D	20.7	169.5	1.00	1.03	1.16	32.9
Approach			1070	19.5	1070	19.5	0.884	50.5	LOS D	20.7	169.5	1.00	1.03	1.16	32.9
North: M1 Project Site Access															
7	L2	All MCs	18	11.1	18	11.1	0.248	66.5	LOS E	0.9	8.1	0.98	0.72	0.98	28.0
9	R2	All MCs	7	85.7	7	85.7	* 0.248	67.4	LOS E	0.9	8.1	0.98	0.72	0.98	27.3
Approach			25	32.0	25	32.0	0.248	66.8	LOS E	0.9	8.1	0.98	0.72	0.98	27.8
West: Pacific Hwy (W)															
10	L2	All MCs	55	16.4	55	16.4	0.464	5.8	LOS A	8.3	66.1	0.43	0.42	0.43	51.8
11	T1	All MCs	1140	16.7	1140	16.7	0.464	6.9	LOS A	8.5	68.0	0.43	0.41	0.43	53.9
12	R2	All MCs	1000	11.4	1000	11.4	* 0.873	57.0	LOS E	19.1	147.0	1.00	0.96	1.15	30.6
Approach			2195	14.3	2195	14.3	0.873	29.7	LOS C	19.1	147.0	0.69	0.66	0.76	40.0
All Vehicles			3684	17.6	3684	17.6	0.884	36.4	LOS D	20.7	169.5	0.78	0.78	0.87	37.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
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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 Green.
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.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Pacific Hwy (E)												
P2	Full	5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96
All Pedestrians		5	5	54.2	LOS E	0.0	0.0	0.95	0.95	208.0	200.0	0.96

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

PHASING SUMMARY

Site: I1 [I1 With Construction 2025 AM - 50/50 (Queue Result: Ave) - Mitigation Measure (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.2.202

Pacific Highway / Tomago Road / M1 Project Site Access
AM Peak Period: 6:15am to 7:15am
Prepared by: DN
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 120 seconds (Site User-Given Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Phase Sequence: Four-Phase Leading Right Turns
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D
Reference Phase: Phase A

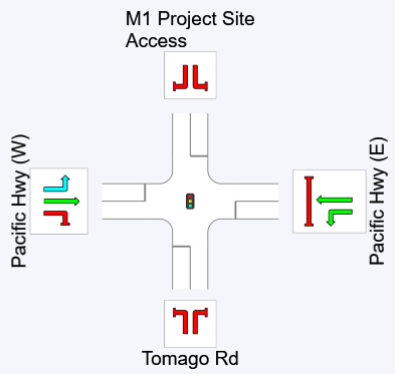
Phase Timing Summary

Phase	A	B	C	D
Phase Change Time (sec)	0	48	94	106
Green Time (sec)	42	40	6	8
Phase Time (sec)	48	46	12	14
Phase Split	40%	38%	10%	12%
Phase Frequency (%)	100.0	100.0	100.0	100.0

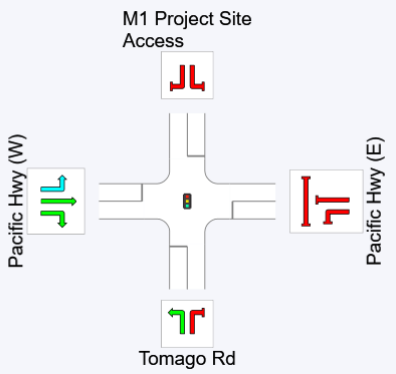
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence

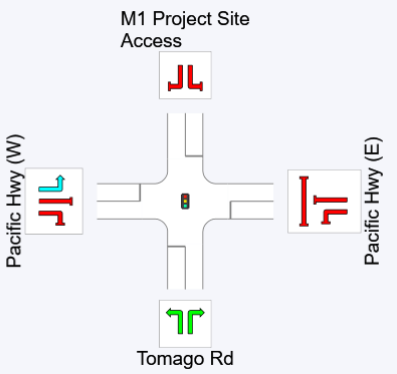
Phase A **REF**



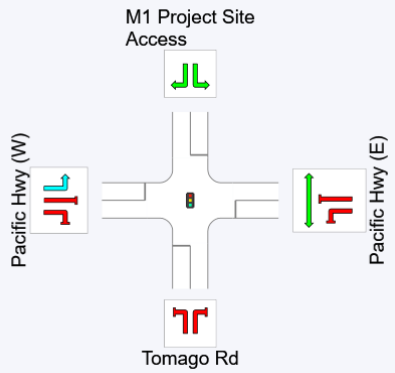
Phase B



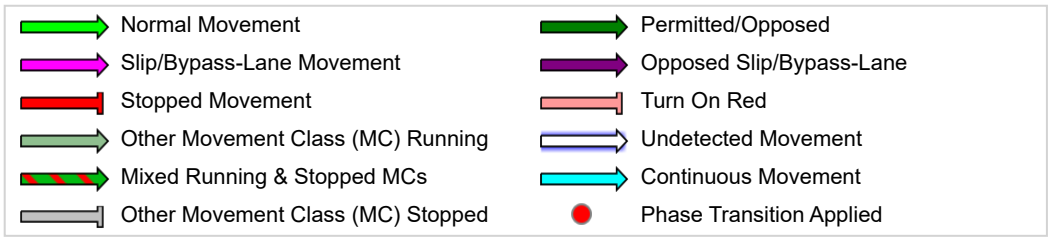
Phase C



Phase D



REF: Reference Phase
VAR: Variable Phase



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Appendix H Stakeholder Consultation

Planning, Industry & Environment

Document: TMP – Traffic Management Plan
Revision: Revision C 30/09/2025
V#.2 November 2025
Reviewed: SK /11/2025
CP 1.12.2025

	Terms of Consent	**Sufficient (Yes/No/ Partial)**	**Document reference and comment**	**Action Required**	**SLR Response**	**DPHI Response**	**SLR Response – 03 Dec**
1.	***Administrative Conditions*** A13. Where conditions of this consent require consultation with an identified party, the Applicant must: (a) consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and (b) provide details of the consultation undertaken including: (i) the outcome of that consultation, matters resolved and unresolved; and (ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.	Partial	Condition B8 requires the TMP to be prepared in consultation with TfNSW and Port Stephens Council. Section 1.3 states that the TMP will be provided to Council for review and comment and the document will be revised accordingly. The document doesn't include consultation with TfNSW. The Department notes however that the TMP has been emailed to both stakeholders on 3/10/2025, and the Project is currently waiting on responses.	**Please update Section 1.3 so that it is clearer that the TMP consultation requirements are being addressed. Consultation must be undertaken in compliance with condition A13.** **Please submit the responses from TfNSW and Council regarding the TMP once they have been received.**	Updated – Section 1.3 and Appendix H	Section 1.4 does not include the requirement to consult with M12RT project team prior to construction movements. Update section 7.1 to include Contact with the M12RT team should be done via 12Rt@transport.nsw.gov.au. Recommend including a requirement in section 7.2 to have an initial meeting with the project team and quarterly review, to discuss the traffic impacts and dilapidation requirements with the M12RT project team. Section 3.11 has not been updated to SLR has recommended that the applicant commissions a Concept Level OSOM Material Transportation Route Study to address item 3	Text expanded on in Section 1.4 Bullet point included under Section 7.1 A bullet point in Section 7.2 covers this. Section 3.11 recommends the commissioning of the Concept Level OSOM Material Transportation Route Study.
2.	Remaining Administrative Conditions	No	No reference is made to the Environmental Management Strategy (EMS) which is the overarching document that addresses the Project's conditions of approval that are not directly related to traffic and transport.	**Please update the TMP to include a reference to the EMS.**	Referenced in Section 1.3 Referred to in Section 7.5 for both Communication Strategy and Complaints Handling protocol.	There is no reference to the EMS. Update the TMP to include EMS	Further text added in Section 1.2 to set out the purpose of the EMS in relation to the TMP. Referenced in Section 1.3. Referred to in Section 7.5 for both Communication Strategy and Complaints Handling protocol.
3.	***Environmental Conditions*** B1. Unless the Planning Secretary agrees otherwise, the Applicant must ensure that the: (a) development does not generate more than: (i) 50 heavy vehicle movements a day (a maximum of 33 heavy vehicle movements per hour) during construction, upgrading or decommissioning; and (ii) 12 movements of heavy vehicles requiring escort during construction, upgrading and decommissioning; and	Partial	Section 3.6 Construction Phase Traffic Demands addresses sub condition (a)(i). Section 3.7 OSOM Transport details the use of two individual single prime movers towing a custom made platform trailers to deliver the Main Power transformers. No further detail is provided on their maximum number of movements.	**Please include a statement committing to complying with (a)(ii) in Section 3.7.**	(ii) Section 3.4 - It has been stated that the exact number of OSOM movements will be determined and confirmed within the recommended Route Study.	The TMP does not address condition B1 (ii) nor TfNSW consultation requirements. Update Section 3.4 with the consultation requirements from TfNSW in letter dated 5 November 2025.	Included at 3.11.1 and further correspondence with TfNSW including the email sending the revised TMP is included at Appendix H.
4.	(b) length of any vehicles (excluding heavy vehicles requiring escort) used for the development does not exceed 26 metres.	yes	Section 3.6 commits to this condition.		N/A		

Planning, Industry & Environment

Document: TMP – Traffic Management Plan
Revision: Revision C 30/09/2025
V#.2 November 2025
Reviewed: SK /11/2025
CP 1.12.2025

	Terms of Consent	**Sufficient (Yes/No/ Partial)**	**Document reference and comment**	**Action Required**	**SLR Response**	**DPHI Response**	**SLR Response – 03 Dec**
5.	B2. The Applicant must keep accurate records of the number of heavy vehicles requiring escort and heavy vehicles entering or leaving the site each day for the duration of the project.	Partial	Table 12 details under 'Reporting' that the reporting and monitoring of movements during peak periods will be undertaken. Condition B2 however relates to movements each day not just during peak periods.	**Please update Table 12 to comply with the requirements of condition B2.**	Updated – Table 17	There is no change in Table 17. Include a commitment to keep accurate records of the number of heavy vehicles requiring escort and heavy vehicles entering or leaving the site each day for the duration of the project.	Table 14 has been amended to include the commitment to keeping accurate records of construction vehicles.
6.	B3. Unless the Planning Secretary agrees otherwise, all heavy vehicles and heavy vehicles requiring escort associated with the development must travel to and from the: (a) BESS site via the Pacific Highway, Tomago Road and Old Punt Road (vehicles exiting the site must turn left onto the Pacific Highway only);	Partial	Section 3.4.1.1 Heavy Vehicle Access address sub condition B3(a). Section 3.4.3 provides a general overview of the route to be used by construction vehicles. Figure 3 shows this route however the scale of the map provides little detail.	**Please include the Figure in Appendix 4 of the consent to more clearly show vehicle access points and routes into and out of the site.**	Updated – Figure 4	Figure 4 is not consistent with Appendix 4 of the consent. The Figure in the TMP illustrates inbound and outbound route. Include a commitment with Figure consistent with condition B3 and Appendix 4.	Replaced Figure 4 with Appendix 4.
7.	(b) NGSF Construction Laydown area via the Pacific Highway, Tomago Road, Old Punt Road and the NGSF private access road (vehicles exiting the site must turn left onto the Pacific Highway only); and	No	The TMP does not detail accessing the NGSF construction laydown area.	**Please revise the TMP to address condition B3(b). See also comment above – row 6.**	NGSF overflow is included within Section 3.6 as an laydown area option to be considered.	There is no detail to address condition (b) in section 3.6	Text in 3.5.1 specifically confirms HVs must exit left onto PH. Amended in 3.6 to refer directly to the condition for access points.
8.	(c) electricity transmission line via the Pacific Highway, Tomago Road and Old Punt Road (vehicles exiting the site must turn left onto the Pacific Highway only), as identified in the figure in Appendix 4.	No	The TMP does not detail accessing the electricity transmission line.	**Please revise the TMP to address condition B3(c). See also comment above – row 6.**	Access details have been confirmed in Section 3.5.1.		Amended the clarity of wording in Section 3.5.1.
9.	B4. Unless the Planning Secretary agrees otherwise, all vehicles associated with the development must enter and exit in the following manner: (a) the BESS site via the 'Primary Access Point' off Old Punt Road;	Partial	3.4.1 Construction Access Arrangements, addresses this condition in relation to heavy and light construction vehicles. The condition however states that it applied to all vehicles.	**To remove any ambiguity regarding use of the primary access point, please revise the first sentence to state that '*Access for* ~~construction~~ *all vehicles associated with the development, will only be* ~~provided~~ *via the Old Punt Road access point.*'**	Updated – Section 3.5.1	Closed	
10.	(b) the NGSF Construction Laydown area via the 'NGSF Laydown Area Access Point' off the NGSF private access road; and	No	Accessing the NGSF laydown area is not discussed in the TMP.	**Please update the TMP to address this sub condition or provide justification as to why it is not being addressed.**	NGSF overflow is included within Section 3.6 as an option to be considered.	Section 3.6 discusses overflow parking. The condition requires access in the following manner: the NGSF Construction Laydown area via the 'NGSF Laydown Area Access Point' off the NGSF private access road Revise section 3.6 to align with the condition.	Text amended in 3.6 to refer directly to the condition for access points.
11.	(c) the electricity transmission line via the 'ETL Access Point' off Old Punt Road, as identified in Figure 1 of Appendix 1.	No	Accessing the electricity transmission line is not discussed in the TMP.	**Please update the TMP to address this sub condition or**	Access detail has been confirmed in Section 3.5.1	Section 3.5.1 uses flexible language and not addressing the condition. Include the	Amended the clarity of wording in Section 3.5.1.

Planning, Industry & Environment

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	Note: Other site access points may be used for emergency purposes.			**provide justification as to why it is not being addressed.**		condition requirement to access the transmission line.	
12.	B5. Unless the Planning Secretary agrees otherwise, prior to commencing construction, a new access point off Old Punt Road must be provided as shown in Appendix 5. The upgrade must be designed and constructed in accordance with the Austroads Guide to Road Design Guidelines, unless the Secretary agrees otherwise.	Yes	Section 2.4 External Works, addresses this condition.		N/A		
13.	B6. The Applicant must: (a) undertake an independent dilapidation survey to assess the: (i) condition of Old Punt Road from the Pacific Highway to the intersection of Old Punt Road and Tomago Road, and Tomago Road from the Pacific Highway to the intersection of Old Punt Road and Tomago Road, prior to construction, upgrading and decommissioning activities; and (ii) condition of Old Punt Road from the Pacific Highway to the intersection of Old Punt Road and Tomago Road, and Tomago Road from the Pacific Highway to the intersection of Old Punt Road and Tomago Road, following the completion of construction, upgrading and decommissioning activities;	Partial	Section 3.4.5 Dilapidation Survey, addresses this condition in relation to surveys prior to construction. Condition B6 however requires dilapidation surveys also to be completed prior to and on completion of construction, upgrading and decommissioning activities.	**Please revise the text in Section 3.4.5 to clarify that the full requirements of this condition will be implemented.**	Included – Section 3.9	Closed	
14.	(b) on completion of the dilapidation reports undertaken in conditions B6(a)(i) and B6(a)(ii) provide a copy to the relevant roads' authorities; and	No	This is has not included.	**As above, please revise the text in Section 3.4.5 to clarify that the full requirements of this condition will be implemented.**	Included – Section 3.9	Closed	
15.	(c) repair and/or make good any development-related damage to Tomago Road and Old Punt Road identified in dilapidation surveys during construction, upgrading or decommissioning works in consultation with the relevant roads authority.	No	This is has not included.	**As above (row 13), please revise the text in Section 3.4.5 to clarify that the full requirements of this condition will be implemented.**	Included – Section 3.9	Closed	
16.	If there is a dispute between the Applicant and the relevant roads authority about repairs required under this condition, then either party may refer the matter to the Planning Secretary for resolution.	No	This is has not included.	**As above (row 13), please revise the text in Section 3.4.5 to clarify that the full requirements of this condition will be implemented.**	Included – Section 3.9	Closed	
17.	B7. The Applicant must ensure: (a) the internal roads are constructed as all-weather roads;	No	Condition B7 has not been included in the TMP. The requirement for all-weather roads is not discussed in the TMP.	**Please revise Table 1 to include B7 and address all the condition requirements in the TMP.**	Included in Table 1 Section 2.3 and 3.1	Closed	
18.	(b) there is sufficient parking on site for all vehicles, and no parking occurs on the public road network in the vicinity of the site, unless required for emergency work to avoid the loss of life, property or prevent material harm to the environment;	Partial	Condition B7 has not been included in the TMP. Section 3.4.1.2 Light Vehicle Access and Section 3.4.2 Workforce Transport Arrangements, state that there will be designated parking areas on site and	**As above, please revise Table 1 to include B7 and address all the requirements in the TMP.** **As stated in the TMP, the document will need to be updated incorporating any**	Section 3.6	The condition requires a commitment to not park on the public road network in the vicinity of the site, unless required for emergency work to avoid the loss of life, property	Text in Section 3.6 has been included to include this commitment.

Planning, Industry & Environment

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CP 1.12.2025

	Terms of Consent	Sufficient (Yes/No/ Partial)	Document reference and comment	Action Required	SLR Response	DPHI Response	SLR Response – 03 Dec
			overflow parking at an agreed off-site location. This off-site location in combination with a shuttle bus would be required for 3.5 months and not needed until July 2026. A commitment to not parking on the public road network in the vicinity of the site, unless required for emergency work to avoid the loss of life, property or prevent material harm to the environment has not been included.	**new overflow parking arrangements when required, and submitted to the Department for review.**		or prevent material harm to the environment. Include a commitment to address the condition. Offsite parking or any new overflow are not under the TMP approval.	
19.	(c) the capacity of the existing roadside drainage network is not reduced;	No	Condition B7 has not been included in the TMP.	**Please revise Table 1 to include B7 and address the requirements in the TMP.**	Section 2.4	Closed	
20.	(d) all vehicles are loaded and unloaded on site, and enter and leave the site in a forward direction; and	Partial	Condition B7 has not been included in the TMP. Section 3.5 Internal Circulation Roads, Car Parking and Loading / Unloading Areas and Section 6.3 Site Management discuss loading/unloading of heavy vehicles within the site. Section 3.5 further states that 'movements to/from the site are undertaken in a forward direction at all times'.	**Please revise Table 1 to include B7 and address the requirements in the TMP.** **Section 6.3, 4th dot point, should be revised to state that '*All* ~~heavy~~ *vehicles are to park and load/unload within the site..*' to adequately address this sub condition.**	Section 3.5 and 6.3	Section 3.5 and section 6.3 do not clearly state the requirement. Revise section to state the requirement of condition (d)	Section 6.3 has bullet points which state this commitment.
21.	(e) development-related vehicles leaving the site are in a clean condition to minimise dirt being tracked onto the sealed public road network.	Partial	Information has been included in Table 12 Mitigation Measures and The Drivers Code of Conduct in Appendix D relate to minimising dirt tracked onto the public road network from development-related traffic through stabilising the road surface and the use of sweeper and water trucks. No information has been included as to ensuring that the project's vehicles are in a clean condition.	**Please revise Table 1 to include B7 and a reference to where specific measures to address B7(e) are located in the TMP.**	Table 14	Closed	
22.	B8. Prior to commencing construction, the Applicant must prepare a Traffic Management Plan for the development in consultation with TfNSW and Port Stephens Council, and to the satisfaction of the Planning Secretary. Unless the Planning Secretary agrees otherwise, this plan must include:	Partial	The TMP has been prepared and submitted to the Department for review and approval. Copies of the TMP have been provided to Port Stephens Council and TfNSW	**Please follow up with Council and TfNSW to request comments and feedback on the TMP or provide evidence that they are satisfied with the TMP and have no comments.**	Included at Appendix H	Above comments. Closed	

Planning, Industry & Environment

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CP 1.12.2025

	Terms of Consent	**Sufficient (Yes/No/ Partial)**	**Document reference and comment**	**Action Required**	**SLR Response**	**DPHI Response**	**SLR Response – 03 Dec**
	(a) details of the transport route to be used for development-related traffic;		via email (3/10/2025) however responses have not yet been received. Section 3.4.3 Construction Vehicle Routes, includes the transport route for construction vehicles.	**If comments are received, please update the TMP to address their feedback where required and resubmit the TMP for review.**			
23.	(b) a reconciliation table to demonstrate all traffic-related management measures and recommendations identified in the EIS have been included in the plan;	No	The Mitigation Measures from the EIS (Appendix F)/ Updated Mitigation Measures (Submission Report) have not been included in the TMP.	**Please include the updated Mitigation Measures in Table 1 or a separate table and include where the measures have been addressed in the TMP.**	Included in Table 2	Closed	
24.	(c) details of the measures that would be implemented to minimise traffic impacts during construction, upgrading or decommissioning works, including: (i) details of the dilapidation surveys required by condition B6 of this consent;	Partial	Section 3.4.5 Dilapidation Survey, partly addresses this condition.	**See Comment above for condition B6 – row 13.**	Included – Section 3.9	Closed	
25.	(ii) temporary traffic controls, including detours and signage;	Yes	Section 6.2 Traffic Guidance Scheme, discusses the implementation of traffic controls. No detours are proposed. Appendix E includes the TGSs.		N/A		
26.	(iii) notifying the local community about project-related traffic impacts;	No	Section 7.5 Communications Strategy, states that a Communications Strategy will be established by AGL which will be consistent with Section 4, Clause 4.1.1 (i). No information is provided on this Clause for the reader. The TMP needs to provide a commitment to notifying the community about project related impacts as required by Condition B8(iii).	**Please provide further information regarding Section 4, Clause 4.1.1 (i) for the reader or remove this reference.** **Include the required information to address B8(iii).**	Updated – Section 7.5	Closed	
27.	(iv) procedures for receiving and addressing complaints from the community about development related traffic;	No	This information is required to be addressed in the TMP.	**Please address B8(iv).**	Updated Section 7.5	Closed	
28.	(v) minimising potential for conflict with school buses and other road users as far as practicable, including preventing queuing on the public road network;	Yes	Section 3.4.4 Existing Public Transport Services identifies the school bus services that overlap with construction vehicle routes. It states that given the low frequency of buses, it is not anticipated that significant queuing will occur along any of the external roads. Furthermore stop locations are wide enough to allow two-way traffic movement when buses are parked.		N/A		

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			Section 3.4.2 states that worker start times may be staggered as a mitigation option to reduce queuing if required.				
	(vi) minimising potential cumulative traffic impacts with other projects in the area during construction, upgrading or decommissioning works;	Yes	Section 1.4 M1 Highway Extension Upgrade Project, identifies the M1 Extension as a major project in close proximity to the Tomago BESS project. Attempts to engage with the M1 project have been made and considerations incorporated into the SIDRA analysis.		N/A		
29.	(vii) minimising dirt tracked onto the public road network from development-related traffic;	Yes	Table 12 includes a measure to managing dirt on the public road network by stabilising the site access and using water trucks and sweeper trucks which will be the responsibility of the Site Manager. Appendix D also states that appropriate measures will be put in place to ensure that vehicles leaving the site do not deposit dirt or mud on surrounding roadways.		N/A		
30.	(viii) measures for managing light vehicle peak numbers, including employee use of shuttle bus service, carpooling or ride sharing by employees;	Partial	Section 3.4.2 Workforce Transport Arrangements, details assumptions have been made that 20% of the workforce will carpool to and from the site and work start and finish times will be staggered if queues start to occur at the site access. Shuttle buses will be employed for the last 3.5 months of construction to transport workers from a yet to be agreed on overflow parking site. Table 15 includes a contingency plan to respond to triggers around construction movements and queueing but not parking.	**How will carpooling be encouraged to meet the target of 20%? Will start and finish times also be staggered if the number of staff vehicles exceeds the number of parking spaces? Will worksite monitoring include ensuring that worker parking does not occur on the public roads? See also Condition B7, row 18.** **Please provide further information and update the TMP if required.**	Further information has been included in section 3.6	Closed	
31.	(ix) details and volume of the employee shuttle bus service, including pick-up and drop-off points and associated parking arrangements for construction workers, and measures to ensure employee use of this service; scheduling of heavy vehicle movements to minimise convoy length or platoons, and to minimise conflict with light vehicles;	Yes	Section 3.4.2 Workforce Transport Arrangements, details the use of shuttlebuses in the remaining 3.5 months of the construction programme. The bus will shuttle workers from an agreed parking facility. The details are to be determine at a later date (July 2026) and the TMP will be updated to incorporate this information and fully address this condition.		N/A		
32.	(x) SIDRA modelling of the turning lanes from the Pacific Highway onto Tomago Road, and mitigation measures to ensure that project traffic does	Partial	Section 4.1 SIDRA Assessment – Tomago Road / Pacific Highway,	**Please review and clarify the text regarding heavy vehicles**	Updated Section 4.1.2	Closed	

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	not result in an exceedance of the capacity of the turning lanes, including prior, during or after any future intersection upgrades (including interactions with the M1 Extension Project (SSI-7319));		details the SIDRA assessment completed. Appendix G includes the Detailed SIDRA Outputs. Section 4.1.2 Analysis Assumptions, is provided to detail the assumptions made. It states that heavy vehicles are not included as they will be scheduled to arrive to site outside of peak hour periods. This is in conflict with the figures in Table 7 which lists 33 heavy vehicle movements in the AM and PM peak hour periods. The Department notes that Section 4.1.3 SIDRA Results details that the right turn (Pacific Hwy/Tomago Rd) storage capacity may be exceeded approximately 5% of the time within the AM peak period and it is recommended that from the commencement of construction activities, traffic operations at the Pacific Highway/Tomago Road intersection are monitored by the Transport Management Centre (TMC). A mitigation option is provided to access the site via right turn lane at Pacific Highway/Old Punt Road intersection.	**during peak hours in Section 4.1.2.**			
33.	(xi) responding to local climate conditions that may affect road safety such as fog, dust, wet weather;	Yes	Section 6.4.3 Dust Management, details how the project will reduce dust production. The Risk Assessment in Appendix F identifies adverse weather conditions as a potential risk or hazard and details the response to managing this risk.		N/A		
34.	(xii) responding to any emergency repair or maintenance requirements; and	No	This sub condition is not addressed in the TMP.	**Please address B8(xii).**	Updated under Section 3.9	Section 3.9 addresses dilapidation and not how the project will respond to emergency repair and maintenance requirements. Include a procedure how the project will respond to an emergency repair.	Added new Section 6.7 addressing emergency repair and maintenance procedures.
35.	(xiii) a traffic management system for managing heavy vehicles requiring escort;	Partial	Section 3.7 OSOM Transport, states that it will be the responsibility of the transporting company to prepare and provide an appropriate traffic	**As discussed, and included in the Department's email (3/11/25), the TMP is required to address this condition and**	OSOM movements will be detailed within the OSOM Route Study.	Update the OSOM section with the project actions to stage the TMP	Clarity provided under 3.11.1 and 3.11.2.

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			management system for managing the escort of OSOM vehicles when required. No further details are provided.	**include a OSOM traffic management plan or similar as part of the TMP. As no OSOM vehicles are being used until Stage 2b construction, the current TMP can be submitted to address Stage 1 and 2a, then updated with the required OSOM information prior to Stage 2b. This should be clarified in Section 3.7 of the TMP.**			
36.	(d) a driver's code of conduct that addresses: (i) driver fatigue; (ii) procedures to ensure that drivers adhere to the designated transport routes and speed limits; and	Partial	The Drivers Code of Conduct is included in Appendix D. It covers travelling along designated construction vehicle routes at all times and at posted speed limits. As school bus routes operate adjacent to the Project site, the Code should also highlight the requirement to reduce speed to 40km/hr when passing flashing buses picking up or dropping off school children. The Code does not include managing driver fatigue.	**Please update the Driver Code of Conduct to address driver fatigue and it is recommended that it also highlights that there are school buses operating in the area and drivers need to be aware of reducing their speed appropriately around bus stops.**	The Driver Code of Conduct has been updated to include the recommendations.	Closed	
37.	(e) a program to ensure drivers working on the development receive suitable training on the code of conduct and any other relevant obligations under the Traffic Management Plan; and	Partial	The Drivers Code of Conduct includes a sign off register to confirm workers have read and understood and agree to the Code. No program of training is detailed.	**Please include further details in the TMP regarding training provided to workers to ensure that they are regularly reminded of the requirements in the Drivers Code of Conduct and are aware of the relevant obligations in the TMP.**	Included within the DCoC and Table 14	Closed	
38.	(f) a flood response plan detailing procedures and options for safe access to and from site in the event of flooding.	Yes	Section 5.4 Flood Risk, details that flood prone areas Port Stephens Council flood mapping only include small area along the southern boundary of the site wholly within the exclusion zone. In the event of partial inundation of the site, all personnel will be able to evacuate via Old Punt Road without exposure to flood hazards.	**Should any additional information relevant to the TMP be included in the Project's Emergency Response Procedure or Emergency Plan, please update the TMP to include this information.**	N/A		
39.	Following the Planning Secretary's approval, the Applicant must implement the Traffic Management Plan.	Yes	Requirement noted in Table 1 and Section 7.1 Implementation.	-	N/A		

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40.	B15. The following activities may be carried out outside the hours specified in condition B14 above: (a) commissioning activities that are inaudible at non-associated receivers; (b) the delivery or dispatch of materials, plant or equipment as requested by the NSW Police Force or other public authorities for safety reasons; or (c) emergency work to avoid the loss of life, property or prevent material harm to the environment.	Yes	3.2 Construction Hours, addresses this condition.	-	N/A		
41.	**Environmental Management and Reporting** C2. The Applicant must: (a) update the strategies, plans or programs required under this consent to the satisfaction of the Planning Secretary prior to carrying out any upgrading or decommissioning activities on site; and (b) review and, if necessary, revise the strategies, plans or programs required under this consent to the satisfaction of the Planning Secretary within 1 month of the: (i) submission of an incident report under condition C10 of Schedule 2; (i) submission of an audit report under condition C13 of Schedule 2; or (ii) any modification to the conditions of this consent.	No	This condition requirement is not included in the TMP.	**Please include a commitment to implementing Condition C2 in the TMP.**	Updated Section 7.3.1	Not included in section 7.3.1	Included in Table 1 and committed to.
42.	C10. The Applicant must notify the Department within 24 hours of becoming aware of an incident. The notification must be made via the NSW planning portal (Major Projects) and address details of the incident including: (c) date, time and location; (d) a brief description of what occurred and why it has been classified as an incident; (e) a description of what immediate steps were taken in relation to the incident; and (f) identifying a contact person for further communication regarding the incident.	No	Section 7.3.1 Incident Management, refers to the CEMP for managing incidents and non-compliance. The TMP must also include a commitment to addressing the requirements of Condition C10, C11, C12 of the consent.	**Please update the TMP to include a commitment to addressing the requirements of Condition C10, C11, C12 of the consent.**	Updated Section 7.3.1	Closed	
43.	C11. The Applicant must provide the Department with a subsequent incident report in accordance with Appendix 7 (Incident Notification and Reporting Requirements).	No	As above.	**Please update the TMP to include a commitment to addressing the requirements of Condition C10, C11, C12 of the consent.**	Updated Section 7.3.1	Closed	
44.	C12. Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing and must be submitted via the NSW planning portal (Major Projects). The notification must identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply, the reasons for the non-	No	As above.	**Please update the TMP to include a commitment to addressing the requirements of Condition C10, C11, C12 of the consent.**	Updated Section 7.3.1	Closed	

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	compliance (if known), and what actions have been undertaken, or will be undertaken, and when, to address the non-compliance. *Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.*						
45.	C14. The Applicant must: (a) make the following information publicly available on its website as relevant to the stage of the development: (i) the EIS; (ii) the final layout plans for the development; (iii) current statutory approvals for the development; (iv) approved strategies, plans or programs required under the conditions of this consent (other than the Fire Safety Study and Emergency Plan); (v) the proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged; (vi) how complaints about the development can be made; (vii) a complaints register; (viii) compliance reports; (ix) any independent environmental audit prepared in accordance with condition C13, and the Applicant's response to the recommendations in any audit; and (x) any other matter required by the Planning Secretary; and (b) keep this information up to date.	Yes	This condition is addressed in the Project's EMS. Please ensure that the TMP once approved, is made publicly available on the Project's website in compliance with condition C14.	-	N/A		
46.	**Updated Mitigation Measures – Traffic and Transport** T-1 Consultation will be carried out between Port Stephens Council, TfNSW, John Holland, emergency services and other relevant authorities to minimise transport impacts during construction and secure additional approvals (e.g. for OSOM movements or as required under the Roads Act 1993 (NSW)).	Partial	Section 1.3 Reference Documents and Stakeholder Consultation, details consultation however does not fully address T-1.	**Please revise the TMP to address T-1 and also see comment in row 23.**	Mitigation Measure have been included in Table 2. Details of consultation with all stakeholders is specified within Section 1.3	Update the TMP on the staged approach to address OSOM	Text included in Section 1.1 to detail how the TMP will be staged.
47.	T-2 Community consultation will be carried out and notifications will be issued in advance for proposed road, bus or pedestrian network changes through appropriate channels and forms of communication.	No	No details have been included in the TMP to address this mitigation measure.	**Please revise the TMP to address T-2 1 and also see comment in row 23.**	Mitigation Measure have been included in Table 2. Section 7.5	Closed	
48.	T-3 A Construction Traffic Management Plan (CTMP) will be prepared and include the following measures: • Vehicle access to and from the Project Area will be managed to minimise safety risk to pedestrians, cyclists and motorists. To minimise traffic impacts on the surrounding network, heavy vehicles will enter and exit the Project Area in a forward direction and outside of peak periods, where this is feasible • Near the proposed site access, appropriate signage, line marking and/or traffic control measures will be used to direct and guide pedestrians,	Partial	A TMP has been prepared and submitted to the Department for review.	**Please see comments above related to Condition B8.**	Mitigation Measure have been included in Table 2 • Appendix E – Traffic Guidance Schemes • Appendix E – Traffic Guidance Schemes • Section 3.6 • Section 2.4 and OSOM Route Study	Closed	

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	cyclists and motorists past the Project Area during oversized delivery and high usage times • Workers will be encouraged to utilise the shuttle buses if deemed to be required as part of the Project or carpool • The proposed Site access will be designed to ensure construction vehicles (including, OSOM, heavy and light vehicles) can safely enter the Site • Heavy vehicle drivers associated with the construction work will be directed to access the Site via the signal controlled intersection of Old Punt Road and the Pacific Highway • Potential provision of a channelised right turn treatment at the intersection of Old Punt Road with the site access, subject to further evaluation in later design stage.				Swept Path Assessment. • Section 3.5.1.1 and 3.5.1.2		
49.	T-4 The primary access point off Old Punt Road will be constructed in accordance with Port Stephens Council requirements and relevant Austroads guidelines.	Partial	Section 2.4 External Works, details that the site access point will be construction in accordance with Condition B5 and a Section 138 approval from Council is required.	**See comment for Condition B8(b) row 23.**	Mitigation Measure have been included in Table 2. Section 2.4	Closed	
	General Comments						
50.	N/A	Partial	Table 1 includes some incorrect references to sections in the TMP.	**Please check the 'TMP Section' column in Table 1 and the references listed.**	Updated.	-	

From: Bryn Cotterill <Bryn.Cotterill@portstephens.nsw.gov.au>
Sent: Thursday, 6 November 2025 4:56 PM
To: Brendyn Rheinberger <brheinberger@slrconsulting.com>; Courtney Sargent <Courtney.Sargent@portstephens.nsw.gov.au>
Cc: Vishnu Gopal <vishnu.gopal@fluenceenergy.com>; Stephen Shoesmith <sshoesmith@slrconsulting.com>; Michele Nettlefold <mnettlefold@agl.com.au>; Development Engineering <Development.Engineering@portstephens.nsw.gov.au>
Subject: RE: Tomago Battery Energy Storage System | SSD-57107216 | TMP Submission

You don't often get email from bryn.cotterill@portstephens.nsw.gov.au. Learn why this is important

Hi Brendyn,

Please:

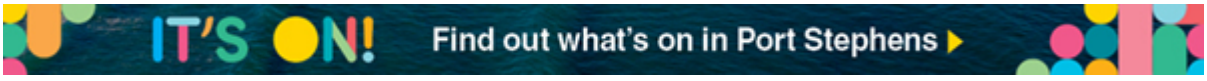
- accept this email as support for the attached TMP in addressing Condition B8 of the subject consent and your requirement to consult with Council.
- notify Council, by reply-all to this email, of any changes triggered by the proposed quarterly review or as otherwise requested by the on-site co-ordinator.
- Be aware Council, as Road Authority, maintains the right to alter the TMP or otherwise issue directions to ensure the safe and efficient operation of the road network.

Cheers,

PORT STEPHENS COUNCIL

Bryn Cotterill
Development Engineering Coordinator

p 02 4988 0376 | m 0403 519 619
w portstephens.nsw.gov.au



From: Brendyn Rheinberger <brheinberger@slrconsulting.com>
Sent: Friday, 3 October 2025 9:34 AM

To: Courtney Sargent <Courtney.Sargent@portstephens.nsw.gov.au>
Cc: Vishnu Gopal <vishnu.gopal@fluenceenergy.com>; Stephen Shoesmith <sshoesmith@slrconsulting.com>; Michele Nettlefold <mnettlefold@agl.com.au>; Port Stephens Council <council@portstephens.nsw.gov.au>
Subject: Tomago Battery Energy Storage System | SSD-57107216 | TMP Submission

Hello Courtney,

My name is Brendyn Rheinberger, and I work for SLR Consulting who has been engaged by Fluence Energy to prepare a Traffic Management Plan (TMP) for managing the construction impacts for a Battery Energy Storage System (BESS) development, located on lots 5 and 6 DP1286735 on Old Punt Road, Tomago NSW 2322. The Project Principal for this development is AGL Energy Limited.

Please see the attached TMP required under the Development Consent for SSD-57107216.

In accordance with Condition B8 of the Consent, the TMP is required to be prepared in consultation with Port Stephens Council and is required to be finalised and approved by the Planning Secretary prior to the commencement of construction. We therefore seek Council's endorsement on the TMP to enable approval by the Planning Secretary.

Please don't hesitate to contact me should you have any questions.

Cheers,
Brendyn

Brendyn Rheinberger ***(he/him/his)***
Principal Consultant - Transport Advisory

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E brheinberger@slrconsulting.com

SLR Consulting Australia Pty Ltd
Level 16, 175 Eagle Street, Brisbane, QLD, Australia 4000

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directly.

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Transport for NSW

5 November 2025

TfNSW reference: WST/REN25/00179/002 | SF2025/160666

Your reference: SSD-57107216

Brendyn Rheinberger

SLR Consulting

By Email: brheinberger@slrconsulting.com

Review of Traffic Management Plan for Tomago Battery Energy Storage System

Dear Brendyn,

Reference is made to the Traffic Management Plan (TMP) submitted to Transport for NSW (TfNSW) for consideration in accordance with consent Condition B8 of Notice of Determination for SSD-57107216 issued 8 November 2024.

TfNSW has reviewed the Traffic Management Plan (TMP) prepared by SLR Consulting, dated 30 September 2025, and advises that further information is required to address Condition B8 as outlined in **Attachment A**. The TMP was reviewed by Tomago BESS with respect to mitigating the project's impacts on the state road network.

Prior to finalisation of the consultation requirements for Condition B8-Traffic Management Plan TfNSW request the following requirements be addressed within a revised TMP and submitted TfNSW for consultation.

The Planning Secretary should be satisfied that the above matters have been adequately addressed prior to approving the TMP.

If you have any questions, please contact Tim Mitchell, Development Services Case Officer on 1300 019 680 or email development.renewables@transport.nsw.gov.au

Yours sincerely,

Nathan Boscaro

Manager of Development Services – West

Transport Planning

Planning, Integration and Passenger

Attachment A

Review of Traffic Management Plan for Tomago Battery Energy Storage System

TfNSW requested additional information to address the condition B8-Traffic Management Plan

1. Condition B8 (c) (x) - The Sidra assessment of the intersection of Pacific Highway and Tomago Road shows that the average queue can be accommodated within the right-turning lanes on Pacific Highway. The 95% queue may extend beyond the turning lane, though. Provided the below measures are committed to mitigate potential impacts when queues exceed the turning lanes including TfNSW have no further comment:
   a. Monitoring the queue during peak periods
   b. Using alternate route, ie Old Punt Road , when it is open for use.
   c. Consultation with the M12RT project team is required prior to peak construction movements.

2. TfNSW provides the following matters for the department of planning to be consider for inclusion in the revised TMP:
   a. Condition B8-b - The table showing where each item is addressed in the TMP references incorrect sections. Please update to be correct.
   b. Condition B8-c(i) - It does not address how the community will be notified. The Department of Planning should consider requiring further detail in this section.
   c. Condition B8-c(iv) - The complaints management procedure does not appear to be sufficient in detail. The Department of Planning should consider requiring further detail in this section.
   d. Condition B8-c(ix) - It appears there are only space for 90 vehicles onsite but the volume of cars expected to attend the site is 136. Where will these extra vehicles park? This is a consideration for Department of Planning and Port Stephens Council.
   e. Condition B8-d - The drivers code of conduct appears only to include points for onsite driving rather that include measures for travel to the site.
   f. Contact with the M12RT team should be done via M12Rt@transport.nsw.gov.au. Recommend including a requirement in section 7.2 to have an initial meeting with the project team and quarterly review, to discuss the traffic impacts and dilapidation requirements with the M12RT project team.

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

3. TfNSW requires Concept Level Route Analysis required for High Risk OSOM as per Condition B8 (c)(xii).

The OSOM route assessment is required to be updated and included within the revised TMP. TfNSW notes that the project is committed to addressing the high-risk OSOM route analysis outlined in the traffic management plan prepared by AECOM, dated 18 June 2024. The TMP prepared by SLR Consulting, dated 30 September 2025, does not include the high-risk route analysis. The high-risk OSOM route analysis must be included in the revised TMP and must address the requirements outlined in Attachment A.

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 as are necessary for the project.

b. Provide timing of when within the project schedule the high risk OSOM movements will occur.

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).

b. 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).

c. 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.

d. Swept path analysis of each pinch point and at the intersection of Pacific Highway and Tomago Road. The swept path analysis must include the wheel track, body of the OSOM component and offset and must demonstrate the manoeuvre around or through a pinch point from start to completion.

e. Demonstrate that the high-risk OSOM movements will not traverse over medians, refuges, traffic islands or require removal of traffic signals.

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

f. Traffic mitigation measures or road works, modifications, or road upgrades to facilitate the movement of the high risk OSOM(s) associated with the project.

g. Include traffic mitigation measures to manage impacts to the safety, efficiency and asset of the state road network.

h. Identify and assess implications of any road and rail projects under construction during the indicative schedule for project-related OSOM movements.

i. Identify any rail level crossing along the route.

j. 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 mitigation and management measures will need to be implemented to manage the impacts on road users from both safety and efficiency perspectives.

k. The Hexham Straight is a notable project impacting routes from the port of Newcastle, the high risk OSOM vehicle configurations provided identify a laden height of 5.7m. The high-risk OSOM will need to use the route through the Hexham straight roadworks. The TMP must document the coordination and communication that will be implemented to inform the project team of the high-risk OSOM movements through this roadworks site.

l. *Review Port to REZ EnergyCo road upgrades and confirm that the road upgrades and infrastructure adjustments being delivered as part of this project will be sufficient to accommodate the turning paths, heights and widths of the Tomago BESS high risk OSOM movements.*

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

Transport for NSW – Review of Traffic Management Plan – Request for Information Summary and Response Table

ITEM	TFNSW TERMS OF CONSENT	SLR RESPONSE
1	Condition B8 (c) (x) - The Sidra assessment of the intersection of Pacific Highway and Tomago Road shows that the average queue can be accommodated within the right-turning lanes on Pacific Highway. The 95% queue may extend beyond the turning lane, though. Provided the below measures are committed to mitigate potential impacts when queues exceed the turning lanes including TfNSW have no further comment:	
	a) Monitoring the queue during peak periods	Section 4.1.3
	B) Using alternate route, ie Old Punt Road, when it is open for use.	Section 4.1.3
	c) Consultation with the M12RT project team is required prior to peak construction movements	Section 1.4
2	TfNSW provides the following matters for the department of planning to be consider for inclusion in the revised TMP:	
	a) Condition B8-b - The table showing where each item is addressed in the TMP references incorrect sections. Please update to be correct.	Updated
	b) Condition B8-c(i) - It does not address how the community will be notified. The Department of Planning should consider requiring further detail in this section.	Updated in Section 7.5
	c) Condition B8-c(iv) - The complaints management procedure does not appear to be sufficient in detail. The Department of Planning should consider requiring further detail in this section.	Updated in Section 7.5
	d) Condition B8-c(ix) - It appears there are only space for 90 vehicles onsite but the volume of cars expected to attend the site is 136. Where will these extra vehicles park? This is a consideration for Department of Planning and Port Stephens Council.	Updated in Section 3.6
	e) Condition B8-d - The drivers code of conduct appears only to include points for onsite driving rather that include measures for travel to the site.	Updated in the DCOC

Transport for NSW – Review of Traffic Management Plan – Request for Information Summary and Response Table

ITEM	TFNSW TERMS OF CONSENT	SLR RESPONSE
	f) Contact with the M12RT team should be done via *12Rt@transport.nsw.gov.au*. Recommend including a requirement in section 7.2 to have an initial meeting with the project team and quarterly review, to discuss the traffic impacts and dilapidation requirements with the M12RT project team.	Included in Section 7.1
3	TfNSW requires Concept Level Route Analysis required for High Risk OSOM as per Condition B8 (c)(xii). The OSOM route assessment is required to be updated and included within the revised TMP. TfNSW notes that the project is committed to addressing the high-risk OSOM route analysis outlined in the traffic management plan prepared by AECOM, dated 18 June 2024. The TMP prepared by SLR Consulting, dated 30 September 2025, does not include the high-risk route analysis. The high-risk OSOM route analysis must be included in the revised TMP and must address the requirements outlined in Attachment A. 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:	Section 3.11 SLR has recommended that the applicant commissions a Concept Level OSOM Material Transportation Route Study to address item 3.
	a) Port or point of origin for the entire route to the site access and intersections required to facilitate high risk OSOM movements as are necessary for the project.	
	b) Provide timing of when within the project schedule the high risk OSOM movements will occur.	

Transport for NSW – Review of Traffic Management Plan – Request for Information Summary and Response Table

ITEM	TFNSW TERMS OF CONSENT	SLR RESPONSE
	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).	Section 3.11 SLR has recommended that the applicant commissions a Concept Level OSOM Material Transportation Route Study to address item 3.
	b) 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).	
	c) 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	
	d) Swept path analysis of each pinch point and at the intersection of Pacific Highway and Tomago Road. The swept path analysis must include the wheel track, body of the OSOM component and offset and must demonstrate the manoeuvre around or through a pinch point from start to completion.	
	e) Demonstrate that the high-risk OSOM movements will not traverse over medians, refuges, traffic islands or require removal of traffic signals.	

Transport for NSW – Review of Traffic Management Plan – Request for Information Summary and Response Table

ITEM	TFNSW TERMS OF CONSENT	SLR RESPONSE
	f) Traffic mitigation measures or road works, modifications, or road upgrades to facilitate the movement of the high risk OSOM(s) associated with the project.	Section 3.11 SLR has recommended that the applicant commissions a Concept Level OSOM Material Transportation Route Study to address item 3.
	g) Include traffic mitigation measures to manage impacts to the safety, efficiency and asset of the state road network.	
	h) Identify and assess implications of any road and rail projects under construction during the indicative schedule for project-related OSOM movements.	
	i) Identify any rail level crossing along the route.	
	j) 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 mitigation and management measures will need to be implemented to manage the impacts on road users from both safety and efficiency perspectives.	
	k) The Hexham Straight is a notable project impacting routes from the port of Newcastle, the high risk OSOM vehicle configurations provided identify a laden height of 5.7m. The high-risk OSOM will need to use the route through the Hexham straight roadworks. The TMP must document the coordination and communication that will be implemented to inform the project team of the high-risk OSOM movements through this roadworks site.	
	l) Review Port to REZ EnergyCo road upgrades and confirm that the road upgrades and infrastructure adjustments being delivered as part of this project will be sufficient to accommodate the turning paths, heights and widths of the Tomago BESS high risk OSOM movements.	

Alexandra Moxon

From: Brendyn Rheinberger
Sent: Wednesday, 3 December 2025 10:22 AM
To: Alexandra Moxon
Subject: FW: REN25/00179/003: Tomago BESS | SSD-57107216 | Revised TMP Submission

Cheers,
Brendyn

Brendyn Rheinberger ***(he/him/his)***
Principal Consultant - Transport Advisory

O +61 7 3858 4800
M +61 404 744 118
E brheinberger@slrconsulting.com

SLR Consulting Australia Pty Ltd
Level 16, 175 Eagle Street, Brisbane, QLD, Australia 4000

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.

From: Development Renewables <development.renewables@transport.nsw.gov.au>
Sent: Tuesday, 2 December 2025 1:39 PM
To: Brendyn Rheinberger <brheinberger@slrconsulting.com>; Tim Mitchell <Tim.Mitchell2@transport.nsw.gov.au>
Cc: Wayne Jones <wayne.jones@planning.nsw.gov.au>; Vishnu Gopal <AU MEL PM IA> <vishnu.gopal@fluenceenergy.com>; Chris Stewart <AU MEL SQ EC> <chris.stewart@fluenceenergy.com>; Michele Nettlefold <mnettlefold@agl.com.au>; Stephen Shoesmith <sshoesmith@slrconsulting.com>; Alexandra Moxon <alexandra.moxon@slrconsulting.com>
Subject: REN25/00179/003: Tomago BESS | SSD-57107216 | Revised TMP Submission

Hi Brendyn,

I can confirm the Development Services Renewables team has received your email.

This has been registered and the matter has been assigned to case officer – @Tim Mitchell

TfNSW reference – REN25/00179/003

Please be aware that the Transport for NSW office's will be closed for the Christmas and New Year holiday period. Our last business day will be Wednesday the 24th of December 2025, and we will return on Monday the 12th of January 2026. Development Services Renewables will prioritise responding to projects within the Major Projects Portal until 24th of December 2025. Any requests or responses outside the Major Projects Portal will be reviewed and allocated to a team member to respond to your enquiry or request within 21 days. Note that

design reviews for strategic designs require 14 days for internal review, and meetings will be prioritised for projects within the assessment phase or nearing determination .

Please ensure all future correspondence is sent to – development.renewables@transport.nsw.gov.au

Kind Regards,

Rosa Gillogly
Development Services Support Officer
Development Services West
Transport Planning – Planning, Integration and Passenger
Transport for NSW

E rosa.gillogly@transport.nsw.gov.au

transport.nsw.gov.au

Level 1 51-55 Currajong Street
Parkes NSW 2870

Please be aware that the Transport for NSW office's will be closed for the Christmas and New Year holiday period. Our last business day will be Wednesday the 24th of December 2025, and we will return on Monday the 12th of January 2026.

I work flexibly. Unless it suits you, I don't expect you to read or respond to my emails outside of your normal work hours.

Transport for NSW

I recognise and acknowledge that modern New South Wales is an overlay on Aboriginal land and that many of the transport routes of today follow songlines Aboriginal people have followed for tens of thousands of years. I pay my respects to the Aboriginal people of NSW and Elders past and present.

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OFFICIAL

From: Brendyn Rheinberger <brheinberger@slrconsulting.com>
Sent: Friday, 28 November 2025 4:49 PM
To: Tim Mitchell <Tim.Mitchell2@transport.nsw.gov.au>
Cc: Wayne Jones <wayne.jones@planning.nsw.gov.au>; Development Renewables <development.renewables@transport.nsw.gov.au>; Vishnu Gopal <AU MEL PM IA> <vishnu.gopal@fluenceenergy.com>; Chris Stewart <AU MEL SQ EC> <chris.stewart@fluenceenergy.com>; Michele Nettlefold <mnettlefold@agl.com.au>; Stephen Shoesmith <sshoesmith@slrconsulting.com>; Alexandra Moxon <alexandra.moxon@slrconsulting.com>
Subject: Tomago BESS | SSD-57107216 | Revised TMP Submission

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 Tim,

Please see attached, a link to the updated TMP for Tomago BESS for your information. Section 1.3 and Appendix H of the TMP details how TfNSW comments have been addressed. The TMP has been submitted to DPHI.

It is important to note that Tomago BESS is proposing to Stage the development and the TMP, specifically for works that require High Risk OSOM Transport. On this basis, Tomago BESS commits to reconsulting with TfNSW as part of drafting the Stage 2 TMP, prior to seeking approval for Stage 2 TMP by DPHI. The Stage 2 TMP will include an OSOM Material Transportation Route Study.

Please feel free to contact me if you would like to discuss the updated TMP.

Thanks,
Brendyn

Brendyn Rheinberger ***(he/him/his)***
Principal Consultant - Transport Advisory

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M +61 404 744 118
E brheinberger@slrconsulting.com

SLR Consulting Australia Pty Ltd
Level 16, 175 Eagle Street, Brisbane, QLD, Australia 4000

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directly.

If you have received this e-mail in error, please notify the author and delete this message immediately.

From: Tim Mitchell <Tim.Mitchell2@transport.nsw.gov.au>
Sent: Friday, 7 November 2025 1:04 PM
To: Brendyn Rheinberger <brheinberger@slrconsulting.com>
Cc: Wayne Jones <wayne.jones@planning.nsw.gov.au>
Subject: TfNSW response - Tomago BESS - TMP Review

Hi Brendyn,

Please see attached TfNSW response to the review of TMP for Tomago BESS.

Kind Regards,

Tim Mitchell
Development Services Case Officer - Renewables

Transport Planning
Planning,Integration and Passenger
Transport for NSW

P 1300 019 680 **E** development.renewables@transport.nsw.gov.au

transport.nsw.gov.au

Development Services Renewables will prioritise responding to projects within the Major Projects Portal until 24th of December 2025. Any requests or responses outside the Major Projects Portal will be reviewed and allocated to a team member to respond to your enquiry or request within 21 days. Note that design reviews for strategic designs require 14 days for internal review, and meetings will be prioritised for projects within the assessment phase or nearing determination.

Transport for NSW

OFFICIAL

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.

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Transport for NSW

5 December 2025

TfNSW reference: WST/REN25/00179/003 | SF2025/160666

Your reference: SSD-57107216

Brendyn Rheinberger

SLR Consulting

By Email: brheinberger@slrconsulting.com

Review of Traffic Management Plan V3.2 for Tomago Battery Energy Storage System

Dear Brendyn,

Reference is made to the Traffic Management Plan (TMP) submitted to Transport for NSW (TfNSW) for consideration in accordance with consent Condition B8 of Notice of Determination for SSD-57107216 issued 8 November 2024.

TfNSW has reviewed the Traffic Management Plan (TMP) V3.2 prepared by SLR Consulting, dated 26 November 2025, and advises that TfNSW has no objection to the staging of the TMP provided DPHI approve the request. TfNSW request that the TMP be updated to clearly set out the stages within the TMP and make it clear that another stage will be completed for the high-risk OSOM route analysis and management. This TMP needs to specify what is included in the current stage and what is excluded from it, and what will be incorporated in a future stage of the TMP in an update to the TMP.

TfNSW does not require further consultation as part of this stage of the TMP provided the above matter has been addressed. The next stage of the TMP must be resubmitted to TfNSW for review and consultation before approval by DPHI.

The Planning Secretary should be satisfied that the above matters have been adequately addressed before approving the TMP.

If you have any questions, please contact Tim Mitchell, Development Services Case Officer on 1300 019 680 or email development.renewables@transport.nsw.gov.au

Yours sincerely,

Alexandra Power
Manager of Development Services – West
Transport Planning
Planning, Integration and Passenger

Appendix I DPHI Staging Approval Letter

Department of Planning, Housing and Infrastructure

Our ref: SSD-57107216-PA-34

Michele Nettlefold
Manager Land and Approvals – Ops
AGL Macquarie Pty Limited
200 George Street
Sydney, NSW, 2000

08/12/2025

Tomago BESS – Traffic Management Plan (TMP) Staging Request

Dear Mr. Nettlefold

I refer to your letter dated 21 November 2025 and attachment A, requesting the staging of the Traffic Management Plan (TMP). I note that AGL seeks to commence construction works in Stage 2a and submit an updated TMP containing the relevant OSOM management measures prior to Stage 2b.

The Department has carefully reviewed the staging request to ensure effective risk management associated with the BESS infrastructure at the most appropriate construction stage. I understand that the Tomago BESS proposes to stage the TMP as follows:

- Stage 2a – Construction: including site access works, vegetation clearing, bulk earthworks, and laying of concrete slabs.
- Stage 2b – Construction: including OSOM transport and storage of batteries on concrete slabs.

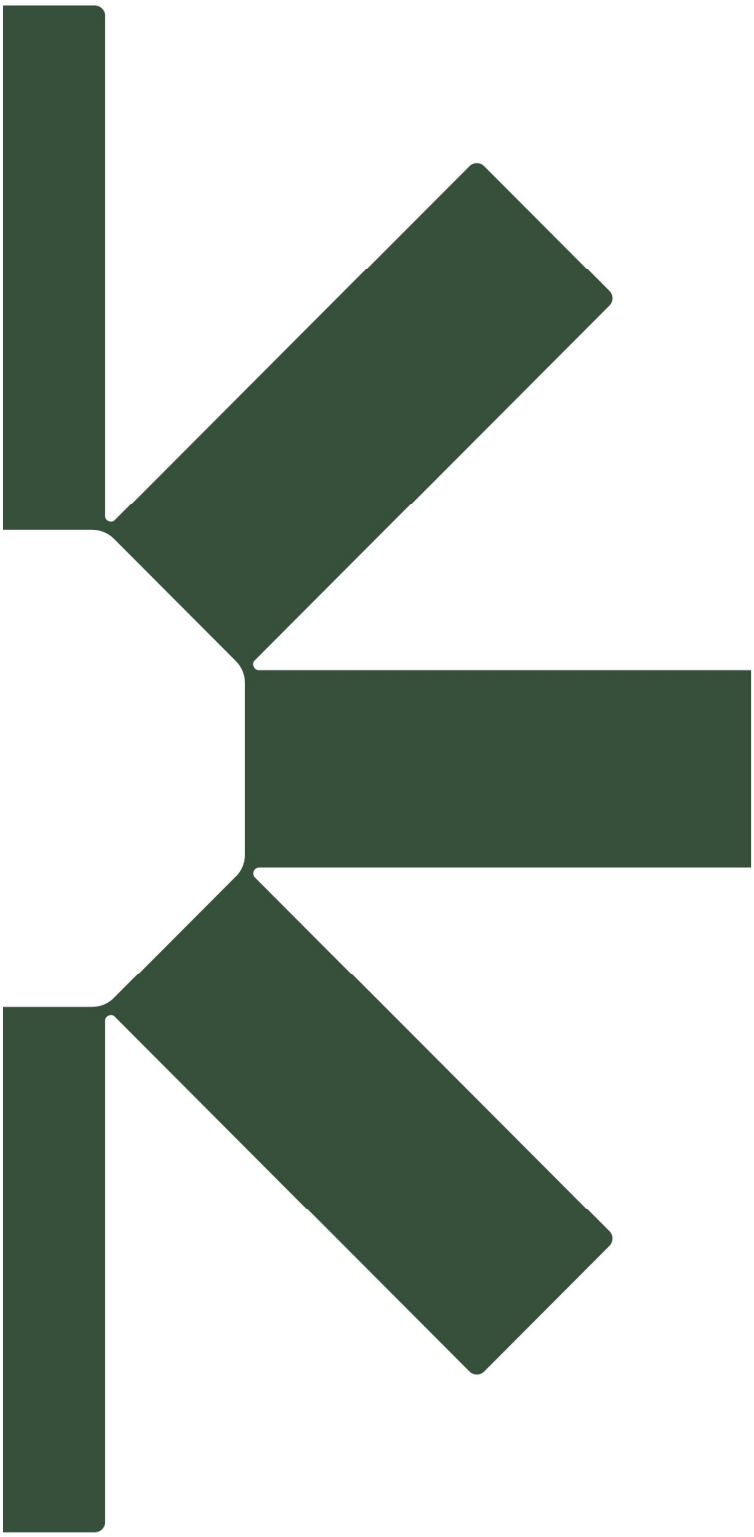
Accordingly, as nominee of the Planning Secretary, I approve the staging of the Traffic Management Plan in accordance with Schedule 2, Condition C3 of the consent.

You are reminded to ensure that the project development is carried out in compliance with the approved EIS and Conditions of Consent. If you wish to discuss the matter further, please contact Charissa Pillay on 02 9995 5944.

Yours sincerely

Iwan Davies
Director
Energy Assessments

As nominee of the Planning Secretary



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