



# St Marys Heavy Vehicle Local Road report

**Sydney Metro Western Sydney Airport Station Boxes and Tunnelling Works** 

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#### **Document approval**

Rev	Date	Prepared by	pared by Reviewed by					
A.02	May 22	S Lewis	A Abbas	W Freelander				
B.01	June 22	S Lewis	A Abbas	W Freelander				
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#### **Details of Revision Amendments**

#### **Document Control**

The Project Director is responsible for ensuring that this plan is reviewed and approved. The Project Traffic Manager is responsible for updating this plan to reflect changes to construction, legal and other requirements, as required.

#### **Amendments**

Any revisions or amendments must be approved by the Project Traffic Manager and/or client before being distributed/implemented.

#### **Revision Details**

Revision	Details	
A.01	Internal review and presentation to TCG	
A.02	For external review	
B.01	For comment close out	
00	Approved Version for Construction	
01	Updated to include secondary haulage route	
02	Updated to include Queen Street for OSOM TBM removal	
03	Updated to include Nariel Street for OSOM TBM removal	







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# 1. Executive Summary

This Heavy Vehicle Local Road report (HVLR) has been developed to address the requirements of the Ministerial Conditions of Approval related to the Critical State Significant Infrastructure of Sydney Metro Western Sydney Airport, specifically CoA E105 and E106.

This HVLR identifies the heavy vehicle routes into the site not identified in the Environmental Impact Statement, the road classification and the suitability of the routes based on swept path analysis and adjacent land uses.

The original route proposed in the EIS shown in Figure 1, includes Glossop Street, Phillip Street, Lethbridge Street (not part of the heavy vehicle route within the EIS but mentioned that it may need to be used prior to formalisation of the construction route) and Station Street. Gidley Street was a private road on the western end of the site and has been subsumed into the construction site.

CPBG proposes a secondary route, for the use of the full extent of Queen Street south of Nariel and Phillip Streets as well as the eastern end of Nariel Street for unloaded low-loaders to nose in and reverse out.

This EIS heavy vehicle (HV) route is shown in Figure 1 with secondary and OSOM routes shown in Figures 2 and 3 respectively. The OSOM route will be used for Over Size Over Mass (OSOM) TBM parts transportation along Queen Street from the Temporary Bus Interchange (TBI) at St Marys Station to the Great Western Highway (GWH). The Nariel Street use is shown in Figure 16.



Figure 1 EIS Haulage Route







Figure 2: Secondary Haulage Route



Figure 3: OSOM Movements



#### 2.Introduction

#### 2.1. Project and location

The Project forms part of the broader Sydney Metro network. It involves the construction and operation of a 23km new metro rail line that extends from the existing Sydney Trains suburban T1 Western Line (at St Marys) in the north and the Aerotropolis (at Bringelly) in the south. The alignment includes a combination of tunnels and civil structures, including viaduct, bridges, surface and open-cut troughs between the two tunnel sections Figure 4.

The Project will be delivered through a number of works packages including the Station Boxes and Tunnelling Works (SBT Works). The SBT Works includes the design and construction of:

- Two sections of twin tunnels with a total combined length of approximately 9.8km, plus associated portal structures, one from Orchard Hills to St Marys and the other under Western Sydney International (WSI) airport to the new Aerotropolis Station in New South Wales (NSW)
- Excavations at either end to enable trains to turn back and stub tunnels to enable future extensions
- Station box excavations with temporary ground support for four stations at St Marys, Orchard Hills, Airport Terminal and Aerotropolis
- Excavations for two intermediate service facilities, one in each of the tunnel sections at Claremont and Bringelly.

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Figure 4: Project Location

#### 2.2. Purpose

This St Marys Heavy Vehicle Local Road report (HVLR or this report) has been developed by CPB Contractors Ghella Joint Venture (CPBG) detailing the heavy vehicle routes as noted in the Environmental Impact Statement for the project and the proposed routes to be used for the St Marys site access.

This report is a sub plan to the site-specific Construction Traffic Management Plans for the St Marys site.

This report has been prepared in accordance with SSI 10051 Planning Approval Conditions E105 and E106 and will be submitted to the Planning Secretary of the NSW Department of Planning, Environment, and Industry for approval.



# 3. Compliance

# 3.1. Ministerial Conditions of Approval

The Ministerial Conditions of Approval are listed below in Table 1.

MCoA	Condition requirement	Where addressed			
E105	Local roads proposed to be used by Heavy Vehicles to directly access ancillary facilities/ construction sites that are not identified in the documents listed in Condition A1 must be approved by the Planning Secretary and be included in the CTMP	This report			
E106	All requests to the Planning Secretary for approval to use local roads under Condition E105 above must include the following:  a) A swept path analysis	Appendix 1			
	b) Demonstration that the use of local roads by Heavy Vehicles for the CSSI will not compromise the safety of pedestrians and cyclists of the safety of two-way traffic flow on two-way roadways	This report			
	c) Details as to the date of completion of the road dilapidation surveys for the subject local roads and	Road dilapidation survey completed (Appendix 3) and report to be issued to PCC as part of the permit application process			
	d) Measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and childcare facilities during their peak operation times and	Section 6			
	e) Written advice from an appropriately qualified professional on the suitability of the proposed Heavy Vehicle route which takes into consideration items a) to d) of this condition	Section 6.1.11 and Appendix 4			
E107	Before any local road is used by a Heavy Vehicle for the purposes of construction of the CSSI, a Road Dilapidation Report must be prepared for the road. A copy of the Road Dilapidation Report must be provided to the Relevant Road Authority(s) within three (3) weeks of completion of the survey and at no later than one (1) month before the road being used by Heavy Vehicles associated with the construction of the CSSI				

Table 1: Ministerial Conditions of Approval

# 3.2. Revised Environmental Management Measures







#### The Revised Environmental Management Measures are listed below in

REMM	Condition requirement	Where addressed			
Т6	Access for construction vehicles to be planned as per the guidelines outlined in the Construction Traffic Management Framework. Construction site traffic would be managed to minimise movements during peak periods. Vehicle access to and from construction sites would be managed to maintain pedestrian, cyclists and motorists safety	Section 7			

Table 2: Revised Environmental Management Measures





# 4. Legal and other requirements

#### 4.1. Relevant legislation

Identified regulatory requirements are:

An approved and valid Road Occupancy Licence (ROL).

- An approved relevant Speed Zone Authorisation (SZA).
- Australian Road Rules form the basis for state and territory road rules.
- Roads Act 1993 (NSW) sets out rights along a public road, establishes procedures for a public road and provides the classification of roads.

Legislation relevant to traffic management also includes the *Environmental Planning and Assessment Act 1979* (EP&A Act), under which the project approval was granted. Relevant provisions of the EP&A Act are explained in the register of legal and other requirements included in the CEMP.

#### 4.2. Guidelines

Guidelines and standards relating to the management of traffic on the SBT Works include:

- Sydney Metro Western Sydney Airport EIS
   – Appendix G Construction Traffic Management Framework
- Sydney Metro Principal Contractor Health and Safety Standard
- TfNSW Traffic Control at Worksites Manual, 2020 v6
- AUSTROADS Cycling Aspects of Austroads Guides, 2017
- AUSTROADS Guide to Traffic Management, 2020 Parts 1-13
- AUSTROADS Guide to Road Design, 2013-2021 Parts 1-7
- AUSTROADS Guide to Road Safety, -2019 -2021 Parts 1-7
- Roads & Traffic Authority NSW Guide to Traffic Generating Developments, 2002 and further updates as provided
- Roads & Traffic Authority NSW Bicycle Guidelines Version 1.2, 2005
- Roads and Maritime QA Specification G10 Traffic Management, 2020.
- Roads and Maritime NSW Speed Zoning Guidelines, 2011.
- Roads and Maritime Traffic Control at Worksites Manual, 2020
- Transport for NSW, NSW Sustainable Design Guidelines Version 4.0, 2017

# 4.3. Other requirements

Third Party agreements with:

Penrith City Council





# **5.The Existing Environment**

# 5.1. Locality and land use

The site is bounded by the rail corridor (T1 Western Line) to the North, the temporary bus interchange to the West, Phillip Street to the South and Glossop Street to the east. The site is located within the Penrith City Council Local Government Area (LGA). The location of the site is shown in Figure 5.



Figure 5: Land Use and Locality



A review of the existing social infrastructure and their locations was undertaken by Sydney Metro Western Sydney Airport during the EIS development phase. The result of this review is shown below in Figure 6.

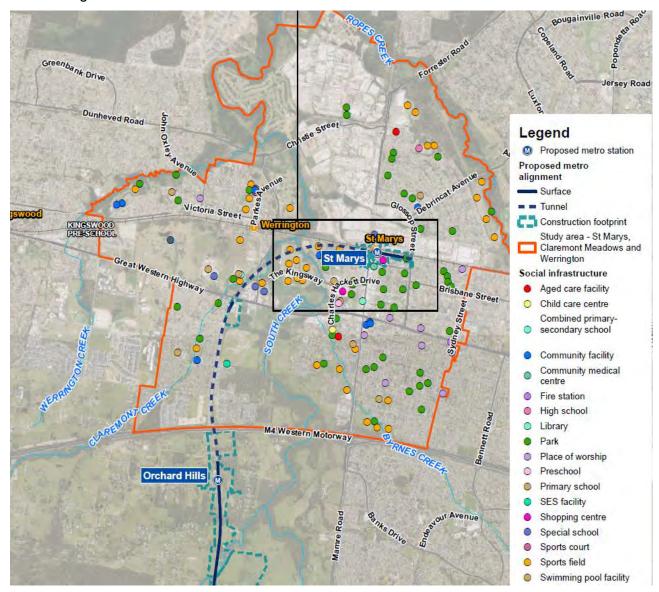


Figure 6: Social Infrastructure review (source EIS Chapter 21 Social and Economic)



Within the St Marys area, the majority of known sensitive receivers were in the Station Plaza shopping centre which has been demolished and has been integrated as part of the Sydney Metro Western Sydney Airport construction site. There are no schools, aged care or childcare facilities near the construction site, as noted in Figure 6. There is a medical centre along Queen Street which only operate during daytime hours.



Figure 7: Sensitive receivers near the site

There are limited on and off-road cycle facilities within the St Marys area, as noted in Figure 7.

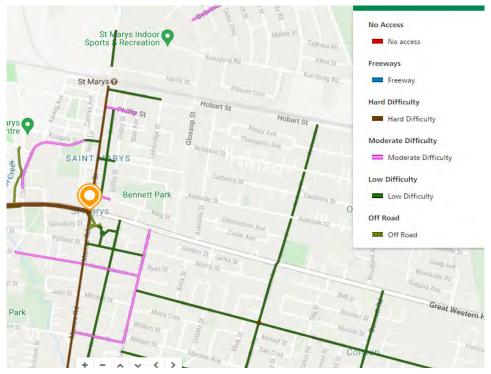


Figure 8: TfNSW Cycleway finder







There are no state roads connecting to the site, there are regional roads to the east and west running north south typically, as noted on Figure 9.

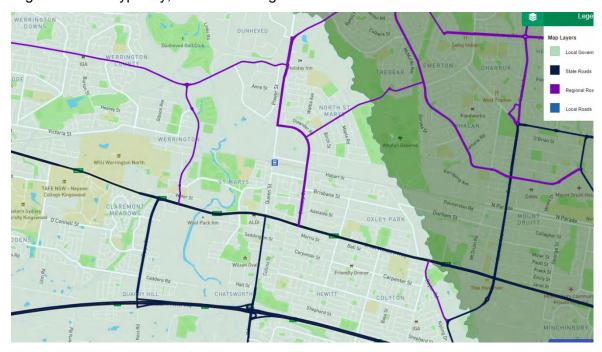


Figure 9: NSW Road Classification Map (source: TfNSW Road Classification Map)

The area of St Marys has Performance Based Standards (PBS) routes along Glossop Street and to the north of the railway lines. No other PBS routes exist near the site, refer to Figure 9.



Figure 10: Existing PBS routes





#### 5.1.1. Station Street

Station Street is a local road which falls under the care and control of Penrith City Council. It commences at Lethbridge Street and terminates at Queen Street. The current speed limit is 40km/hr from Lethbridge Street and encompasses the existing residential properties at the eastern end of Station Street.

Station Street has been converted to one way westbound with No Stopping restrictions as part of Sydney Metro Western Sydney Airport Station Boxes and Tunnelling construction.

Footpaths are provided on the southern side of Station Street for its full length.



Figure 11: St Mary's Road Classification Map (source: TfNSW Road Classification Map)

#### 5.1.2. Phillip Street

Phillip Street is a local road which falls under the care and control of Penrith City Council. It commences at Queen Street and terminates at Glossop Street. The current speed limit is 50km/hr to the east of the site and 40km/hr across the site frontage to Queen Street due to high pedestrian activity.

Bus stops exist on Phillip Street near the intersection of Glossop Street for a number of bus services, 745, 758, 774, 782, 835, S11 that end and begin their journey at the bus interchange.

1P parking is provided on the northern side of Phillip Street,



Figure 12: TfNSW Cycleway Finder for Phillip Street

outside of the construction site and on the northern side between Queen Street and East Lane. 1/2P parking is provided on the north sides of Phillip Street between Gidley Street and East Lane. Public parking has been removed and replaced by a temporary bus parking on Phillip Street between Queen Street and East Lane. No other parking restrictions are installed. Marked foot crossings are provided outside of the site and again at the intersection with Queen Street.

TfNSW's Cycleway Finder notes that Phillip Street between Blair Avenue and Queen Street is a moderate difficulty on road route (refer to Figure 12).





#### 5.1.3. Lethbridge Street

Lethbridge Street is a local road under the care and control of Penrith City Council. Lethbridge Street starts at Station Street to the north and terminates at Brock Avenue/ Stapleton Parade in the south. Lethbridge Street typically runs north-south and contains 1 travel lane in each direction. Roundabouts are installed at the following intersections with Lethbridge St:

- Phillip Street and
- Chapel Street

The speed limit on Lethbridge Street is 50km/hr. Pedestrian paths are located on both sides of the street.

#### 5.1.4. Queen Street

Queen Street is classified as a local road, which aligns in the north-south direction, connecting at Great Western Highway (GWH) to the south at a signalised intersection and St Marys train station to the north. Queen Street is consolidated by retail and business spaces with footpaths located on both sides of the road to facilitate commercial activities. Queen street intersects Nariel Street, and the northern end is closed off to all local traffic is to turn left on Nariel Street. Only access allowed on the northern end of Queen Street is taxis and buses. It is a 40km/hr street.

#### 5.1.5. Nariel Street

Nariel Street is a local road aligned in the east-west direction, connecting Queen Street to the east and Carinya Avenue to the west. Nariel Street is generally configured as a two-lane, two-way road with footpaths on both sides of the road. Point-to-point and kiss-and-ride facilities have been installed on Nariel Street as a result of the project. It is lined by car-parks at the western end and a drive-through bottle shop and shops at the eastern end. The posted speed limit is 50km/h.

# 5.2. EIS routes for heavy vehicles

The EIS nominated routes include Glossop Street, Phillip Street, Lethbridge Street (not part of the heavy vehicle route within the EIS but mentioned that it may need to be used prior to formalisation of the construction route) and Station Street, as shown below in Figure 13 and Figure 14.

Gidley Street was a private road on the western end of the site and has been subsumed into the construction site.









Figure 13: EIS indictive haulage routes

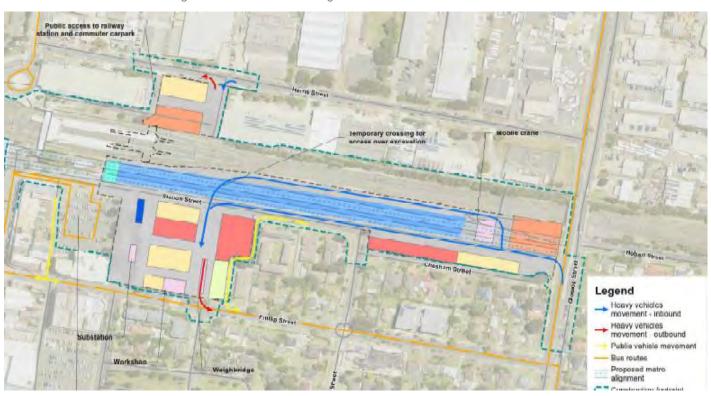


Figure 14: St Marys heavy vehicle movements (Source: EIS)





#### 6. Scope of Works

#### 6.1.1. The TBI compound for TBM recovery

Works specified within the previous revision including demolition and site establishment have been completed, and as such removed from this revision. This revision covers the scope of works detailed below to address the route required for OSOM movements from St Marys station to the Great Western Highway (GWH). The Temporary Bus Interchange (TBI) will be utilised as a laydown and work area for the TBM recovery scope of works. Alternative arrangements have been organised with PCC for bus operations within the STM area for the duration of the works. The TBI is within the EIS approved construction footprint for the Project and includes Gidley Street, and Station street and the eastern end of Queen Street.

CPBG will utilise a section of the TBI as a loading, cleaning, and stripping area for TBM components. The TBMs will be separated within the shaft and lifted to the surface where CPBG will prepare them for loading and transport. The primary access for all traffic movements in and out of SBT's site at St Marys will be via Phillip Street/ Gidley Street intersection.

However, a number of OSOM components will need to use the secondary access via Queen Street from the TBI due to the dimensions of the loads. Secondary access will only be used during night shifts.

#### 6.1.2. Secondary Access - Queen Street from the TBI

Number of movements via Queen Street ancillary compound – 24 OSOM movements Number of movements per shift: 1 Movement (Night Shift only)

CPBG has divided the HV movements from the ancillary compound established within the TBI in two categories:

- 1. Unloaded low loaders will access the ancillary compound via the secondary access established at the Queen Street TBI. These low loaders will not be fully extended and will reverse back into the compound. This movement will be done under a rolling block closure into Nariel Street and will not require closure of TBI. For the low-loader access to the ancillary compound, a rolling block on night shift between 10pm-5am is proposed. These works will be conducted in between arrival times of scheduled buses at the TBI using the escorts vehicles to facilitate a rolling block closure. The proposed rolling block closure is displayed in Figure 16. Swept paths for the proposed movement is provided in Appendix 1.
- 2. Loaded low loaders will egress the ancillary compound with TBM components, in a forward direction. They will be fully extended and loaded with TBM components while egressing and this will require a closure of the TBI at nights. Appropriate signage will be installed temporarily, prior to the closure of the bus interchange, and a temporary bus layover area will be setup on Nariel Street for any buses entering after 10pm. Figure 17 displays the road closure and detour proposed. CPBG will ensure it provides 28 days' notice to CJP prior to any closures of the TBI.

Given the wide widths of the TBM components, CPBG will require occupation of parking on both sides of Queen Street between the TBI and Great Western Highway during the OSOM movement nights. If required, up to 3 parking spaces may be closed under council permits to allow access into Nariel Street. These OSOM movements will be accompanied by escorts from NSW police.

CPBG's community team will reach out to local businesses and residents to notify of temporary parking changes on night shifts. A Parking Occupancy Survey has been conducted by CPBG on Thursday night from 10pm to 5am. The survey data shows that there is a maximum of 40%





occupancy Southbound on Queen Street per hour. The survey data also shows that there is a maximum of 10% parking occupancy Northbound on Queen Street per hour. The parking occupancy survey has been provided in Appendix 5.

Appropriate advanced warning and wayfinding signage will be installed temporarily, including the installation of Variable Message Sign (VMS) boards to notify general traffic and property owners about parking changes before any OSOM movements from the secondary access. An example of the setup is shown below in Figure 15.





Figure 15: Ingress and Egress routes through TBI

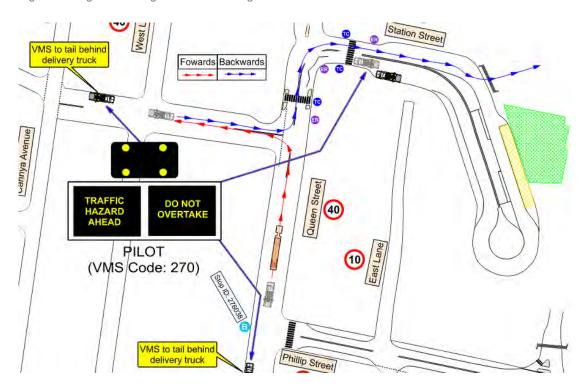


Figure 16: Unloaded Access into STM site







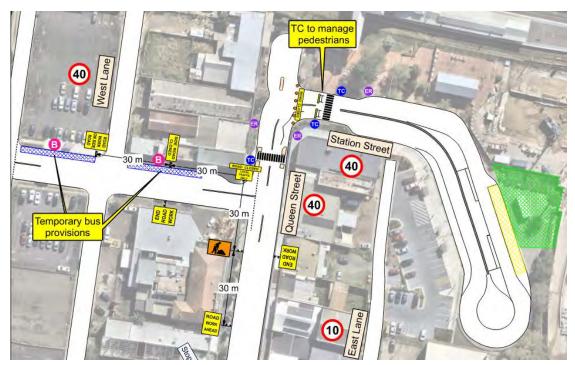


Figure 17: Loaded Access into STM site

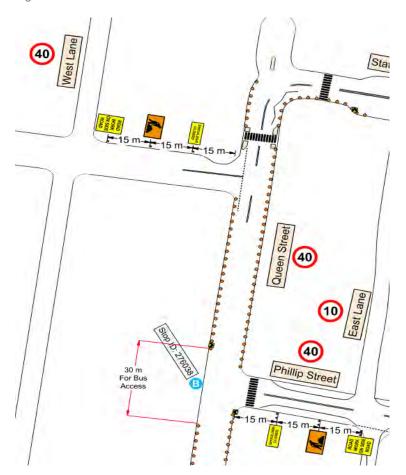


Figure 18: Queen Street parking lane closure







Figure 19: OSOM movement routes

#### 6.1.3. Construction traffic

The secondary access near the TBI will generate approximately 8 escort vehicles and 1 HV movements per shift, considering all movements will be during night shifts to avoid peak hour traffic and impact on public transport.

#### 6.1.4. Construction Parking and Access

Workforce will be required to park at CPBG Orchard Hills or Claremont Meadows site, and a shuttle service will be provided to transfer workers to the St Mary's site. There will be 4 LV parking spots within SBT's site to accommodate deliveries and workforce with heavy tools.







St Marys Train Station is a two-minute walk from the site and is serviced by the T1 line including services from Parramatta and Central Station. Moreover, the bus interchange outside St Marys station at Queen Street is serviced by many buses from the surrounding area. CPBG will encourage workers to use public transport during inductions, toolbox talks and pre-start meetings.

#### 6.1.5. Impact on traffic flow

The expected impact of rolling block closure to facilitate the HV ingress and TBI closure for OSOM egress via the secondary access will be minimal as these works will be completed at night.

The parking lane closure on northbound and southbound lanes of Queen Street during OSOM movements will affect parking along Queen Street. CPBG has a developed a VMS strategy and will reach out to businesses/ residents along the impacted area to notify about alternative arrangements. Police escorts will accompany the OSOM loads and will assist with facilitating a rolling block closure (if required) along the route.

#### 6.1.6. Impact on public transport

CPBG has divided the HV movements from the ancillary compound established within the Temporary Bus Interchange in two categories to minimise the number of closures required to transport the TBM components:

- Low loaders will access the ancillary compound via the secondary access established at the Queen Street TBI. The low loaders will not be fully extended and will reverse back into the compound. This movement will be completed under a rolling block closure and will not require a closure of the TBI. Impact on bus operations will be minimal as these works will be completed at nights.
- Low loaders will egress the ancillary compound in a forward direction. They will be fully
  extended and loaded with TBM components while egressing and this will require a closure
  of the TBI. CPBG will provide 28 days' notice to CJP before implementing these closures.

CPBG's review of the bus timetable operating through St Mary's TBI indicates that majority of the bus movements are between 5am to 10pm and as such, the impact of closures at night will be minimal as all bus services operating during the closure will be redirected to Nariel Street kiss and ride area which will be used temporarily as a bus stop. Wayfinding will be provided and is covered within the communication and community strategy plan.

## 6.1.7. Impact on pedestrians

Existing footpaths terminate on the Northern side of Queen Street and is not accessible closer to the proposed compound location. Therefore, there will be no impact on pedestrians during this stage of works.

#### 6.1.8. Impact on cyclists

No dedicated cyclist facilities will be impacted by the works for both works.

#### 6.1.9. Impact on property and utility access

The parking lane closure on northbound and southbound lanes of Queen Street during OSOM movements will affect street parking for residents and business. CPBG has a developed a VMS strategy and will reach out to businesses/ residents along the impacted area to notify about alternative arrangements. CPBG notes that majority of the business are open from 7am to 7pm, and as such, the impact of the movements at night will be minimal.

#### 6.1.10. Cumulative impacts







As noted in sections above, the Sydney Metro WSA St Marys site is a shared site between CPBG and SSTOM Contractor (PLM). CPBG and PLM's site teams will organise meetings to manage interface between the sites. CPBG's primary access will be via Gidley Street with PLM accessing their site primarily via Glossop Street therefore impacts on public roads are expected to be minimal.

#### 6.1.11. Advice from an appropriately qualified professional

A Road Safety Audit report completed by an independent appropriately qualified Level 3 NSW Road Safety Auditor, is enclosed in Appendix 3 for reference.







#### 7. Fleet management

Trucks to be used for the delivery of the SBT works will be compliant with NSW legislation and standards including Heavy Vehicle National Legislation (HVNL). All heavy vehicle operations will be conducted in accordance with CPBG's Chain of Responsibility (CoR) Management Plan and the Principal Contractors Safety Standard, as noted in the Project Wide CTMP.

A combination of truck types will be used during the SBT works including single unit trucks, semi-trailers, and low loaders, for example.

There is sufficient room on site to provide for all heavy vehicles required for the works, therefore, marshalling facilities are not proposed for this site. Heavy vehicles will not idle on roads.

#### 7.1. Road dilapidation report

CPBG will carry out and provide record of visual inspection of local roads to relevant Councils prior to commencement of OSOM movements.

If damage to local roads occurs as a result of the construction of the project CPBG will either (relevant city council's discretion):

- Compensate relevant City Council for the damage so caused or
- Rectify the damage to restore the road to at least the condition it was in pre-work as identified in the Road Dilapidation Report

#### 7.2. Permits for Over Dimensional Vehicles

Permits for vehicles greater than 4.5t are through the National Heavy Vehicle Regulator (NHVR). This applies to particular special purpose vehicles (SPV) such as mobile cranes and other oversize/ over mass (OSOM) vehicles. TfNSW is currently undertaking this permit issue.

For over dimensional vehicles generally vehicles that are greater than 25m in length of 3.5m wide require a pilot(s). Extremely long or wide vehicles will require an escort, fee payable. Permits are generally applied for by the transport operator.

There is a requirement for over mass/ oversize vehicles during the works identified in the CTMP and all OSOM permit applications will be managed by CPBG and its sub-contractors.







# 8. Community and consultation

#### 8.1. Stakeholders

There are a number of stakeholders consulted during the development of this CTMP. A copy of their review comments are provided in Appendix 2 which provides an overview of the consultation undertaken for the CTMP.

Stakeholder	Consultation type	Date
Traffic and Transport Liaison Group	Presentation	08/02/2024
Customer Journey Planning	Presentation	21/12/2023 and 5/12/2023
Sydney Metro project team	Presentation	21/12/2023 and 5/12/2023
Penrith City Council	Presentation	18/01/2024 and 6/12/2023
Penrith City Council	CTMP submission	21/02/2024

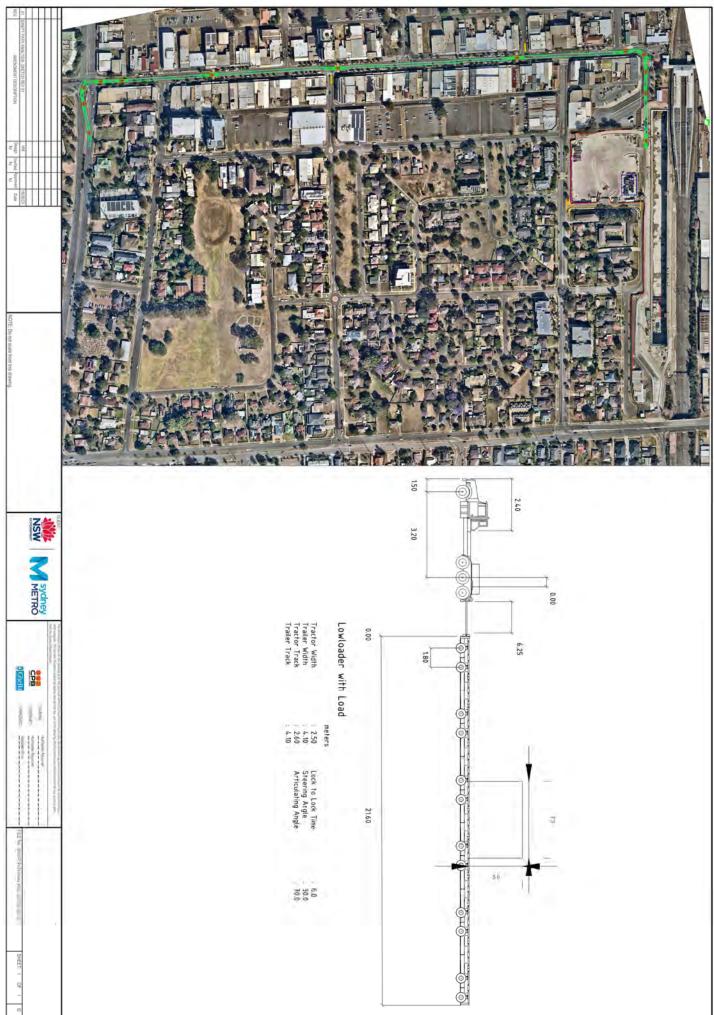
Table 3: Consultation

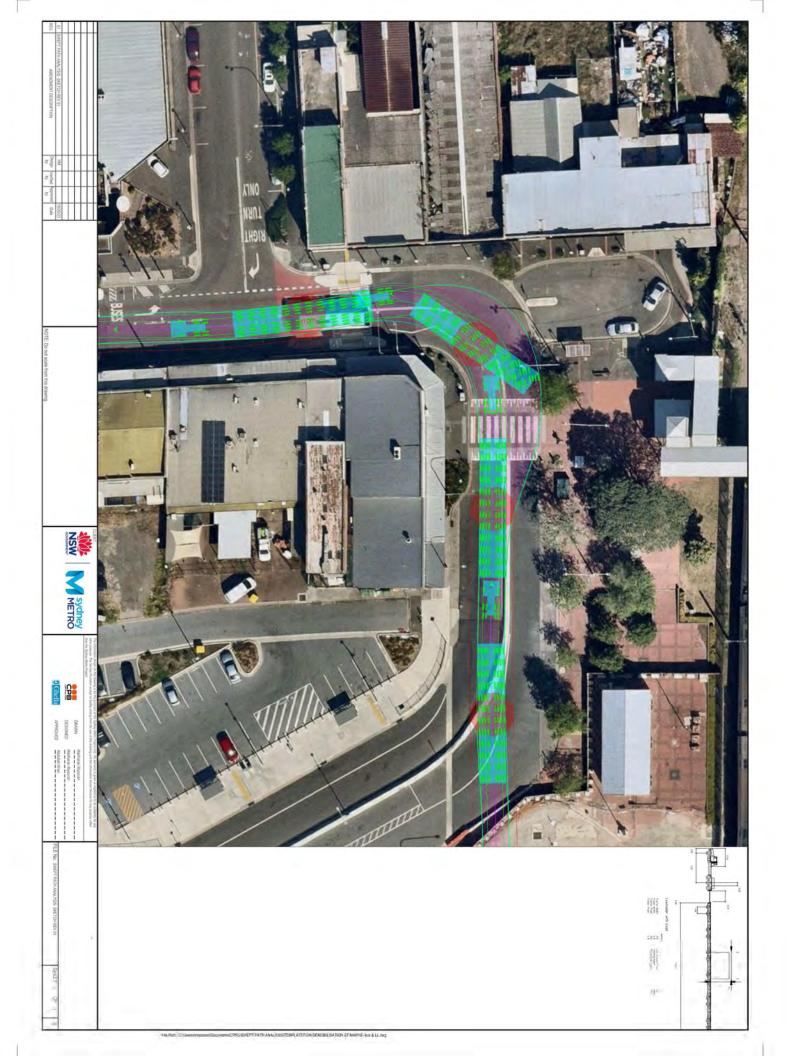


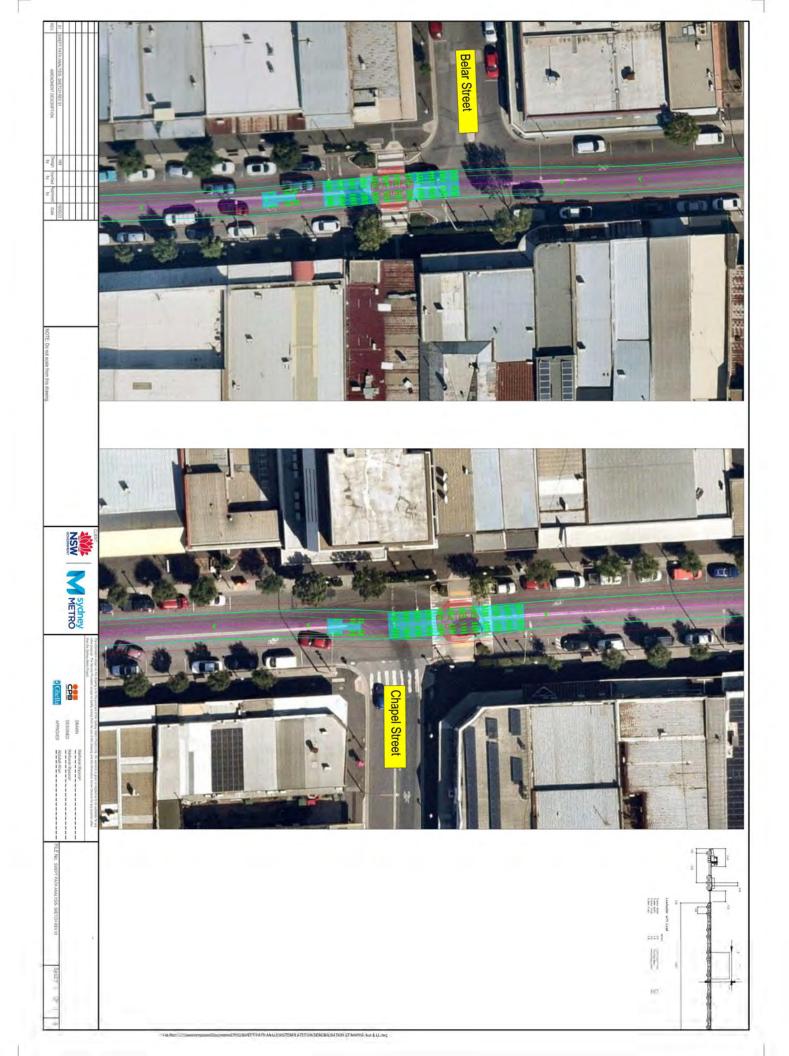
#### Appendix 1 Swept Path Analysis

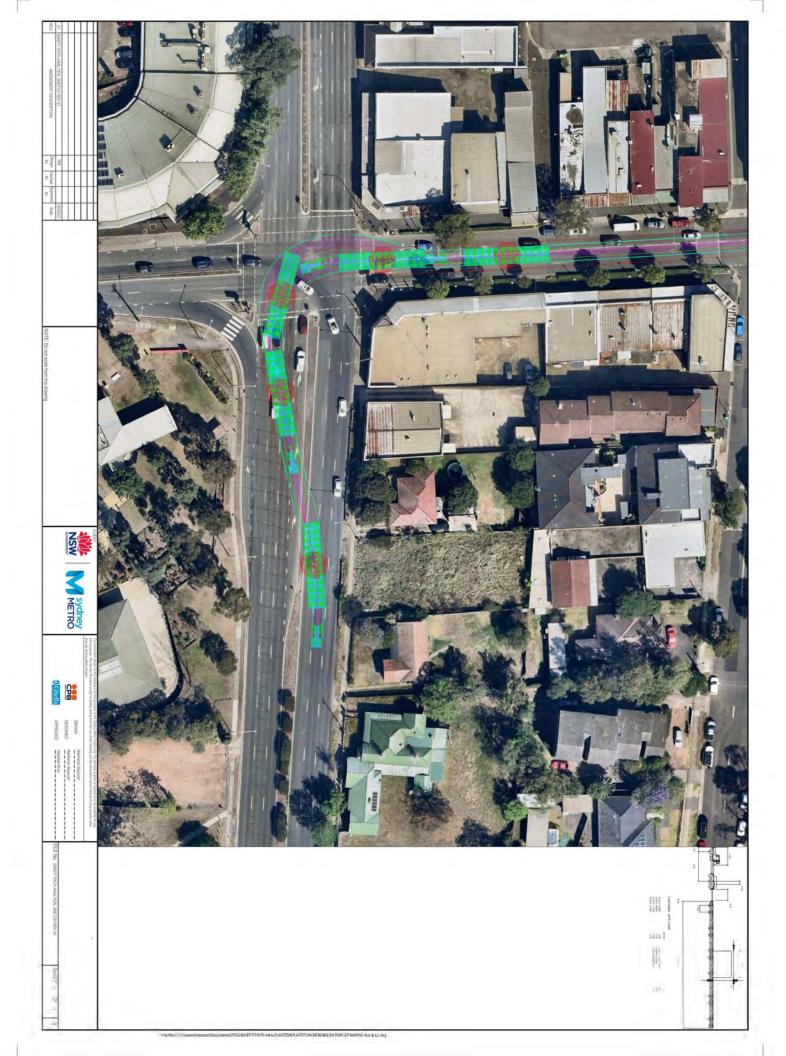


Figure A1: Swept Path Queen at Nariel Street















Appendix 2 Evidence of Consultation with Penrith City Council



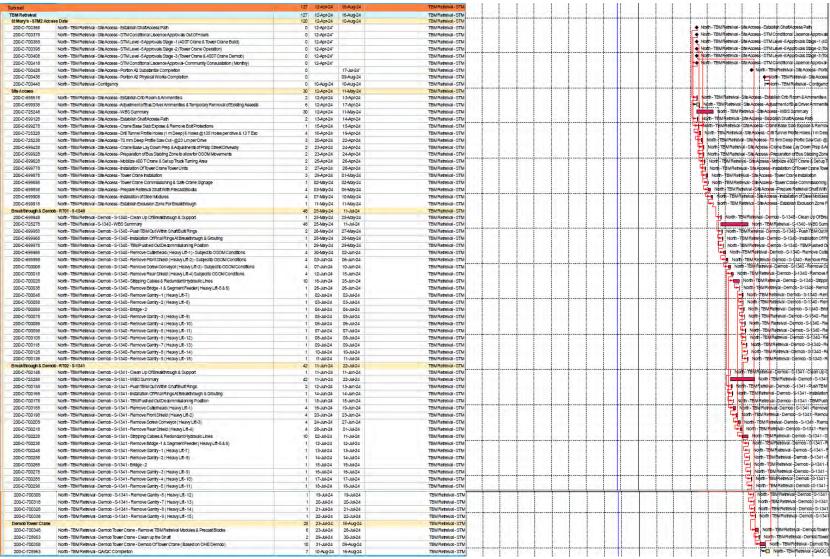


# **AGENDA**

- Current Detailed Program
- Project Overview
- STM TBM Retrieval Strategy
- AEC TBM Retrieval Strategy
- Stakeholder Management
- Out of hours Works



# **CURRENT DETAILED PROGRAM - STM**



#### STM - RETREVIAL

- Access Date 12/04/2024
- TBM 1 Breakthrough **25/05/2024**
- TBM 2 Breakthrough 11/06/2024
- Physical Completion 09/08/2024
- Proposed closure of TBI (night shifts): 24/04/2024 to 24/07/2024



# **CURRENT DETAILED PROGRAM - AEC**

BM Retreival AEC Aerotropolis - AEC Ac	casa Data	157	25-Mar-24 25-Mar-24	28-Aug-24 28-Aug-24	TBM RettevalAEC	1 1 1	-1-1	1 1				- 1			
200-C-699758	Southern-TBM Retrieval - Site Access - Establish Shaft Access Path		25-Mar-24"		TBM RettevalAEC	+					♦ Sout	em-TBMRe	relval - Site.	Access - Establish Sha	tAccess Path
200-C-699788	Southern - TBM Retreval - Site Access - AEC Conditional Liscence Approvals Out Of Hours	0	25-Mar-24"		TBM RettevalAEC			1 1			◆ Sout	em-TBMRet	relyal-She	Access AEC Condition	nal Liscence Appro
200-C-699828	Southern - TBM Retreval - Schedule A2 Porton S7 Completion Date - Physical Completion	0		13-Aug-24	TBM RetrievalAEC	1 1 1	1 1	1 1	1 1	1 1	r'			<b>◆</b> Souther	m-TBMReteNal-
200-C-719868	Southern - TBM Retreival - Contigency	15	14-Aug-24	28-Aug-24	TBM RetrievalAEC			1 1		1				So So	uthern - TBM Retrel
200-C-699818	Southern - TBM Retreival - Schedule A2 Porton S7 Completion Date- Substantial Completion	0		28-Aug-24"	TBM RettevalAEC		-11-				1-11-1			♦ 30	uthers - TBM Retrei
Its Access		26	25-Mar-24	22-Apr-24	TBM RetrevalAEC	1			1		1-1-1-	1			
200-C-699218	Southern - TBM Retreival - Site Access - Establish Crib Room & Ammenities	2	25-Mar-24	26-Mar-24	TBM RettevalAEC				16 16		HI Sout			Access Establish Crit	
200-C-699248	Southern - TBM Retreval - Site Access - Establish Shaft Access Path	2	26-Mar-24	27-Mar-24	TBM RetrievalAEC	1 1 1	1 1	1 1	1 1	1	Sout	hem-TBMRd	trelval - Ste	Access Establish Sha	rtAccess Path
200-C-699258	Southern - TBM Retreval - Site Access - Remove Protection Stab & Preparation For Drilling.	2	28-Mar-24	29-Mar-24	TBM RettevalAEC	1 1 1	1 1	* *	1 1	1 1	-1-Sou	hem - TBMR	eteval-sh	Access - Remove Pro	tector Slab & Prepa
200-C-699798	Southern - TBM Retreval - Site Access - Mobilise 160 T Borger Crane to Remove Concrete via Klobie (24T Of Concrete)	1	28-Mar-24	28-Mar-24	TBM RettlevalAEC		-11-	1-1-	-11-		HI SOU	nem-TBMRe	treival - She	Access - Mobilise 160	T Borber Crane to R
200-C-699808	Southern - TBM Retreival - Site Access - Mobilise 400T Marr Crane To Commerce Diffing Operations & Crane Install	2	29-Mar-24	30-Mar-24	TBM RettlevalAEC						SOL	hen-TBMR	etrelval - Sit	Access - Mobilise 400	T Mair Crane To Co
200-0-699268	Southern - TBM Retreival - Site Access - Crane Base Anchor Diffling, Installation	7	30-Mar-24	05-Apr-24	TBM RettevalAEC	1 1 1	(h (h	1 1	1 1	1	-m s	utilem-TBM	Retelval	te Accels - Crane Bar	se Andhor Dellida, In
200-C-699768	Southern - TBM Retreival - Site Access - Installation Of Base Unit & Stressing of Anctions	2	06-Apr-24	07-Apr-24	TBMRettevalAEC	4 1 1	1 1	1 1			The s	outpem - TBM	Retreval-	Site Access - Instaltation	OrBase Unit & Sh
200-C-699288	Southern - TBM Retreival - Ste Access - Installation Of Tower Crane Tower Units	2	08-Apr-24	09-Apr-24	TBM RettevalAEC	1 1 1	1 1	1 1	1 1	1	- I	countem-TBN	Reteival	Ste Access - Installato	n Of ower Crane T
200-C-699298	Southern - TBM Retreival - Site Access - Tower Crane Installation	3	10-Apr-24	12-Apr-24	TBM RetfevalAEC	1 - 1 - 1	_1_1_	-1 - 1 -	1 1	- 1 - 1 -				- Ste Adbess - Towler C	
200-C-699308	Southern - TBM Retreival - Site Access - Tower Crane Commissioning & Safe Crane Signage	1	13-Apr-24	13-Apr-24	TBM RettevalAEC										
200-C-699318	Southern - TBM Retrieval - Site Access - Prepare Retreival Shaft With Precast Blocks	4	14-Apr-24	17-Apr-24	TBM RetlevalAEC		1 1	1 1	1 1			Southern-T	BMRetel	- Site Agoess - Tower C al - Site Agoess - Prlepa	e Refelval ShartW
200-C-699328	Southern - TBM Retraival - Site Access - Installation of Site I Modules	4	16-Apr-24	21-Apr-24	TBMRettevalAEC	1 1 1	1 1	1 1	1 1	1 1		Southern-	TRURAN	val - She Access - Instal	rates of Shall be to
200-C-699338	Southern - TBM Retreval - Ste Access - Establish Exclusion Zone For Breakthrough		22-Apr-24	22-Apr-24	TBM RettevalAEC	1 - 1 - 1	- 0 - 0	- 1 - 1 -			G	o Southern	TBMRete	val - Ste Access - Estat	olish Faciusion Zone
	nob -RT01 -S-1338 -Northbound	50	31-May-24	19-14-24	TEMRetevalAEC	46 1 46	-1-1-	I - I	-1. 1.	_   _	1 1	- Countries			-
100-C-699228	Southern - TBM Reteival - Demob - S-1338 - Clean Up Of Breakthrough & Support	30	31-MBy-24 31-MBy-24	19-JUF24 31-May-24	TBM RettevalAEC				-+		+		Southern	-TBMFleteva - Øem	ob-S-1338-Cean
00-C-699228 00-C-699348	Southern - TBM Retraval - Demob - S-1336 - Clean up Or Breakhrough & Support  Southern - TBM Retraval - Demob - S-1338 - Push TBM Out/Within Shart Bult Rings	2	01-May-24 01-Jun-24	02-Jun-24	TBM ReflevalAEC		1 1	1 1	1		1 1	1 4		- TBM Reteival - Den	
00-C-699348 00-C-699358	Southern - IBM/Retreval - Demoto - S-1338 - Pulan TEM/Cuttivi filin Shaft but Knings  Southern - TBM/Retreval - Demoto - S-1338 - Installation Of Final Rings Af Breakthrough & Grouting	2	01-Jun-24 03-Jun-24	02-Jun-24 03-Jun-24	TBM RetrevalAEC	0 1 0	1 1	1 1	1 1	1 1	1 1	1 7		- TBM ReteVal - Den	
00-0-699368				04-km-24	TEMRATAGIAEC	11 1 H	1 1	1 1			1 1	1 6		n - TBM Retreival - Der n - TBM Retreival - Der	
	Southern - TBM Retraval - Demob - S-1338 - TBM Pushed Out Decommissioning Position	_ 1	04-Jun-24				-1 1	1 1	1 1			1 7	Souther	n- IBMReteival-Der	100-5-1338-18M
200-C-699378	Southern - TBM Retreval - Demob - S-1338 - Remove Culterhead ( Heavy Lift-1) - Subject to OSOM Conditions	4	05-Jun-24	08-Jun-24	TBM RetfevalAEC				A Paralle		4	1 2		m-TBM Retreival - De	
00-C-699388	Southern - TBM Retreval - Demob - S-1338 - Remove Front Shield ( Heavy Lift-2 ) - Subject to OSOM Conditions	1	09-Jun-24	09-Jun-24	TBM RefrevalAEC				1		1	1		em - TBMRetreval - De	
00-C-719938	Southern - TBM Retreval - Demob - S-1338 - Front Shield Top & Tall on Surface	3	10-Jun-24	12-Jun-24	TBM RetrievalAEC	9 9 9	1 1	1 1			1	1 1		em - TBM Rebeval - C	
00-C-699398	Southern - TBMR etreval - Demoib - S-1338 - Remove Gripper Shield (Heavy Lift-3) - Subject to OSOM Condition (2D)	3	13-Jun-24	15-Jun-24	TBM RetrievalAEC	1 1 1	4 4	1 1	1 1		1 1	1 1		hem - TBM Referral -	
00-C-719946	Southern - TBM Retreval - Demob - S-1338 - Remove Gripper Shield Top & Tail on Surface	- 1	16-Jun-24	16-Jun-24	TBM RetlevalAEC	1 1 1	1 1	1 1	1 1			1 1		hem - TBM Referois-	
00-C-699408	Southern - TBMR etrelval - Demob - S-1338 - Remove Tall Skin (Heavy Lift -4) Subject to OSOM Conditions	4	17-Jun-24	20-Jun-24	TBM ReflevalAEC		1. 1.		1 1			1 1		unem - TBM Refeival	
00-C-699418	Southern - TBM Retreval - Demob - S-1338 - Stripping Cables & Redundant Hydraulic Lines	10	21-Jun-24	30-Jun-24	TBM RetlevalAEC						1			Southern - TEM Pletter	
00-C-699438	Southern - TBMR etreval - Demob - S-1338 - Remove Ganty - 1 (Heavy Lift - 6)	1	07-Jul-24	07-Jul-24	TBM RetrievalAEC	4 1 4	1 1	1 1	1 1	1	1 1	1 1	-	Southern - TBM Ret	
00-C-699448	Southern - TBM Retreival - Demob - S-1338 - Remove Ganty - 2 (Heavy Lift - 7)	1	08-Jul-24	08-Jul-24	TBM RetlevalAEC			1 1	1 1				1	Southern-TBN/Rei	relval-Demob S-1
00-C-699468	Southern - TBM Retreival - Demob - S-1338 - Remove Ganty - 3 ( Heavy Lift - 8 )	1	09-Jul-24	09-Jul-24	TBM RettlevalAEC		1 1	1 1	1 1				E	Southern - TBMRe	tretval - Demobi-S-1
00-C-699478	Southern -TBMRetreival - Demob - S-1338 - Remove Ganty - 4 (Heavy Ltft - 9)	1	10-Jul-24	10-lui-24	TBM RetlevalAEC	1 1 1	_1 _1_	1 1	1 1	1	1 1	1 1		Southern-TBMRe	
00-C-699488	Southern - TBM Retreval - Demob - S-1338 - Remove Gantry - 5 (Heavy Lift - 10)	1	11-34-24	11-10-24	TBMRettevalAEC									Southern-TBMR	
00.C-699498	Southern -TBMRetreval - Demob - S-1338 - Remove Ganty - 6 (Heavy Lift - 11)	- 1	12-31624	12-jui-24	TRMRetteuplance	1 1 1	1 1	1 1	1 1	i	1 1	1 1	i lic		etreval - Demob - S-
00-C-699508	Southern - TBM Retreival - Demob - S-1338 - Remove Ganty - 7 / Heavy Lift - 12)	- 1	13-34-24	13-1624	TEMRETERIALEC	4 1 1	1 1	1 1	8 8		1 1	1 1			etrelval - Demob - S
00-C-699518	Southern-TBMReteval-Demobi-S-1338-Remove Ganity-1 (Heav) Ltf-13)		14-301-24	13-JUF24 14-JUF24	TBM RetlevalAEC	1 1 1		1 1	1 1		1 1				Reterval - Demob - S
		- 1		14-JUF24 15-JUF24		1 1 1	T T	T T	1 E	1	1 1	1 1			Retreval - Demob - S
00-C-699528	Southern - TBM Retreval - Demob - S-1338 - Remove Ganity - 9 ( Heavy Lift - 14)	1	15-Jul-24		TBMRettevalAEC TBMRettevalAEC										Retretial - Demoio - S
00-C-699458	Southern - TBM Retreval - Demob - S-1338 - Remove Ganity - 10 (Heavy Lift - 15)	1	16-Jul-24	16-Jul-24	100000000000000000000000000000000000000		1 1	1 1	1 1		1 1			Southern TBM	
200-C-719908	Southern - TBMR etreval - Demob - S-1338 - Remove Ganity - 11 A Britige ( Heavy Lift - 16)	1	17-Jul-24	17-Jul-24	TBM RetrevalAEC	1 1 1	1 1	1 1	1 1	1	1 1	1 1			Retreval - Demob -
200-C-719918	Southern - TBMR etrelval - Demob - S-1338 - Remove Ganity - 11 (Heavy Lift - 17)	1	18-Jul-24	18-Jul-24	TBM RetrevalAEC	4 1 1	1 1	1 1	1 1	1 1	1 1				Retreval - Demob -
200-C-719928	Southern - TBMRetreval - Demob - S-1338 - Remove Gantry - 12 (Heavy Lift - 18)	1	19-Jul-24	19-Jul-24	TBM RetrevalAEC	1 1 1	1 1	1 1	1 1	1 1	1 1			Sbuthen - TBM	Retreval - Demob -
	nob - RT02 - S-1339 - Southbound	55	06-Jun-24	30-dul-24	TBM RetrevalAEC	1					1		1		
200-C-699538	Southern - TBM Retreival - Demob - S-1339 - Clean Up Of Breakthrough & Support	1	06-Jun-24	06-Jun-24	TBM RetrievalAEC				1 1			1 1	Southe	m - TBM Retelial De	mob (S-1339 - Clea
200-C-699548	Southern - TBMR etreival - Demob - S-1339 - Push TBM OutWithin Shaft Built Rings	2	07-Jun-24	08-Jun-24	TBM RettlevalAEC		4 4	1 1	1 1		1 1	1 4	HI South		emob S-1339 Pus
00-C-699558	Southern - TBMR etreival - Demob - S-1339 - Installation Of Pinal Rings At Breakthrough & Grouting	1	09-Jun-24	09-Jun-24	TBM ReflevalAEC			1 1			1 1	1 1	South		emob-5-1339 Inst
00-C-699568	Southern - TBMR etreval - Demob - S-1339 - TBMP ushed Out Decommissioning Position	1	10-Jun-24	10-Jun-24	TBM Retrieva(AEC		1 1		1 1		1 1	1 1	South	em - TBM Retreval - D	
00-C-699578	Southern - TBM Retreival - Demob - S-1339 - Remove Culterhead (Heavy Lift-1)	4	21-Jun-24	24-Jun-24	TBMRettevalAEC		-1-1-	1 1	- 1			-	1-0 s	outnem TBM Retreiva	
00-C-699588	Southern - TBM Retreival - Demob - S-1339 - Remove Front Shield ( Heavy Lift-2)	3	25-Jun-24	27-Jun-24	TBM RetrevalAEC			artameter.		an a	+	1	-	puthers - TBM Retreiv	al-Demob-9-1339
00-C-719958	Southern - TBM Retreval - Demob - S-1339 - Pront Shield Top & Tail on Surface	1	28-Jun-24	28-Jun-24	TBM RetlevalAEC	9 9 9	1 1	1 1			1 1	1 1	4	Southern - TBM Retren	/al-Demob-S-133
00-C-699598	Southern - TBMRetreival - Demob - S-1339 - Remove Gropper Shield (Heavy Lift-3)	3	29-Jun-24	D1-Jul-24	TBMRettevalAEC	1 1 1	1 1	1 1	1 16	i i	1 1		L.	Southern - TBM Retre	
00-C-719968	Southern - TBM Retreval - Demob - S-1339 - Remove Gripper Shield Top & Tall on Surface	1	D2-JUH24	D2-Jul-24	TBM RetlevalAEC	3 3 3	1 1	1 1	1	1	1 1	1 1	THE PERSON	Southern - TBM Retre	
00-0-699608	Southern-TBM Retreival - Demob -S-1339 - Remove Tail Skin (HeavyLift-4)	4	03-Jul-24	D6-Jul-24	TBMRettevalAEC		1 1	1 1					1	Southern-TBMRet	
00-C-699618	Southern - TBM Retreval - Demob - S-1339 - Stripping Cables & Redundant Hydraulic Lines	10	07-Jul-24	16-Jul-24	TBMRettevalAEC							-		Sduffern-TBMF	Sabaltal Dames
200-C-699618		- 10		20-Jul-24	TEMRettevalAEC	1 1 1	1 1	1 1			1 1	1 1		Southern Text	rerena - Demoo - : Refelval - Demob -
	Southern - TBM Retraval - Demob - S-1339 - Remove Ganity - 1 (Heavy Lift - 5)		20-Jul-24		TEMRETEVALAEC	9 9 9	1 1	1 1		1	1 1	1 1			(Reteival - Demob
200-C-699648 200-C-699648	Southern - TBMRetreval - Demob - S-1339 - Remove Ganity - 2 (Heavy Lift - 6)	1	21-Jul-24	21-Jul-24 22-Jul-24	TBMRettevalAEC TBMRettevalAEC	di di di	1 1	1 1	1 6	1	1 1	1 1	1		rreteval-Demob
20 0 000000	Southern - TBM Retreval - Demob - S-1339 - Remove Ganity - 3 (Heavy Lift - 7)	1	22-Jul-24	22.00.24	TOTAL COLUMN CO.	1 1 1	1 1	1 1	1 1	1	1 1	1 1	1	sounen (TB)	
00-0-699678	Southern - TBM Retreival - Demob - S-1339 - Remove Ganity - 4 (Heavy Lift - 8)	. 1	23-Jul-24	23-Jul-24	TBM RettevalAEC										MRetelval - Demob
00-C-699688	Southern - TBM Retreival - Demob - S-1339 - Remove Gantry - 5 (Heavy Lift - 9)	1	24-Jul-24	24-Jul-24	TEM Retrieval AEC									Southern TB	M Refelval - Demob
00-C-699698	Southern - TBM Retreival - Demob - S-1339 - Remove Ganity - 6 (Heavy Lift - 10)	1	25-JUH24	25-Jul-24	TBM RetrievalAEC	1 1 1					1 1			Southern-TB	MRetelval-Demot
00-C-699708	Southern - TBM Retrieval - Demob - S-1339 - Remove Gantry - 7 (Heavy Lift - 11)	1	25-Jul-24	26-Jul-24	TBM RettlevalAEC	1 1 1					1 1				MRetreival - Demoi
00-C-699718	Southern - TBMR etrelval - Demob - S-1339 - Remove Ganty - 8 (Heavy Lift - 12)	1	27-JUF24	27-Jul-24	TBM RettlevalAEC									Southern - TE	MRetreival - Demo
00-C-699728	Southern - TBMR etreival - Demob - S-1339 - Remove Ganty - 9 (Heavy Lift - 13)	1	28-Jul-24	28-Jul-24	TEM Retrieval AEC	deed book	-1	. Karaka	aka II-	all and the	da ala	1 1		Southern - TE	BMRetreival - Demo
00-C-719878	Southern - TBM Retreval - Demob - S-1339 - Remove Ganty - 10 (Heavy Lift - 14)	- 1	28-JUH24	28-Jul-24	TBM RetrevalAEC						*****	4		Southers - TE	BMR etrelval - Demo
00-C-699658	Southern - TBM Retreval - Demob - S-1339 - Removal Of Gantry 11A (Bridge) (Heavy Lift - 15)	- 1	29-Jul-24	29-Jul-24	TEM RetrevolAEC	1 1 1				1	1 1	1 1			BM Retreival - Demo
00-C-719888	Southern - TBM Retreval - Demob - S-1339 - Removal Of Gantry 11 (Heavy Ltf16)	- 1	29-JUH24	29-Jul-24	TBM Retteval AEC	1 1 1	15 18	1 1		1	1 1		1		BM Retreival - Demi
00-C-719898	Southern - IBM Retreival - Demoti - S-1339 - Removal Of Garity 11 ( Reavy Ltt - 16)  Southern - TBM Retreival - Demoti - S-1339 - Removal Of Garity 12 ( Heavy Ltt - 17)		30-Jul-24	30-Jul-24	TEM Retieval AEC	1 1 1			11		1 1	1 1			BMRetreival-Dem
	Southern - Low Reserval - Demon - S-1339 - Removal Cricanty 12 (Heavy Ltt - 17)	1				1 1 1								Sourcen-1	annierena - Dem
mob Tower Crane 10-C-699238	Continue TOURS and Department Come Come Tours a TOUR Report of the day of Department	14	31-Jul-24	13-Aug-24	TBM RetrevalAEC	4		منابين بيانيه			40-04-0	4		- London	THE PERSON NAMED IN
	Southern - TBM Retreival - Demob Tower Crane - Remove TBM Retreival Modules & Precast Blooks	6	31-Jul-24	05-Aug-24	TBMRettevalAEC	4 4						1 1		- H-southem	16MRefelval Den - TBM Refelval Den m - TBM Refelval - D
200-C-699738	Southern - TBM Retreval - Demob Tower Crane - Clean Up Shaft Area For Handover (Subject-OSOM STM To take Priority Southern - TBM Retrieval - Demob Tower Crane - Demob Offower Crane		06-Aug-24	07-Aug-24	TBM RethevalAEC									+ squitem	- IDM Referal- Der
200-C-699748			08-Aug-24	13-Aug-24	TBM RetrevolAEC					1 5					

#### AEC - RETREVIAL

- Access Date 25/03/2024
- TBM 3 Breakthrough **31/05/2024**
- TBM 4 Breakthrough **06/06/2024**
- Physical Completion 13/08/2024
- M12 Traffic Switch at BCR/ Elizabeth Drive intersection planned for March 2024



# ST MARYS TBM RETRIEVAL STRATEGY



### STM - RETREVIAL

- Shared site between SBT and SSTOM
- SSTOM to access via Glossop St and Access Road A
- SBT to access via
  - Gidley St for tower crane erection, TBM gantry demob (OSOM and standard loads)
  - via Queen St and TBI for cutter head and shields (OSOM)



# STM - TBM RETRIEVAL ROUTE - OSOM

- SBT to coordinate access with SSTOM Contractor
- SBT to coordinate with PCC
- OSOM Movements 30/05/2024 24/07/2024



# ST MARYS – GIDLEY ST ACCESS FOR TOWER CRANE & TBM BACKUP GANTRY RETRIEVAL STRATEGY

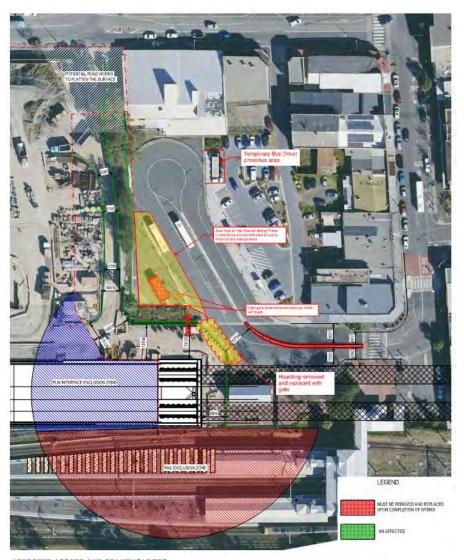


### Scope: Tower crane erection, demobilisation and removal of TBM gantries

- Traffic impact:
  - Semi-trailers and low loaders to access site via Gidley St under traffic control
- Dates:
  - Commencement of Tower Crane build 25/04/2024 04/05/2024
  - TBM Readiness works 14/04/2024 21/05/2024
  - Removal of Backup Gantries 26/06/2024 22/07/2024
  - Tower Crane Demob 23/07/2024 09/08/2024



# ST MARYS TBM RETRIEVAL STRATEGY

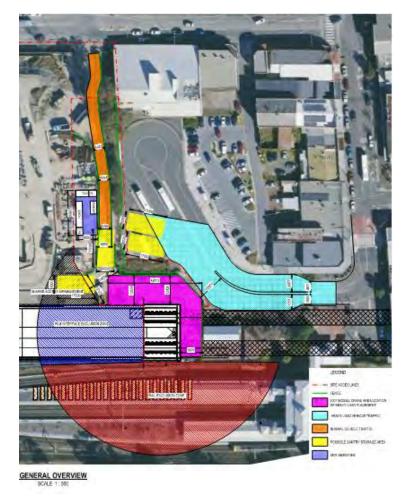


AFFECTED ASSETS AND STAKEHOLDERS

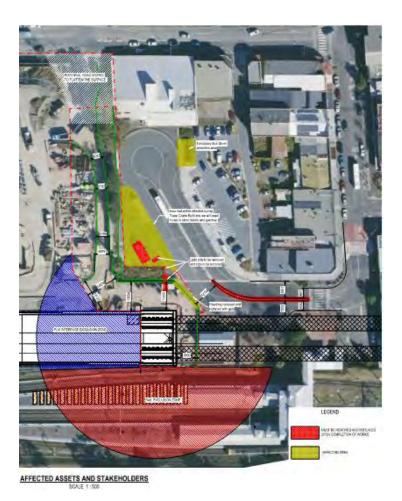
# TBI IMPACTS AND OSOM PREPERATION WORKS

- Proposal to setup a temporary site compound along Queen St TBI
- Impact on Temp Bus Interchange will include
  - Moving amenities block to car park
  - Removing streetlights and replacing with day makers
  - Occupation of 2x bus layover spots
  - Removal of concrete barriers and guard rail and installation of Water Filled Barriers
- Duration:
  - Temporary Compound: 12/04/2024 to 09/8/2024
  - Night shift closures (intermittent): 30/5/2024 to 24/07/2024
- Night shift closures will allow OSOM movements from TBI to arterial road network

# **STM - LAYOUT OF WORK AREAS**



STM TBI - TYPICAL NIGHT SHIFT SETUP



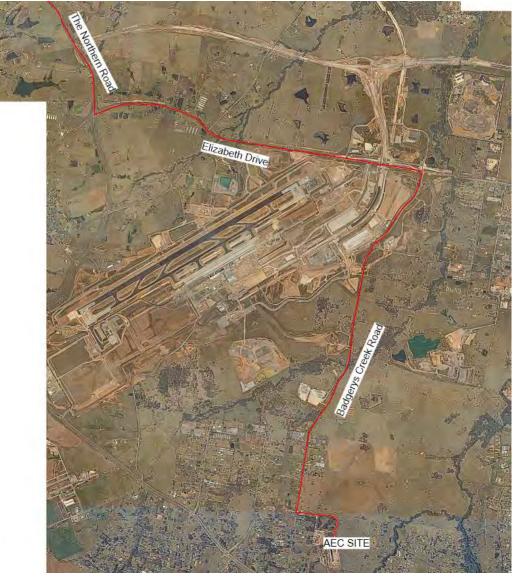
STM TBI - TYPICAL DAY SHIFT SETUP



# **AEC – TBM RETRIEVAL ROUTE**

### AEC - RETREVIAL

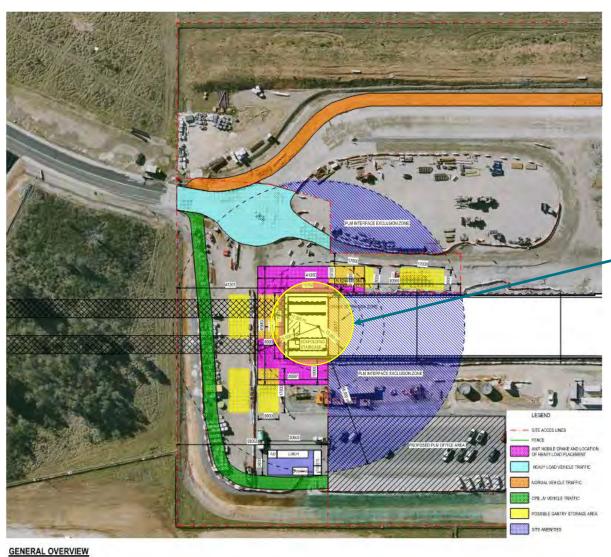
- SBT to coordinate access with SSTOM Contractor
- SBT to continue coordination with M12 to confirm their switch dates
- SBT requests CJP to notify SBT of any planned works with major impacts on BCR, Elizabeth Drive and TNR between 23/4/2024 to 19/07/2024







# **AEC - LAYOUT AND CRANE BUILD**



### Layout as per Portion S7

# Comprising of areas:

- AEC-5 and AEC-1
- Shared access into the AEC site area
- Interface with PLM

PLM Interface Zone

# **NEXT STEPS – A WAY FORWARD**

# STM

- Coordination with Penrith City Council
- Coordination with CJP for advice on
  - Establishment of temporary compound within Queen St TBI
  - Coordination with Sydney Buses/Operators
  - Sydney Trains
  - Bike Rack Removal TBC
  - Update to SBT's CTMP
- OSOM (Over size Over Mass) Permit Management via NHVR
- NSW Police for escorts

# <u>AEC</u>

- OSOM (Over size Over Mass) Permit Management via NHVR
- NSW Police for escorts
- Coordination with M12
- Update to SBT's CTMP



# Questions?







SYDNEY METRO - WESTERN SYDNEY AIRPORT STATION BOXES AND TUNNELLING WORKS

Appendix 3 Road Safety Audit Report



# Western Sydney Airport Tunnel Boring Machine Demobilisation Roadworks (Pre-Implementation) Road Safety Audit

Prepared for:

CPB Ghella JV

12 February 2024

The Transport Planning Partnership



# Western Sydney Airport Tunnel Boring Machine Demobilisation Roadworks (Pre-Implementation) Road Safety Audit

Client: CPB Ghella JV

Version: V01

Date: 12 February 2024

TTPP Reference: 22075

### **Quality Record**

Version	Date	Prepared by	Reviewed by	Approved by	Signature
V01	12/02/2024	Doris Lee	Wayne Johnson	Wayne Johnson	Wehn



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# **APPENDICES**

A. DESIGN DRAWINGS



# 1 Road Safety Audit Summary

Audited project: Western Sydney Airport Metro – TBM Demobilisation at St

Marys Site and Aerotropolis

Client: CPG Ghella JV

Project manager: Hariharan Myooran

Email address: Hariharan.Myooran@cpbg-sbt.com.au

Telephone: 0410 674 153

Audit Team: Wayne Johnson (level 3 lead road safety auditor)

Doris Lee (level 3 road safety auditor)

Audit type: Roadworks (Pre-Implementation)

Commencement meeting: N/A

Audit date: 5 February 2024

Completion meeting: N/A



## 2 Introduction

### 2.1 Background

This report has been prepared on behalf of CPB Contractors and Ghella Joint Venture (CPG JV) to present road safety audit findings that have been identified for the traffic management measures for the tunnel boring Machine (TBM) at the St Marys and Aerotropolis sites, as part of the Sydney Metro Western Sydney Airport construction.

The TBM Demobilisation works include the transport of the TBM, associated gantries and any other accompanying equipment out of the construction site.

The TGS, set drawings and VMS strategy as shown in Appendix A would be utilised for extracting the TBM and supporting gantries from the Station Boxes and the subsequent transport using the public road network. This would require OSOM movements to and from site. The TBM retrieval will be conducted with traffic control and escort vehicles and the plans are detailed within the TGS.

The scope of works also included the establishment of a compound within the Temporary Bus interchange in St Marys.

### 2.2 Audit Objective

The objective of this Audit is to examine the road safety issues associated with the traffic management controls for the TBM demobilisation at the Aerotropolis and to/from the St Marys site.

### 2.3 Procedures and Reference Material

The procedures used are described in the following guidelines:

- Roads and Maritime Services' 2011 Guidelines for Road Safety Audit Practices
- Austroads Guide to Road Safety 2022: Part 6 Road Safety Audits

The audit team was provided with the following design drawings for the Audit.

Table 2.1: Design Drawings

Design Drawing	Description
STM - set 19.01.2024	Design Drawings for Temporary Bus Interchange establishment and TBM retrieval works at St Mary's SBT site.
LGP - 79023 - CPBSBT 020 - Station St - St Marys	TGS for approach works on SBT site at St Marys
LGP - 79031 - CPBSBT 021 - Station St - St Marys (REV2)	TGS for closure of Temporary Bus Interchange at St Marys
LGP - 79033 - CPBSBT 022 - Phillip St - St Marys	Heavy vehicle access into Gidley Street from Phillip Street at St Marys



Design Drawing	Description
LGP - 79211 - CPBSBT 023 - Rolling Stop	Rolling stop setup on Queen Street/GWH intersection at St Marys
LGP - 80574 - CPB SBT 024 - Mobile Pilot	Rolling stop setup on Queen Street to reverse into TBI at St Marys
LGP - 79023 - CPBSBT 020 - Station St - St Marys	TGS for approach works on SBT site at St Marys
LGP - 79031 - CPBSBT 021 - Station St - St Marys (REV2)	TGS for closure of Temporary Bus Interchange at St Marys
LGP - 80836 - CPBSBT 025 - Station St - Parking Closure	Parking closure for transport vehicle to enter queen street at St Marys
VMS DEMOB (3) (1)	VMS locations on Queen St, St Marys
SWEPT PATH ANALYSIS ST MARYS QUEEN ST	Swept Path analysis from SBT site to GWH through Queen St
St Marys Turn to Load empty	Swept Path analysis from Queen Street to SBT site

It is noted that a TGS, VMS strategy and swept paths are available for the St Marys site, but not available for the Aerotropolis site.

### 2.4 Audit Team

The RSA was carried out by the following team:

- Wayne Johnson (RSA-02-0769) Level 3 road safety auditor (lead auditor)
- Doris Lee (RSA-02-0128) Level 3 road safety auditor (team member)

Wayne and Doris are registered road safety auditors with the NSW Centre for Road Safety and are experienced in traffic engineering and design/inspection of traffic management schemes. All auditors are independent of the road design process.



# 3 Road Safety Audit Program

# 3.1 Commencement Meeting

A formal meeting was not held.

### 3.2 Road Safety Audit

The road safety audit that has been undertaken is a desktop audit of the plans contained in Appendix A. Thus, a site inspection was not carried out as part of this audit at the client's request.

The audit team visited the St Marys site on a few occasions in 2022 and 2023, including a walk-over and drive-through along Philip Street, Gidley Street and Queen Street.

### 3.3 Completion Meeting

Not required.



# 4 Road Safety Audit Findings

### 4.1 Introduction

Table 4.1 provides specific details of the road safety deficiencies and a risk rating as extreme, high, medium, low or negligible. The risk ratings have been based on the risk matrix presented in Table 4.1, which has been adopted from the latest Austroads Guide to Road Safety: Road Safety Audit (2022).

Table 4.1: Risk Matrix

				Severity						
			Insignificant	Minor	Moderate	Serious	Fatal			
			Property damage	Minor first aid	Major first aid and/or presents to hospital (not admitted)	Admitted to hospital	Death within 30 days of the crash			
	Almost Certain	One per quarter	Medium	High	High		Extreme (FSI)			
hood exposure)	Likely	Quarter to 1- year	Medium	Medium	High		Extreme (FSI)			
-	Possible	1 to 3 years	Low	Medium	High	High (FSI)	Extreme (FSI)			
Likel (includes	Unlikely	3 to 7 years	Negligible	Low	Medium	High (FSI)	Extreme (FSI)			
	Rare	7 years+	Negligible	Negligible	Low	Medium (FSI)	High (FSI)			

The terms in Table 4.1 are described below.

#### Likelihood:

- Almost certain occurrence once per quarter
- Likely occurrence once per quarter to once per year
- Possible occurrence once per year to once every three years
- Unlikely occurrence once every three years to once every seven years
- Rare occurrence less than once every seven years.

### Severity:

- Insignificant property damage
- Minor minor first aid
- Moderate major first aid and/or presents to hospital (not admitted)
- Serious admitted to hospital
- Fatal at scene or within 30 days of the crash.



#### Priority:

- Negligible no action required
- Low should be corrected or the risk reduced if the treatment cost is low
- Medium should be corrected or the risk significantly reduced, if the treatment cost is moderate, but not high
- High should be corrected or the risk significantly reduced, even if the treatment cost is high
- Extreme must be corrected regardless of cost.

## 4.2 Responding to the Audit Report

As set out in the road safety audit guidelines, the responsibility for the road rests with the project manager, not with the auditor. The project manager is under no obligation to accept the audit findings. Neither is it the role of the auditor to agree to or approve the project manager's responses to the audit.

The audit provides the opportunity to highlight potential road safety problems and have them formally considered by the project manager in conjunction with all other project considerations.

### 4.3 Road Safety Audit Findings

The audit findings are documented in Table 4.2 which provides:

- specific details of the road safety issues identified during the audit
- a risk level rating for each of the road safety audit findings.

It should be acknowledged that positive attributes of the audited road section have not been discussed. Deficiencies that do not cause a safety problem are also not listed.

In-line with TfNSW's best practice recommendations have not been included in the road safety audit findings.



Table 4.2: Road Safety Audit Findings

Item No.	Location / Design Plan	Descriptions of Findings	Design	Likelihood	Severity	Risk Rating	Designer Response
1	Gidley Street and Phillip Street intersection LGP - 79023 - CPBSBT 020 - Station St - St Marys	The TGS indicates a safety zone is set up in the parking lane with the use of traffic cones and two work vehicles located at the intersection at the Phillip Street intersection. The refuge island is closed off in Gidley Street to make way for a work area.  However, there is no provision of traffic measures nor traffic controllers to guide / manage pedestrians to walk through the area between the safety zone and the work vehicle, and also around the closed refuge island in Gidley Street.  As a result, haulage activities may impact on the safety of the passing pedestrians.	Maintain trafficable lane all directions  30 m Safety Zone 10 m Phillip Street	Rare	Moderate	Low	CPBG Response: Agreed. TGS to be modified to close NB pedestrian footpath on Phillip Street from Gidley Street east until the pedestrian crossing. Traffic controllers to be added for Pedestrian management.



Item No.	Location / Design Plan	Descriptions of Findings	Design	Likelihood	Severity	Risk Rating	Designer Response
2	Queen Street and Charles Hackett Drive LGP - 79031 - CPBSBT 021 - Station St - St Marys (REV2) .pdf	The detour signs are for buses to access the temporary bus stops in Nariel Street eastbound.  However, general motorists may be confused with the detour signs.	Temporary bus provisions  Temporary bus provisions  A 2 65 66-68  Temporary bus provisions  Chemist Outlet St. Many's provisions  A 2 65 Conceptant Place Pl			Note only	CPBG Response: Proposed detours have been previously implemented during TBI closures with no issues.  Note: Detour signages will only be utilised at night (not during peak hours), therefore impact on general traffic should be minimal.



Item No.	Location / Design Plan	Descriptions of Findings	Design	Likelihood	Severity	Risk Rating	Designer Response
3	Station Street  St Marys Turn to load empty.pdf	The swept path diagram does not show fully how a 32.5m long low loader manoeuvres and reverses into the loading area at the St Marys compound via Queen Street and Station Street.  The swept path diagram only shows the turnaround movement at the Queen Street and Nariel Street intersection.  Therefore, it is not clear whether the road is sufficiently wide to accommodate the reverse movement of the low loader through the pedestrian crossing with kerb buildout (pinch point) and around the bend between Queen Street and Station Street, without affecting the signposts and roadside furniture at these critical locations.	SHOT N	Rare	Insignificant	Negligible	CPBG Response: CPBG will be removing safety barriers, street signage and additional road-side furniture tenable the reversing moveme from Queen Street into the TE



Item No.	Location / Design Plan	Descriptions of Findings	Design	Likelihood	Severity	Risk Rating	Designer Response
4	Queen Street  LGP - 80574 - CPB SBT 024 - Mobile Pilot.pdf	The TGS seems to demonstrate that there are six vehicles to manage the forward and reverse movements of the low loader towards the St Marys site.  It is assumed that escort vehicles are provided both in front of and behind the low loader to alert general vehicles of the traffic conditions.	TRAFFIC DO NOT (VMS to tall behind delivery truck  PPILOT (VMS Code: 270)  WAS to tall behind delivery truck  PRINTY  OVERTAME  ANTEND  PRINTY  OVERTAME  OF THE PRINTY  OVERTAME  OF THE PRINTY  OVERTAME  OF THE PRINTY  OF THE PRINT	-		Note only	CPBG Response: Correct.
5	Queen Street  LGP - 80574 - CPB SBT 024 - Mobile Pilot.pdf	There is no provision to hold pedestrian movements at the pedestrian crossing when the low loader is reversing towards the St Marys site.	TRAFFIC DO NOT NAZARO OVERTANE ANEXO State Desired delivery brus.  PILOT (VMS Code: 270)  ASS to be Desired delivery brus.	Rare	Moderate	Low	CPBG Response: Agreed. CPBG will modify TGS to include traffic controllers for pedestrian management.



Item No.	Location / Design Plan	Descriptions of Findings	Design	Likelihood	Severity	Risk Rating	Designer Response
6	Bus interchange	The design plan does not specify whether pedestrian access would be maintained in the bus interchange when the crane is in operation as well as during the removal of the tower crane.  If so, there would be a risk of material / debris falling from the arm of the crane which is a serious hazard to passing pedestrians.	A STATE OF THE STA	Rare	Serious	Medium	CPBG Response:  Slew restrictors would be installed on the tower crane to restrict movement and as such, the crane's boom would not go past CPBG compound within the TBI.



Item No.	Location / Design Plan	Descriptions of Findings	Design	Likelihood	Severity	Risk Rating	Designer Response
7	Great Western Highway, east of Queen Street	The ladened low loader mounting over the raised median in Great Western Highway may have a risk of tipping over due to the heavy load on the truck.	Travel Path only. Not to be used as a guide.	Rare	Insignificant	Negligible	CPBG Response: Noted. Specialist contractor has been engaged for transporting OSOM from St Marys. All preliminary check: have been completed and no issues have been flagged wi CPBG.
8	TGS rolling stop	TCawS (Table 6-5) specifies that an advanced warning vehicle must be positioned in the road shoulder, offset from the travel lane edge line by at least 2m. If not achievable, an additional truck is required as the advanced warning vehicle.	George Wostern Highway)  Signt Distance  Signt Distance  Signt Distance  Signt Distance	-		Note only	CPBG Response: Noted.



# 5 Concluding Statement

The findings and opinions in the report are based on the examination of the specific road and environs, and might not address all concerns existing at the time of the audit.

The auditors have endeavoured to identify features of the road that could be modified in order to improve safety, although it must be recognised that safety cannot be guaranteed since no road can be regarded as absolutely safe.

While every effort has been made to ensure the accuracy of this report, it is made available strictly on the basis that anyone relying on it does so at their own risk without any liability to the Auditors.

Wayne Johnson

Wahn

Level 3 Lead Road Safety Auditor

The Transport Planning Partnership

Doris Lee

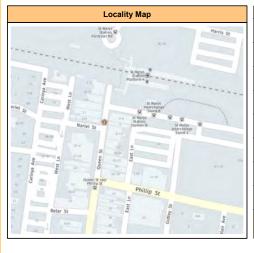
Level 3 Road Safety Auditor

The Transport Planning Partnership



# Appendix A

Design Drawings



Position:

Signature:

Verified By:

Qualification:

Modified By:

Expiry / Issue Date:

Modification Notes:

Issue Desg Appd Date & Time

Scale: 1:750

PI 08/01/2024 13:45

01

02

03

04

05

AC

TGS Verification Checklist:

**Traffic Guidance Scheme Modifications:** 

**Qualification Number:** 

Expiry / Issue Date:

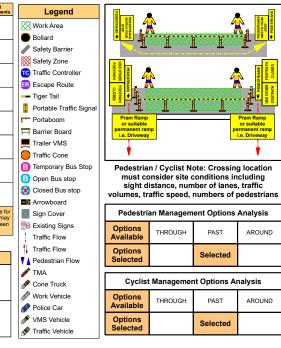
Signature:

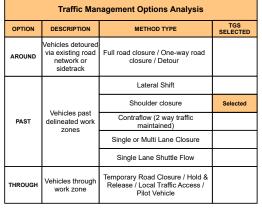
Date of Verification:

Date of Modification:

TGS Name & Number







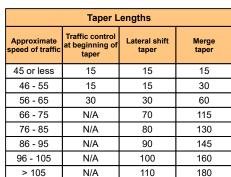
Edge Clearances

Clearance must be measured to the traffic side edge of the delineating device

The sequence of installation should be as illustrated in the following order: 1: Locate advance warning vehicle and TMA to shadow sign installation vehicle.

: Locate advance warning vehicle and TMA to shadow sign installation vehicle.

2 to 5: Install advance warning venicle and in that is addow sign?
2 to 5: Install advance warning signs in unaffected lane.
6: Install 'End Roadwork'/speed reinstatement.
7: Use the existing road network to turn where safe to do so.



metres

metres

Dimension "D" (Main Roads)

Dimension "D" (Minor Roads)

Speed (km/h)	Distance between tapers (m)				
45 or less	10				
46 to 55	25				
56 to 65	70				
Greater than 65	1.5 x Speed Limit (D)				
•					
Delineation Spacing					

Delineation Spacing							
Purpose & Usage	Speed zone of device location km/h	Maximum Spacing m					
On approach to a traffic controller position (center line or edge line)	All cases	4					
Merge Tapers	55 to 75 Greater than 76	9 12					
Lateral shift tapers	55 to 75 Greater than 76	12 18					
Protecting freshly painted lines	56 to 75 Greater than 76	24 60					
All other puporses	less than or equal to 55 26 to 75 greater than 76	4 12 18					

Edge of traffic lane to:	Edge Clearence
Line of traffic cones or bollards	- 0.5 m for traffic speeds less than 65 km/h - 1.0 m for traffic speeds greater than 65 km/h
Barrier boards, temporary guide posts or temporary hazard markers	- 1.0 m
Road safety barrier system	0.3 m for traffic speeds less than 45 km/h     0.5 m for traffic speeds 45 to 65 km/h     1.0 m for traffic speeds 65 to 85 km/h     2.0 m for traffic speeds greater than 85 km/h

Purpose & Usage	Speed zone of device location km/h	Maximum Spacing m							
On approach to a traffic controller position center line or edge line)	All cases	4							
Merge Tapers	55 to 75 Greater than 76	9 12							
Lateral shift tapers	55 to 75 Greater than 76	12 18							
Protecting freshly painted lines	56 to 75 Greater than 76	24 60							
All other puporses	less than or equal to 55 26 to 75 greater than 76	4 12 18							

Number of signs	Approac	h Speed		
	less than 65 km/h	65 km/h or greater		
One advanced sign	D	2D		
Multiple advanced signs	D	D		

	•
Dimension 'D': AGTTM: A distance accordance with Table 2.2 and used f considered if TCAWS dimension	SIGN SPACING expressed in metres, determined in or positioning of advance signs. To be "D" cannot be provided due to site itions.
Speed of Traffic - km/h	Dimension - m
55 or less	15

- <u>R</u> • <u>-</u>	x	<u> </u>	sign is required	-	Primary PTS sign must be D from Roadwork Ahead
	Control Point		Predicted end flongest queue	PREPARE TO STOP	Sign Sign O O O O O O O O O O O O O O O O O O O
Estimated er	nd of queue lengths t	o be noted h	ere:		

The sequence of installation should be as illustrated in the following order:

1: Install the termination signs when initially leaving work area, 'End Road Work/speed

3 to 7: Place approach signs in unaffected direction, including the PTCD (traffic controller to remain with the PTCD).

Project Description:

End of Queue Management

Two-lane, two-way roads:

einstatement' (affected direction).

GP - 79023 - CPBSBT 020 - Station St - St Marys

Station St & Queen St, St Marys NSW, Australia

2: Use the existing road network to turn where safe to do so.

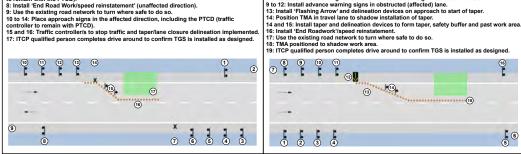
8: Install 'End Road Work/speed reinstatement' (unaffected direction)
9: Use the existing road network to turn where safe to do so.

Traffic	Guidance S	cheme Insta	allation:			
Installed By:		Qualification Number:				
Expiry / Issue Date:	Signature:		Date of Installation:			

**Amendment Description** 

Original Issue

Original Size A3



Installation & Removal of Signs & Devices

Multi-lane roads:

	18: TMA positioned 19: ITCP qualified p	I to shadow work area. person completes drive around to confi	m TGS is installed as designed.
2)	7 9 0	(1) (1) (2) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	(6)
		0 0	(18)
	-		
	1 2	3 4	6

PWZTMP: TCT1010645

PWZTMP: TCT0058356

Contact Number: 0410 674 153

Exp: N/A

Exp: N/A

Signature: A.

Signature: P

OF CPB

considered if TCAWS dimension "D" cannot be provided due to site conditions.								
Speed of Traffic - km/h	Dimension - m							
55 or less	15							
56 to 65	45							
Greater than 65	speed of traffic, in Km/h							



Date of Approval:

08/01/2024



Page 1 / 4

Sydney Metro Western Syd Airport | Site Establishment Lack Group acknowledges the traditional owners of country throughout Australia and recognises their continuing connection to land, waters and community. We pay our respect to them and their cultures; and to elders both past and present.

TGS Designed By: Alec Czarnowski

Client Company: CPB Contractors - Ghella

TGS Approved By: Peter Ingram

Client Contact: Hariharan Myooran

	H	lierarchy of	Controls		TGS	Ris	k Asse:	ssment				Item	Worksite Componen	t Potential Hazard	Initia	l Risk	Present	Control Measures	_	sidual F	_
	Eliminate the hazard :			More Effective			St	ep 1 - Consequence (	impact)						+++	, N		Always:	+	i.	
	eg. Road closures.  2. Substitute the hazard	with a eafar altarn		A L		gible (1)	Minor (2)	Moderate (3)	Major (4)	Severe (5)	Ь.	24	After care	Inadequate signage resulting in motorist loosing control and crashing or motorist becomes		4 20	N	<ul> <li>Install RWA (T1-1) if diverting traffic along a sidetrack, detour, or unexpected conditions, such as loose stones or the absence of line markin - Cover any signs that are not applicable</li> </ul>	g 3	3	12
	eg. Using PTCDs instea  3. Isolate the hazard froi eg. Drop zones for clien	d of stop bats. m anyone who cou	uld be harmed.			Treatment ury that requires or simple first aid	Injury / illness, which re medical treatment and temporarily restrict a p	quires Injury / illness, which	Permanent Impairment Injury  Injury / illness, which permanently alters a persons future (eg. Spinal injury,	Fatality	Health & Saf	3.4	Allel cale	frustrated due to inappropriate signage		4 20	N	Erect Condition signs in accordance with TCWS Manual     Provide delineation or temporary line marking     Aftercare speed limit to suit road conditions	,	3	12
	Use engineering cont eg. The use of traffic cor	rols to reduce the	risk.		no treatment o	or simple first aid	capacity to work	resons temporarily renders a person unfit to work in any capacity	amputation or death)		ety							Always: - Install RW 1km Ahead if approach speed is > 85km/h or sight distance is less than 150m			
	5. Use administrative co eg. Ensure personnel ar				Short ter	m damage	Limited but medium damage	erm Significant but recoverable ecological damage	Heavy ecological damage, costly restoration	Permanent widespread ecological damage	Enviro	3.5	Poor sight distance or spee compliance or Approach spee	d > Speeding vehicle doesn't have link	e e <b>5</b>	24	Y	<ul> <li>Use 700mm cones where traffic speed is greater than 75km/h</li> <li>Use 900mm cones on high speed to high volume roads (e.g., expressway or on any work site where increased visibility is required</li> <li>Duplicate Lane status sign.</li> </ul>	4	2	14
	6. Use PPE. eg. Wearing gloves whil	e manual handling	g	Less Effective	Brief delay / s service	slight impact on e delivery	Local or worksite spe impact on service deliv customer satisfacti	ery or	Serious impact on service delivery or customer satisfaction at a state client or large project level	Long term or very severe impact on service delivery or customer satisfaction resulting in loss of business nationally	Quality	$ \cdot $	85km/h, or multi lane roads w traffic volume > 10,000vpd					Consider: - Installing RWA (T1-1) - Increasing taper lengths - Increasing the number of advance warning signage installed			
	Certain expect	reat can be ed to occur 6 - 99%	ommon / Frequent More than Cocurance mo	1 event per		lerate (8)	High (16)	High (18)	High (21)	Extreme (25)				Vahialas autara wark sita fram a				Increasing the size of signage installed  Need for duplication of signs.			
Hilida			ow to occur or "it has appened regularly" More than ye	1 event per ear		lerate (7)	Moderate (10)	High (17)	High (20)	High (24)		3.6	Side Roads	Vehicles enters work site from a side road and collides with workers	3	4 17	Y	Always install advance warning signage for vehicles entering from side road in advance of the work site.      Ensure speed zones are designed in accordance with TCAWS, AS1742.3	3	2	11
9	Possible (3) The thre occur		d occur or "I've heard of it happening"	1 to 10 years		ow (3)	Moderate (9)	Moderate (12)	High (19)	High (23)		3.7	Temporary Speed Zone	Motorist travelling too fast for the	5	4 24	N	and AGTTM.  - Ensure speed zoning is consistent with the work activity and road environment.	١,	2	14
o de la	infrequ	reat could ently occur 6 - 25%	t likely to occur very 1 event pe	er 10 to 100 ears		ow (2)	Low (5)	Moderate (11)	Moderate (14)	High (22)		3.7	Temporary Speed Zone	conditions causing MVA		. 24	"	Consider the use of speed radar VMS to monitor traffic speeds and advise motorists.     Review the TGS and adjust where possible to enhance traffic calming	9 4	_	14
	Rare the exceptions The three exceptions on the three exceptions on the three exceptions are the three exceptions are the three exceptions.			event per 100 sars	(	ow (1)	Low (4)	Low (6)	Moderate (13)	Moderate (15)		Н				H	Transition	through the work site.	<u> </u>		
				<u></u>	St	tep 3 - Th	e risk rating is	where the consequent	ce and the probabil	lity intersect		_						Always: - Install taper lengths and cones in accordance with TCAWS Manual - Install & duplicate/repeat Lane Status Sign (T2-6-1 or 2) on multi lane			
Item #	Worksite Co	omponent	Potential H	azard	-	ial Risk	Present	Control	l Measures	<u> </u>	P R	_	Lane closure	Motorist fails to negotiate taper and collides with worker, vehicle or plan		4 24	Υ	roads Use a minimum of 2 temporary hazard markers (T5-4 or 5) on tapers Install a 30m minimum buffer zone at the end of tapers	4	2	14
						Ac	ceptance - Design	n and implement TGS in acc	ordance with TCAWS,	AS1742.3 and								Check setup before commencing work     Consider using a shadow vehicle (or vehicles) with flashing lights to protect workers			
1.0	TGS Drawn / im unqualified person		TGS Drawn / imple unqualified person or			3 23	AGTTÑ Y - Ensur	e all relevant traffic manager lementation of the TGS are	ment personnel involved	d in the design 4	1 13	3					Work Area	Ensure appropriate site distance to start of taper		Ш	
					Ш		perform	the traffic management task										- Design and implement TGS in accordance with TCAWS, AS1742.3 and AGTTM.			П
					П	De	cover a	der use of shadow vehicles i vailable (i.e. safety barrier) e best possible escape route	-			5.0	Traffic Control	Motorist not concentrating or speeding collides with end of queue or traffic controller	e <b>5</b>	4 24	Y	<ul> <li>Ensure all relevant traffic management personnel involved in the design and implementation of the TGS are certified as competent persons to perform the traffic management tasks they are required to undertake.</li> <li>Conduct regular inspections in accordance with TCAWS, AS1742.3 and</li> </ul>	4	2	14
2.0	Stop bat used ins	stead of PTCD	Traffic controller hit	t by vehicle	5	4 24	point or NA - Ensur	TGS - to be reassessed on be best line of sight where praidle, repeater signs in advar	site continuously actical. Should the best	line of sight not 4	2 14	4		of traine controller				- Rectify any deficiencies as a matter of urgency Review traffic controls to suit changes in site conditions.			
							- Traffic - Ensur and ma	controller to always remain e appropriate speed signage ximum length requirements.	clear from travelled pat	h.								Always: - Install workman T1-5 sign if workers on road - Space cones in accordance with TCAWS Manual			
3.0	VM	s	Motorist collides with		rist 4	Advan 4 20	the edg	s place VMS behind an appr e of traffic lane as is practica	al in a position determin	is far away from ed suitable	2 11	5.1	Working adjacent to travel la	Motorist collides with worker, vehicl or plant	le 4	4 20	Y	Check setup before commencing work     Reduce speed based on lateral clearance between the work area and travel lane	4	2	14
3.1			confused by Confused motorist of		1 4	4 20	- The lo	n a documented risk assess cation is to be confirmed by s install RWA (T1-1) on long-	Risk Assessment		3 12							Consider: - Using a shadow vehicle(s) with flashing lights to protect workers - Using spotters with workers			
3.1	Long Term	1 Works	worker		4	4 20	N - Alway - Consi	der using VMS's		3	3 12	2					General	- Using safety barriers			
							- Work - Use to possible	n accordance with the appro no-way communication with				6.0	Night work	Due to poor visibility motorist collides with end of queue, worker, vehicle or plant	, 5	4 20	Υ	<ul> <li>Consider providing portable lighting to ensure traffic controllers are visible and ensure the positions of any temporary lighting are clearly shown on the TGS &amp; always use applicable night PPE.</li> </ul>	4	2	14
							- Install clear tra	or queue lengths additional signs or use addit offic if end of queue extends mergency vehicles & wide lo	beyond the advance wa	arning signs		6.1	Wind / Rain / Fog / Obstruction	Rain/fog reduces visibility and causes road to be slippery increasing risk of a collision with workers, plant or other traffic Wind blows over signs		4 20	Υ	Always monitor weather and traffic     Always regularly check setup to ensure signs are visible. If visibility has been obstructed, consider shifting signs, duplication, or repetition.	3	3	12
3.2	Delays or Queue e advanced wa		Motorist collides with	end of que	ue 4	4 20	N Conside - Worki			4	2 14	4		Vehicle parks in front of sign				Consider additional advance warning signage     Liaise with client to reconsider setup or continuation of works  Always:			
							- Using - Notifyi	VMS's ng emergency services flashing beacon to be adde				6.2	Vehicle Movements	Plant collides with motorist, workers or other plant	s, 4	3 19	Y	Ensure positive communications     Consider:     Using Traffic Control and/or Spotters to manage work vehicles	3	3	12
							- Use o - Ensur	queue monitors e TGS has been designed to	-									Installation of exclusion Zones Preparing a VMP where required.			
							Always	equired. : RWA (T1-1) if diverting traffi	ic along a sidetrack, det	tour or								Ensure TGS design caters for all road users including pedestrians and cyclists.     Always clearly delineate the work area.     Do not obstruct pedestrian and cyclists travel paths with traffic control signs and devices.			
	Changed traffic		. Motorist loses control	l ie confuee			unexpe - Erect	cted conditions such as loos Condition signs in accordance delineation or temporary li	e stones or the absenc ce with TCAWS Manual	e of line marking			Dedestries and Ossilate	Pedestrian and/or cyslist enters the work zone or travel lane and is hit			v	<ul> <li>Consider the use of additional warning and guidance signage for pedestrians, cyclist and motorists.</li> <li>Comply with shoulder and lane width criteria in the design of the TGS.</li> </ul>			
3.3	Slippery surface, n line marking, ba movements	nned turning	or attempts a banned	d manoeuvr	re 4	4 20	Y shown - Use T	on the TGS raffic Control to manage cha	nged traffic conditions v	3	2 11	6.3	Pedestrians and Cyclists	by vehicle or plant	4	5 21	Y	<ul> <li>Consider the use of traffic control at crossing points especially where contra-flow arrangements are in place.</li> <li>Consider the use of additional traffic controllers to monitor and assist pedestrian and</li> </ul>	4	2	14
		,					- Ensur - Speed	setup before commencing ve appropriate permission for reduction installed to suit ro	any detours									cyclist movements where required.  Ensure the use of existing or temporary ramps for crossing points.  Undertake consultation to determine existing travel paths, desire lines, volumes, and			
								der using VMS's										types of users.	<u> </u>		
	esg Appd Date	2024 13:45	Amendme	ent Descri	•		TGS Name & Nu LGP - 790	nber: 23 - CPBSBT 020	) - Station St -	St Marvs			<del></del>	S Designed By: Alec Czarnowski S Approved By: Peter Ingram			CT101064	24	-	Pag	je 2 / 4
01	AC PI 08/01/	2024 13:45	Origi	ıııdı issue			Works Location:	0. 505. 020						S Approved By: Peter Ingram ent Company: CPB Contractors - G		vir: I	CT005835	Client:	$\dashv$		N I
03								& Queen St, St M	larys NSW, Au	stralia				ent Contact: Hariharan Myooran		t Num	nber: 0410	674 153			
04							Project Name:	letro Western Syd	1 -	t Description:	t							OFFICE OFFICE	p		
05	Scale: 1 : 750		Origin	nal Size A	.3				<u> </u>			tralia ar	nd recognises their contin	uing connection to land, waters a	and com	munit	y. We pav	our respect to them and their cultures; and to elders both pa	st and	d pres	sent.
			•							. ,				, , , , , , , , , , , , , , , , , , , ,				, , , , , ,			_

C P R  C C P R  Consider notifying bus companie Always provide adequate provisit when buses aren't operating  Y Where temporary bus stops are	ol Measures	Resid	tual E	
6.4 Bus stops  Bus unable to pull up safely causing 3 3 12 Y  - Consider notifying bus companie - Always provide adequate provisis when buses aren't operating where themporary bus stops are to	C P R - Consider notifying bus companies that operate in the area		_	_
6.4 Bus stops  Bus unable to pull up safely causing 3 3 12 Y  - Always provide adequate provision when buses aren't operating when buses aren't operating.  - Where temporary bus stops are c	on that apparate in the area	С	Р	R
the curb - Ensure TGS clearly shows affect - Traffic controllers to manage and	ion for buses or carry out work at night created, ensure buses are able to meet ted stops	2	2	5
	Consider staging work outside of business hours     Create physical barrier to prevent traffic entering site & driveways		2	5
lane, delineate the excavation with placed perpendicular to the traffic For excavations within work area  Errant vehicle drives into excavation 5  A 25  N than 3m from the excavation, the resolution is deeper 4. Where the excavation is deeper 4. Where 5. Where 4. Where 5. Where 6. Where	should be considered based on a documented risk assessment.  - Where the excavation is deeper than 200mm, is open for more than 2 weeks and the distance from the edge of traffic lane is less than 3m for 60km/h, 6m for 80km/h and 9m for 100km/h, a temporary safety barrier		2	14
6.7 Parking Parked vehicle or worker exiting vehicle hit by passing vehicle 4 4 20 Y - Always check adequate parking in Consider providing safe parking	is available for workers and visitors within the work area	4	2	14
6.8 Concurrent Works Motorist confused by conflicting signs causing MVA 3 4 17 Y - Always establish communication - Always cover any conflicting signs causing MVA	n with other site if possible ns and adjust TGS as necessary	3	3	12
6.9 Heavy Vehicles and OSOM Vehicles  HV cannot travel past work site without knocking over delineation  HV cannot travel past work site without knocking over delineation  Vehicles and OSOM Vehicles  HV cannot travel past work site without knocking over delineation  Vehicles and OSOM Vehicles and OSOM Vehicles  HV cannot travel past work site without knocking over delineation  N  Traffic control less to communicate to warm and guide them through the Targit control to monitor heavy vehicles and device significant changes are required, in	te with heavy vehicle and OSOM drivers he work site as required. vehicle movements and if required, make ices within approved tolerances. If more liaise with Client/Supervisor and arrange	4	2	14
Dynamic Works				=
7.0 General Traffic Motorists speeding / not concentrating / lired / distracted. Not having enough time to merge causing MVA  Motorists speeding / not concentrating / lired / distracted. Not having enough time to merge causing MVA  To State of TMA on highers of the surface of the surface of TMA on highers of TMA on highers of TMA on highers of the surface of TMA on highers of TM	I to work activity and road environment layed on AWV, AWV, shadow vehicles are clearly ween shadow vehicle and work vehicle. No as a shadow vehicle led at all times d configurations, convoy to clear roadway	4	2	14
Additional Control Measures				
8.0				
9.0				4
11.0				$\dashv$
Item Departures: State the departure and reason for de	anartura			
12.0	purtui 6			4
13.0				$\dashv$

# 14.0 Departures Sign Off (CLIENT): Client Name:

Date:

TGS Name & Numbe

.GP - 79023 - CPBSBT 020 - Station St - St Marys

Station St & Queen St, St Marys NSW, Australia

Amendment Description

Original Issue

Client Signature:

01 AC

02

03

04

05

Issue Desg Appd Date & Time

PI 08/01/2024 13:45

#### NOTES:

#### **GENERAL NOTES**

- 1. This Traffic Guidance Scheme (TGS) is to be used in conjunction with the Traffic Management Plan (TMP) and associated road authority permits and management plans.
- including Road Occupancy Licence (ROL), vehicle movement plan (VMP) and pedestrian movement plan (PMP) where applicable. 2. This TGS has been produced by a Prepare Work Zone Traffic Management Plan (PWZTMP) qualified person in accordance with the requirements of the TfNSW Traffic Control at Work Sites manual, Issue 6.1 dated 28 February 2022 (TCAWS 6.1) and with reference to AS1742.3 and AUSTROADS Guide to Temporary Traffic Management
- Parts 1 10, version 1.1 dated September 2021 (AGTTM).
- 3. This TGS is suitable for short term/ long term works. 4. Lack Group does not accept responsibility for this TGS if it is implemented or modified by external parties.

#### APPROVALS

#### The TGS must be approved for use before implementation.

6. Ensure all road authority approvals and associated conditions of approval are met prior to implementing the TGS.

7. Prior to use on site, the selected or designed TGS must be verified to ensure it is suitable for the works and location by undertaking an inspection of the work site where the TGS will be implemented. The TGS verification must be completed in accordance with TCAWS 6.1, Section 8.1.2 by an Implement Traffic Control Plan (ITCP) or PWZTMP qualified person, Refer Page 1 of this TGS for Site Verification sign-off.

8. A desktop risk assessment has been undertaken in developing this TGS. However, when implementing this TGS on site, the site supervisor should undertake a site

#### INSTALLATION AND REMOVAL OF SIGNS AND DEVICES

specific risk assessment to ensure that the TGS has considered and mitigated all identified hazards and risks.

#### 9. All traffic management signs and devices prescribed for use in this TGS are in accordance with TCAWS 6.1 with reference to AS1742.3 and AGTTM.

10. The TGS must be installed, maintained and removed in a planned and safe manner. The implementation must only be undertaken by an ITCP qualified person. 11. All signage shown on this TGS is not to conflict with any long-term existing signage arrangements in the area. If this occurs, cover all conflicting road signage where required

#### PLACEMENT OF SIGNS AND DEVICES

- 12. Signs must be properly displayed and securely mounted at all times and within the line of sight of the intended road user. Regulatory and detour signs must be located nearest to the travel edge of the lane. Signs must not: Be obscured from view, such as by vegetation or parked cars; Obscure other devices from the line of sight of the intended road users; Create a hazard to road workers and road users, including pedestrians and cyclists; Be a hazard that deflects traffic into an undesirable path; Restrict sight distance for drivers entering from side roads or streets, or private driveways; and Be installed using supports that could be a hazard if struck by a vehicle.
- 13. Signs mounted on frames for short-term works should be mounted a minimum 200mm from the ground to the lower edge of the sign. 14. Signs mounted on posts for long-term works in open road situations, the underside of the sign must be at least 1.5m above the level of the nearest edge of the travelled

#### path. When installed on a kerb or footpath, the underside of the sign must be at least 2.2m above the level of the nearest edge of the travelled path ORIENTATION OF SIGNS

15. On the outside of a curve, the sign face must be at 0 degrees, or 'normal to traffic'. On a straight, the sign face must be angled at approximately 5 degrees normal to oncoming traffic and on the inside of a curve, the sign face must be angled at approximately 5 degrees normal to oncoming traffic at 200m preceding the sign.

16. Local constraints may not allow signage and devices to be placed in accordance with this TGS. Unless stated otherwise on the TGS, the tolerances on the positioning of signs, length of tapers or pavement markings detailed in the TGS is a minimum 10% less and a maximum 25% more than the distances or lengths stated and for the spacing of delineation devices a maximum 10% more than the spacing detailed in the TGS.

17. Any variation to the positioning of signs and devices within the approved tolerances must be marked and initialled on the TGS held on site, with the name of the person

#### MODIFYING TGS

- 18. Modifications to a Site Specific or Site Suitable TGS must be approved by a person holding the PWZTMP qualification and must be supported by a TMP or risk assessment to ensure that the TGS has considered and mitigated all identified site specific conditions and risks.
- 19. If it is identified that by implementing the TGS with modifications outside of the approved tole rances it will generate risks, then the works must be stopped (including the implementation of the TGS), the site must be made safe and an updated TGS must be provided by a PWZTMP qualified person prior to works recommencing. Any concerns regarding the suitability of the TGS must be raised with the Site Manager and your immediate Supervisor.

#### TRAFFIC CONTROLLERS

- 20. The implementation of traffic control must be conducted in line with the hierarchy of controls with the elimination of harm to workers and the travelling public considered in the first instance
- 21. Where traffic control is required, a portable traffic control device (PTCD) must be used rather than using a manual traffic controller when the existing permanent speed
- 22. TCAWS 6.1, Section 5.4 provides the conditions under which a manual traffic controller may be used.
- 23. Where PTCDs or traffic controllers are used, approach speeds of traffic must be reduced to less than 65 km/h
- 24. All persons operating a portable traffic control device or performing manual traffic control must be qualified with 'Traffic Control' training; and authorised by the relevant

#### ROAD USER MANAGEMENT

25. The needs of specific road users, including travel paths and desire lines, must be considered and managed for the extent of the works to ensure safety and access is maintained. Specific road user groups to be considered include: Pedestrians including high-risk pedestrians such as persons with a disability, children, the elderly or persons using mobility aid devices; Cyclists; Motorcyclists; Heavy Vehicles, including oversize overmass vehicles; Public transport; and Emergency services. The needs of these specific road users have been considered in the design of this TGS, however the needs of all road users should be considered in the site specific risk assessment before

implementing the TGS to ensure the TGS is appropriate. 26. Road users are to be monitored for the duration of the works. If additional signage and/or devices are required to manage the needs of specific road users, such as pedestrians and cyclists, this would be subject to following the procedure for modifying a TGS.

#### ACCESS MANAGEMENT

27. Access to properties located within the extent of works must be maintained at all times

Client Company: CPB Contractors - Ghella

Client Contact: Hariharan Myooran

28. Property access impacted by the works should be identified and addressed in the TGS. Consultation with the property owner/resident must be undertaken prior to implementing the TGS if required

#### INCIDENT MANAGEMENT

- 29. The site contractor is to determine the appropriate procedure for incident management where appropriate.
- 30. If an incident occurs within the extent of the traffic control arrangement: Call for assistance if incident requires (emergency services 000 or 112); Notify the work site supervisor or Team Leader immediately of any incident; Maintain effective traffic control, if necessary, relocate the traffic control station to a suitable location clear of any further danger; and Record sufficient notes of the incident, including observations, to complete an incident report

#### INSPECTIONS

31. Temporary traffic management monitoring activities must be undertaken in all instances where work is being performed or aftercare is in place. This includes day and night times as required. The type of inspections and frequency are to be in accordance with TCAWS 6.1, Section 8.1.1.

#### REVIEW OF TGS

- 32. Generic TGSs must be reviewed by a PWZTMP qualified person every 12 months so that they remain appropriate. Once reviewed the date and details of the PWZTMP person must be updated on the TGS to ensure persons selecting can confirm currency.
- 33. All active site specific and site suitable TGS are designed for the nominated work activity and are only valid for the time period of works specified on the TGS. They must be reviewed as part of the weekly inspections as detailed in TCAWS 6.1, Section 8.1. If the work activity is intended to be longer than 12 months, then the TGS musty be formally reviewed by a PWZTMP qualified person at least every 12 months and issued with the review date and the details of the person undertaking the review.

#### RECORD KEEPING

34. Supervisory personnel are to keep daily records of the TGS implementation including: Site specific risk assessments: Approved TGS used, including versions where modifications or updates have been made. Completed inspection checklists that have been undertaken: Records of traffic related incidents that occurred during the works: and Any other relevant document generated by the process of completing the temporary traffic management works.

Contact Number: 0410 674 153

TGS Designed By: Alec Czarnowski	PWZTMP: TCT1010645	Exp: N/A	Signature: AC	Date of Approval:	Page 3 / 4
TGS Approved By: Peter Ingram	PWZTMP: TCT0058356	Exp: N/A	Signature: PM	08/01/2024	

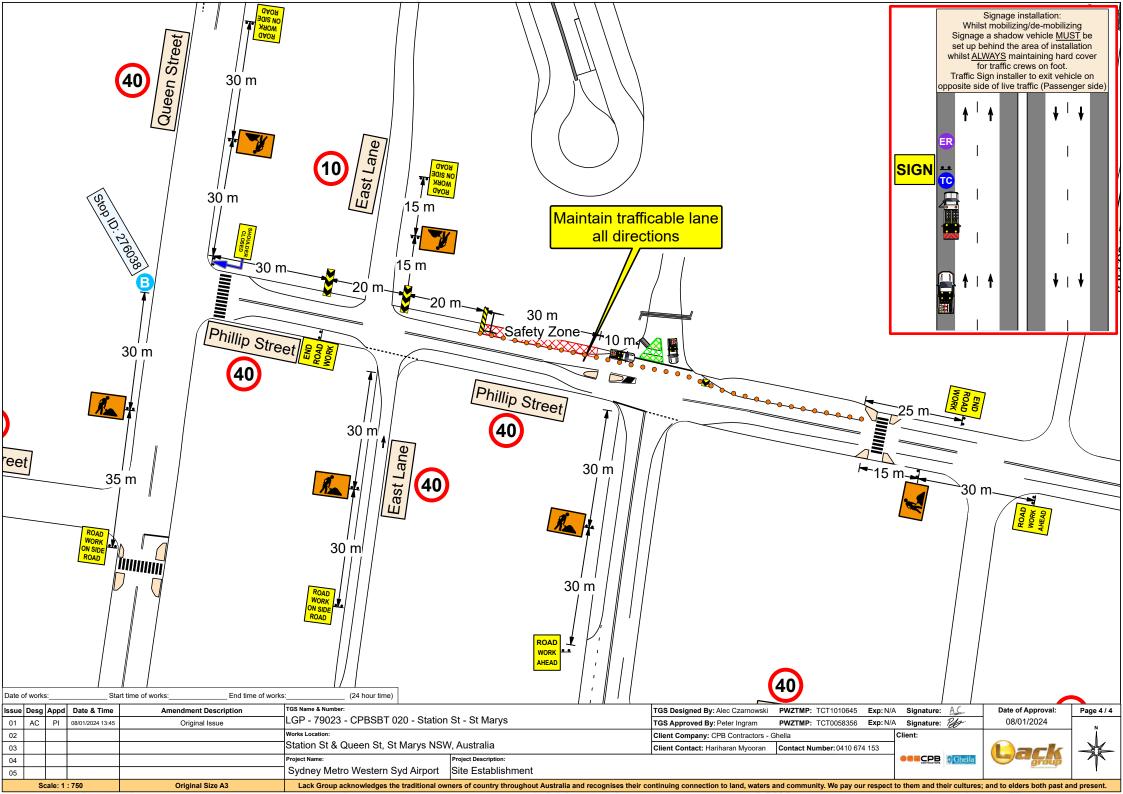
Client:

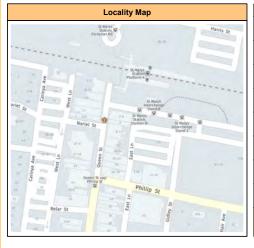
OCPB GG



Sydney Metro Western Syd Airport | Site Establishment Scale: 1:750 Original Size A3 Lack Group acknowledges the traditional owners of country throughout Australia and recognises their continuing connection to land, waters and community. We pay our respect to them and their cultures; and to elders both past and present.

roject Description:





Position:

Signature:

Verified By:

Qualification:

Modified By:

Expiry / Issue Date:

Modification Notes:

Scale: 1:750

**TGS Verification Checklist:** 

**Traffic Guidance Scheme Modifications:** 

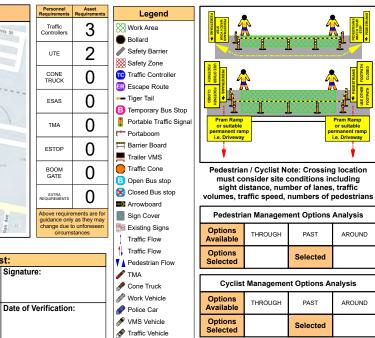
**Qualification Number:** 

Expiry / Issue Date:

Signature:

Date of Modification:

Asset Requirements	Personnel Requirements
3	Traffic Controllers
2	UTE
0	CONE TRUCK
0	ESAS
0	TMA
0	ESTOP
0	BOOM GATE
0	EXTRA REQUIREMENTS
as they may o unforeseen	Above require guidance only change due t



Traffic Management Options Analysis								
OPTION	OPTION DESCRIPTION METHOD TYPE							
AROUND	Vehicles detoured via existing road network or sidetrack	Full road closure / One-way road closure / Detour						
	Vehicles past delineated work zones	Lateral Shift						
		Shoulder closure	Selected					
PAST		Contraflow (2 way traffic maintained)						
	201100	Single or Multi Lane Closure						
		Single Lane Shuttle Flow						
THROUGH	Vehicles through work zone	Temporary Road Closure / Hold & Release / Local Traffic Access / Pilot Vehicle						

Edge Clearances

Clearance must be measured to the traffic side edge of the delineating device

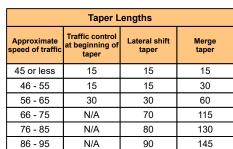
Edge Clearence

Edge of traffic lane to:

Line of traffic cones or bollards Barrier boards, temporary guide

posts or temporary hazard

markers



100

110

metres

metres

160

180

15

Dimension "D" (Main Roads)

Dimension "D" (Minor Roads)

96 - 105

> 105

Speed (km/h)	Distance between tapers
45 or less	10
 46 to 55	25
56 to 65	70
Greater than 65	1.5 x Speed Limit (D)
Delineation	n Spacing

N/A

N/A

	Delineation Spacing					
Purpose & Usage	Speed zone of device location km/h	Maximum Spacing m				
On approach to a traffic controller position (center line or edge line)	All cases	4				
Merge Tapers	55 to 75 Greater than 76	9 12				
Lateral shift tapers	55 to 75 Greater than 76	12 18				
Protecting freshly painted lines	56 to 75 Greater than 76	24 60				
All other puporses	less than or equal to 55 26 to 75 greater than 76	4 12 18				

Sign spacing requirements						
Number of signs	Approach Speed					
	less than 65 km/h	65 km/h or greater				
One advanced sign	D	2D				
Multiple advanced signs	D	D				

ALIERNALE SIGN SPACING  Dimension 'D': AGTTM: A distance expressed in metres, determined in accordance with Table 2.2 and used for positioning of advance signs. To be considered if TCAWS dimension "D" cannot be provided due to site conditions.						
Speed of Traffic - km/h	Dimension - m					
55 or less	15					
56 to 65	45					
Greater than 65	speed of traffic in Km/h					

End of Queue Management	If queue distance exceeds 4D, Prepare to stop sign is required	D <del></del> _
X Control F	Predicted end of longest queue	Primary PTS sign must be D from Roadwork Ahead Sign
Estimated end of queue	e lengths to be noted here:	

If queue distance exceeds 4D,	Luge
Primary PTS sign	Line
X	Barrie po
Estimated end of queue lengths to be noted here:	Ro
Installation & Remo	val of Signs &
Two-lane, two-way roads: The sequence of installation should be as illustrated in the following order: 1: Install the remination signs when initially leaving work area. End Road Work/speed	Multi-lane ros

Tentiscatement (activated unlexcolor) 2: Use the existing road network to turn where safe to do so. 3 to 7: Place approach signs in unaffected direction, including the PTCD (traffic controller to remain with the PTCD).

17: ITCP qualified person completes drive around to confirm TGS is installed as designed.

10 to 14: Place approach signs in the affected direction, including the PTCD (traffic controller to remain with PTCD).

15 and 16: Traffic controller/s to stop traffic and taper/lane closure delineation impl

8: Install 'End Road Work/speed reinstatement' (unaffected direction).
9: Use the existing road network to turn where safe to do so.

reinstatement' (affected direction).

		Road safety barrier system	- 0.3 m for traffic speeds less than 45 km/h - 0.5 m for traffic speeds 45 to 65 km/h - 1.0 m for traffic speeds 65 to 85 km/h - 2.0 m for traffic speeds greater than 85 km/h		All other puporses	le
			1 0		<u> </u>	Sign sp
Vá	al of	Signs & Devices		۱		
	The	-lane roads: sequence of installation should be as il			Number of signs	
	2 to !	cate advance warning vehicle and TMA 5: Install advance warning signs in una	ffected lane.			less
	7: Us 8: Lo 9 to	stall 'End Roadwork'/speed reinstateme te the existing road network to turn wh cate advance warning vehicle and TMA 12: Install advance warning signs in ob sstall 'Flashing Arrow' and delineation		One advanced sign		
	14: P 14 ar 16: Ir 17: U	osition TMA in travel lane to shadow in nd 15: Install taper and delineation devi nstall 'End Roadwork'/speed reinstaten lse the existing road network to turn wi		Multiple advanced signs		
		MA positioned to shadow work area. ICP qualified person completes drive a	round to confirm TGS is installed as designed.			
						ALTER

0.5 m for traffic speeds less than 65 km/h 1.0 m for traffic speeds greater than 65 km/h

Traffic Guidance Scheme Installation:						
Installed By:		Qualification Number:				
Expiry / Issue Date:	Signature:	Date of Installation:				

Original Size A3

0 0 0	(3) (4)				1	2
-	19 17					
9 <u>1</u>		x	1	1	4	4
8		7	6	(5)	4	3

9	7	9	10	11	12 🖳				16
	_				(	3	 	(15)	
	1	2	3	4					6

Desg	Appd	Date & Time	Amendment Description	TGS Name & Number:		TGS Designed By: Alec Czarnowski	PWZTMP: TCT1010645 Exp: N/	A Signature: AC	Date of Approval:
AC	PI	08/01/2024 13:45	Original Issue	LGP - 79031 - CPBSBT 021 - Station	St - St Marys	TGS Approved By: Peter Ingram	PWZTMP: TCT0058356 Exp: N/	A Signature: Pdf	22/01/2024
AC	PI	21/01/2024 18:45		Works Location:		Client Company: CPB Contractors - C	Shella	Client:	
AC	PI	22/01/2024 09:15	Amended as per comments	Station St & Queen St, St Marys NSV	V, Australia	Client Contact: Hariharan Myooran	Contact Number: 0410 674 153		1 ack
				Project Name:	Project Description:		•	OFFICE GOLD	Graup
				Sydney Metro Western Syd Airport	Site Establishment			'	
	AC AC	AC PI	AC PI 21/01/2024 18:45	AC         PI         08/01/2024 13:45         Original Issue           AC         PI         21/01/2024 18:45         Amended as per comments	AC PI 2010/2024 18:45 Amended as per comments Works Location:  AC PI 22/01/2024 09:15 Amended as per comments Station St & Queen St, St Marys NSV Project Name:	AC   PI   2/01/2024 13:45   Amended as per comments   Amended as per comments   Ac   PI   2/01/2024 09:15   Amended as per comments   Ac   PI   2/01/2024 09:15   Amended as per comments   Amended as	AC PI 2001/2024 1845 Amended as per comments	AC PI 2/10/1/2024 1845 Amended as per comments Station St & Queen St, St Marys NSW, Australia    AC PI 2/10/1/2024 1845   Amended as per comments   Works Location:   Station St & Queen St, St Marys NSW, Australia   Client Contact: Hariharan Myooran   Contact Number: 0410 674 153	AC PI 2/01/2024 09:15 Amended as per comments  AC PI 2/01/2024 18:45 Ame

Lack Group acknowledges the traditional owners of country throughout Australia and recognises their continuing connection to land, waters and community. We pay our respect to them and their cultures; and to elders both past and present.

Page 1 / 5

	Hierarchy of Controls  TGS Risk Assessment								Iter	<sup>n</sup> Worksite Compo	onent	Potential Hazard	<b>⊢</b>	al Risk	Present	Control Measures			dual Ri			
	Eliminate the hazard altogether.	More Effective				Step 1	- Consequence (	impact)	1									Always:		_	7	
	g. Road closures.  Substitute the hazard with a safe			egligible (1)		Minor (2)	Moderate (3)	Major (4)	Severe (5)	4	П 34	After care		Inadequate signage resulting in motorist loosing control and crashing or motorist becomes	4	4 20	N	<ul> <li>Install RWA (T1-1) if diverting traffic along a sidetrack, dete unexpected conditions, such as loose stones or the absence Cover any signs that are not applicable</li> </ul>		3	3	12
	g. Using PTCDs instead of stop b  Isolate the hazard from anyone v g. Drop zones for clients works in	rho could be harmed.		st Aid Treatment nor injury that requi	Inju iires me	Medical Treatment  ry / illness, which requires dical treatment and may porarily restrict a persons	Lost Time Injury  Injury / illness, which temporarily renders a person	Permanent Impairment Injury  Injury / illness, which permanently alters a persons future (eg. Spinal injury,	Fatality	Health & Sa		7.11.07.00.10		frustrated due to inappropriate signage				Erect Condition signs in accordance with TCWS Manual     Provide delineation or temporary line marking     Aftercare speed limit to suit road conditions				
	Use engineering controls to redu	ce the risk.	no treatr	nent or simple first	t aid tem	porarily restrict a persons capacity to work	temporarily renders a person unfit to work in any capacity	amputation or death)		lety								Always: - Install RW 1km Ahead if approach speed is > 85km/h or signal to the state of 150 cm.	sight distance is			
	g. The use of traffic control device Use administrative controls to re g. Ensure personnel are trained in	luce the risk.	Sh	ort term damage	L	mited but medium term damage	Significant but recoverable ecological damage	Heavy ecological damage, costly restoration	Permanent widespread ecological damage	Enviro		Poor sight distance or compliance or Approach	speed	Speeding vehicle doesn't have time		24	¥	less than 150m - Use 700mm cones where traffic speed is greater than 75kt - Use 900mm cones on high speed to high volume roads (e or on any work site where increased visibility is required				
	Use PPE. g. Wearing gloves while manual h	Less Effective	Brief de	elay / slight impact ervice delivery	imp	ocal or worksite specific act on service delivery or customer satisfaction	Temporary impact on service delivery or customer satisfaction at a local event / project level	Serious impact on service delivery or customer satisfaction at a state client or large project level	Long term or very severe impact on service delivery or customer satisfaction resulting in loss of business nationally	Quality	3.5	85km/h, or multi lane ro traffic volume > 10,0	ads with	to react and fails to negotiate merge taper	5	4	Ť	- Duplicate Lane status sign. Consider: - Installing RWA (T1-1) - Increasing taper lengths		4	2	14
	Almost Certain Expected to occur (5) The threat can be expected to occur 75% - 99%	Common / Frequent More than 1 event per Occurance month		Moderate (8)		High (16)	High (18)	High (21)	Extreme (25)									<ul> <li>Increasing the number of advance warning signage installed</li> <li>Increasing the size of signage installed</li> <li>Need for duplication of signs.</li> </ul>	led			
4	Likely The threat will quite commonly occur 50% - 75%	Is know to occur or "it has More than 1 event per happened regularly" year		Moderate (7)		Moderate (10)	High (17)	High (20)	High (24)		3.6	Side Roads		Vehicles enters work site from a side road and collides with workers	3	4 17	Y	- Always install advance warning signage for vehicles enteri road in advance of the work site.	ring from side	3	2	11
Proba	Possible (3) The threat may occur occasionally 25% - 50%	Could occur or "I've heard of it happening" 1 event per 1 to 10 years		Low		Moderate	Moderate	High (19)	High (23)									Ensure speed zones are designed in accordance with TCA and AGTTM.     Ensure speed zoning is consistent with the work activity are				
2 - 2	Unlikely The threat could infrequently occur	Not likely to occur very 1 event per 10 to 100		(3) Low		(9) Low	(12) Moderate	(19) Moderate	(23) High		3.7	Temporary Speed 2	Zone	Motorist travelling too fast for the conditions causing MVA	5	4 24	N	environment.  - Consider the use of speed radar VMS to monitor traffic spe		4	2	14
Ctes	(2) 10% - 25%  The threat may occur in exceptional circumstances	often years  Conceivable but only in Less than 1 event per 100	,	(2)	+	(5) Low	(11) Low	(14) Moderate	(22) Moderate									motorists.  - Review the TGS and adjust where possible to enhance tra through the work site.	affic calming			
	The threat may occur occasionally 0% - 10%	exceptional circumstances years	,	(1)	The sie	(4)	(6)	(13)	(15)							Ŧ	Transition	Always:			Ŧ	
				Initial Risk	The ris	k raung is whe	ere the consequent	e and the probabil		sidual	Dick							- Install taper lengths and cones in accordance with TCAWS - Install & duplicate/repeat Lane Status Sign (T2-6-1 or 2) o				
Item #	Worksite Compone	ent Potential Hazard	-	PR	Pres	ent	Control	Measures		Р	_	Lane closure		Motorist fails to negotiate taper and collides with worker, vehicle or plant		4 24	Υ	Use a minimum of 2 temporary hazard markers (T5-4 or 5 Install a 30m minimum buffer zone at the end of tapers	5) on tapers	4	2	14
					Accepta		implement TGS in acco	ordance with TCAWS. A	AS1742.3 and									<ul> <li>Check setup before commencing work</li> <li>Consider using a shadow vehicle (or vehicles) with flashing protect workers</li> </ul>	ng lights to			
1.0	TGS Drawn / implemente unqualified person or organ			5 3 23	3 Y	AGTTM Ensure all r	elevant traffic managen	nent personnel involved	d in the design 4	1	13				Ш		Work Area	- Ensure appropriate site distance to start of taper				
					L	perform the t	ntation of the TGS are or raffic management task											- Design and implement TGS in accordance with TCAWS, A AGTTM.				
					Departu	- Consider us	se of shadow vehicles if ble (i.e. safety barrier)	pe route considered when allocating control essed onsite continuously		5.0	Traffic Control	ntrol	Motorist not concentrating or speeding collides with end of queue		4 2	Υ	<ul> <li>Ensure all relevant traffic management personnel involved and implementation of the TGS are certified as competent perform the traffic management tasks they are required to u</li> </ul>	persons to	4	2	14	
						<ul> <li>Ensure besited point on TGS</li> </ul>	t possible escape route 5 - to be reassessed on					Traine Control		or traffic controller			•	Conduct regular inspections in accordance with TCAWS, AS1742.3 and AGTTM. Rectify any deficiencies as a matter of urgency.			-	
2.0	0 Stop bat used instead of PTCD Traffic controller hit by vi		cle	5 4 24	N.	be possible, i	It line of sight where practical. Should the best line of sight not repeater signs in advance warning to be used. roller to always remain clear from travelled path.			2	14							- Review traffic controls to suit changes in site conditions.			_	
						<ul> <li>Ensure app and maximur</li> </ul>	ropriate speed signage n length requirements.											Always: - Install workman T1-5 sign if workers on road - Space cones in accordance with TCAWS Manual				
	Motorist collides with VMS, motor		otorist	orist A A 20 N the ed		- Always place	rning - Always place VMS behind an approved safety barrier or as far away from the edge of traffic lane as is practical in a position determined suitable 3			5.1	Working adjacent to tra	wel lane Motoris	Motorist collides with worker, vehicle or plant	e 4 4	4 20	Υ	<ul> <li>Check setup before commencing work</li> <li>Reduce speed based on lateral clearance between the work area and travel lane</li> </ul>		4	2	14	
3.0	VMS	confused by VMS		4 4 20		based on a d - The location	ocumented risk assess	ment. Risk Assessment	3	2	11			or plant				Consider: - Using a shadow vehicle(s) with flashing lights to protect we	vorkers			
3.1	Long Term Works	Confused motorist collides w worker	vith	4 4 20	N	- Consider us	all RWA (T1-1) on long- sing VMS's	term road work sites	3	3	12						General	- Using spotters with workers - Using safety barriers				
							ccordance with the approved and appropriate RO way communication with trucks and give them price ueue lengths ditional signs or use additional traffic controllers or				6.0	Night work		Due to poor visibility motorist collides with end of queue, worker,	5	4 20	Y	- Consider providing portable lighting to ensure traffic control and ensure the positions of any temporary lighting are clear	ollers are visible	4	2	14
						possible - Monitor que			or stop work and					vehicle or plant  Rain/fog reduces visibility and causes				TGS & always use applicable night PPE.  - Always monitor weather and traffic	-		+	_
	Delays or Queue extends b	evond				clear traffic if - Give emerg	end of queue extends lency vehicles & wide lo	beyond the advance wa	varning signs work & traffic) 4	2 1	6.1	Wind / Rain / Fog / Obs	tructions	road to be slippery increasing risk of a collision with workers, plant or other traffic Wind blows over signs	5	4 20	Y	<ul> <li>Always regularly check setup to ensure signs are visible. If been obstructed, consider shifting signs, duplication, or reper Consider additional advance warning signage</li> </ul>		3	3	12
3.2	advanced warning sign		ueue	4 4 20	١	<ul> <li>Working ou</li> </ul>	tside peak periods h TMC for assistance w	ith traffic signal phasing			6.2			Vehicle parks in front of sign				- Liaise with client to reconsider setup or continuation of wor Always:	orks		+	
							nergency services	d to advance warning a				2 Vehicle Movements		Plant collides with motorist, workers or other plant	4	3 19	Y	Ensure positive communications     Consider:     Using Traffic Control and/or Spotters to manage work vehi	nicles	3	3	12
						<ul> <li>Use of quet</li> </ul>	of flashing beacon to be added to advance v of queue monitors ire TGS has been designed to cater for the p							or outer plant				Installation of exclusion Zones - Preparing a VMP where required.			_	
						where require Always:												Ensure TGS design caters for all road users including pedestrians     Always clearly delineate the work area.     Do not obstruct pedestrian and cyclists travel paths with traffic contents.				
						unexpected of	(T1-1) if diverting traffic conditions such as loose ition signs in accordance	e stones or the absence	e of line marking					Pedestrian and/or cyslist enters the				<ul> <li>devices.</li> <li>Consider the use of additional warning and guidance signage for pland motorists.</li> </ul>				
3.3	Changed traffic conditions Slippery surface, no lines, cl line marking, banned turn	or attempts a banned manoeu	used, uvre	4 4 20	١ ١	- Provide deli shown on the	ineation or temporary li	ne marking and ensure	this is clearly 3	2	11 6.3	Pedestrians and Cy	clists	work zone or travel lane and is hit by vehicle or plant		5 21	Y	Comply with shoulder and lane width criteria in the design of the TC     Consider the use of traffic control at crossing points especially whe arrangements are in place.	rGS. ere contra-flow	4	2	14
	movements, detours)					<ul> <li>Check setu</li> <li>Ensure app</li> </ul>	Control to manage char p before commencing v ropriate permission for	vork any detours	vnere required.									Consider the use of additional traffic controllers to monitor and assi cyclist movements where required.     Ensure the use of existing or temporary ramps for crossing points.				
						- Speed redu - Consider us	ction installed to suit ro	ad conditions										Undertake consultation to determine existing travel paths, desire lir types of users.	ines, volumes, and			
Issue C	sg Appd Date & Time	Amendment Desc	cription	1	TG	S Name & Number:							TGS De	esigned By: Alec Czarnowski	PWZT	MP: T	CT101064	5 Exp:N/A Signature: AC Date	of Approval:	T	Page	2/5
-	C PI 08/01/2024 13:4				LGP - 79031 - CPBSBT 021 - Station St - St Marys												2/01/2024			N		
	C PI 21/01/2024 18:4				Works Location: Station St. 8. Ouegan St. St. Marve NSW. Australia								Company: CPB Contractors - G				Client:	_		Ĵ		
03	C PI 22/01/2024 09:1	Amended as per co	Amended as per comments Station St & Queen St, St Marys NSW, Australia  Project Name: Project Description:									Client	Contact: Hariharan Myooran	Conta	ct Nun	nber: 0410	674 153	ack				
05					Sydney Metro Western Syd Airport Site Establishment								_ '	1								
	Scale: 1:750	Original Size	A3			Lack Group ac	cknowledges the tr	aditional owners of	f country through	out A	ustralia	and recognises their c	ontinuin	g connection to land, waters a	nd con	munit	y. We pay	our respect to them and their cultures; and to ele	lders both past	and	prese	ent.

Item		Potential Hazard		Initial Risk			Control Moscours			Risk		
#	Worksite Component			C P		Present	Control Measures	С	Р	R		
6.4	Bus stops	Bus unable to pull up safely causing MVA	3	3	12	Y	Consider notifying bus companies that operate in the area Always provide adequate provision for buses or carry out work at night when buses aren't operating 'Where temporary bus stops are created, ensure buses are able to meet the curb Ensure TGS clearly shows affected stops 'Traffic controllers to manage and assist where safe and possible	2	2	5		
6.5	Property accesses - commercial or private	Collisions due to propertie acess restrictions	3	4	17	Υ	Consider staging work outside of business hours     Create physical barrier to prevent traffic entering site & driveways	2	2	5		
6.6	Excavations within work area	Errant vehicle drives into excavation	5	4	25	N	- For excavations shallower than 0.5m and within 3m of the edge of traffic lane, delineate the excavation with plastic mesh fencing, barrier boards placed perpendicular to the traffic flow or cones/bollards For excavations deeper than 0.5m and within 3m of the edge of traffic ane, a temporary safety barrier must be installed. When traffic is greater than 3m from the excavation, the requirement for a temporary safety barrier should be considered based on a documented risk assessment Where the excavation is deeper than 200mm, is open for more than 2 weeks and the distance from the edge of traffic lane is less than 3m for 80km/h, 6m for 80km/h and 9m for 100km/h, a temporary safety barrier must be installed.	4	2	14		
6.7	Parking	Parked vehicle or worker exiting vehicle hit by passing vehicle	4	4	20	Υ	Always check adequate parking is available for workers and visitors     Consider providing safe parking within the work area	4 2 14				
6.8	Concurrent Works	Motorist confused by conflicting signs causing MVA	3	4	17	Υ	Always establish communication with other site if possible     Always cover any conflicting signs and adjust TGS as necessary     Complete conflict checks where required	3	3 12			
6.9	Heavy Vehicles and OSOM Vehicles	HV cannot travel past work site without knocking over delineation	4	4	20	N	- Comply with shoulder and lane width criteria in the design of the TGS During the design of the TGS, check vehicle swept path where necessary to ensure the largest known vehicle travelling through the work site can negotiate the changed traffic conditions Traffic controllers to communicate with heavy vehicle and OSOM drivers to warn and guide them through the work site as required Traffic control to monitor heavy vehicle movements and if required, make adjustments to the signs and devices within approved tolerances. If more significant changes are required, ilaise with Client/Supervisor and arrange for TGS to be reviewed and modified by the designer.	4	2	14		
7.0	General Traffic	Motorists speeding / not concentrating / tried / distracted. Not having enough time to merge causing MVA	5	5	25	amic Work	Always use a minimum 1 AWV and consider the use of a 2nd AWV. Consider use of TMA on higher speed roads >85km Use speed reduction best suited to work activity and road environment Use applicable AW signage displayed on AWV Ensure sight distances between AWV, shadow vehicles are clearly labelled on TGS Ensure 20-40m buffer zone between shadow vehicle and work vehicle. No less than 40m when using a TMA as a shadow vehicle Positive communications to be held at all times Workers to remain shadowed at all times Honitor traffic queues on all road configurations, convoy to clear roadway if required until traffic has cleared	4	2	14		
Ite	m		Ad	diti	iona	al Cont	rol Measures					
8.0	0											
9.0	0											
10.	0											
11.	0											
Ite	m	Departures: S	tate	e th	e d	epartu	re and reason for departure					
12.	2.0											
13.	0											
14.	0											

Departures Sign Off (CLIENT):

Amendment Description

Original Issue

Amended as per comments

Amended as per comments

Date:

TGS Name & Numbe

Works Location

.GP - 79031 - CPBSBT 021 - Station St - St Marys

roject Description

Station St & Queen St, St Marys NSW, Australia

Client Name:

AC

02 AC PΙ

03 AC PΙ

04

05

Client Signature:

Issue Desg Appd Date & Time

Scale: 1:750

PI 08/01/2024 13:45

21/01/2024 18:45

22/01/2024 09:15

#### NOTES:

- **GENERAL NOTES** 1. This Traffic Guidance Scheme (TGS) is to be used in conjunction with the Traffic Management Plan (TMP) and associated road authority permits and management plans.
- including Road Occupancy Licence (ROL), vehicle movement plan (VMP) and pedestrian movement plan (PMP) where applicable. 2. This TGS has been produced by a Prepare Work Zone Traffic Management Plan (PWZTMP) qualified person in accordance with the requirements of the TfNSW Traffic Control at Work Sites manual, Issue 6.1 dated 28 February 2022 (TCAWS 6.1) and with reference to AS1742.3 and AUSTROADS Guide to Temporary Traffic Management
- 3. This TGS is suitable for short term/ long term works.
- 4. Lack Group does not accept responsibility for this TGS if it is implemented or modified by external parties.

#### APPROVALS

The TGS must be approved for use before implementation.

Parts 1 - 10, version 1.1 dated September 2021 (AGTTM).

6. Ensure all road authority approvals and associated conditions of approval are met prior to implementing the TGS.

7. Prior to use on site, the selected or designed TGS must be verified to ensure it is suitable for the works and location by undertaking an inspection of the work site where the TGS will be implemented. The TGS verification must be completed in accordance with TCAWS 6.1, Section 8.1.2 by an Implement Traffic Control Plan (ITCP) or PWZTMP qualified person, Refer Page 1 of this TGS for Site Verification sign-off.

8. A desktop risk assessment has been undertaken in developing this TGS. However, when implementing this TGS on site, the site supervisor should undertake a site specific risk assessment to ensure that the TGS has considered and mitigated all identified hazards and risks.

INSTALLATION AND REMOVAL OF SIGNS AND DEVICES

#### 9. All traffic management signs and devices prescribed for use in this TGS are in accordance with TCAWS 6.1 with reference to AS1742.3 and AGTTM.

10. The TGS must be installed, maintained and removed in a planned and safe manner. The implementation must only be undertaken by an ITCP qualified person. 11. All signage shown on this TGS is not to conflict with any long-term existing signage arrangements in the area. If this occurs, cover all conflicting road signage where required

#### PLACEMENT OF SIGNS AND DEVICES

- 12. Signs must be properly displayed and securely mounted at all times and within the line of sight of the intended road user. Regulatory and detour signs must be located nearest to the travel edge of the lane. Signs must not: Be obscured from view, such as by vegetation or parked cars; Obscure other devices from the line of sight of the intended road users; Create a hazard to road workers and road users, including pedestrians and cyclists; Be a hazard that deflects traffic into an undesirable path; Restrict sight distance for drivers entering from side roads or streets, or private driveways; and Be installed using supports that could be a hazard if struck by a vehicle. 13. Signs mounted on frames for short-term works should be mounted a minimum 200mm from the ground to the lower edge of the sign.
- 14. Signs mounted on posts for long-term works in open road situations, the underside of the sign must be at least 1.5m above the level of the nearest edge of the travelled path. When installed on a kerb or footpath, the underside of the sign must be at least 2.2m above the level of the nearest edge of the travelled path

#### ORIENTATION OF SIGNS

15. On the outside of a curve, the sign face must be at 0 degrees, or 'normal to traffic'. On a straight, the sign face must be angled at approximately 5 degrees normal to oncoming traffic and on the inside of a curve, the sign face must be angled at approximately 5 degrees normal to oncoming traffic at 200m preceding the sign.

16. Local constraints may not allow signage and devices to be placed in accordance with this TGS. Unless stated otherwise on the TGS, the tolerances on the positioning of signs, length of tapers or pavement markings detailed in the TGS is a minimum 10% less and a maximum 25% more than the distances or lengths stated and for the spacing of delineation devices a maximum 10% more than the spacing detailed in the TGS.

17. Any variation to the positioning of signs and devices within the approved tolerances must be marked and initalled on the TGS held on site, with the name of the person

#### MODIFYING TGS

- 18. Modifications to a Site Specific or Site Suitable TGS must be approved by a person holding the PWZTMP qualification and must be supported by a TMP or risk assessment to ensure that the TGS has considered and mitigated all identified site specific conditions and risks.
- 19. If it is identified that by implementing the TGS with modifications outside of the approved tole rances it will generate risks, then the works must be stopped (including the implementation of the TGS), the site must be made safe and an updated TGS must be provided by a PWZTMP qualified person prior to works recommencing. Any concerns regarding the suitability of the TGS must be raised with the Site Manager and your immediate Supervisor.

#### TRAFFIC CONTROLLERS

- 20. The implementation of traffic control must be conducted in line with the hierarchy of controls with the elimination of harm to workers and the travelling public considered in the first instance
- 21. Where traffic control is required, a portable traffic control device (PTCD) must be used rather than using a manual traffic controller when the existing permanent speed
- 22. TCAWS 6.1, Section 5.4 provides the conditions under which a manual traffic controller may be used.
- 23. Where PTCDs or traffic controllers are used, approach speeds of traffic must be reduced to less than 65 km/h
- 24. All persons operating a portable traffic control device or performing manual traffic control must be qualified with 'Traffic Control' training; and authorised by the relevant

#### ROAD USER MANAGEMENT

25. The needs of specific road users, including travel paths and desire lines, must be considered and managed for the extent of the works to ensure safety and access is maintained. Specific road user groups to be considered include: Pedestrians including high-risk pedestrians such as persons with a disability, children, the elderly or persons using mobility aid devices; Cyclists; Motorcyclists; Heavy Vehicles, including oversize overmass vehicles; Public transport; and Emergency services. The needs of these specific road users have been considered in the design of this TGS, however the needs of all road users should be considered in the site specific risk assessment before

implementing the TGS to ensure the TGS is appropriate. 26. Road users are to be monitored for the duration of the works. If additional signage and/or devices are required to manage the needs of specific road users, such as pedestrians and cyclists, this would be subject to following the procedure for modifying a TGS.

#### ACCESS MANAGEMENT

27. Access to properties located within the extent of works must be maintained at all times.

Client Company: CPB Contractors - Ghella

Client Contact: Hariharan Myooran

- 28. Property access impacted by the works should be identified and addressed in the TGS. Consultation with the property owner/resident must be undertaken prior to implementing the TGS if required
- INCIDENT MANAGEMENT
- 29. The site contractor is to determine the appropriate procedure for incident management where appropriate. 30. If an incident occurs within the extent of the traffic control arrangement: Call for assistance if incident requires (emergency services 000 or 112); Notify the work site supervisor or Team Leader immediately of any incident: Maintain effective traffic control, if necessary relocate the traffic control station to a suitable location clear of any further danger; and Record sufficient notes of the incident, including observations, to complete an incident report

#### INSPECTIONS

31. Temporary traffic management monitoring activities must be undertaken in all instances where work is being performed or aftercare is in place. This includes day and night times as required. The type of inspections and frequency are to be in accordance with TCAWS 6.1, Section 8.1.1.

#### REVIEW OF TGS

- 32. Generic TGSs must be reviewed by a PWZTMP qualified person every 12 months so that they remain appropriate. Once reviewed the date and details of the PWZTMP person must be updated on the TGS to ensure persons selecting can confirm currency.
- 33. All active site specific and site suitable TGS are designed for the nominated work activity and are only valid for the time period of works specified on the TGS. They must be reviewed as part of the weekly inspections as detailed in TCAWS 6.1, Section 8.1. If the work activity is intended to be longer than 12 months, then the TGS musty be formally reviewed by a PWZTMP qualified person at least every 12 months and issued with the review date and the details of the person undertaking the review.

#### RECORD KEEPING

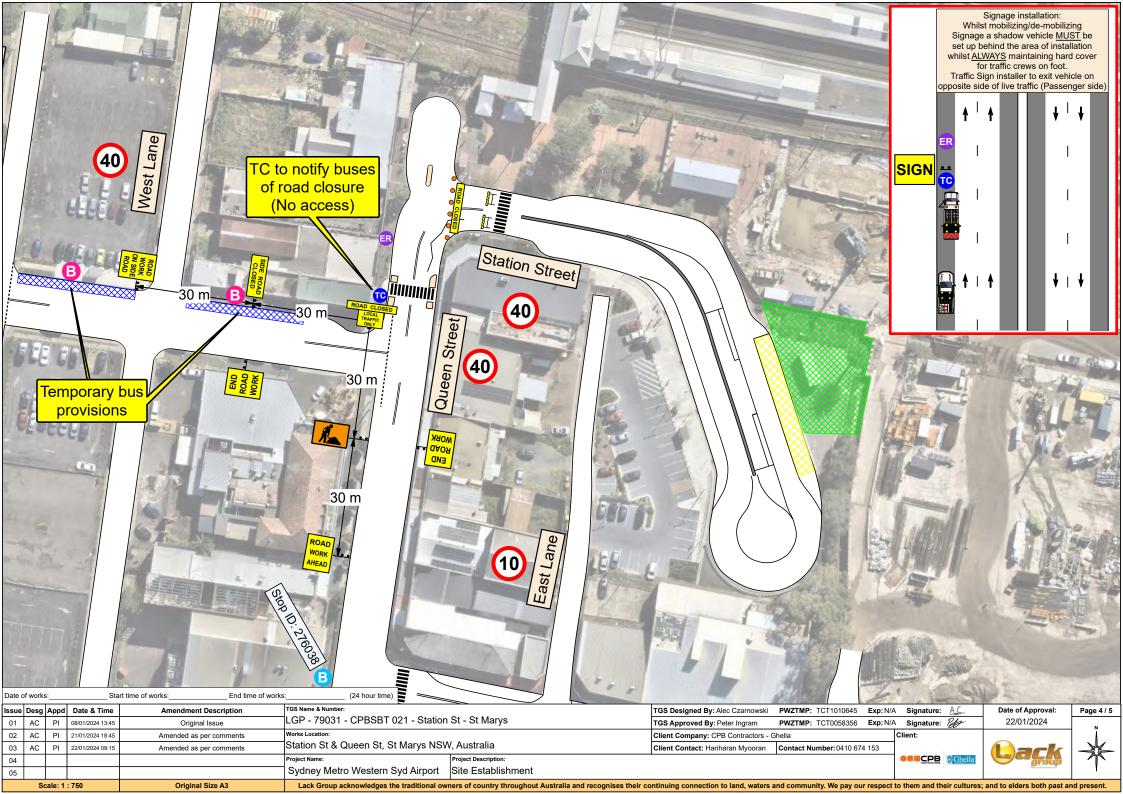
34. Supervisory personnel are to keep daily records of the TGS implementation including: Site specific risk assessments: Approved TGS used, including versions where modifica and Any

cations or updates have been made; Completed inspection checklists that have been undertaken; Records of traffic related incidents that occurred during the works; by other relevant document generated by the process of completing the temporary traffic management works.													
	TGS Designed By: Alec Czarnowski	PWZTMP: TCT1010645	Exp: N/A	Signature: AC	Date of Approval:	Page 3 /	5						
	TGS Approved By: Peter Ingram	PWZTMP: TCT0058356	Exp: N/A	Signature: PAs	22/01/2024								

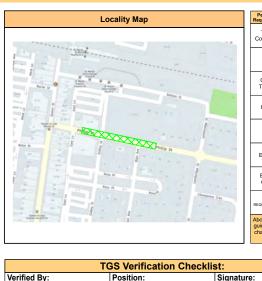
Client: Contact Number: 0410 674 153 OF COMPANY



Sydney Metro Western Syd Airport | Site Establishment Original Size A3 Lack Group acknowledges the traditional owners of country throughout Australia and recognises their continuing connection to land, waters and community. We pay our respect to them and their cultures; and to elders both past and present.

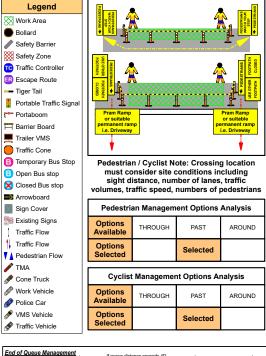








Date of Verification:

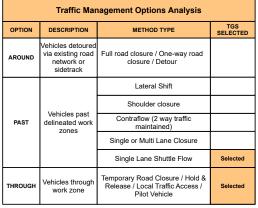


Prepare to stop sign is required

Primary PTS sign must be D from

Installation & Removal of Signs & Devices

Multi-lane roads:



Edge Clearances

Clearance must be measured to the traffic side edge of the delineating device

Edge Clearence

0.5 m for traffic speeds less than 65 km/h

- 0.3 m for traffic speeds less than 45 km/h 0.5 m for traffic speeds 45 to 65 km/h

1.0 m for traffic speeds 65 to 85 km/h 2.0 m for traffic speeds greater than 85 km/h

PWZTMP: TCT1010645 Exp: N/A

Exp: N/A

PWZTMP: TCT0058356

1.0 m for traffic speeds greater than 65 km/h

Edge of traffic lane to:

Line of traffic cones or bollards

Barrier boards, temporary guide

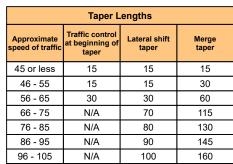
posts or temporary hazard markers

Road safety barrier system

2 to 5: Install advance warning signs in unaffected lane. 6: Install 'End Roadwork'/speed reinstatement.

Use the existing road network to turn where safe to do so.

14: Position TMA in travel lane to shadow installation of taper.



metres

metres

180

Dimension "D" (Main Roads)

Dimension "D" (Minor Roads)

> 105

Speed (km/h)	Distance between tapers (m)
45 or less	10
46 to 55	25
56 to 65	70
Greater than 65	1.5 x Speed Limit (D)

110

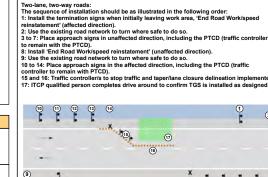
N/A

	<b>Delineation Spacing</b>			
Purpose & Usage	Speed zone of device location km/h	Maximum Spacing m		
On approach to a traffic controller position (center line or edge line)	All cases	4		
Merge Tapers	55 to 75 Greater than 76	9 12		
Lateral shift tapers	55 to 75 Greater than 76	12 18		
Protecting freshly painted lines	56 to 75 Greater than 76	24 60		
All other puporses	less than or equal to 55 26 to 75 greater than 76	4 12 18		

All other puporses	less than or equal to b 26 to 75 greater than 76	12 18									
Sign spacing requirements											
Number of signs	Approac	h Speed									
	less than 65 km/h	65 km/h or greater									
One advanced sign	D	2D									
Multiple	_	_									

advanced signs	ם		Ь							
ALTERNATE SIGN SPACING  Dimension 'D': AGTTM: A distance expressed in metres, determined in accordance with Table 2.2 and used for positioning of advance signs. To be considered if TCAWS dimension "D" cannot be provided due to site conditions.										
Speed of Traffi	c - km/h		Dimension - m							

Expiry / Issue Date:



Control Point

Estimated end of queue lengths to be noted here

ented. ned.	16: Install 'End Roadwork'speed reinstatement. 17: Use the existing road network to turn where safe to do so. 18: TMA positioned to shadow work area. 19: ITCP qualified person completes drive around to confirm TGS	
2	8 9 <sup>(1)</sup>	(6)
	19 J.A.	13
		6

The sequence of installation should be as illustrated in the following order: 1: Locate advance warning vehicle and TMA to shadow sign installation vehicle.

Locate advance warning vehicle and TMA to shadow sign installation vehicle.

9 to 12: Install advance warning signs in obstructed (affected) lane. 13: Install 'Flashing Arrow' and delineation devices on approach to start of taper.

e expressed in metres, determined in for positioning of advance signs. To be "D" cannot be provided due to site litions.
Dimension - m
15
45
speed of traffic, in Km/h

Issue	Desg	Appd	Date & Time
01	AC	PI	08/01/2024 14:30
02			
03			
04			
05			

Scale: 1:750

Qualification:

GP - 79033 - CPBSBT 022 - Phillip St - St Marys Works Location Phillip St x Gidley St - St Marys

TGS Name & Number

Client Company: CPB Contractors - Ghella Client Contact: Hariharan Myooran Contact Number: 0410 674 153

TGS Designed By: Alec Czarnowski

TGS Approved By: Peter Ingram

OF CPB

Signature: A.

Signature:



Date of Approval:

08/01/2024



Sydney Metro Western Syd Airport Stop/slow with booms for T&D movements Lack Group acknowledges the traditional owners of country throughout Australia and recognises their continuing connection to land, waters and community. We pay our respect to them and their cultures; and to elders both past and present.

Installed By: **Qualification Number:** Expiry / Issue Date: Signature: Date of Installation:

Amendment Description

Original Issue

Original Size A3

**Traffic Guidance Scheme Installation:** 

Project Description:

					T	GS	Ris	kΑ	ssess	ment					Item	Worksite Compone	ent	Potential Hazard	⊢	al Risk	Present	Control Measures	- ⊢-	esidual	
		Hierarch								- Consequence (	impact)				#	Workone compon		7 Otomiai mazara	С	P R	. 1000.11		С	P	R
	1. Elim eg. Ro	ninate the hazard altogether. and closures.		More Effective		Neglia	ible (1)	Т	Minor (2)	Moderate (3)	Major (4)	Severe (5)						Inadequate signage resulting in				Always: - Install RWA (T1-1) if diverting traffic along a sidetrack, detour, or			
	2. Sub eg. Us	stitute the hazard with a saf- ing PTCDs instead of stop t	fer alternati bats.	tive.		First Aid			Medical Treatment	Lost Time Injury	Permanent Impairment Injury	5575.5 (5)		Heatt	3.4	After care		motorist loosing control and crashing or motorist becomes frustrated due to inappropriate signage	4	4 20	N	unexpected conditions, such as loose stones or the absence of line mark - Cover any signs that are not applicable - Erect Condition signs in accordance with TCWS Manual - Provide delineation or temporary line marking	ing 3	3	12
إ	eg. Dr	ate the hazard from anyone op zones for clients works in	n elevated	work zones.	Very no tre	minor inju eatment or	ry that requires simple first aid	media tempo	fillness, which requires cal treatment and may rarily restrict a persons capacity to work	Injury / illness, which temporarily renders a person unfit to work in any capacity	Injury / illness, which permanently alters a persons future (eg. Spinal injury, amputation or death)	Fatality		1 & Safety				signage				Aftercare speed limit to suit road conditions  Always: Install RW 1km Ahead if approach speed is > 85km/h or sight distance is	-		$\blacksquare$
إ	eg. Th	engineering controls to red e use of traffic control devic	es to prote	ect work area.		Short terr	n damage	Limi	ted but medium term damage	Significant but recoverable ecological damage	Heavy ecological damage, costly restoration	Permanent widesprea ecological damage		Enviro		Deer eight dietenee er en						less than 150m  - Use 700mm cones where traffic speed is greater than 75km/h  - Use 900mm cones on high speed to high volume roads (e.g., expressw			
	eg. En 6. Use	sure personnel are trained i	in their field	d.	Brie	ef delay / si	ight impact on	Loca	al or worksite specific	Temporary impact on service delivery or customer	Serious impact on service delivery or customer	Long term or very seve impact on service deliver	or !	<u> </u>	3.5	Poor sight distance or sp compliance or Approach sp 85km/h, or multi lane roads traffic volume > 10,000v	peed > ds with	Speeding vehicle doesn't have time to react and fails to negotiate merge taper	5	4	Υ	or on any work site where increased visibility is required - Duplicate Lane status sign. Consider:	4	2	14
	A	earing gloves while manual		mon / Frequent More than 1 event per		Mod			stomer satisfaction	satisfaction at a local event / project level	satisfaction at a state client or large project level	customer satisfaction resu in loss of business nation		ality								Installing RWA (T1-1) Increasing taper lengths Increasing the number of advance warning signage installed Increasing the size of signage installed			
<u> </u>	,⊢	expected to occur 75% - 99%  The threat will quite	٥	Occurance month to occur or "it has More than 1 event per		Mod	3)		(16) Moderate	High (18) High (17)	High (21) High (20)	(25)			3.6	Side Roads		Vehicles enters work site from a side road and collides with workers	3	4 17	Υ	Need for duplication of signs.  - Always install advance warning signage for vehicles entering from side road in advance of the work site.	3	2	11
robabi	Po	(4) 50% - 75%  The threat may occur occasionally	Could oo	ened regularly" year  cour or "Tve heard 1 event per 1 to 10 years		Lo	w		(10) Moderate	Moderate	(20) High (19)	High (24) High (23)			П							- Ensure speed zones are designed in accordance with TCAWS, AS1742 and AGTTM.	.3	T	
tep 2 - P		(3) occasionally 25% - 50%  The threat could infrequently occur	+	ely to occur very 1 event per 10 to 100		Lo	w		(9) Low	(12) Moderate	Moderate	High			3.7	Temporary Speed Zon	ne	Motorist travelling too fast for the conditions causing MVA	5	4 24	N	Ensure speed zoning is consistent with the work activity and road environment.     Consider the use of speed radar VMS to monitor traffic speeds and advanctorists.	ise 4	2	14
Stell	-	(2) The treat may occur in exceptional circumstances  The treat may occur in exceptional circumstances The threat may occur occusionally		oriten years  wable but only in less than 1 event per 100 years  Less than 1 event per 100 years	0	Lo			(5) Low (4)	(11) Low (6)	(14) Moderate	(22) Moderate									Transition	Review the TGS and adjust where possible to enhance traffic calming through the work site.	$\perp$		
		0% - 10%				St.	-	ne risk	. ,	` '	(13) ce and the probabil	(15) ity intersect							П		Hansidon	Always:	Т	Τ	
					Ξ		al Risk						esidu	ual Risk	1							<ul> <li>Install taper lengths and cones in accordance with TCAWS Manual</li> <li>Install &amp; duplicate/repeat Lane Status Sign (T2-6-1 or 2) on multi lane roads</li> </ul>			
#	١	Worksite Compon	ent	Potential Hazard		С	P R	Prese		Control	Measures	<u> </u>		P R	4.0	Lane closure		Motorist fails to negotiate taper and collides with worker, vehicle or plant		4 24	N	- Use a minimum of 2 temporary hazard markers (T5-4 or 5) on tapers - Install a 30m minimum buffer zone at the end of tapers - Check setup before commencing work	4	2	14
	Π					П	Ac	ceptan	- Design and	implement TGS in acco	ordance with TCAWS, A	AS1742.3 and	Т									<ul> <li>Consider using a shadow vehicle (or vehicles) with flashing lights to protect workers</li> </ul>			
1.0		GS Drawn / implemente		TGS Drawn / implemented bunqualified person or organiza		5	3 23	Y	AGTTM Ensure all re	elevant traffic managen	nent personnel involved	d in the design	٠	1 13					Ш		Work Area	Ensure appropriate site distance to start of taper	$\perp$		
									perform the to		s they are required to u											<ul> <li>Design and implement TGS in accordance with TCAWS, AS1742.3 and AGTTM.</li> </ul>			
						П	De	parture	- Consider use of shadow vehicles if practical, or other type of static hard cover available (i.e. safety barrier) - Ensure best possible escape route considered when allocating control point on TGS - to be reassessed onsite continuously  N - Ensure best line of sight where practical. Should the best line of sight not 4 2							Traffic Control		Motorist not concentrating or speeding collides with end of queue	5	4 24	Y	Ensure all relevant traffic management personnel involved in the design and implementation of the TGS are certified as competent persons to perform the traffic management tasks they are required to undertake.	1 4	2	14
																Traile Control	or traffic controller			4 24	Ċ	Conduct regular inspections in accordance with TCAWS, AS1742.3 and AGTTM.		-	
2.0	Si	top bat used instead of I	PTCD	Traffic controller hit by vehic	cle	5	4 24	N	be possible, r	epeater signs in advan	ictical. Should the best ice warning to be used. clear from travelled pati	-	1	2 14								Rectify any deficiencies as a matter of urgency. Review traffic controls to suit changes in site conditions.  Always:	$\perp$		
									<ul> <li>Ensure appropriate and maximum</li> </ul>	ropriate speed signage n length requirements.	has been installed and	meets minimum										- Install workman T1-5 sign if workers on road - Space cones in accordance with TCAWS Manual			
		\a.e.		Motorist collides with VMS, mot	otorist			ced Wa	- Always plac		oved safety barrier or a	od cuitable	T :		5.1	Working adjacent to travel	el lane	Motorist collides with worker, vehicle or plant	4	4 20	Y	Check setup before commencing work     Reduce speed based on lateral clearance between the work area and travel lane	4	2	14
3.0		VMS		confused by VMS		4	4 20	N	<ul> <li>The location</li> </ul>	ocumented risk assess is to be confirmed by	Risk Assessment		<u>'</u>	2 11				F				Consider: - Using a shadow vehicle(s) with flashing lights to protect workers			
3.1		Long Term Works		Confused motorist collides w worker	with	4	4 20	Υ	- Always insta - Consider us	all RWA (T1-1) on long- ing VMS's	term road work sites		3	3 12								- Using spotters with workers - Using safety barriers	丄		
											ved and appropriate R0 trucks and give them pr				6.0	Night work		Due to poor visibility motorist collides with end of queue, worker,	5	4 20	General	- Consider providing portable lighting to ensure traffic controllers are visit and ensure the positions of any temporary lighting are clearly shown on the control of the c		2	14
										onal signs or use addit	ional traffic controllers of							vehicle or plant  Rain/fog reduces visibility and causes road to be slippery increasing risk of a				TGS & always use applicable night PPE.  - Always monitor weather and traffic - Always regularly check setup to ensure signs are visible. If visibility has	+		<mark></mark>
3.2	De	lays or Queue extends ladvanced warning sig	beyond	Motorist collides with end of qu	ueue	4 4 2	4 20	Y	<ul> <li>Give emerg Consider:</li> </ul>	ency vehicles & wide lo	beyond the advance was pads priority (i.e. stop w	warning signs work & traffic)		2 14	6.1	Wind / Rain / Fog / Obstrue	ıctions	collision with workers, plant or other traffic Wind blows over signs Vehicle parks in front of sign	5	4 20	Y	been obstructed, consider shifting signs, duplication, or repetition.  - Consider additional advance warning signage  - Liaise with client to reconsider setup or continuation of works	3	3	12
										tside peak periods n TMC for assistance w s	ith traffic signal phasing											Always: Ensure positive communications			
									<ul> <li>Notifying en</li> <li>Use of flash</li> </ul>	nergency services ing beacon to be adder	d to advance warning s	ignage			6.2	Vehicle Movements	·	Plant collides with motorist, workers, or other plant	4	3 19	Y	Consider: - Using Traffic Control and/or Spotters to manage work vehicles - Installation of exclusion Zones	3	3	12
									<ul> <li>Use of queums</li> <li>Ensure TGS</li> <li>where require</li> </ul>	has been designed to	cater for the predicted	queue lengths										Preparing a VMP where required.     Ensure TGS design caters for all road users including pedestrians and cyclists.	+		
											c along a sidetrack, det											<ul> <li>Always clearly delineate the work area.</li> <li>Do not obstruct pedestrian and cyclists travel paths with traffic control signs and devices.</li> </ul>			
	_ c	Changed traffic condition	ıs (eg	Motorist loses control, is confus	uaad				- Erect Condi	tion signs in accordance	e stones or the absence be with TCAWS Manual ne marking and ensure	-						Pedestrian and/or cyslist enters the			.,	<ul> <li>Consider the use of additional warning and guidance signage for pedestrians, cyc and motorists.</li> <li>Comply with shoulder and lane width criteria in the design of the TGS.</li> </ul>			
3.3	Slip	pery surface, no lines, o ine marking, banned tur	rning	or attempts a banned manoeu causing MVA		4	4 20	Υ	shown on the	TGS	nged traffic conditions v	•	3 :	2 11	6.3	Pedestrians and Cyclis	sts	work zone or travel lane and is hit by vehicle or plant	4	5 21	Y	- Consider the use of traffic control at crossing points especially where contra-flow arrangements are in place.  - Consider the use of additional traffic controllers to monitor and assist pedestrian a	. 4	2	14
		movements, detours	5)	, and the second					- Check setup - Ensure app	before commencing v ropriate permission for	vork any detours	.										cyclist movements where required.  Ensure the use of existing or temporary ramps for crossing points.			
						Ш			- Speed redu - Consider us	ction installed to suit ro ing VMS's	au conditions				Ш				Ш			<ul> <li>Undertake consultation to determine existing travel paths, desire lines, volumes, a types of users.</li> </ul>	nd	$\perp$	
Issue D	esg	Appd Date & Tim	ie	Amendment Desc	cripti	ion		TGS	Name & Number:							Т	TGS Des	signed By: Alec Czarnowski	PWZ1	MP: T	CT101064	5 Exp: N/A Signature: AC Date of Approva	ıl:	Pa	ge 2 / 4
	AC	PI 08/01/2024 14:		Original Issu				LG	P - 79033	- CPBSBT 022	2 - Phillip St - S	St Marys				-		<u> </u>			CT005835				N
02									s Location:	dley St - St Ma	arve					<del>-</del>		company: CPB Contractors - Gr				Client:	_	Ι,	
03			+					_	ct Name:	uley of - of Ma	<del></del>	t Description:				C	Client Co	contact: Hariharan Myooran	Conta	ct Nun	nber: 0410	674 153	1	-	聚
05			+					1 -		o Western Syd	Airport Stop		oon	ns fo	r T&E	D movements						CONTRACTORS	190		1
	Sc	cale: 1 : 750		Original Size	A3			ı	Lack Group ac	knowledges the tr	aditional owners of	f country throug	hout	t Austr	alia an	nd recognises their con	ntinuing	connection to land, waters ar	nd cor	nmunit	y. We pay	our respect to them and their cultures; and to elders both p	ast ar	nd pre	sent.

Item	Worksite Component	Potential Hazard	Ini	tial R	isk	Present	Control Measures	Resi	idual	Risk		
#	Worksite Component	1 otentiai riazara	С	Р	R	11030110	Solition measures	С	Р	R		
6.4	Bus stops	Bus unable to pull up safely causing MVA	3	3	12	Y	Consider notifying bus companies that operate in the area Always provide adequate provision for buses or carry out work at night when buses aren't operating - Where temporary bus stops are created, ensure buses are able to meet the curb - Ensure TGS clearly shows affected stops - Traffic controllers to manage and assist where safe and possible		2	5		
6.5	Property accesses - commercial or private	Collisions due to propertie acess restrictions	3	4	17	Υ	Consider staging work outside of business hours     Create physical barrier to prevent traffic entering site & driveways	2	2	5		
6.6	Excavations within work area	Errant vehicle drives into excavation	5	4	25	N	For excavations shallower than 0.5m and within 3m of the edge of traffic lane, delineate the excavation with plastic mesh fencing, barrier boards placed perpendicular to the traffic flow or coneshollards.  For excavations deeper than 0.5m and within 3m of the edge of traffic lane, a temporary safety barrier must be installed. When traffic is greater than 3m from the excavation, the requirement for a temporary safety barrier should be considered based on a documented risk assessment.  Where the excavation is deeper than 200mm, is open for more than 2 weeks and the distance from the edge of traffic lane is less than 3m for 600mm, 6m for 800mm and 9m for 100mm, a temporary safety barrier must be installed.	4	2	14		
6.7	Parking	Parked vehicle or worker exiting vehicle hit by passing vehicle	4	4	20	Υ	Always check adequate parking is available for workers and visitors     Consider providing safe parking within the work area	4	2	14		
6.8	Concurrent Works	Motorist confused by conflicting signs causing MVA	3	4	17	Y	- Always establish communication with other site if possible     - Always cover any conflicting signs and adjust TGS as necessary     - Complete conflict checks where required	3	3	12		
6.9	Heavy Vehicles and OSOM Vehicles	HV cannot travel past work site without knocking over delineation	4	4	20	Υ	Comply with shoulder and lane width criteria in the design of the TGS. During the design of the TGS, check vehicle swept path where necessary to ensure the largest known vehicle travelling through the work site can negotiate the changed traffic conditions. Traffic controllers to communicate with heavy vehicle and OSOM drivers to warn and guide them through the work site as required. Traffic control to monitor heavy vehicle movements and if required, make adjustments to the signs and devices within approved tolerances. If more significant changes are required, lies with Client/Supervisor and arrange for TGS to be reviewed and modified by the designer.	4	2	14		
					Dyn	amic Works						
7.0	General Traffic	Motorists speeding / not concentrating / tired / distracted. Not having enough time to merge causing MVA	5	5	25	N	Always use a minimum 1 AWV and consider the use of a 2nd AWV. Consider use of TMA on higher speed roads >85km Use speed reduction best suited to work activity and road environment Use applicable AW signage displayed on AWV. Ensure sight distances between AWV, shadow vehicles are clearly abelled on TSC Ensure 20-40m buffer zone between shadow vehicle and work vehicle. No less than 40m when using a TMA as a shadow vehicle Positive communications to be held at all times Workers to remain shadowed at all times Monitor traffic queues on all road configurations, convoy to clear roadway for required until traffic has cleared	4	2	14		
Ite	m	Additional Control Measures										
8.	0	TRUCK SIGNAGE SYMBOLIC PROVIDED										
9.	0											
10	.0											
11	.0											
Ite	m	Departures: S	tate	e th	e d	epartu	re and reason for departure					

Item	Additional Control Measures
8.0	TRUCK SIGNAGE SYMBOLIC PROVIDED
9.0	
10.0	
11.0	
Item	Departures: State the departure and reason for departure
12.0	
13.0	
14.0	
	Departures Sign Off (CLIENT):
Client I	Name:

Original Size A3

Phillip St x Gidley St - St Marys

Issue 01 02

03

04

05

Scale: 1:750

## NOTES:

# **GENERAL NOTES**

- 1. This Traffic Guidance Scheme (TGS) is to be used in conjunction with the Traffic Management Plan (TMP) and associated road authority permits and management plans.
- including Road Occupancy Licence (ROL), vehicle movement plan (VMP) and pedestrian movement plan (PMP) where applicable. 2. This TGS has been produced by a Prepare Work Zone Traffic Management Plan (PWZTMP) qualified person in accordance with the requirements of the TfNSW Traffic Control at Work Sites manual, Issue 6.1 dated 28 February 2022 (TCAWS 6.1) and with reference to AS1742.3 and AUSTROADS Guide to Temporary Traffic Management
- 3. This TGS is suitable for short term/ long term works.
- 4. Lack Group does not accept responsibility for this TGS if it is implemented or modified by external parties.

# APPROVALS

Parts 1 - 10, version 1.1 dated September 2021 (AGTTM).

5. The TGS must be approved for use before implementation.

6. Ensure all road authority approvals and associated conditions of approval are met prior to implementing the TGS.

7. Prior to use on site, the selected or designed TGS must be verified to ensure it is suitable for the works and location by undertaking an inspection of the work site where the TGS will be implemented. The TGS verification must be completed in accordance with TCAWS 6.1, Section 8.1.2 by an Implement Traffic Control Plan (ITCP) or PWZTMP qualified person, Refer Page 1 of this TGS for Site Verification sign-off.

8. A desktop risk assessment has been undertaken in developing this TGS. However, when implementing this TGS on site, the site supervisor should undertake a site

# INSTALLATION AND REMOVAL OF SIGNS AND DEVICES

specific risk assessment to ensure that the TGS has considered and mitigated all identified hazards and risks.

# 9. All traffic management signs and devices prescribed for use in this TGS are in accordance with TCAWS 6.1 with reference to AS1742.3 and AGTTM.

- 10. The TGS must be installed, maintained and removed in a planned and safe manner. The implementation must only be undertaken by an ITCP qualified person.
- 11. All signage shown on this TGS is not to conflict with any long-term existing signage arrangements in the area. If this occurs, cover all conflicting road signage where required

# PLACEMENT OF SIGNS AND DEVICES

- 12. Signs must be properly displayed and securely mounted at all times and within the line of sight of the intended road user. Regulatory and detour signs must be located nearest to the travel edge of the lane. Signs must not: Be obscured from view, such as by vegetation or parked cars; Obscure other devices from the line of sight of the intended road users; Create a hazard to road workers and road users, including pedestrians and cyclists; Be a hazard that deflects traffic into an undesirable path; Restrict sight distance for drivers entering from side roads or streets, or private driveways; and Be installed using supports that could be a hazard if struck by a vehicle. 13. Signs mounted on frames for short-term works should be mounted a minimum 200mm from the ground to the lower edge of the sign.
- 14. Signs mounted on posts for long-term works in open road situations, the underside of the sign must be at least 1.5m above the level of the nearest edge of the travelled path. When installed on a kerb or footpath, the underside of the sign must be at least 2.2m above the level of the nearest edge of the travelled path

# ORIENTATION OF SIGNS

15. On the outside of a curve, the sign face must be at 0 degrees, or 'normal to traffic'. On a straight, the sign face must be angled at approximately 5 degrees normal to oncoming traffic and on the inside of a curve, the sign face must be angled at approximately 5 degrees normal to oncoming traffic at 200m preceding the sign.

16. Local constraints may not allow signage and devices to be placed in accordance with this TGS. Unless stated otherwise on the TGS, the tolerances on the positioning of signs, length of tapers or pavement markings detailed in the TGS is a minimum 10% less and a maximum 25% more than the distances or lengths stated and for the spacing

of delineation devices a maximum 10% more than the spacing detailed in the TGS. 17. Any variation to the positioning of signs and devices within the approved tolerances must be marked and initalled on the TGS held on site, with the name of the person

- 18. Modifications to a Site Specific or Site Suitable TGS must be approved by a person holding the PWZTMP qualification and must be supported by a TMP or risk assessment to ensure that the TGS has considered and mitigated all identified site specific conditions and risks.
- 19. If it is identified that by implementing the TGS with modifications outside of the approved tolerances it will generate risks, then the works must be stopped (including the implementation of the TGS), the site must be made safe and an updated TGS must be provided by a PWZTMP qualified person prior to works recommencing. Any concerns regarding the suitability of the TGS must be raised with the Site Manager and your immediate Supervisor.

# TRAFFIC CONTROLLERS

- 20. The implementation of traffic control must be conducted in line with the hierarchy of controls with the elimination of harm to workers and the travelling public considered in the first instance.
- 21. Where traffic control is required, a portable traffic control device (PTCD) must be used rather than using a manual traffic controller when the existing permanent speed
- 22. TCAWS 6.1, Section 5.4 provides the conditions under which a manual traffic controller may be used.
- 23. Where PTCDs or traffic controllers are used, approach speeds of traffic must be reduced to less than 65 km/h.
- 24. All persons operating a portable traffic control device or performing manual traffic control must be qualified with 'Traffic Control' training; and authorised by the relevant

# ROAD USER MANAGEMENT

25. The needs of specific road users, including travel paths and desire lines, must be considered and managed for the extent of the works to ensure safety and access is maintained. Specific road user groups to be considered include: Pedestrians including high-risk pedestrians such as persons with a disability, children, the elderly or persons using mobility aid devices; Cyclists; Motorcyclists; Heavy Vehicles, including oversize overmass vehicles; Public transport; and Emergency services. The needs of these specific road users have been considered in the design of this TGS, however the needs of all road users should be considered in the site specific risk assessment before implementing the TGS to ensure the TGS is appropriate.

26. Road users are to be monitored for the duration of the works. If additional signage and/or devices are required to manage the needs of specific road users, such as pedestrians and cyclists, this would be subject to following the procedure for modifying a TGS.

# ACCESS MANAGEMENT

Access to properties located within the extent of works must be maintained at all times.

Client Contact: Hariharan Myooran

Lack Group acknowledges the traditional owners of country throughout Australia and recognises their continuing connection to land, waters and community. We pay our respect to them and their cultures; and to elders both past and present.

- 28. Property access impacted by the works should be identified and addressed in the TGS. Consultation with the property owner/resident must be undertaken prior to implementing the TGS if required
- INCIDENT MANAGEMENT 29. The site contractor is to determine the appropriate procedure for incident management where appropriate.
- 30. If an incident occurs within the extent of the traffic control arrangement: Call for assistance if incident requires (emergency services 000 or 112); Notify the work site supervisor or Team Leader immediately of any incident; Maintain effective traffic control, if necessary, relocate the traffic control station to a suitable location clear of any further danger; and Record sufficient notes of the incident, including observations, to complete an incident report

# INSPECTIONS

31. Temporary traffic management monitoring activities must be undertaken in all instances where work is being performed or aftercare is in place. This includes day and night times as required. The type of inspections and frequency are to be in accordance with TCAWS 6.1, Section 8.1.1.

# REVIEW OF TGS

- 32. Generic TGSs must be reviewed by a PWZTMP qualified person every 12 months so that they remain appropriate. Once reviewed the date and details of the PWZTMP person must be updated on the TGS to ensure persons selecting can confirm currency.
- 33. All active site specific and site suitable TGS are designed for the nominated work activity and are only valid for the time period of works specified on the TGS. They must be reviewed as part of the weekly inspections as detailed in TCAWS 6.1, Section 8.1. If the work activity is intended to be longer than 12 months, then the TGS musty be formally reviewed by a PWZTMP qualified person at least every 12 months and issued with the review date and the details of the person undertaking the review.

Contact Number: 0410 674 153

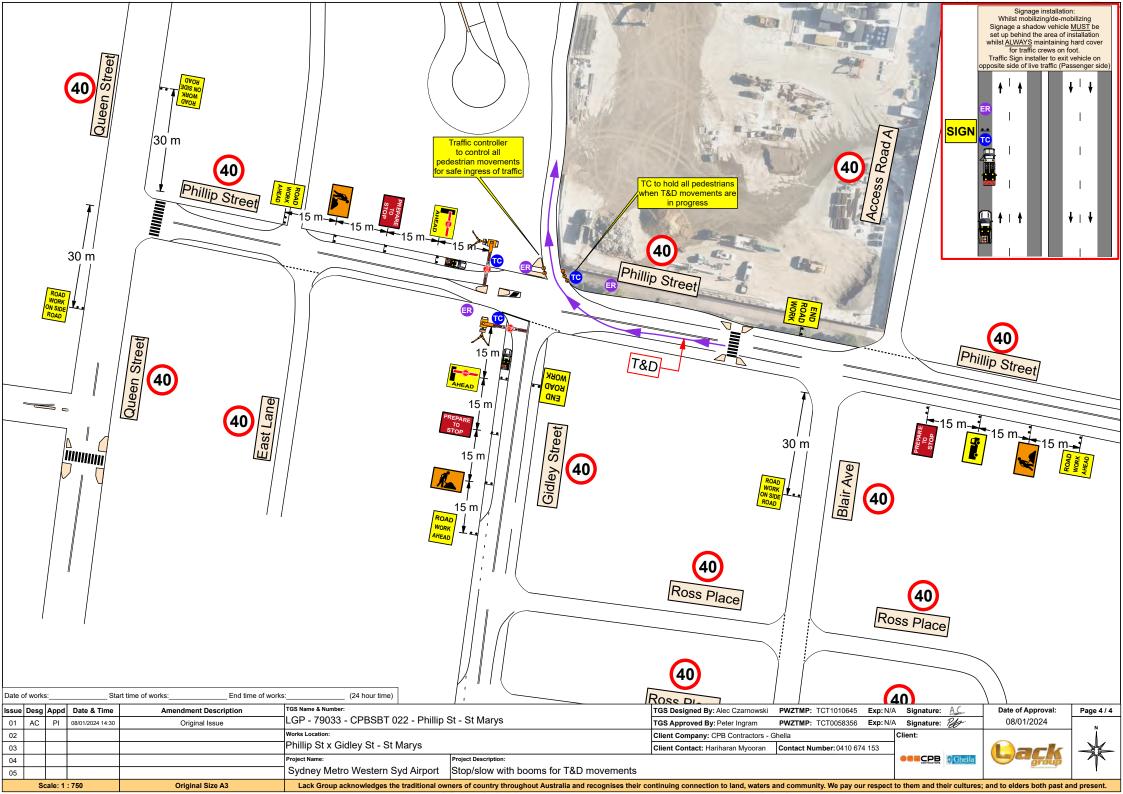
BECPB 1

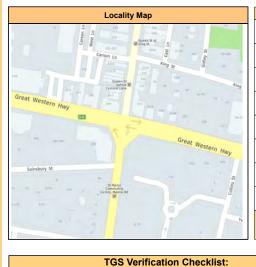
Client Signature:					Date:	34. Supervisory personnel are to keep daily records of the TGS implementation including: Site specific risk assessments; Approved TGS used, including versions who modifications or updates have been made; Completed inspection checklists that have been undertaken; Records of traffic related incidents that occurred during the vand Any other relevant document generated by the process of completing the temporary traffic management works.								
ue	Desg	Appd	Date & Time	Amendment bescription	TGS Name & Number:	TGS Designed By: Alec Czarnowski PWZTMP: TCT1010645 Exp: N/A Sig	gnature: AC Date of Approx	val: Page 3						
1	AC	PI	08/01/2024 14:30	Original Issue	LGP - 79033 - CPBSBT 022 - Phillip St - St Marys	TGS Approved By: Peter Ingram PWZTMP: TCT0058356 Exp: N/A Sig	gnature: 26 08/01/2024	, N						
~_					Works Location:	Client Company, CRR Contractors, Challe		ï						

Project Description

Sydney Metro Western Syd Airport | Stop/slow with booms for T&D movements







Position:

Expiry / Issue Date:

Verified By:

Qualification:

01

02

03

04

05

Scale: 1:750

Personnel Requirements	Asset Requirements
Traffic Controllers	8
UTE	6
AWV	2
ESAS	0
TMA	0
ESTOP	0
BOOM GATE	0
EXTRA REQUIREMENTS	0
guidance only change due t	ements are for y as they may to unforeseen stances

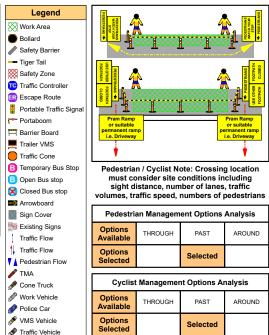


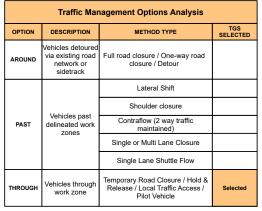
Signature:

Date of Verification:

TGS Name & Number:

controller to remain with PTCD).





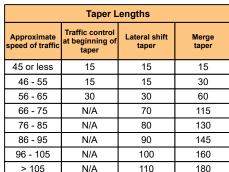
Edge Clearances

Clearance must be measured to the traffic side edge of the delineating device

Edge Clearence

0.5 m for traffic speeds less than 65 km/h

Edge of traffic lane to:



metres

metres

Dimension "D" (Main Roads)

Dimension "D" (Minor Roads)

Speed (km/h)	Distance between tapers (m)
45 or less	10
46 to 55	25
56 to 65	70
Greater than 65	1.5 x Speed Limit (D)

	Delineation Spacing	
Purpose & Usage	Speed zone of device location km/h	Maximum Spacing m
On approach to a traffic controller position (center line or edge line)	All cases	4
On approach to a traffic controller position	55 to 75 Greater than 76	9 12
Lateral shift tapers	55 to 75 Greater than 76	12 18
	56 to 75 Greater than 76	24 60
All other puporses	less than or equal to 55 26 to 75 greater than 76	4 12 18

All other puporses	greater than 76									
Sign spacing requirements										
Number of signs	Approac	t								
	less than 65 km/h	spacing requirements  Approach Speed	/h or greater							
One advanced sign	D		2D							
Multiple advanced signs	D		D							

uurunoou oigiio	I		
accordance with Table	2.2 and used for	expressed i or positionir D" cannot b	NG n metres, determined in ng of advance signs. To be ne provided due to site
Speed of Traffi	c - km/h	[	Dimension - m
55 or les	ss		15
56 to 65	5		45

speed of traffic, in Km/h

Date of Approval:

Greater than 65

Signature: A.

PWZTMP: TCT1010645 Exp:N/A

ned.	17: Use the existing road network to turn where safe to do so.     18: TMA positioned to shadow work area.     19: ITCP qualified person completes drive around to confirm TGS is i	installed as designed.
2	0 0 0 0	16
	3 3	(19
	-	
	0 2 3 4	6

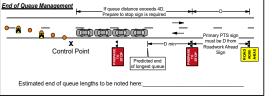
TGS Designed By: Alec Czarnowski

4 and 15: Install taper and delineation devices to form taper, safety buffer and past

14: Position TMA in travel lane to shadow installation of taper.

16: Install 'End Roadwork'/speed reinstatement.

Traffic	Guidance Schem	ne Modifications:				
Modified By:	Qua	Qualification Number:				
Expiry / Issue Date:	Signature:	Date of Modification:				



Primary PTS sign	Line of traffic cones or bollards	- 1.0 m for traffic speeds greater than 65 km/h					
Control Point Predicted and	Barrier boards, temporary guide posts or temporary hazard markers	- 1.0 m					
of longest queue  Estimated end of queue lengths to be noted here:	Road safety barrier system	- 0.3 m for traffic speeds less than 45 km/h     - 0.5 m for traffic speeds 45 to 65 km/h     - 1.0 m for traffic speeds 65 to 85 km/h     - 2.0 m for traffic speeds greater than 85 km/h					
Installation & Remove	al of Signs & Devices						
Two-lane, two-way roads: The sequence of installation should be as illustrated in the following order: 1: install the termination signs when initially leaving work area, 'End Road Work/speed reinstatement' (affected direction). 2: Use the existing road network to turn where safe to do so. 3 to 7: Place approach signs in unaffected direction, including the PTCD (traffic controller to remain with the PTCD). 8: Install 'End Road Work/speed reinstatement' (unaffected direction). 9: Use the existing road network to turn where safe to do so.	Multi-lane roads: The sequence of installation should be as ill 1: Locate advance warning vehicle and TMA 2 to 5: Install advance warning signs in unaf 6: Install 'End Roadwork'spoed reinstateme 7: Use the existing road network to turn whe 8: Locate advance warning vehicle and TMA 9 to 12: Install advance warning signs in obs 13: Install 'Eshsing Arrow' and delineation of	to shadow sign installation vehicle. fectod lane. nt. re safe to do so. to shadow sign installation vehicle. structed (affected) lane.					

J

10 to 14: Place approach signs in the affected direction, including the PTCD (traffic

Traffic Guidance Scheme Installation:							
Installed By:		Qualification Number:					
Expiry / Issue Date:	Signature:		Date of Installation:				

Amendment Description

Original Size A3

Issue Desg Appd Date & Time -GP - 79211 - CPBSBT 023 - Rolling Stop 09/01/2024 AC PI 09/01/2024 15:00 Original Issue TGS Approved By: Peter Ingram PWZTMP: TCT0058356 Exp: N/A Signature: P Client Company: CPB Contractors - Ghella Great Western Highway & Queen Street, Saint Marys NSW, Australia Client Contact: Hariharan Myooran Contact Number: 0410 674 153 OF CPB Project Description: Sydney Metro Western Syd Airport TBM movements - Rolling Stop Lack Group acknowledges the traditional owners of country throughout Australia and recognises their continuing connection to land, waters and community. We pay our respect to them and their cultures; and to elders both past and present.

Page 1 / 6

					TG	S F	Risk	Assess	ment				Į.	Item	Worksite Componer	nt Potential Hazard	-	tial Risk	Present	Control Measures	- ⊢	Residua													
			y of Controls	i					- Consequence (	impact)				#	Troncone componer	T Otomar nazara	С	P R				C P	R												
	1. Elimi eg. Roa	inate the hazard altogether. ad closures.		More Effective	Ne	gligible	(1)	Minor (2)	Moderate (3)	Major (4)	Severe (5)					Inadequate signage resulting in	1			Always: - Install RWA (T1-1) if diverting traffic along a sidetrack, detour, or															
j	2. Subs eg. Usi	stitute the hazard with a safe ing PTCDs instead of stop be	r alternative. its.			st Aid Treatm		Medical Treatment	Lost Time Injury	Permanent Impairment Injury		Health		3.4	After care	motorist loosing control and crashing or motorist becomes frustrated due to inappropriate signage		4 20	N	unexpected conditions, such as loose stones or the absence of line m - Cover any signs that are not applicable - Erect Condition signs in accordance with TCWS Manual - Provide delineation or temporary line marking		3 3	12												
إ	eg. Dro	ate the hazard from anyone work pp zones for clients works in	elevated work zones.		Very min no treatm	or injury that nent or simpl	it requires le first aid	Injury / illness, which requires medical treatment and may temporarily restrict a persons capacity to work	Injury / illness, which temporarily renders a person unfit to work in any capacity	Injury / illness, which permanently afters a persons future (eg. Spinal injury, amputation or death)	Fatality	& Safety				Signage				Aftercare speed limit to suit road conditions  Always: - Install RW 1km Ahead if approach speed is > 85km/h or sight distance	e is	+	+												
إ	eg. The	engineering controls to redu e use of traffic control device administrative controls to red	to protect work area.		Sho	ort term dam	nage	Limited but medium term damage	Significant but recoverable ecological damage	Heavy ecological damage, costly restoration	Permanent widespread ecological damage	Enviro	nada		Poor sight distance or spee	ed				less than 150m  - Use 700mm cones where traffic speed is greater than 75km/h  - Use 900mm cones on high speed to high volume roads (e.g., expres															
	6. Use	sure personnel are trained in PPE. earing gloves while manual h		Less Effective		lay / slight in		Local or worksite specific impact on service delivery or	Temporary impact on service delivery or customer satisfaction at a local event /	Serious impact on service delivery or customer satisfaction at a state client or	Long term or very severe impact on service delivery or customer satisfaction resultin	Quali		3.5	compliance or Approach spec 85km/h, or multi lane roads v traffic volume > 10,000vpc	ed > to react and fails to negotiate me		4	Y	or on any work site where increased visibility is required - Duplicate Lane status sign. Consider: - Installing RWA (T1-1)		4 2	14												
	C	Imost The threat can be expected to occur (5) 75% - 99%	Common / Frequent Occurance	More than 1 event per		Moderate (8)		High (16)	project level  High (18)	large project level  High (21)	Extreme (25)	ř	*							Increasing taper lengths Increasing the number of advance warning signage installed Increasing the size of signage installed Need for duplication of signs.															
<u>.</u>	٦,	(5) 75% - 99%  Likely Commonly occur commonly occur 50% - 75%	Is know to occur or "it has happened regularly"	s More than 1 event per year	N	Moderate (7)	e	Moderate (10)	High (17)	High (20)	High (24)			3.6	Side Roads	Vehicles enters work site from side road and collides with work		4 17	Y	- Always install advance warning signage for vehicles entering from siroad in advance of the work site.		3 2	11												
Proba		ossible (3) The threat may occur occasionally 25% - 50%	Could occur or "I've heard of it happening"	d 1 event per 1 to 10 years		Low (3)		Moderate (9)	Moderate (12)	High (19)	High (23)					Motorist travelling too fast for the				<ul> <li>Ensure speed zones are designed in accordance with TCAWS, AS1 and AGTTM.</li> <li>Ensure speed zoning is consistent with the work activity and road environment.</li> </ul>	42.3	C P R 3 3 12 4 2 14 4 2 14 4 2 14 4 2 14 4 2 14 4 2 14 3 3 12													
Sten 2	. Ur	The threat could infrequently occur 10% - 25%	Not likely to occur very often	1 event per 10 to 100 years		Low (2)		Low (5)	Moderate (11)	Moderate (14)	High (22)			3.7	Temporary Speed Zone	conditions causing MVA	5	4 24	N	Consider the use of speed radar VMS to monitor traffic speeds and a motorists.     Review the TGS and adjust where possible to enhance traffic calmin		4 2	14												
	F	Rare The threat may occur in exceptional circumstances. The threat may occur occasionally 0% - 10%	Conceivable but only in exceptional circumstances	Less than 1 event per 100 years		Low (1)		Low (4)	Low (6)	Moderate (13)	Moderate (15)		-	_					Transition	through the work site.	_	<b>+</b>													
						Step	3 - The	risk rating is whe	re the consequence	e and the probabil	ity intersect									Always: - Install taper lengths and cones in accordance with TCAWS Manual - Install & duplicate/repeat Lane Status Sign (T2-6-1 or 2) on multi lan															
Item #	V	Worksite Compone	ent Pot	tential Hazard		Initial R		Present	Control	Measures	<u> </u>		al Risk	4.0	Lane closure	Motorist fails to negotiate taper a collides with worker, vehicle or pl		4 24	Υ	roads - Use a minimum of 2 temporary hazard markers (T5-4 or 5) on tapers - Install a 30m minimum buffer zone at the end of tapers		4 2	14												
											Ac		Ac				Ac		Acce	- Design and AGTTM.	implement TGS in acc	ordance with TCAWS, A	AS1742.3 and	Τ								Check setup before commencing work     Consider using a shadow vehicle (or vehicles) with flashing lights to protect workers     Ensure appropriate site distance to start of taper			
1.0		GS Drawn / implementer jualified person or organi		awn / implemented by d person or organizat		5 3	23	Y - Ensure all rand impleme	ntation of the TGS are	nent personnel involved certified as competent p	persons to	1	13	_					Work Area		_	#													
							Depa	perform the t	raffic management task	s they are required to u	ındertake.									<ul> <li>Design and implement TGS in accordance with TCAWS, AS1742.3 a AGTTM.</li> <li>Ensure all relevant traffic management personnel involved in the des</li> </ul>															
								cover availab	le (i.e. safety barrier)	practical, or other type considered when alloc	1			5.0	Traffic Control	Motorist not concentrating or speeding collides with end of que or traffic controller	eue 5	4 24	Υ	and implementation of the TGS are certified as competent persons to perform the traffic management tasks they are required to undertake Conduct regular inspections in accordance with TCAWS, AS1742.3		4 2	14												
2.0	Ste	op bat used instead of P	TCD Traffic c	controller hit by vehicle	e 5	5 4	24	point on TGS NA - Ensure bes	<ul> <li>to be reassessed on t line of sight where pra</li> </ul>	site continuously actical. Should the best ace warning to be used.	1	2	14			or traine controller				- Rectify any deficiencies as a matter of urgency.  - Review traffic controls to suit changes in site conditions.	inu														
								- Traffic contr - Ensure app	oller to always remain	clear from travelled pati has been installed and	h. meets minimum									Always: Install workman T1-5 sign if workers on road Space cones in accordance with TCAWS Manual		Ť													
			Motorist co	ollides with VMS, moto	orist		Advance	the edge of t		oved safety barrier or a	od cuitable	Ī		5.1	Working adjacent to travel la	Motorist collides with worker, veh	icle 4	4 20	Y	Check setup before commencing work     Reduce speed based on lateral clearance between the work area an travel lane	d	4 2	14												
3.0		VMS	cc	onfused by VMS	4	4	20	based on a d	ocumented risk assess n is to be confirmed by all RWA (T1-1) on long-	ment. Risk Assessment	3	ļ_				or plant				Consider: - Using a shadow vehicle(s) with flashing lights to protect workers - Using spotters with workers															
3.1		Long Term Works	Contact	worker	4	4	20	- Consider us		term road work sites	3	3	3 12						General	- Using safety barriers		—													
								<ul> <li>Use two-way possible</li> </ul>	y communication with t	oved and appropriate R0 trucks and give them pr				6.0	Night work	Due to poor visibility motorist collides with end of queue, work vehicle or plant	er, <b>5</b>	4 20	Y	- Consider providing portable lighting to ensure traffic controllers are vand ensure the positions of any temporary lighting are clearly shown of TGS & always use applicable night PPE.		4 2	14												
								clear traffic if	ional signs or use addit end of queue extends	ional traffic controllers of beyond the advance was bads priority (i.e. stop w	arning signs			6.1	Wind / Rain / Fog / Obstruction		a	4 20	Υ	Always monitor weather and traffic     Always regularly check setup to ensure signs are visible. If visibility been obstructed, consider shifting signs, duplication, or repetition.		3 3	12												
3.2	Del	ays or Queue extends b advanced warning sign	eyond s Motorist co	ollides with end of que	eue 4	4	20	Y Consider: - Working ou	tside peak periods		4	2	14			traffic Wind blows over signs Vehicle parks in front of sign				Consider additional advance warning signage     Liaise with client to reconsider setup or continuation of works     Always:		+													
								<ul> <li>Using VMS'</li> <li>Notifying en</li> </ul>	's nergency services	ith traffic signal phasing				6.2	Vehicle Movements	Plant collides with motorist, work	ers, 4	3 19	Υ	- Ensure positive communications Consider: - Using Traffic Control and/or Spotters to manage work vehicles		3 3	12												
								<ul> <li>Use of que</li> </ul>	ue monitors S has been designed to	d to advance warning since the cater for the predicted										Installation of exclusion Zones     Preparing a VMP where required.     Ensure TGS design caters for all road users including pedestrians and cyclists		4	<u> </u>												
								Always: - Install RWA	(T1-1) if diverting traffi	c along a sidetrack, det										<ul> <li>Always clearly delineate the work area.</li> <li>Do not obstruct pedestrian and cyclists travel paths with traffic control signs an devices.</li> </ul>															
		hanged traffic conditions pery surface, no lines, ch		oses control, is confus	sed,			- Erect Condi - Provide deli	ition signs in accordance	e stones or the absence be with TCAWS Manual ne marking and ensure	this is clearly			6.3	Pedestrians and Cyclists	Pedestrian and/or cyslist enters work zone or travel lane and is		5 21	Y	Consider the use of additional warning and guidance signage for pedestrians, and motorists.     Comply with shoulder and lane width criteria in the design of the TGS.		4 2	14												
3.3	li	ine marking, banned turr movements, detours)	ing Orallemp	ots a banned manoeuv causing MVA	vre 4	4	20			nged traffic conditions v		2	2 11		,	by vehicle or plant				Consider the use of traffic control at crossing points especially where contra-fic arrangements are in place.     Consider the use of additional traffic controllers to monitor and assist pedestria.															
								- Ensure app	ropriate permission for ction installed to suit ro	any detours										cyclist movements where required.  - Ensure the use of existing or temporary ramps for crossing points.  - Undertake consultation to determine existing travel paths, desire lines, volume types of users.	s, and														
	_		_					TOO Name O N														中													
	esg AC	Appd Date & Time PI 09/01/2024 15:0		Amendment Desc	-	1		TGS Name & Number: LGP - 79211 -		- Rolling Stop	ı				<u> </u>	S Designed By: Alec Czarnowski			CT101064	21		Pa	age 2 / 6												
01	٦٠	F1 09/01/2024 15:0	,	Original Issue	U			Works Location:	5. 2551 020							S Approved By: Peter Ingram ent Company: CPB Contractors -		LIWIP: I	C1005835	Client:	•	4	N I												
03									n Highway & C	Queen Street, S	Saint Marys N	SW	V, Aus	trali	·- <del>-</del>	ent Contact: Hariharan Myooran		tact Nun	nber: 0410			_													
04								Project Name:		1 -	t Description:			_	<u>'</u>	•				OBECPB Generality	1),		7												
05	$\Box$									Airport TBM					•								1												
	Sc	ale: 1 : 750		Original Size	A3			Lack Group a	cknowledges the tr	aditional owners of	f country through	out .	Australi	ia an	d recognises their contin	nuing connection to land, waters	and co	mmunit	y. We pay	our respect to them and their cultures; and to elders both	past a	and pr	esent.												

Iten	n	Worksite Component	Potential Hazard	_	itial R	i –	Presen	t Control Measures	Resi	_					
6.4		Bus stops	Bus unable to pull up safely causing MVA	3	3 3 12 N -\		3 12 N		3 3 12 N		N	- Consider notifying bus companies that operate in the area - Always provide adequate provision for buses or carry out work at night when buses aren't operating - Where temporary bus stops are created, ensure buses are able to meet the curb - Ensure TGS clearly shows affected stops - Traffic controllers to manage and assist where safe and possible	2	P 2	<b>R</b>
6.5	Pr	roperty accesses - commercial or private	Collisions due to propertie acess restrictions	3	4	17	Υ	Consider staging work outside of business hours     Create physical barrier to prevent traffic entering site & driveways	2	2	5				
6.6	3	Excavations within work area	Errant vehicle drives into excavation	5	4	25	N	- For excavations shallower than 0.5m and within 3m of the edge of traffic lane, delineate the excavation with plastic mesh floncing, barrier boards placed perpendicular to the traffic flow or conest/bollards For excavations deeper than 0.5m and within 3m of the edge of traffic lane, a temporary safety barrier must be installed. When traffic is greater than 3m from the excavation, the requirement for a temporary safety barrier should be considered based on a documented risk assessment Where the excavation is deeper than 200mm, is open for more than 2 weeks and the distance from the edge of traffic lane is less than 3m for 60km/h, 6m for 80km/h and 9m for 100km/h, a temporary safety barrier must be installed.	4	2	14				
6.7		Parking	Parked vehicle or worker exiting vehicle hit by passing vehicle	4	4	20	Υ	Always check adequate parking is available for workers and visitors     Consider providing safe parking within the work area	4	2	14				
6.8	3	Concurrent Works	Motorist confused by conflicting signs causing MVA	3	4	17	Υ	- Always establish communication with other site if possible - Always cover any conflicting signs and adjust TGS as necessary - Complete conflict checks where required	3	3	12				
6.9	) Hea	avy Vehicles and OSOM Vehicles	HV cannot travel past work site without knocking over delineation	4	4	20	Y	Comply with shoulder and lane width criteria in the design of the TGS During the design of the TGS, check vehicle swept path where necessary to ensure the largest known vehicle travelling through the work site can negotiate the changed traffic conditions Traffic controllers to communicate with heavy vehicle and OSOM drivers to warn and guide them through the work site as required Traffic control to monitor heavy vehicle movements and if required, make adjustments to the signs and devices within approved tolerances. If more significant changes are required, liaise with Client/Supervisor and arrange for TGS to be reviewed and modified by the designer.	4	2	14				
						Dyn	amic Wo								
7.0		General Traffic	Motorists speeding / not concentrating / tired / distracted. Not having enough time to merge causing MVA	5	5	25	Υ	- Always use a minimum 1 AWV and consider the use of a 2nd AWV Consider use of TIMA on higher speed roads -86km - Use speed reduction best suited to work activity and road environment - Use applicable AW signage displayed on AWV - Ensure sight distances between AWV, shadow vehicles are clearly labelled on TGS - Ensure 20-40m buffer zone between shadow vehicle and work vehicle. No less than 40m when using a TIMA as a shadow vehicle - Positive communications to be held at all times - Workers to remain shadowed at all times - Monitor traffic queues on all road configurations, convoy to clear roadway if required until traffic has cleared	4	2	14				
H	em 3.0			Ad	ldit	iona	al Coi	ntrol Measures							
9	9.0														
1	0.0														
1	1.0														
It	em		Departures: S	tat	e th	ne d	epart	ure and reason for departure							

Item	Additional Control Measures		
8.0			
9.0			
10.0			
11.0			
Item	Departures: State the departure and reason for departure		
12.0			
13.0			
14.0			
Departures Sign Off (CLIENT):			
Client I	Client Name:		

Original Size A3

Issue 01 02

03

04

05

Scale: 1:750

# NOTES:

# **GENERAL NOTES**

- 1. This Traffic Guidance Scheme (TGS) is to be used in conjunction with the Traffic Management Plan (TMP) and associated road authority permits and management plans.
- including Road Occupancy Licence (ROL), vehicle movement plan (VMP) and pedestrian movement plan (PMP) where applicable. 2. This TGS has been produced by a Prepare Work Zone Traffic Management Plan (PWZTMP) qualified person in accordance with the requirements of the TfNSW Traffic Control at Work Sites manual, Issue 6.1 dated 28 February 2022 (TCAWS 6.1) and with reference to AS1742.3 and AUSTROADS Guide to Temporary Traffic Management
- 3. This TGS is suitable for short term/ long term works.
- 4. Lack Group does not accept responsibility for this TGS if it is implemented or modified by external parties.

# APPROVALS

5. The TGS must be approved for use before implementation.

Parts 1 - 10, version 1.1 dated September 2021 (AGTTM).

6. Ensure all road authority approvals and associated conditions of approval are met prior to implementing the TGS.

7. Prior to use on site, the selected or designed TGS must be verified to ensure it is suitable for the works and location by undertaking an inspection of the work site where the TGS will be implemented. The TGS verification must be completed in accordance with TCAWS 6.1, Section 8.1.2 by an Implement Traffic Control Plan (ITCP) or PWZTMP qualified person, Refer Page 1 of this TGS for Site Verification sign-off.

8. A desktop risk assessment has been undertaken in developing this TGS. However, when implementing this TGS on site, the site supervisor should undertake a site

# INSTALLATION AND REMOVAL OF SIGNS AND DEVICES

specific risk assessment to ensure that the TGS has considered and mitigated all identified hazards and risks.

# 9. All traffic management signs and devices prescribed for use in this TGS are in accordance with TCAWS 6.1 with reference to AS1742.3 and AGTTM.

10. The TGS must be installed, maintained and removed in a planned and safe manner. The implementation must only be undertaken by an ITCP qualified person. 11. All signage shown on this TGS is not to conflict with any long-term existing signage arrangements in the area. If this occurs, cover all conflicting road signage where required

# PLACEMENT OF SIGNS AND DEVICES

- 12. Signs must be properly displayed and securely mounted at all times and within the line of sight of the intended road user. Regulatory and detour signs must be located nearest to the travel edge of the lane. Signs must not: Be obscured from view, such as by vegetation or parked cars; Obscure other devices from the line of sight of the intended road users; Create a hazard to road workers and road users, including pedestrians and cyclists; Be a hazard that deflects traffic into an undesirable path; Restrict sight distance for drivers entering from side roads or streets, or private driveways; and Be installed using supports that could be a hazard if struck by a vehicle.
- 13. Signs mounted on frames for short-term works should be mounted a minimum 200mm from the ground to the lower edge of the sign. 14. Signs mounted on posts for long-term works in open road situations, the underside of the sign must be at least 1.5m above the level of the nearest edge of the travelled path. When installed on a kerb or footpath, the underside of the sign must be at least 2.2m above the level of the nearest edge of the travelled path

# ORIENTATION OF SIGNS

15. On the outside of a curve, the sign face must be at 0 degrees, or 'normal to traffic'. On a straight, the sign face must be angled at approximately 5 degrees normal to oncoming traffic and on the inside of a curve, the sign face must be angled at approximately 5 degrees normal to oncoming traffic at 200m preceding the sign.

16. Local constraints may not allow signage and devices to be placed in accordance with this TGS. Unless stated otherwise on the TGS, the tolerances on the positioning of signs, length of tapers or pavement markings detailed in the TGS is a minimum 10% less and a maximum 25% more than the distances or lengths stated and for the spacing

of delineation devices a maximum 10% more than the spacing detailed in the TGS. 17. Any variation to the positioning of signs and devices within the approved tolerances must be marked and initalled on the TGS held on site, with the name of the person

- 18. Modifications to a Site Specific or Site Suitable TGS must be approved by a person holding the PWZTMP qualification and must be supported by a TMP or risk assessment to ensure that the TGS has considered and mitigated all identified site specific conditions and risks.
- 19. If it is identified that by implementing the TGS with modifications outside of the approved tolerances it will generate risks, then the works must be stopped (including the implementation of the TGS), the site must be made safe and an updated TGS must be provided by a PWZTMP qualified person prior to works recommencing. Any concerns regarding the suitability of the TGS must be raised with the Site Manager and your immediate Supervisor.

# TRAFFIC CONTROLLERS

- 20. The implementation of traffic control must be conducted in line with the hierarchy of controls with the elimination of harm to workers and the travelling public considered in the first instance. 21. Where traffic control is required, a portable traffic control device (PTCD) must be used rather than using a manual traffic controller when the existing permanent speed
- 22. TCAWS 6.1, Section 5.4 provides the conditions under which a manual traffic controller may be used.
- 23. Where PTCDs or traffic controllers are used, approach speeds of traffic must be reduced to less than 65 km/h.
- 24. All persons operating a portable traffic control device or performing manual traffic control must be qualified with 'Traffic Control' training; and authorised by the relevant

# ROAD USER MANAGEMENT

25. The needs of specific road users, including travel paths and desire lines, must be considered and managed for the extent of the works to ensure safety and access is maintained. Specific road user groups to be considered include: Pedestrians including high-risk pedestrians such as persons with a disability, children, the elderly or persons using mobility aid devices; Cyclists; Motorcyclists; Heavy Vehicles, including oversize overmass vehicles; Public transport; and Emergency services. The needs of these specific road users have been considered in the design of this TGS, however the needs of all road users should be considered in the site specific risk assessment before

implementing the TGS to ensure the TGS is appropriate. 26. Road users are to be monitored for the duration of the works. If additional signage and/or devices are required to manage the needs of specific road users, such as pedestrians and cyclists, this would be subject to following the procedure for modifying a TGS.

# ACCESS MANAGEMENT

27. Access to properties located within the extent of works must be maintained at all times.

Client Contact: Hariharan Myooran

Lack Group acknowledges the traditional owners of country throughout Australia and recognises their continuing connection to land, waters and community. We pay our respect to them and their cultures; and to elders both past and present.

28. Property access impacted by the works should be identified and addressed in the TGS. Consultation with the property owner/resident must be undertaken prior to implementing the TGS if required

- INCIDENT MANAGEMENT 29. The site contractor is to determine the appropriate procedure for incident management where appropriate.
- 30. If an incident occurs within the extent of the traffic control arrangement: Call for assistance if incident requires (emergency services 000 or 112); Notify the work site supervisor or Team Leader immediately of any incident; Maintain effective traffic control, if necessary, relocate the traffic control station to a suitable location clear of any further danger; and Record sufficient notes of the incident, including observations, to complete an incident report

# INSPECTIONS

31. Temporary traffic management monitoring activities must be undertaken in all instances where work is being performed or aftercare is in place. This includes day and night times as required. The type of inspections and frequency are to be in accordance with TCAWS 6.1, Section 8.1.1.

# REVIEW OF TGS

32. Generic TGSs must be reviewed by a PWZTMP qualified person every 12 months so that they remain appropriate. Once reviewed the date and details of the PWZTMP person must be updated on the TGS to ensure persons selecting can confirm currency

Contact Number: 0410 674 153

CI	Client Name:			33. All active site specific and site suitable TGS are designed for the nominated work activity and are only valid for the time period of works specified on the TGS. They must be reviewed as part of the weekly inspections as detailed in TCAWS 6.1, Section 8.1. If the work activity is intended to be longer than 12 months, then the TGS musty be formally reviewed by a PWZTMP qualified person at least every 12 months and issued with the review date and the details of the person undertaking the review.						
Client Signature: Date:		RECORD KEEPING  34. Supervisory personnel are to keep daily records of the TGS implementation including: Site specific risk assessments; Approved TGS used, including versions where modifications or updates have been made; Completed inspection checklists that have been undertaken; Records of traffic related incidents that occurred during the works; and Any other relevant document generated by the process of completing the temporary traffic management works.								
ue	Desg	Appd	Date & Time	Amendment Description	TGS Name & Number:		TGS Designed By: Alec Czarnowski PWZTMP: TCT1010645	Exp: N/A Signature: AC	Date of Approval:	Page 3 /
1	AC	PI	09/01/2024 15:00	Original Issue	LGP - 79211 - CPBSBT 023 - Rolling Stop		TGS Approved By: Peter Ingram PWZTMP: TCT0058356	Exp: N/A Signature: Pd	09/01/2024	N
2					Works Location:		Client Company: CPB Contractors - Ghella	Client:		l ï

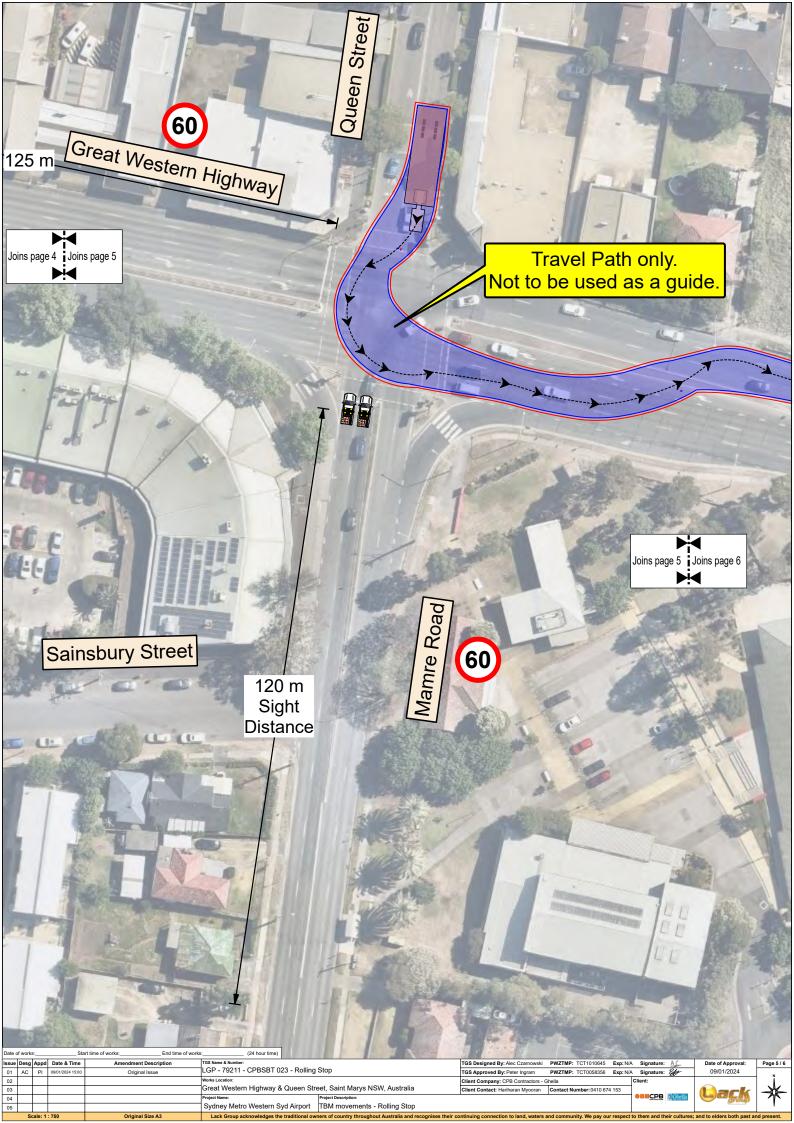
Great Western Highway & Queen Street, Saint Marys NSW, Australia

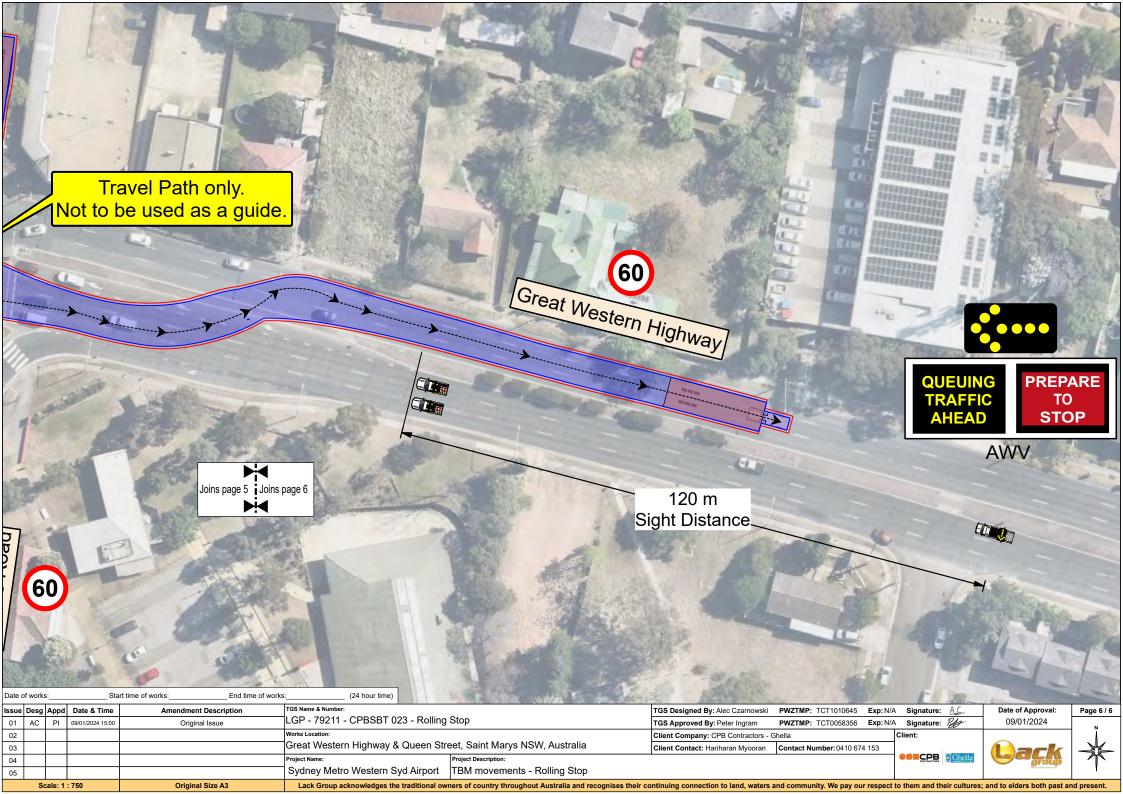
Sydney Metro Western Syd Airport

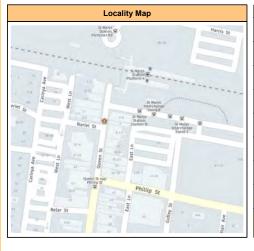
roject Description:

TBM movements - Rolling Stop









Position:

Signature:

Verified By:

Qualification:

Modified By:

Expiry / Issue Date:

Modification Notes:

Issue Desg Appd Date & Time

PI 18/01/2024 12:45

01

02

03

04

05

AC

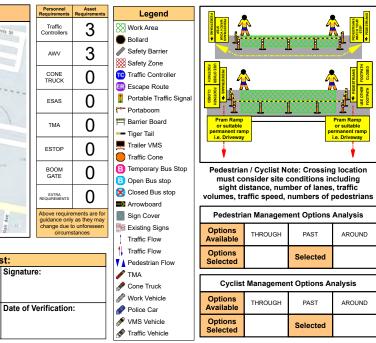
TGS Verification Checklist:

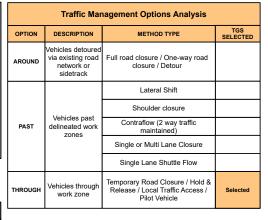
**Traffic Guidance Scheme Modifications:** 

**Qualification Number:** 

Expiry / Issue Date:

Personnel Requirements	Asset Requirements
Traffic Controllers	3
AWV	3
CONE TRUCK	0
ESAS	0
TMA	0
ESTOP	0
BOOM GATE	0
EXTRA REQUIREMENTS	0
Above requirements are fi guidance only as they ma change due to unforesee circumstances	





Edge Clearances

Clearance must be measured to the traffic side edge of the delineating device

**Edge Clearence** 

0.5 m for traffic speeds less than 65 km/h 1.0 m for traffic speeds greater than 65 km/h

0.3 m for traffic speeds less than 45 km/h 0.5 m for traffic speeds 45 to 65 km/h

1.0 m for traffic speeds 65 to 85 km/h 2.0 m for traffic speeds greater than 85 km/h

PWZTMP: TCT1010645

PWZTMP: TCT0058356

Contact Number: 0410 674 153

Exp: N/A

Exp: N/A

Signature: A.

Signature: P

●●■CPB (Ghe)

Edge of traffic lane to:

Line of traffic cones or bollards Barrier boards, temporary guide posts or temporary hazard

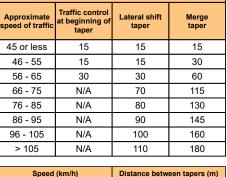
markers

Road safety barrier system

2 to 5: Install advance warning signs in unaffected lane. 6: Install 'End Roadwork'/speed reinstatement.

Installation & Removal of Signs & Devices

Multi-lane roads:



**Taper Lengths** 

metres

metres

15

Dimension "D" (Main Roads)

Dimension "D" (Minor Roads)

Speed (km/h)	Distance between tapers (m)			
45 or less	10			
46 to 55	25			
56 to 65	70 1.5 x Speed Limit (D)			
Greater than 65				
Delineatio	n Spacing			

Delineation Spacing				
Purpose & Usage	Speed zone of device location km/h	Maximum Spacing m		
On approach to a traffic controller position (center line or edge line)	All cases	4		
Merge Tapers	55 to 75 Greater than 76	9 12		
Lateral shift tapers	55 to 75 Greater than 76	12 18		
Protecting freshly painted lines	56 to 75 Greater than 76	24 60		
All other puporses	less than or equal to 55 26 to 75 greater than 76	4 12 18		

All other puporaes	greater than 76		18		
Sign spacing requirements					
Number of signs	Approach Speed				
	less than 65 km/h 65 km		/h or greater		
One advanced sign	D		2D		
Multiple advanced signs	D		D		

ALTERNATE SIGN SPACING  Dimension 'D': AGTTM': A distance expressed in metres, determined in accordance with Table 2.2 and used for positioning of advance signs. To be considered if TCAWS dimension 'D' cannot be provided due to site conditions.			
Speed of Traffic - km/h	Dimension - m		
55 or less	15		
50.4 05	4-		

End of Queue Management  If queue distance exceeds 4D,  Prepare to stop sign is required
Primary PTS sign must be 0 from Condrock Ahead Sign Sign Sign Sign Sign Sign Sign Sign

		Installation & Re
	Two-lane, two-way roads: The sequence of installation should be as illustr 1: Install the termination signs when initially lear reinstatement' (affected direction). 2: Use the existing road network to turn where s 3 to 7: Place approach signs in unaffected direct to remain with the PTCD). 8: Install 'End Road Work/speed reinstatement' 9: Use the existing road network to turn where s 10 to 14: Place approach signs in the affected di controller to remain with PTCD). 15 and 16: Traffic controller/s to stop traffic and 17: ITCP qualified person completes drive aroun	ving work area, 'End Road Work'speed iafe to do so. tion, including the PTCD (traffic controlli (unaffected direction). iafe to do so. rection, including the PTCD (traffic taper/lane closure delineation implement
Scheme Installation:	0 0 0 0 0	<b>0</b>
Qualification Number:		<u> </u>

TGS Name & Number

Works Location:

GP - 80574 - CPB SBT 024 - Mobile Pilot

Station St & Queen St, St Marys NSW, Australia

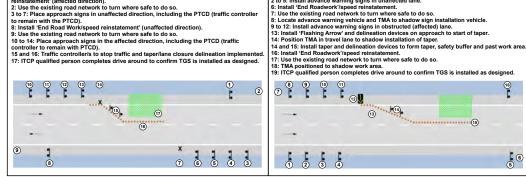
Date of Modification:

Signature:

				- 1
Traffic Guidance Scheme Installation:				
Installed By:		Qualification	Number:	
Expiry / Issue Date:	Signature:	•	Date of Installation:	
	ı		1	- 1

Amendment Description

Original Issue



Project Description:

d.	18: TMA posi	tioned to	shadow worl		to do so. confirm TGS is installed as	designed.
2	7	0 0	11 12			16
	-			13	19	
	-					
	1	3	4			6

TGS Designed By: Alec Czarnowski

Client Company: CPB Contractors - Ghella

TGS Approved By: Peter Ingram

Client Contact: Hariharan Myooran

The sequence of installation should be as illustrated in the following order: 1: Locate advance warning vehicle and TMA to shadow sign installation vehicle.

accordance with Table 2.2 and used for positioning of advance signs. I considered if TCAWS dimension "D" cannot be provided due to sit conditions.		
Speed of Traffic - km/h	Dimension - m	
55 or less	15	
56 to 65	45	
Greater than 65	speed of traffic, in Km/h	

Date of Approval:

18/01/2024

ack	*
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Page 1 / 4

Sydney Metro Western Syd Airport | Mobile Ingress/Degress of Site HV Lack Group acknowledges the traditional owners of country throughout Australia and recognises their continuing connection to land, waters and community. We pay our respect to them and their cultures; and to elders both past and present. Scale: 1:750 Original Size A3

The control of the		Hierary	chy of Co	ontrols		TGS	Ris	k As	sessi	<u>nent</u>				Item	Worksite Compone	nt Potential Hazard	<u> </u>	I Risk	Present	Control Measures	$\vdash$	idual R	_
Part   Control   Part   Part   Control   Part   Part   Control   Part		Eliminate the hazard altogether		J.1.1. U.U	More				Step 1	- Consequence (i	mpact)	I						, N			۳	i i	Ä
March   Marc			afer alternation	ive	A Linecave				. ( )	* * * * * * * * * * * * * * * * * * * *		Severe (5)	L.		After care	motorist loosing control and		4 20	N	unexpected conditions, such as loose stones or the absence of line marking	J , !	,	12
Part   Control		eg. Using PTCDs instead of stop  3. Isolate the hazard from anyon	bats.	be harmed.	-			Injury / illne	ss which requires	Injury / illness, which	Injury / illness which	Fatality	Health & Saf	3.4	Alter care	frustrated due to inappropriate	4	4 20	N	- Erect Condition signs in accordance with TCWS Manual - Provide delineation or temporary line marking - Aftercare speed limit to suit road conditions	•	Ů	12
Principle   Prin	1	Use engineering controls to re	duce the risk	k.	<b>5  </b>	no treatment	or simple lirst al	capa	restrict a persons scity to work	unfit to work in any capacity	amputation or death)		ety							- Install RW 1km Ahead if approach speed is > 85km/h or sight distance is less than 150m	!		
Part	1	5. Use administrative controls to	reduce the ri	risk.		Short to	erm damage			Significant but recoverable ecological damage			Enviro	3.5	compliance or Approach spe	ed > to react and fails to negotiate merge	e 5	24	Y	<ul> <li>Use 900mm cones on high speed to high volume roads (e.g., expressway or on any work site where increased visibility is required</li> </ul>		2	14
Part		S. Use PPE. eg. Wearing gloves while manua	l handling.		Less Effective	Brief delay servi	slight impact or be delivery	impact on s	service delivery or	delivery or customer satisfaction at a local event /	delivery or customer satisfaction at a state client or		Quality	$^{\prime}$						Consider: - Installing RWA (T1-1) - Increasing taper lengths			
Part   Control		Certain expected to occu			ore than 1 event per month				High (16)	High (18)	High (21)					Mahislas and an analysis from a				Increasing the size of signage installed Need for duplication of signs.	<u> </u>		
Part	ability		IS KINDW ID		ore than 1 event per year					High (17)	High (20)	High (24)		3.6	Side Roads		3	4 17	Y	road in advance of the work site.		2	11
March   Control   Proceedings   March   Control   Proceded   March   Control   Proceded   March   Control   Proceded   March   Control	- Prok	Possible (3) The threat may occasionally 25% - 50%	Could occ		vent per 1 to 10 years						High (19)	High (23)			T	Motorist travelling too fast for the			٠,	and AGTTM.  - Ensure speed zoning is consistent with the work activity and road			
The control of the	Step 2	infrequently occu	, Not likely	ely to occur very 1 e	event per 10 to 100 years							High (22)		3.7	remporary Speed Zone	conditions causing MVA		4 24	N	motorists.	*	2	*
Potential Facility   Potenti																		÷	Transition	through the work site.	H		
March   Protection   Protecti							tep 3 - T	ne risk ra	ting is wher	e the consequenc	e and the probabil	ity intersect		╛╵						Install taper lengths and cones in accordance with TCAWS Manual	'		
Control or registerative transport transport transport or registerative transport transpo	Item #	Worksite Compo	nent	Potenti	ial Hazard	_		Present		Control	Measures			<b>-</b>	Lane closure			4 24	Y	roads - Use a minimum of 2 temporary hazard markers (T5-4 or 5) on tapers - Install a 30m minimum buffer zone at the end of tapers	4	2	14
1							A	ceptance	- Design and i	mplement TGS in acco	ordance with TCAWS, A	S1742.3 and								Consider using a shadow vehicle (or vehicles) with flashing lights to protect workers			
The second state of the control of t	1.0						3 23	Υ	- Ensure all re	levant traffic managem	nent personnel involved	in the design 4	1 1:	3					Work Area	Ensure appropriate site distance to start of taper	!		
Consider that or elegand expenses of PTCD interference or elegand expenses of PTCD interference or elegand expenses of the Consider of the Con																							
2 Notice between leasest of PTCD The container hit by valeties  8						T	D	epartures	cover availabl	e (i.e. safety barrier)				5.0	Traffic Control	speeding collides with end of queue	e <b>5</b>	4 24	Y	and implementation of the TGS are certified as competent persons to perform the traffic management tasks they are required to undertake.	4	2	14
Full Condition be designed and the product of the product of many semant and product of many semant	2.0	Stop bat used instead o	FPTCD	Traffic control	ller hit by vehicle	5	4 24	NA	point on TGS - Ensure best	<ul> <li>to be reassessed ons line of sight where pra</li> </ul>	site continuously ctical. Should the best I	-	2 1	4		or traffic controller				AGTTM Rectify any deficiencies as a matter of urgency.			
A contract Within Section (as a contract of the with VMC), modeled by VMC and confidence									<ul> <li>Traffic contro</li> <li>Ensure approx</li> </ul>	oller to always remain of opriate speed signage	lear from travelled path			H						Always: - Install workman T1-5 sign if workers on road			
Confused to the control by VMS  Confluence inchanges control code with Market in control code with Market in Control code with Market in Code with				Motorist collides	with VMS motor	rist	Adva		ng - Always place	VMS behind an appro	oved safety barrier or as	nd cuitable		5.1	Working adjacent to travel la		le 4	4 20	Y	- Check setup before commencing work - Reduce speed based on lateral clearance between the work area and	4	2	14
Long from Works wo	3.0			confuse	ed by VMS	4	4 20	-	based on a do - The location	cumented risk assessi is to be confirmed by F	ment. Risk Assessment	3	2 1	1		or plant				Consider: - Using a shadow vehicle(s) with flashing lights to protect workers			
Part   Work   Amount   Work	3.1	Long Term Works	3			<sup>n</sup> 4	4 20	N	<ul> <li>Consider usi</li> </ul>	ng VMS's	term road work sites	3	3 1:	2					General		Ш'		
Delays of Quase extends beyond work and extended withing signs and extended the proof of quase with end of quase   4   2   2   4   2   4   4   2   2   4   4									<ul> <li>Work in accordance</li> <li>Use two-way possible</li> </ul>	communication with to				6.0	Night work	collides with end of queue, worker,	, 5	4 20		and ensure the positions of any temporary lighting are clearly shown on the	4	2	14
Set one of the control of warring signs and protection of the control of signs and phasing the control of control of signs and signs and signs and control of signs and signs and control of signs and s									<ul> <li>Install addition</li> <li>clear traffic if</li> </ul>	onal signs or use additi end of queue extends t	beyond the advance wa	rning signs		6.1	Wind / Rain / Fog / Obstructi	road to be slippery increasing risk of a ions collision with workers, plant or other		4 20	Y	- Always regularly check setup to ensure signs are visible. If visibility has	3	3	12
Liury VMSs   Plant collides with motoriat, workers or other plant   Liury Family Control and/or Sottlers to manage work vehicles   Family Fa	3.2			Motorist collides	s with end of que	ue 4	4 20	Y	Consider: - Working outs	side peak periods		4	2 1	4	-					- Liaise with client to reconsider setup or continuation of works	<u> </u>		
Use of thisking peacors to be added to alwance warming singles									<ul> <li>Using VMS's</li> <li>Notifying em</li> </ul>	ergency services				6.2	Vehicle Movements		s, 4	3 19	Y	Consider:	3	3	12
Always clary discrete the work area.  Changed traffic conditions (eg 3).3 Changed traffic conditions (eg 3).3 Slippery surface, no lines, changed traffic conditions such as loose stone or the absence of line marking.  First Conditions (eg 3).3 Slippery surface, no lines, changed traffic conditions such as loose stone or the absence of line marking.  First Conditions (eg 3).3 Slippery surface, no lines, changed traffic conditions such as loose stone or the absence of line marking.  First Conditions where required.  Y shown on the TS.  Lus Traffic Control to manage changed traffic conditions where required.  Y shown on the TS.  Lus Traffic Control to manage changed traffic conditions where required.  Y shown on the TS.  Lus Traffic Control to manage changed traffic conditions where required.  Y shown on the TS.  Lus Traffic Control to manage changed traffic conditions where required.  Y shown on the TS.  Lus Traffic Control to manage changed traffic conditions where required.  Y shown on the TS.  Lus Traffic Control to manage changed traffic conditions where required.  Y shown on the TS.  Lus Traffic Control to manage changed traffic conditions where required.  Y shown on the TS.  Lus Traffic Control to manage changed traffic conditions where required.  Y shown on the TS.  Lus Traffic Control to manage changed traffic conditions where required.  Y shown on the TS.  Lus Traffic Control to manage changed traffic conditions where required.  Y shown on the TS.  Lus Traffic Control to manage changed traffic conditions where required.  Y shown on the TS.  Lus Traffic Control to manage changed traffic conditions where required.  Y shown on the TS.  Lus Traffic Control to manage changed traffic controllers to monitor and assist podestrian and cyclists where required.  Y shown on the TS.  Lus Traffic Control to manage changed traffic controllers to monitor and traffic controllers to monitor and cyclists where the traffic controllers to making the traffic controllers to the design of the TS.  Lus Traffic Control to manage									- Use of queu - Ensure TGS	e monitors has been designed to	-									Preparing a VMP where required.	<u> </u>		
Changed traffic conditions (eg Slipperty surface, no lines, changed in management of the conditions (eg Slipperty surface, no lines, changed in management of the causing MVA  A visual provided elineation or temporary line marking and ensure this is clearly shown on the TCS of the causing MVA  A visual provided elineation or temporary line marking and ensure this is clearly shown on the TCS of the causing MVA  A visual provided elineation or temporary line marking and ensure this is clearly shown on the TCS of the causing MVA  A visual provided elineation or temporary line marking and ensure this is clearly shown on the TCS of the causing MVA  A visual provided elineation or temporary line marking and ensure this is clearly shown on the TCS of the crossing points. The consider the use of additional warning and guidance estimate, cyclists and moderate. Complete the work zone or travel lane and is hit by vehicle or plant.  A visual provided elineation or temporary line marking and ensure this is clearly shown on the TCS of the crossing points. Consider the use of additional warning and guidance estimate, cyclists and moderate. Complet the work zone or travel lane and is hit by vehicle or plant.  A visual provided elineation or temporary in marking and ensure this is clearly shown on the TCS.  Lone traffic Control to manage changed traffic conticitions where required. One the work zone or travel lane and is hit by vehicle or plant.  A visual provided traffic controllers to monitor and assist podestrian and cyclists where contractly and the very contractive travel and and circuit and moderate. Consider the use of additional warning and guidance signates for eriosate signates where contractly and moderate and is hit by vehicle or plant.  Y visual provided traffic controllers to monitor and assist podestrian and cyclists where contractly and the very contractive travel and the very contractive travel and and circuit and the signature was a very contractive travel and and circuit and the very contractive travel and and									Always:		along a sidetrack, det	our or								Always clearly delineate the work area.     Do not obstruct pedestrian and cyclists travel paths with traffic control signs and	!		
Sispery surface, no lines, changed immerstrying in movements, detours)   Sispery surface, no lines, changed immerstrying in movements, detours)   Sispery surface, no lines, changed immerstrying in movements, detours)   Sispery surface, no lines, changed immerstrying in movements, detours)   Sispery surface, no lines, changed immerstrying in movements are in place. Consider the use of rather to assign where contra-flow arising movements, detours)   Sispery surface, no lines, changed immerstrying in movements when going in marking, banned turning movements, detours)   Sispery surface, no lines, changed immerstrying in movements when going in marking, banned turning movements, detours)   Sispery surface, no lines, changed immerstrying in the marking, banned turning movements, detours)   Sispery surface, no lines, changed immerstrying in the marking, banned turning movements, detours)   Sispery surface, no lines, changed immerstrying in the marking, banned turning movements, detours)   Sispery surface, not lines, changed immerstrying in the marking, banned turning movements, detours)   Sispery surface, not lines, changed immerstrying in the marking, banned turning movements, detours)   Sispery surface, consider the use of the properties to monitoring work. Consider the use of the properties to make a surface consultation to determine assist pedestrian and possible for considering the use of plant is a properties. Speed reduction installed to suit road conditions where required.				Motoriet loses o	control is confuse	-d			unexpected or - Erect Condit	onditions such as loose ion signs in accordanc	e stones or the absence e with TCAWS Manual	of line marking			De de etrico e en d Occiliato				v	Consider the use of additional warning and guidance signage for pedestrians, cyclist and motorists.  Comply with shoulder and lane width criteria in the design of the TGS.			
Ensure appropriate permission for any detours   Speed reduction installed to suit road conditions   Speed reduction installed to suit road conditions   Consider using VMS's      Saw   Desg   Appd   Date & Time   Amendment Description   TGS Name & Number:   LGP - 80574 - CPB SBT 024 - Mobile Pilot   TGS Approved By: Peter Ingram   PWZTMP: TCT1010645   Exp: N/A   Signature:   AC   Date of Approval:   LGP - 80574 - CPB SBT 024 - Mobile Pilot   TGS Approved By: Peter Ingram   PWZTMP: TCT0058356   Exp: N/A   Signature:   AC   Date of Approval:   18/01/2024	3.3	line marking, banned to	urning	or attempts a b	anned manoeuvr	re 4	4 20	Y	shown on the - Use Traffic C	TGS Control to manage char	nged traffic conditions w	3	2 1	p.3 Pedestrians and Cyclists			•	21	'	arrangements are in place.			14
Issue Desg Appd Date & Time Amendment Description  OI AC PI 18/01/2024 12:45 Original Issue  OFFICIAL									- Ensure appr - Speed reduc	opriate permission for a tion installed to suit ro	any detours									<ul> <li>Ensure the use of existing or temporary ramps for crossing points.</li> <li>Undertake consultation to determine existing travel paths, desire lines, volumes, and</li> </ul>			
Office the first of the first o								T00 **												j.,	#	_	
Works Location:   Station St & Queen St, St Marys NSW, Australia   Client Company: CPB Contractors - Ghella   Client Company: CPB Contractors - Ghella   Client Contact: Hariharan Myooran   Contact Number: 0410 674 153										CPB SBT 024	4 - Mobile Pilot	İ			<b>—</b>						  -	Page	2/4
Project Name:   Project Description:   Sydney Metro Western Syd Airport   Mobile Ingress/Degress of Site HV		15/01/2024 13	-		J.19.11di 155de			Works L	ocation:									1	555555	a a a a a a a a a a a a a a a a a a a	$\dashv$		N
Sydney Metro Western Syd Airport Mobile Ingress/Degress of Site HV								Station St & Queen St, St Marys NSW, Australia Client Contact: Hariharan Myooran Contact Number: 0410 674 153															
			_							Western Svd			aress	of Sit	te HV					CPB pichella grau	3		<b> </b>
	00	Scale: 1 : 750		C	Original Size A	13		-			<u> </u>					nuing connection to land, waters a	and com	munit	y. We pay	our respect to them and their cultures; and to elders both pa	st and	d pres	ent.

Г		Initial Risk							Boo	dual	Bick	
	tem #	Worksite Component	Potential Hazard	C	P	R	Pı	resent	Control Measures	C	P	R
	6.4	Bus stops	Bus unable to pull up safely causing MVA	3	3	12 Y		Y	Consider notifying bus companies that operate in the area     Always provide adequate provision for buses or carry out work at night when buses aren't operating     Where temporary bus stops are created, ensure buses are able to meet the curb     Ensure TGS clearly shows affected stops     Traffic controllers to manage and assist where safe and possible	2	2	5
	6.5	Property accesses - commercial or private	Collisions due to propertie acess restrictions	3	4			Υ	Consider staging work outside of business hours     Create physical barrier to prevent traffic entering site & driveways	2	2	5
	6.6	Excavations within work area	Errant vehicle drives into excavation	5	4	la p - 4 25 <b>N</b> th s - M		N	For excavations shallower than 0.5m and within 3m of the edge of traffic lane, delineate the excavation with plastic mesh fencing, barrier boards placed perpendicular to the traffic flow or cones/bollards.  For excavations deeper than 0.5m and within 3m of the edge of traffic lane, a temporary safety barrier must be installed. When traffic is greater than 3m from the excavation, the requirement for a temporary safety barrier should be considered based on a documented risk assessment.  Where the excavation is deeper than 200mm, is open for more than 2 weeks and the distance from the edge of traffic lane is less than 3m for 600mm, 6m for 800mm and 9m for 1000mm, a temporary safety barrier must be installed.	4	2	14
	6.7	Parking	Parked vehicle or worker exiting vehicle hit by passing vehicle	4	4	20		Υ	Always check adequate parking is available for workers and visitors     Consider providing safe parking within the work area	4	2	14
	6.8	Concurrent Works	Motorist confused by conflicting signs causing MVA	3	4	17		Υ	- Always establish communication with other site if possible - Always cover any conflicting signs and adjust TGS as necessary - Complete conflict checks where required	3	3	12
	6.9	Heavy Vehicles and OSOM Vehicles	HV cannot travel past work site without knocking over delineation	4	4	20 Y to			Comply with shoulder and lane width criteria in the design of the TGS. During the design of the TGS, theck vehicle swept path where necessary to ensure the largest known vehicle travelling through the work site can negotiate the changed traffic conditions.  Traffic controllers to communicate with heavy vehicle and OSOM drivers to warm and guide them through the work site as required.  Traffic control to monitor heavy vehicle movements and if required, make adjustments to the signs and devices within approved tolerances. If more significant changes are required, liaise with Client/Supervisor and arrange for TGS to be reviewed and modified by the designer.	4	2	14
F						Dyr	nami	ic Works				
	7.0	General Traffic	Motorists speeding / not concentrating / tired / distracted. Not having enough time to merge causing MVA	5	5	25		Y	Always use a minimum 1 AWV and consider the use of a 2nd AWV. Consider use of TMA on higher speed roads >85km Use speed reduction best suited to work activity and road environment Use applicable AW signage displayed on AWV Ensure sight distances between AWV, shadow vehicles are clearly abelled on TSC Ensure 20-40m buffer zone between shadow vehicle and work vehicle. No less than 40m when using a TMA as a shadow vehicle Positive communications to be held at all times Workers to remain shadowed at all times Monitor traffic queues on all road configurations, convoy to clear roadway frequired until traffic has cleared	4	2	14
	Iter	n		Ad	ldit	ion	al (	Cont	rol Measures			
	8.0											
	9.0											
	10.	0.0										
	11.	0										
	Iter	n	Departures: S	tate	e th	ne d	lep	artu	re and reason for departure			
	12.	0										

# 13.0 14.0 Departures Sign Off (CLIENT): Client Name:

Amendment Description

Original Issue

Date:

TGS Name & Numbe

Works Location

GP - 80574 - CPB SBT 024 - Mobile Pilot

Station St & Queen St, St Marys NSW, Australia

Client Signature:

01 AC

02

03

04

Issue Desg Appd Date & Time

PI 18/01/2024 12:45

# NOTES:

# **GENERAL NOTES**

- 1. This Traffic Guidance Scheme (TGS) is to be used in conjunction with the Traffic Management Plan (TMP) and associated road authority permits and management plans.
- including Road Occupancy Licence (ROL), vehicle movement plan (VMP) and pedestrian movement plan (PMP) where applicable. 2. This TGS has been produced by a Prepare Work Zone Traffic Management Plan (PWZTMP) qualified person in accordance with the requirements of the TfNSW Traffic Control at Work Sites manual, Issue 6.1 dated 28 February 2022 (TCAWS 6.1) and with reference to AS1742.3 and AUSTROADS Guide to Temporary Traffic Management
- 3. This TGS is suitable for short term/ long term works.
- 4. Lack Group does not accept responsibility for this TGS if it is implemented or modified by external parties.

# APPROVALS

Parts 1 - 10, version 1.1 dated September 2021 (AGTTM).

The TGS must be approved for use before implementation.

6. Ensure all road authority approvals and associated conditions of approval are met prior to implementing the TGS.

7. Prior to use on site, the selected or designed TGS must be verified to ensure it is suitable for the works and location by undertaking an inspection of the work site where the TGS will be implemented. The TGS verification must be completed in accordance with TCAWS 6.1, Section 8.1.2 by an Implement Traffic Control Plan (ITCP) or PWZTMP qualified person, Refer Page 1 of this TGS for Site Verification sign-off.

## RISK ASSESSMENT

8. A desktop risk assessment has been undertaken in developing this TGS. However, when implementing this TGS on site, the site supervisor should undertake a site

specific risk assessment to ensure that the TGS has considered and mitigated all identified hazards and risks.

INSTALLATION AND REMOVAL OF SIGNS AND DEVICES

# 9. All traffic management signs and devices prescribed for use in this TGS are in accordance with TCAWS 6.1 with reference to AS1742.3 and AGTTM.

10. The TGS must be installed, maintained and removed in a planned and safe manner. The implementation must only be undertaken by an ITCP qualified person. 11. All signage shown on this TGS is not to conflict with any long-term existing signage arrangements in the area. If this occurs, cover all conflicting road signage where required

# PLACEMENT OF SIGNS AND DEVICES

- 12. Signs must be properly displayed and securely mounted at all times and within the line of sight of the intended road user. Regulatory and detour signs must be located nearest to the travel edge of the lane. Signs must not: Be obscured from view, such as by vegetation or parked cars; Obscure other devices from the line of sight of the intended road users; Create a hazard to road workers and road users, including pedestrians and cyclists; Be a hazard that deflects traffic into an undesirable path; Restrict sight distance for drivers entering from side roads or streets, or private driveways; and Be installed using supports that could be a hazard if struck by a vehicle. 13. Signs mounted on frames for short-term works should be mounted a minimum 200mm from the ground to the lower edge of the sign.
- 14. Signs mounted on posts for long-term works in open road situations, the underside of the sign must be at least 1.5m above the level of the nearest edge of the travelled path. When installed on a kerb or footpath, the underside of the sign must be at least 2.2m above the level of the nearest edge of the travelled path

# ORIENTATION OF SIGNS

15. On the outside of a curve, the sign face must be at 0 degrees, or 'normal to traffic'. On a straight, the sign face must be angled at approximately 5 degrees normal to oncoming traffic and on the inside of a curve, the sign face must be angled at approximately 5 degrees normal to oncoming traffic at 200m preceding the sign.

16. Local constraints may not allow signage and devices to be placed in accordance with this TGS. Unless stated otherwise on the TGS, the tolerances on the positioning of signs, length of tapers or pavement markings detailed in the TGS is a minimum 10% less and a maximum 25% more than the distances or lengths stated and for the spacing

of delineation devices a maximum 10% more than the spacing detailed in the TGS. 17. Any variation to the positioning of signs and devices within the approved tolerances must be marked and initalled on the TGS held on site, with the name of the person

- 18. Modifications to a Site Specific or Site Suitable TGS must be approved by a person holding the PWZTMP qualification and must be supported by a TMP or risk assessment to ensure that the TGS has considered and mitigated all identified site specific conditions and risks.
- 19. If it is identified that by implementing the TGS with modifications outside of the approved tolerances it will generate risks, then the works must be stopped (including the implementation of the TGS), the site must be made safe and an updated TGS must be provided by a PWZTMP qualified person prior to works recommencing. Any concerns regarding the suitability of the TGS must be raised with the Site Manager and your immediate Supervisor.

# TRAFFIC CONTROLLERS

- 20. The implementation of traffic control must be conducted in line with the hierarchy of controls with the elimination of harm to workers and the travelling public considered in the first instance
- 21. Where traffic control is required, a portable traffic control device (PTCD) must be used rather than using a manual traffic controller when the existing permanent speed
- 22. TCAWS 6.1, Section 5.4 provides the conditions under which a manual traffic controller may be used.
- 23. Where PTCDs or traffic controllers are used, approach speeds of traffic must be reduced to less than 65 km/h
- 24. All persons operating a portable traffic control device or performing manual traffic control must be qualified with 'Traffic Control' training; and authorised by the relevant

# ROAD USER MANAGEMENT

25. The needs of specific road users, including travel paths and desire lines, must be considered and managed for the extent of the works to ensure safety and access is maintained. Specific road user groups to be considered include: Pedestrians including high-risk pedestrians such as persons with a disability, children, the elderly or persons using mobility aid devices; Cyclists; Motorcyclists; Heavy Vehicles, including oversize overmass vehicles; Public transport; and Emergency services. The needs of these specific road users have been considered in the design of this TGS, however the needs of all road users should be considered in the site specific risk assessment before

implementing the TGS to ensure the TGS is appropriate. 26. Road users are to be monitored for the duration of the works. If additional signage and/or devices are required to manage the needs of specific road users, such as pedestrians and cyclists, this would be subject to following the procedure for modifying a TGS.

# ACCESS MANAGEMENT

27. Access to properties located within the extent of works must be maintained at all times.

Client Contact: Hariharan Myooran

- 28. Property access impacted by the works should be identified and addressed in the TGS. Consultation with the property owner/resident must be undertaken prior to implementing the TGS if required
- INCIDENT MANAGEMENT
- 29. The site contractor is to determine the appropriate procedure for incident management where appropriate. 30. If an incident occurs within the extent of the traffic control arrangement: Call for assistance if incident requires (emergency services 000 or 112); Notify the work site supervisor or Team Leader immediately of any incident: Maintain effective traffic control, if necessary, relocate the traffic control station to a suitable location clear of any further danger; and Record sufficient notes of the incident, including observations, to complete an incident report

# INSPECTIONS

31. Temporary traffic management monitoring activities must be undertaken in all instances where work is being performed or aftercare is in place. This includes day and night times as required. The type of inspections and frequency are to be in accordance with TCAWS 6.1, Section 8.1.1.

# REVIEW OF TGS

32. Generic TGSs must be reviewed by a PWZTMP qualified person every 12 months so that they remain appropriate. Once reviewed the date and details of the PWZTMP

person must be updated on the TGS to ensure persons selecting can confirm currency.

33. All active site specific and site suitable TGS are designed for the nominated work activity and are only valid for the time period of works specified on the TGS. They must be reviewed as part of the weekly inspections as detailed in TCAWS 6.1, Section 8.1. If the work activity is intended to be longer than 12 months, then the TGS musty be formally reviewed by a PWZTMP qualified person at least every 12 months and issued with the review date and the details of the person undertaking the review.

# RECORD KEEPING

34. Supervisory personnel are to keep daily records of the TGS implementation including: Site specific risk assessments; Approved TGS used, including versions where modifications or updates have been made. Completed inspection checklists that have been undertaken: Records of traffic related incidents that occurred during the works: and Any other relevant document generated by the process of completing the temporary traffic management works.

Contact Number: 0410 674 153

	TGS Designed By: Alec Czarnowski	PWZTMP: TCT1010645	Exp: N/A	Signature: A	Date of Approval:	Page 3 / 4
	TGS Approved By: Peter Ingram	PWZTMP: TCT0058356	Exp: N/A	Signature: 🎉	18/01/2024	N
•	Client Company: CPB Contractors - 0	Shella		Client:		l î

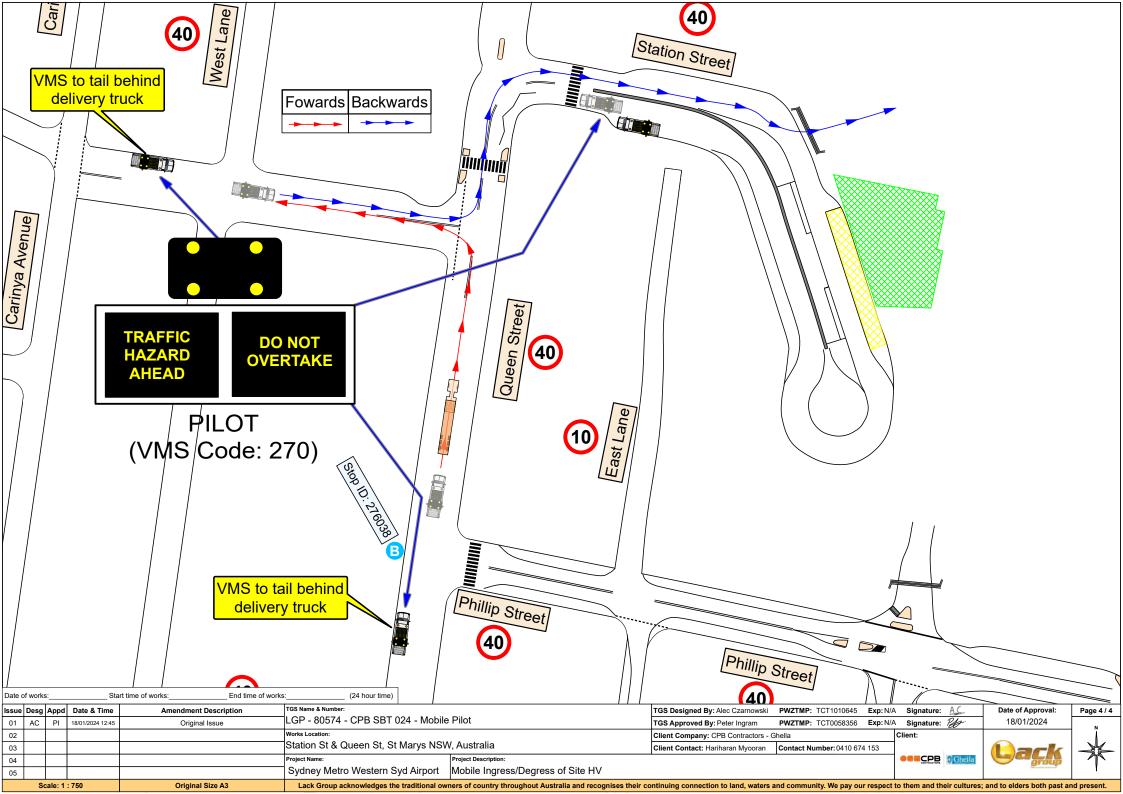
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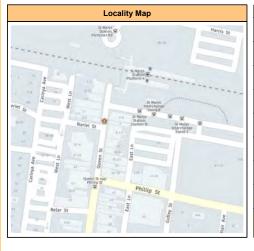




Sydney Metro Western Syd Airport | Mobile Ingress/Degress of Site HV 05 Scale: 1:750 Original Size A3 Lack Group acknowledges the traditional owners of country throughout Australia and recognises their continuing connection to land, waters and community. We pay our respect to them and their cultures; and to elders both past and present.

roject Description:





Position:

Signature:

TGS Verification Checklist:

**Traffic Guidance Scheme Modifications:** 

**Traffic Guidance Scheme Installation:** 

Signature:

**Qualification Number:** 

Original Size A3

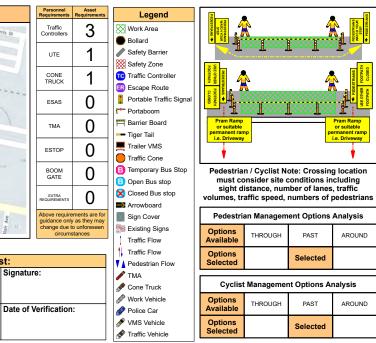
**Qualification Number:** 

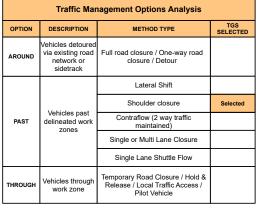
Expiry / Issue Date:

Signature:

Date of Modification:

Asset Requirements	Personnel Requirements				
3	Traffic Controllers				
1	UTE				
1	CONE TRUCK ESAS				
0					
0	TMA				
0	ESTOP				
0	BOOM GATE				
0	EXTRA REQUIREMENTS				
Above requirements are for guidance only as they may change due to unforeseen circumstances					





Edge Clearence

0.5 m for traffic speeds less than 65 km/h 1.0 m for traffic speeds greater than 65 km/h

0.3 m for traffic speeds less than 45 km/h 0.5 m for traffic speeds 45 to 65 km/h

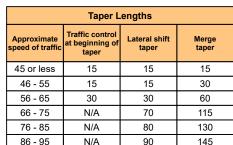
1.0 m for traffic speeds 65 to 85 km/h 2.0 m for traffic speeds greater than 85 km/h

PWZTMP: TCT1010645

PWZTMP: TCT0058356

Exp: N/A

Exp: N/A



60, 50, 30

30.15

metres

metres

160

180

Dimension "D" (Main Roads)

Dimension "D" (Minor Roads)

96 - 105

> 105

Speed (km/h)	Distance between tapers (m)
45 or less	10
46 to 55	25
56 to 65	70
Greater than 65	1.5 x Speed Limit (D)

100

110

N/A

N/A

Delineation Spacing								
Purpose & Usage	Speed zone of device location km/h	Maximum Spacing m						
On approach to a traffic controller position (center line or edge line)	All cases	4						
Merge Tapers	55 to 75 Greater than 76	9 12						
Lateral shift tapers	55 to 75 Greater than 76	12 18						
Protecting freshly painted lines	56 to 75 Greater than 76	24 60						
All other puporses	less than or equal to 55 26 to 75 greater than 76	4 12 18						

All other puporses	All other puporses 26 to 75 greater than 76						
Sign spacing requirements							
Number of signs	Approac	h Speed					
	less than 65 km/h	65 km/	km/h or greater				
One advanced sign	D		2D				
Multiple advanced signs	D		D				

ALTERNATE SIGN SPACING Dimension 'D': AGTTM: A distance expressed in metres, determined in accordance with Table 2.2 and used for positioning of advance signs. To be considered if TCAWS dimension "D" cannot be provided due to site conditions.						
Speed of Traffic - km/h	Dimension - m					
55 or less	15					
56 to 65	45					

If queue distance exceeds 4D. Prepare to stop sign is required							
Primary PTS sign							
Control Point Predicted and of longest queue							
Estimated end of queue lengths to be noted here:							

						Installation	& Remov			
The sequent install the reinstatem 2: Use the 3 to 7: Place to remain view install view in the 10 to 14: Place to 15 and 16:	ne terminati ent' (affecto existing roace ce approach with the PTO end Road W existing roa lace approa to remain w Traffic con	allation should on signs when direction and network a signs in urange. The control of the contro	hen initia ). to turn w naffected reinstate to turn w the affe stop traff	s illustrated in ti ally leaving wor where safe to do d direction, incl ment' (unaffect where safe to do cted direction, i fic and taper/lar e around to con	k area, 'End o so. uding the Pi ed direction o so. including the	Road Work/sp TCD (traffic coi ).  PTCD (traffic blineation implements)	ntroller emented.	Multi-lane The seque 1: Locate 2 to 5: Ins 6: Install 7: Use the 8: Locate 9 to 12: In 13: Install 14: Positi 14 and 15 16: Install 17: Use th 18: TMA p 19: ITCP o	ence of advance stall advance existin advance stall ad 'Flash on TMA' : Install 'End F ne exist	installar ce warning ance warning road dispared in trave a in trave a coadwork a in trave a coadwor a in toad a coadwor a coad a coadwor a coad a coa
10	11 12	(3) (4)	)			1	2	7	9	10
			13	T)						
-			-	16				_		

ented. ned.	16: Install 'End Roadwork'speed reinstatement. 17: Use the existing road network to turn where safe to do so. 18: TMA positioned to shadow work area. 19: ITCP qualified person completes drive around to confirm TGS	
2	8 9 <sup>(1)</sup>	(6)
	19 J.A.	13
		6

TGS Designed By: Alec Czarnowski

TGS Approved By: Peter Ingram

Lack Group acknowledges the traditional owners of country throughout Australia and recognises their continuing connection to land, waters and community. We pay our respect to them and their cultures; and to elders both past and present.

The sequence of installation should be as illustrated in the following order:

1: Locate advance warning vehicle and TMA to shadow sign installation vehicle.

9 to 12: Install advance warning signs in obstructed (affected) lane.
13: Install 'Flashing Arrow' and delineation devices on approach to start of taper.
14: Position TMA in travel lane to shadow installation of taper.

1. Codae davanice warming venice and max of shadow sign installat
2 to 5: Install advance warming signs in unaffected lane.
6: Install "End Roadwork"/speed reinstatement.
7: Use the existing road network to turn where safe to do so.
8: Locate advance warming vehicle and TMA to shadow sign installat

Edge Clearances	Speed (k	m/h)	Distance		
	45 or le	ess			
<u> </u>	46 to 5				
**************************************	56 to 6	56 to 65			
Clearance must be measured to the traffic	Greater th	1.5			
side edge of the delineating device					
	Delineation Spacing				
	Purpose & Usage		of device locat km/h		
	On approach to a traffic controller position	All	cases		

2	sign spacing requirem	CHO
Number of signs	Approac	h Speed
	less than 65 km/h	65 km/h or greater
One advanced sign	D	2D
Multiple advanced signs	D	D

accordance with Table 2.2 and used to positioning or advance signs. To be considered if TCAWS dimension "D" cannot be provided due to site conditions.					
Speed of Traffic - km/h	Dimension - m				
55 or less	15				
56 to 65	45				
Greater than 65	speed of traffic, in Km/h				

Issue	Desg	Appd	1
01	AC	PI	1
02			
03			
04			
05			

Installed By:

Expiry / Issue Date:

Scale: 1:750

Verified By:

Qualification:

Modified By:

Expiry / Issue Date:

Modification Notes:

ssue	Desg	Appd	Date & Time	Amendment Description	TGS Name & Number:	
01	AC	PI	19/01/2024 09:15	Original Issue	LGP - 80836 - CPBSBT 025 - Station	St - Parking Closure
02					Works Location:	
03					Station St & Queen St, St Marys NSW	, Australia

Date of Installation:

Client Company: CPB Contractors - Ghella Client Contact: Hariharan Myooran Contact Number: 0410 674 153 Sydney Metro Western Syd Airport Parking Take out

Edge of traffic lane to:

Line of traffic cones or bollards Barrier boards, temporary guide posts or temporary hazard

markers

Road safety barrier system

OF CPB Ghe

Signature: A.

Signature: Par



Page 1 / 7

Date of Approval:

19/01/2024

March Service						TC	3S	Ris	k As	sessi	ment					Item	Worksite Compon	nent	Potential Hazard	⊢	al Risk	Present	Control Measures	_	esidual																					
March   Marc				Hierarchy of Controls					#					P R			С	P	R																											
Part		1. Elim eg. Ro	inate the haza ad closures.	ard altogether.	More Effective	٠,	Madidi	hla (1)	Mi		. `	Ι΄ ΄	Savara (5)										- Install RWA (T1-1) if diverting traffic along a sidetrack, detour, or																							
Part		2. Substitute the hazard with a safer alter eg. Using PTCDs instead of stop bats.		ard with a safer altern stead of stop bats.	ative.					- ( )					Health	3.4	After care		crashing or motorist becomes frustrated due to inappropriate	4	4 20	N	Cover any signs that are not applicable     Erect Condition signs in accordance with TCWS Manual		3	12																				
Part	إ	eg. Dro	op zones for cli	lients works in elevate	d work zones.	Very r	minor injur atment or	or injury that requires ment or simple first aid terr		eatment and may restrict a persons		permanently alters a persons future (eg. Spinal injury,	Fatality		& Safety				Syrage				- Aftercare speed limit to suit road conditions  Always:																							
Projection   Pro	l I	eg. The	e use of traffic administrative	control devices to pro e controls to reduce the	e risk.		Short term damage		Short term damage		Short term damage		Short term damage		Short term damage		Short term damage		Short term damage		Short term damage		Short term damage		Short term damage		Short term damage				Significant but recoverable ecological damage			3	Enviro		Poor sight distance or sr	peed					less than 150m - Use 700mm cones where traffic speed is greater than 75km/h - Use 900mm cones on high speed to high volume roads (e.g., expressw:			
Part	l	6. Use	PPE.		Less	Brief			impact on s	ervice delivery or	delivery or customer	delivery or customer	impact on service delive	y or	Qual	3.5	compliance or Approach speed > 85km/h, or multi lane roads with		5	4	Y	- Duplicate Lane status sign. Consider:	4	2	14																					
Part   Control   Part   Part   Control   Part   Control   Part   Control   Part   Part   Control   Part   Part   Part   Control   Part		C	ertain exp	spected to occur			Mode	rate	project level large project level in loss of business nationally								Increasing the number of advance warning signage installed     Increasing the size of signage installed																													
Part	<u>≩</u>	٠ _ ـ	ikely The	e threat will quite ommonly occur			Mode	rate	Mo	oderate						3.6	Side Roads			3	4 17	Υ	- Always install advance warning signage for vehicles entering from side road in advance of the work site.		2	11																				
Part   Companies	- Proba						Lo	w				High (19)	High (23)						Motoriet travelling too fact for the				and AGTTM Ensure speed zoning is consistent with the work activity and road	.3																						
Supplementary Component Polestical Nazarage and the production of		. Ur	infr	frequently occur									High (22)			3.7	Temporary Speed Zor	ne		5	4 24	N	<ul> <li>Consider the use of speed radar VMS to monitor traffic speeds and advi motorists.</li> </ul>	se 4	2	14																				
Part			Rare The	rie threat may occur																		Transition	1		<u> </u>																					
March   Potential Hazard   Pot							Ste	p 3 - Th	e risk ra	ting is wher	re the consequenc	e and the probabil	ity intersect										- Install taper lengths and cones in accordance with TCAWS Manual																							
Total Control PTCD   Total C	Item #	٧	Norksite (	Component	Potential Hazard				Present		Control	Measures				4.0	Lane closure			5	4 24	Υ	roads - Use a minimum of 2 temporary hazard markers (T5-4 or 5) on tapers - Install a 30m minimum buffer zone at the end of tapers	4	2	14																				
Secretary of the control of the co					T		Т	Acc	ceptance		implement TGS in acco	ordance with TCAWS, A	AS1742.3 and	Т		1							<ul> <li>Consider using a shadow vehicle (or vehicles) with flashing lights to protect workers</li> </ul>																							
Section   Continued   Contin	1.0						5	3 23	Υ	- Ensure all re	elevant traffic managen	nent personnel involved	d in the design	4	1 13							Work Area																								
Contract and countered and PTCD from the controller in this protect with the countered and protect and and							$\perp$																AGTTM.																							
Part of Micros Confidence of PTICO  The Confidence Micros Confiden								De	partures	cover availabl	le (i.e. safety barrier)	-		T		5.0	Traffic Control	:	speeding collides with end of queue	5	4 24	Υ	and implementation of the TGS are certified as competent persons to perform the traffic management tasks they are required to undertake.	4	2	14																				
Fulf-continer by elivery wearth on the first by the property of automatic legal point legal	2.0	St	op bat used	I instead of PTCD	Traffic controller hit by vehicle	le	5	4 24	N	point on TGS - Ensure best	<ul> <li>to be reassessed ons line of sight where pra</li> </ul>	site continuously ctical. Should the best I	line of sight not	4	2 14				of traffic Controller				AGTTM Rectify any deficiencies as a matter of urgency.																							
Advanced Waterburg  Advanced Confidence with VASE, monormal or and present value of the many from a final present of the many from a										<ul> <li>Ensure apprand</li> <li>and maximum</li> </ul>	opriate speed signage	clear from travelled path has been installed and	h. I meets minimum										- Install workman T1-5 sign if workers on road																							
Continued by VISE  Living Term Works  Continued melantical collidate with 1 and 2 section of the part	3.0		V	ANAS SANA	Motorist collides with VMS, motor	torist	_			- Always place the edge of tra	affic lane as is practica	I in a position determine	od cuitable	,	2 44	5.1	Working adjacent to trave	el lane		4	4 20	Υ	Check setup before commencing work     Reduce speed based on lateral clearance between the work area and	4	2	14																				
Consider cally MSPS						ith	_			<ul> <li>The location</li> </ul>	is to be confirmed by I	Risk Assessment											- Using a shadow vehicle(s) with flashing lights to protect workers																							
Legislate of the properties of	3.1		Long Te	erm Works			4	4 20	N	- Consider usi				3	3 12	$\perp$						General	- Using safety barriers																							
Delays of Quase extends beyond work and extended working signs of developed the afford of quase with mind of										<ul> <li>Work in accordance</li> <li>Use two-way possible</li> </ul>	y communication with t					6.0	Night work		collides with end of queue, worker,	5	4 20		and ensure the positions of any temporary lighting are clearly shown on the		2	14																				
Set of Se										<ul> <li>Install addition</li> <li>clear traffic if e</li> </ul>	onal signs or use additi end of queue extends l	beyond the advance wa	arning signs			6.1	Wind / Rain / Fog / Obstru	uctions	road to be slippery increasing risk of a collision with workers, plant or other	5	4 20	Υ	<ul> <li>Always regularly check setup to ensure signs are visible. If visibility has been obstructed, consider shifting signs, duplication, or repetition.</li> </ul>		3	12																				
Using VMSs    Notifying empelency services   Plant collides with motorist, workers or other plant   Plant collides with motorist, workers or plant   Plant collides with motorist, workers   Plant collides with motorist   Plan	3.2	Del	lays or Queu advanced v	ue extends beyond warning signs	Motorist collides with end of que	ieue	4	4 20	N	Consider: - Working outs	side peak periods		·	4	2 14								- Liaise with client to reconsider setup or continuation of works																							
Supperly surface, no lines, changed traffic conditions (eg and surface and protection on the TOS)   Lose Traffic Control to manage changed traffic conditions (eg and traffic conditions)   Lose Traffic Control to manage changed traffic conditions)   Lose Traffic Control to manage changed traffic conditions (eg and traffic conditions)   Lose Traffic Control to manage changed traffic conditions)   Lose Traffic Control to manage changed traffic conditions)   Lose Traffic Control to manage changed traffic conditions (eg and traffic conditions)   Lose Traffic Control to manage changed traffic conditions)   Lose Traffic Control to manage changed traffic conditions (eg and traffic to conditions)   Lose Traffic Control to manage changed traffic conditions (eg and traffic to conditions)   Lose Traffic Control to manage changed traffic conditions (eg and traffic to conditions)   Lose Traffic Control to manage changed traffic conditions (eg and traffic to conditions)   Lose Traffic Control to manage changed traffic conditions (eg and traffic to conditions)   Lose Traffic Control to manage changed traffic conditions (eg and traffic to conditions)   Lose Traffic Control to manage changed traffic conditions (eg and traffic to conditions)   Lose Traffic Control to manage changed traffic conditions (eg and traffic to conditions)   Lose Traffic Control to manage changed traffic conditions (eg and traffic tr										<ul> <li>Using VMS's</li> <li>Notifying em</li> </ul>	s nergency services					6.2	Vehicle Movements	, F		4	3 19	Υ	Consider:	3	3	12																				
Always: carry disease the work area. Install RWA (T1-1) if diverling traffic along a sidetrack, delour, or unexpected conditions such as loose stones or the absence of line marking, bearined turning movements, debuts)  Changed traffic conditions (eg 3). Sileppery surface, no lines, changed turning movements, debuts)  Changed traffic conditions (eg 3). Sileppery surface, no lines, changed turning movements, bearined turning movements, bearined turning movements, debuts)  Always:  Legy Alw										<ul> <li>Use of queue</li> <li>Ensure TGS</li> </ul>	e monitors has been designed to	-							or other plant				- Installation of exclusion Zones - Preparing a VMP where required.																							
Changed traffic conditions (eg Slippeny surface, no lines, changed traffic control to especially where contra-flow period from the TGS in the T										Always:		c along a sidetrack, det	our or			1							<ul> <li>Always clearly delineate the work area.</li> <li>Do not obstruct pedestrian and cyclists travel paths with traffic control signs and</li> </ul>																							
3.3 Slippery surface, no lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, no lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, no lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, no lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, no lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, no lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, no lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, no lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, no lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, no lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, no lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, no lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, no lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, not lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, not lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, not lines, changed immerstary, benned turning movements, detours)  1. Silppery surface, and the first marked turning immerstary, benned turning immers					Motoriet locae control is confus	boa				unexpected or - Erect Condit	onditions such as loose tion signs in accordance	e stones or the absence e with TCAWS Manual	e of line marking								_	.,	<ul> <li>Consider the use of additional warning and guidance signage for pedestrians, cycl and motorists.</li> </ul>																							
Check setup perior commencing way detours   Ensure appropriate permission for any detours   Ensure appropriate permission fo	3.3	3.3 Slippery surface, no lines, changed or line marking, banned turning		or attempts a banned manoeuv		4	4 20	Υ	shown on the	TGS	-		3	2 11	6.3	Pedestrians and Cyclis	ists		4	5 21	Y	<ul> <li>Consider the use of traffic control at crossing points especially where contra-flow arrangements are in place.</li> </ul>	'	2	14																					
Saue   Desg   Appd   Date & Time   Amendment Description   TGS Name & Number:   LGP - 80836 - CPBSBT 025 - Station St - Parking Closure   TGS Approved By: Peter Ingram   PWZTMP: TCT010645   Exp: N/A   Signature:   A_C   Date of Approval:   19/01/2024			movemen	nia, ucioura)						<ul> <li>Ensure appr</li> </ul>	opriate permission for	any detours											cyclist movements where required Ensure the use of existing or temporary ramps for crossing points.																							
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Station St & Queen St, St Marys NSW, Australia  Station St & Queen St, St Marys NSW, Australia  Client Contact: Hariharan Myooran  Contact Number: 0410 674 153  Project Name: Sydney Metro Western Syd Airport  Parking Take out	01	AC.	PI 19/	/01/2024 09:15	Original Issue	ie					· CPBSBT 025	- Station St -	Parking Clo	sure	9			TGS App	proved By: Peter Ingram	PWZT	MP: T	CT005835	56 Exp: N/A Signature: 24 19/01/2024			N																				
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Ite	m	Worksite Component	Potential Hazard		itial R	isk	Present	Control Measures	Resi	idual	Risk
#	¥	Worksite Component	i otentiai nazaru	С	Р	R	Tresent	Solition measures	С	Р	R
6.	.4	Bus stops	Bus unable to pull up safely causing MVA	3	3	12	N	Consider notifying bus companies that operate in the area Always provide adequate provision for buses or carry out work at night when buses aren't operating Where temporary bus stops are created, ensure buses are able to meet the curb Ensure TGS clearly shows affected stops Traffic controllers to manage and assist where safe and possible	2	2	5
6.	.5 P	Property accesses - commercial or private	Collisions due to propertie acess restrictions	3	4	17	Υ	Consider staging work outside of business hours     Create physical barrier to prevent traffic entering site & driveways		2	5
6.	.6	Excavations within work area	Errant vehicle drives into excavation	5	4	25	N	For excavations shallower than 0.5m and within 3m of the edge of traffic tane, delineate the excavation with plastic mesh fencing, barrier boards placed perpendicular to the traffic flow or cones/bollards. For excavations deeper than 0.5m and within 3m of the edge of traffic lane, a temporary safety barrier must be installed. When traffic is greater than 3m from the excavation, the requirement for a temporary safety barrier should be considered based on a documented risk assessment Where the excavation is deeper than 200mm, is open for more than 2 weeks and the distance from the edge of traffic lane is less than 3m for 60km/h, 6m for 80km/h and 9m for 100km/h, a temporary safety barrier must be installed.		2	14
6.	.7	Parking	Parked vehicle or worker exiting vehicle hit by passing vehicle	4	4	20	Υ	Always check adequate parking is available for workers and visitors     Consider providing safe parking within the work area	4	2	14
6.	.8	Concurrent Works	Motorist confused by conflicting signs causing MVA	3	4	17	Y	Always establish communication with other site if possible     Always cover any conflicting signs and adjust TGS as necessary     Complete conflict checks where required		3	12
6.	.9 Не	- Comply with shoulder and lane width criteria in the design of the TGS.  - During the design of the TGS, check vehicle swept path where necess to ensure the argest known vehicle travelling through the work site can negotiate the changed traffic conditions.  - Traffic controllers to communicate with heavy vehicle and OSOM drive to warm and guide them through the work site as required.  - Traffic control to monitor heavy vehicle movements and if required, madiguistents to the signs and devices within approved tolerances. If more		- Traffic controllers to communicate with heavy vehicle and OSOM drivers to warn and guide them through the work site as required. Traffic control to monitor heavy vehicle movements and if required, make adjustments to the signs and devices within approved tolerances. If more significant changes are required, liaise with Client/Supervisor and arrange for TGS to be reviewed and modified by the designer.	4	2	14				
F						Dyn	amic Work				
7.	.0	General Traffic	Motorists speeding / not concentrating / tired / distracted. Not having enough time to merge causing MVA	5	5	25	N	Always use a minimum 1 AWV and consider the use of a 2nd AWV. Consider use of TMA on higher speed roads >85km Use speed reduction best suited to work activity and road environment Use applicable AW signage displayed on AWV Ensure sight distances between AWV, shadow vehicles are clearly abelled on TG. Ensure 20-40m buffer zone between shadow vehicle and work vehicle. No less than 40m when using a TMA as a shadow vehicle Positive communications to be held at all times Workers to remain shadowed at all times Monitor traffic queues on all road configurations, convoy to clear roadway for required until traffic has cleared	4	2	14
			<u> </u>								_
	Item			Ad	lditi	iona	al Cont	rol Measures			$\Box$
	8.0										
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	11.0										
	Item		Departures: S	tate	e th	e d	epartu	re and reason for departure			
	12.0										

# 13.0 14.0 Departures Sign Off (CLIENT): Client Name:

Date

Original Size A3

Station St & Queen St, St Marys NSW, Australia

Sydney Metro Western Syd Airport Parking Take out

Client Signature

Scale: 1:750

Issue

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## NOTES:

# **GENERAL NOTES**

- 1. This Traffic Guidance Scheme (TGS) is to be used in conjunction with the Traffic Management Plan (TMP) and associated road authority permits and management plans,
- including Road Occupancy Licence (ROL), vehicle movement plan (VMP) and pedestrian movement plan (PMP) where applicable.

  2. This TGS has been produced by a Prepare Work Zone Traffic Management Plan (PWZTMP) qualified person in accordance with the requirements of the TfNSW Traffic Control at Work Sites manual, Issue 6.1 dated 28 February 2022 (TCAWS 6.1) and with reference to AS1742.3 and AUSTROADS Guide to Temporary Traffic Management
- 3. This TGS is suitable for short term / long term works.
- 4. Lack Group does not accept responsibility for this TGS if it is implemented or modified by external parties.

# APPROVALS

- 5. The TGS must be approved for use before implementation.

Parts 1 - 10, version 1.1 dated September 2021 (AGTTM).

6. Ensure all road authority approvals and associated conditions of approval are met prior to implementing the TGS.

# TGS VERIFICATION

7. Prior to use on site, the selected or designed TGS must be verified to ensure it is suitable for the works and location by undertaking an inspection of the work site where the TGS will be implemented. The TGS verification must be completed in accordance with TCAWS 6.1, Section 8.1.2 by an Implement Traffic Control Plan (ITCP) or PWZTMP qualified person. Refer Page 1 of this TGS for Site Verification sign-off.

# RISK ASSESSMENT

8. A desktop risk assessment has been undertaken in developing this TGS. However, when implementing this TGS on site, the site supervisor should undertake a site

## INSTALLATION AND REMOVAL OF SIGNS AND DEVICES

specific risk assessment to ensure that the TGS has considered and mitigated all identified hazards and risks.

# 9. All traffic management signs and devices prescribed for use in this TGS are in accordance with TCAWS 6.1 with reference to AS1742.3 and AGTTM

10. The TGS must be installed, maintained and removed in a planned and safe manner. The implementation must only be undertaken by an ITCP qualified person. 11. All signage shown on this TGS is not to conflict with any long-term existing signage arrangements in the area. If this occurs, cover all conflicting road signage where required

# PLACEMENT OF SIGNS AND DEVICES

- 12. Signs must be properly displayed and securely mounted at all times and within the line of sight of the intended road user. Regulatory and detour signs must be located nearest to the travel edge of the lane. Signs must not: Be obscured from view, such as by vegetation or parked cars; Obscure other devices from the line of sight of the intended road users; Create a hazard to road workers and road users, including pedestrians and cyclists; Be a hazard that deflects traffic into an undesirable path; Restrict sight distance for drivers entering from side roads or streets, or private driveways; and Be installed using supports that could be a hazard if struck by a vehicle.
- 13. Signs mounted on frames for short-term works should be mounted a minimum 200mm from the ground to the lower edge of the sign. 14. Signs mounted on posts for long-term works in open road situations, the underside of the sign must be at least 1.5m above the level of the nearest edge of the travelled

# path. When installed on a kerb or footpath, the underside of the sign must be at least 2.2m above the level of the nearest edge of the travelled path

# ORIENTATION OF SIGNS

15. On the outside of a curve, the sign face must be at 0 degrees, or 'normal to traffic'. On a straight, the sign face must be angled at approximately 5 degrees normal to oncoming traffic and on the inside of a curve, the sign face must be angled at approximately 5 degrees normal to oncoming traffic at 200m preceding the sign.

16. Local constraints may not allow signage and devices to be placed in accordance with this TGS. Unless stated otherwise on the TGS, the tolerances on the positioning of signs, length of tapers or pavement markings detailed in the TGS is a minimum 10% less and a maximum 25% more than the distances or lengths stated and for the spacing of delineation devices a maximum 10% more than the spacing detailed in the TGS.

17. Any variation to the positioning of signs and devices within the approved tolerances must be marked and initalled on the TGS held on site, with the name of the person making the changes shown on the TGS.

# MODIFYING TGS

- 18. Modifications to a Site Specific or Site Suitable TGS must be approved by a person holding the PWZTMP qualification and must be supported by a TMP or risk assessment to ensure that the TGS has considered and mitigated all identified site specific conditions and risks.
- 19. If it is identified that by implementing the TGS with modifications outside of the approved tolerances it will generate risks, then the works must be stopped (including the implementation of the TGS), the site must be made safe and an updated TGS must be provided by a PWZTMP qualified person prior to works recommencing. Any concerns regarding the suitability of the TGS must be raised with the Site Manager and your immediate Supervisor.

- 20. The implementation of traffic control must be conducted in line with the hierarchy of controls with the elimination of harm to workers and the travelling public considered
- 21. Where traffic control is required, a portable traffic control device (PTCD) must be used rather than using a manual traffic controller when the existing permanent speed
- 22. TCAWS 6.1, Section 5.4 provides the conditions under which a manual traffic controller may be used.
- 23. Where PTCDs or traffic controllers are used, approach speeds of traffic must be reduced to less than 65 km/h
- 24. All persons operating a portable traffic control device or performing manual traffic control must be qualified with 'Traffic Control' training; and authorised by the relevant

# ROAD USER MANAGEMENT

25. The needs of specific road users, including travel paths and desire lines, must be considered and managed for the extent of the works to ensure safety and access is maintained. Specific road user groups to be considered include: Pedestrians including high-risk pedestrians such as persons with a disability, children, the elderly or persons using mobility aid devices; Cyclists; Motorcyclists; Heavy Vehicles, including oversize overmass vehicles; Public transport; and Emergency services. The needs of these specific road users have been considered in the design of this TGS, however the needs of all road users should be considered in the site specific risk assessment before implementing the TGS to ensure the TGS is appropriate.

26. Road users are to be monitored for the duration of the works. If additional signage and/or devices are required to manage the needs of specific road users, such as pedestrians and cyclists, this would be subject to following the procedure for modifying a TGS.

# ACCESS MANAGEMENT

27. Access to properties located within the extent of works must be maintained at all times.

Client Contact: Hariharan Myooran

Lack Group acknowledges the traditional owners of country throughout Australia and recognises their continuing connection to land, waters and community. We pay our respect to them and their cultures; and to elders both past and present.

- 28. Property access impacted by the works should be identified and addressed in the TGS. Consultation with the property owner/resident must be undertaken prior to implementing the TGS if required.
- INCIDENT MANAGEMENT
- 29. The site contractor is to determine the appropriate procedure for incident management where appropriate. 30. If an incident occurs within the extent of the traffic control arrangement: Call for assistance if incident requires (emergency services 000 or 112); Notify the work site supervisor or Team Leader immediately of any incident; Maintain effective traffic control, if necessary, relocate the traffic control station to a suitable location clear of any further danger; and Record sufficient notes of the incident, including observations, to complete an incident report.

# INSPECTIONS

31. Temporary traffic management monitoring activities must be undertaken in all instances where work is being performed or aftercare is in place. This includes day and night times as required. The type of inspections and frequency are to be in accordance with TCAWS 6.1, Section 8.1.1.

# REVIEW OF TGS

- 32. Generic TGSs must be reviewed by a PWZTMP qualified person every 12 months so that they remain a ppropriate. Once reviewed the date and details of the PWZTMP person must be updated on the TGS to ensure persons selecting can confirm currency.
- 33. All active site specific and site suitable TGS are designed for the nominated work activity and are only valid for the time period of works specified on the TGS. They must be reviewed as part of the weekly inspections as detailed in TCAWS 6.1, Section 8.1. If the work activity is intended to be longer than 12 months, then the TGS musty be formally reviewed by a PWZTMP qualified person at least every 12 months and issued with the review date and the details of the person undertaking the review.

# RECORD KEEPING

34. Supervisory personnel are to keep daily records of the TGS implementation including: Site specific risk assessments; Approved TGS used, including versions where

Contact Number: 0410 674 153

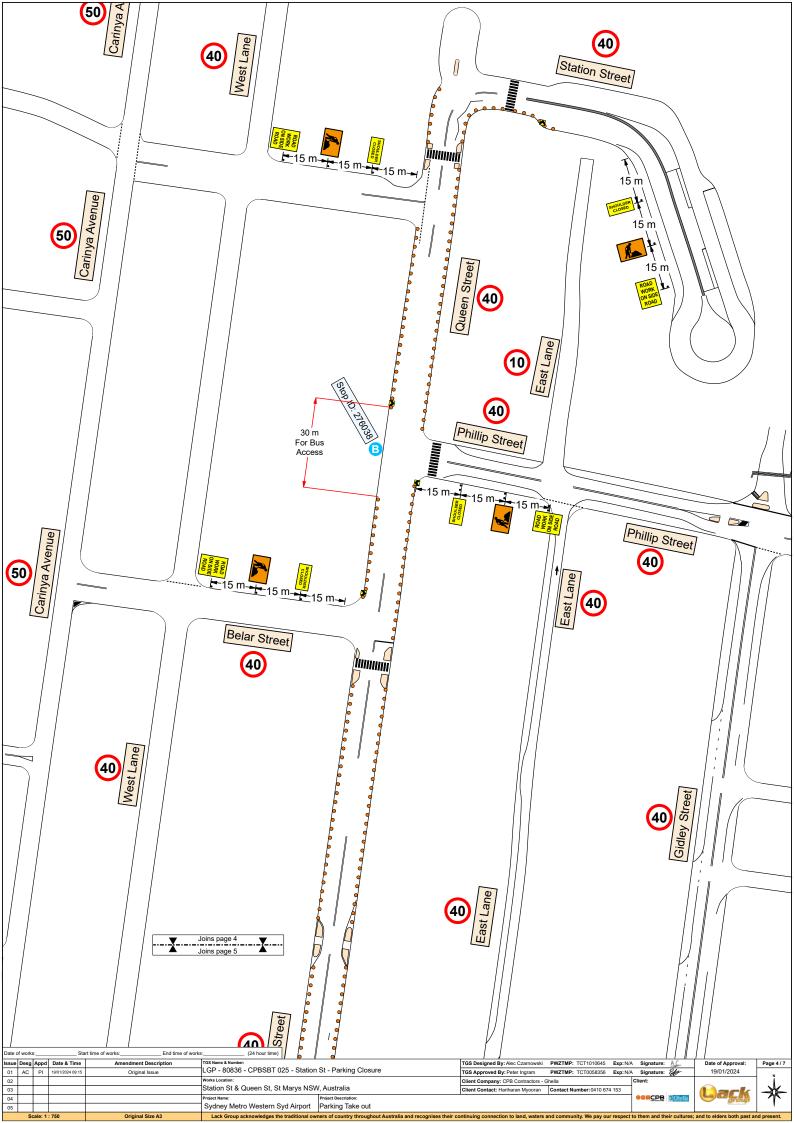
Ľ	ioni v	oigilati	uio.		Date.	modifications or updates have been made; Completed inspection checklists that have been undertaken; Records of traffic related incidents that occurred during the and Any other relevant document generated by the process of completing the temporary traffic management works.	works;
ıe	Desg	Appd	Date & Time	Amendment Description	TGS Name & Number:	TGS Designed By: Alec Czarnowski PWZTMP: TCT1010645 Exp: N/A Signature: A Date of Approval:	Page 3 / 7
	AC	PI	19/01/2024 09:15	Original Issue	LGP - 80836 - CPBSBT 025 - Station St - Parking Closure	TGS Approved By: Peter Ingram PWZTMP: TCT0058356 Exp: N/A Signature: ## 19/01/2024	N
2					Works Location:	Client Company: CPB Contractors - Ghella Client:	ï

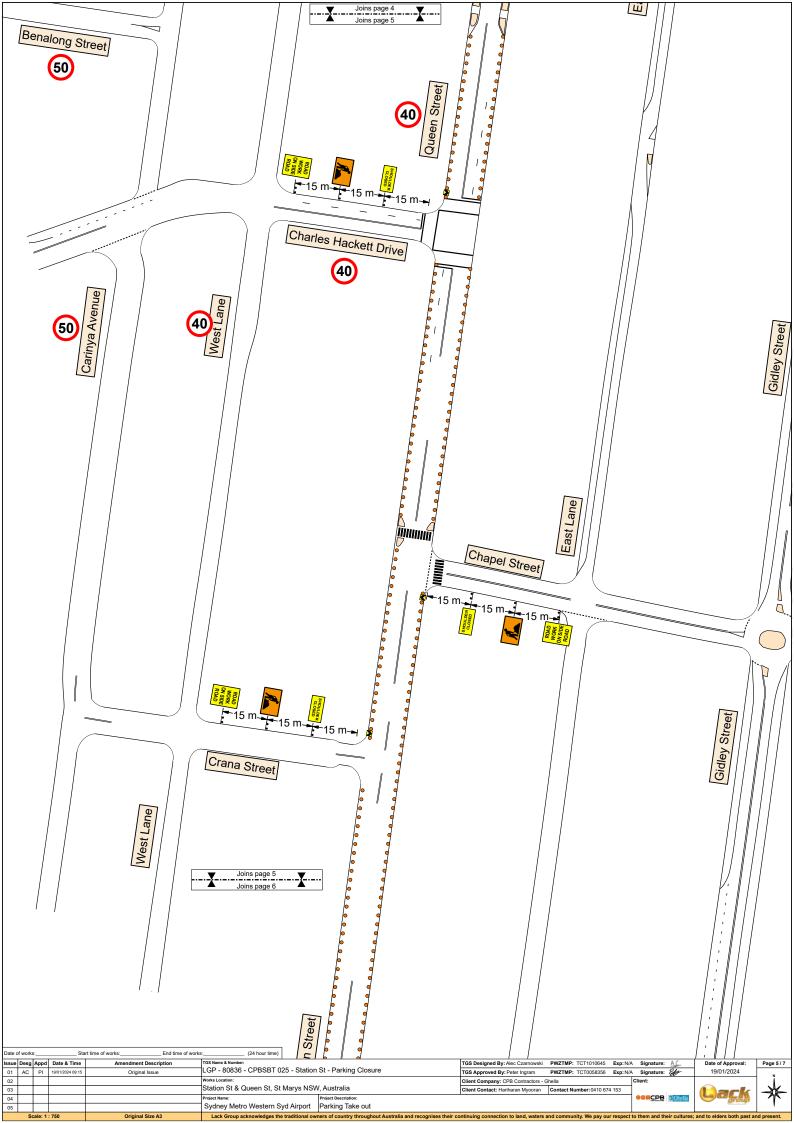
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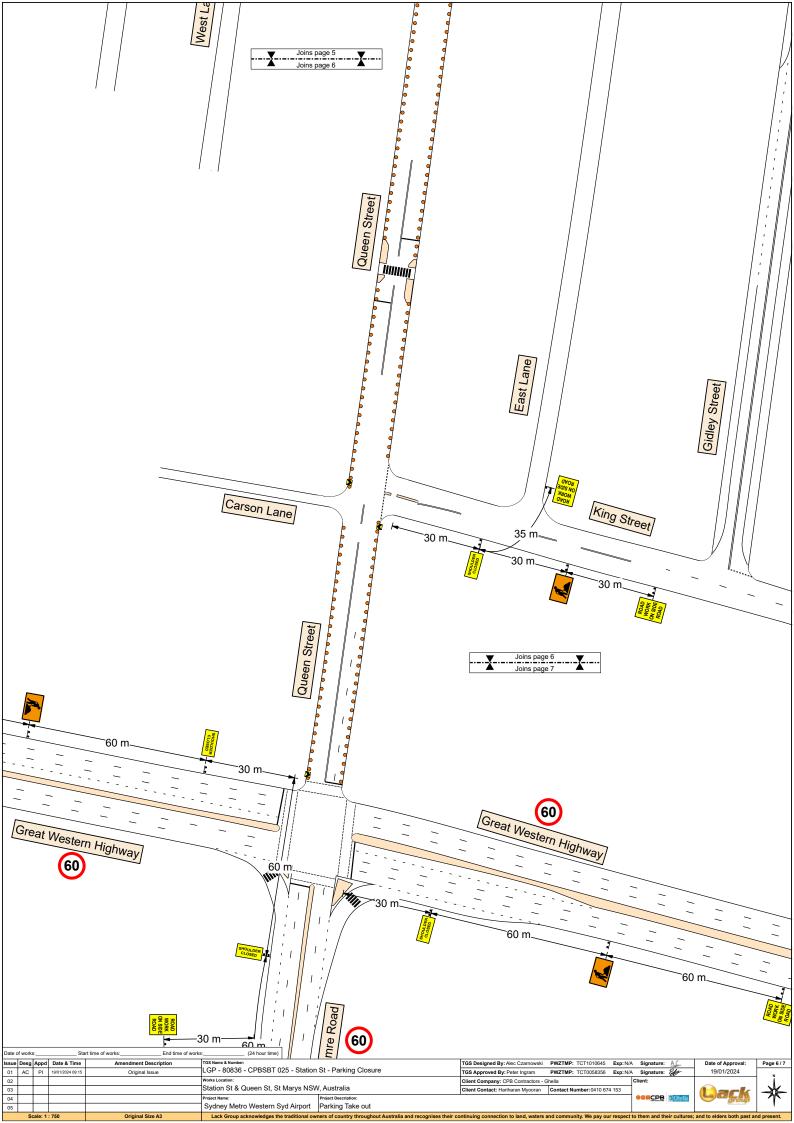


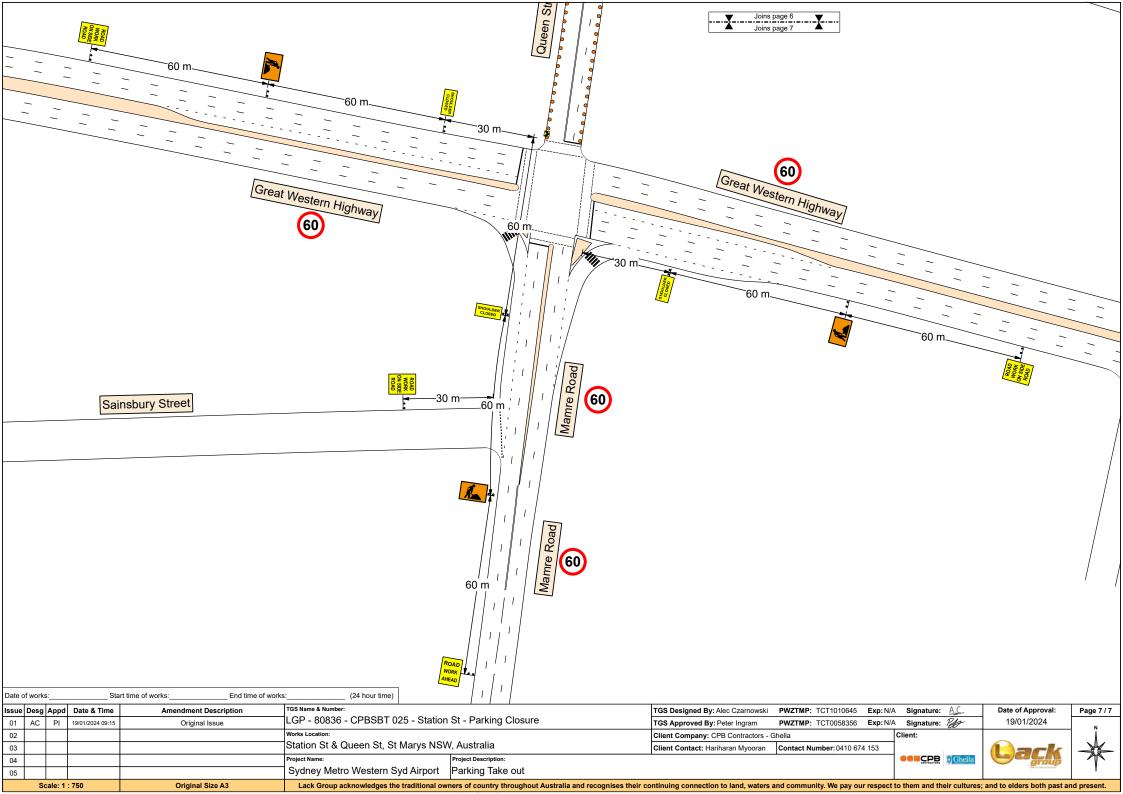
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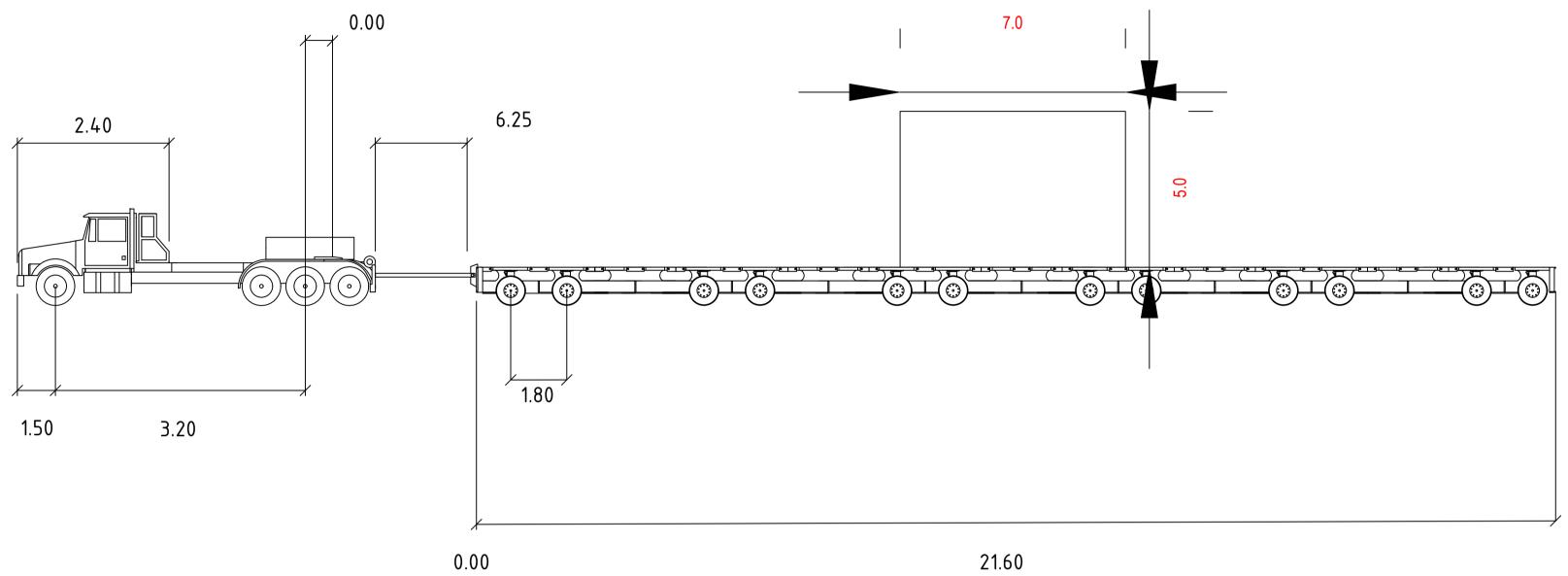












# Lowloader with Load

# meters

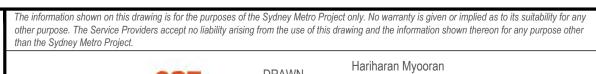
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Trailer Width : 4.10 Steering Angle : 30.0
Tractor Track : 2.60 Articulating Angle : 70.0
Trailer Track : 4.10

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01	SWEPT PATH ANALYSIS- SKETCH REV 01	HM			18/05/23
REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date



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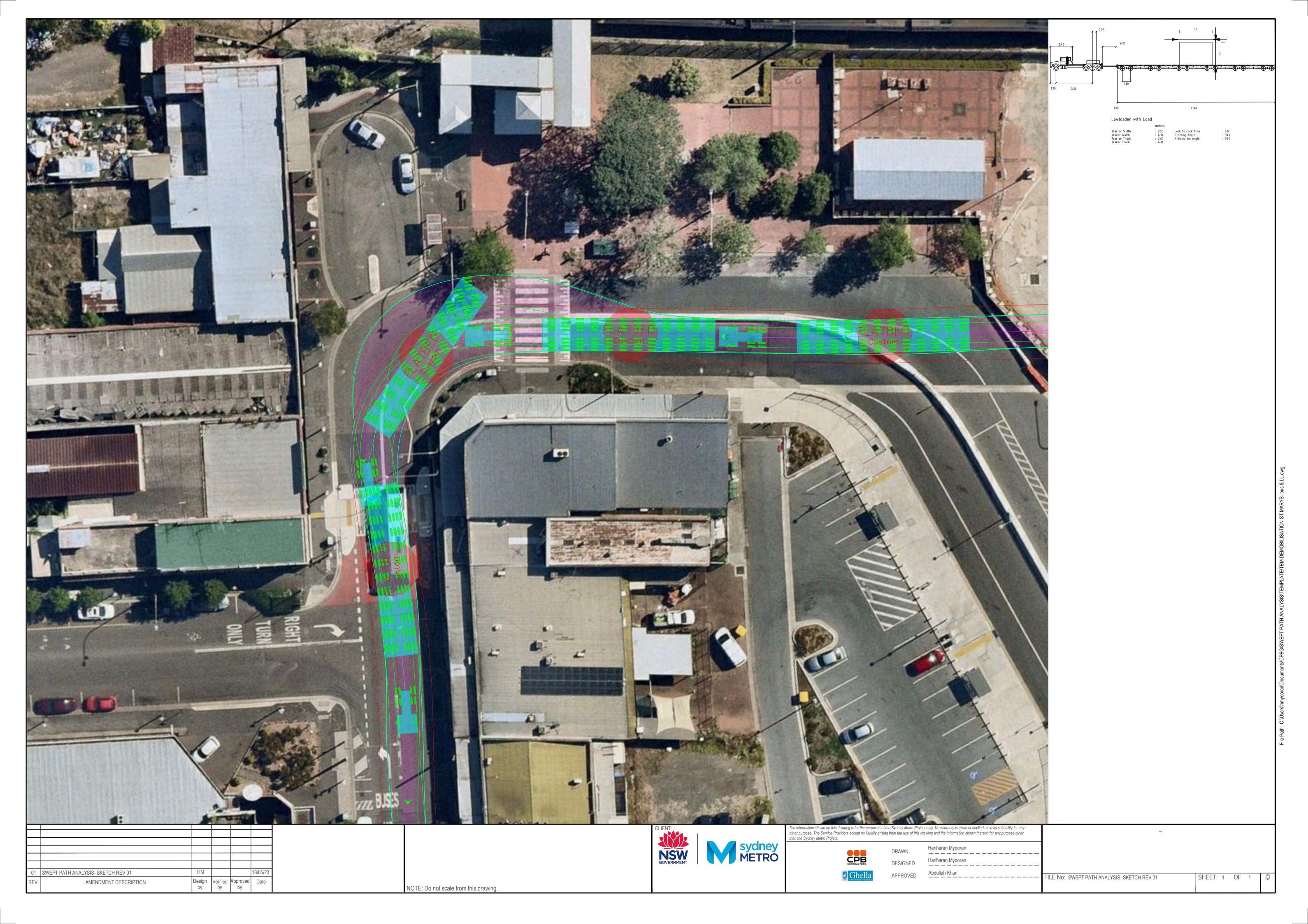
DESIGNED APPROVED

MN Hariharan Myooran

IGNED Hariharan Myooran

ROVED Abdullah Khan

FILE No: SWEPT PATH ANALYSIS- SKETCH REV 01	SHEET: 1	OF	1

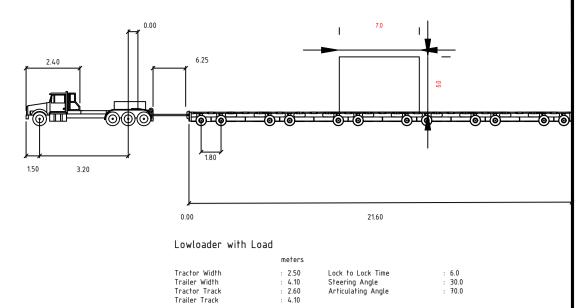




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01 SWEPT PATH ANALYSIS- SKETCH REV 01

AMENDMENT DESCRIPTION







DRAWN	Hariharan Myooran
DESIGNED	Hariharan Myooran
4.000.01/50	Abdullah Khan

APPROVED

Abdullan Knan

FILE No: SWEPT PATH ANALYSIS- SKETCH REV 01 SHEET: 1 OF 1 ©





The Transport Planning Partnership Suite 402 Level 4, 22 Atchison Street St Leonards NSW 2065

> P.O. Box 237 St Leonards NSW 1590

> > 02 8437 7800

info@ttpp.net.au

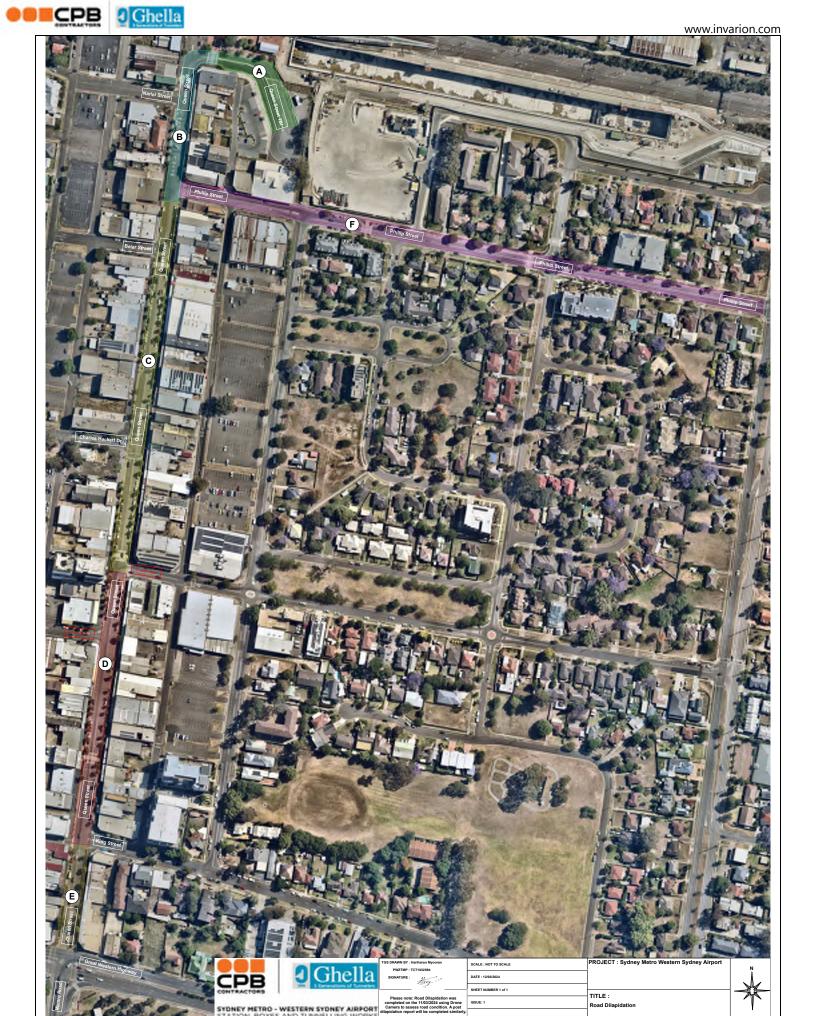
www.ttpp.net.au



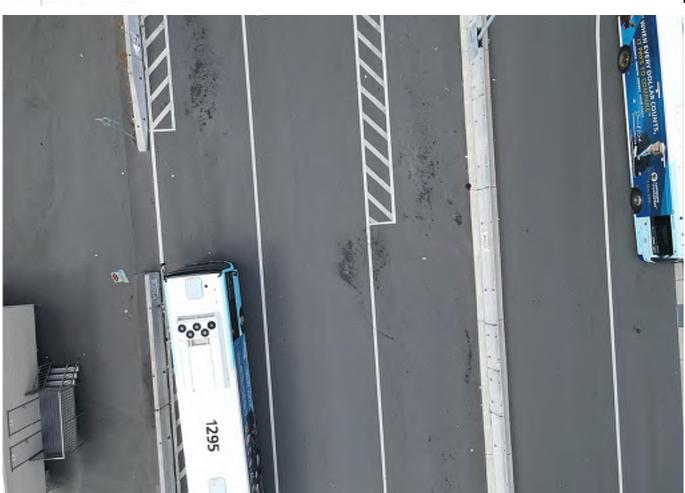


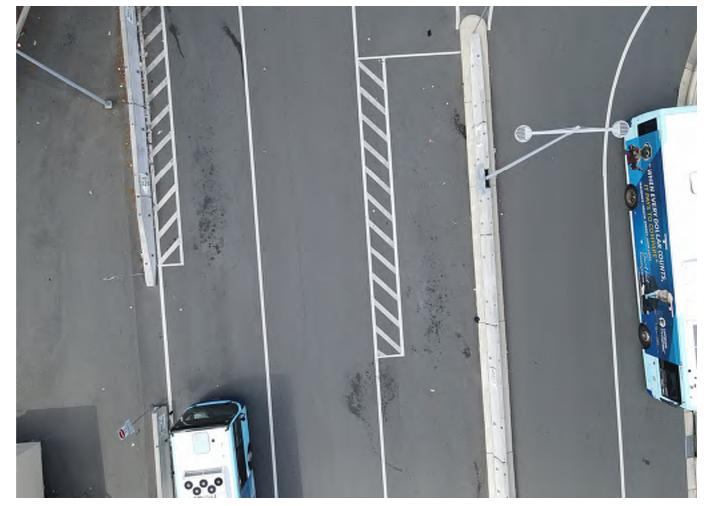
SYDNEY METRO - WESTERN SYDNEY AIRPORT STATION BOXES AND TUNNELLING WORKS

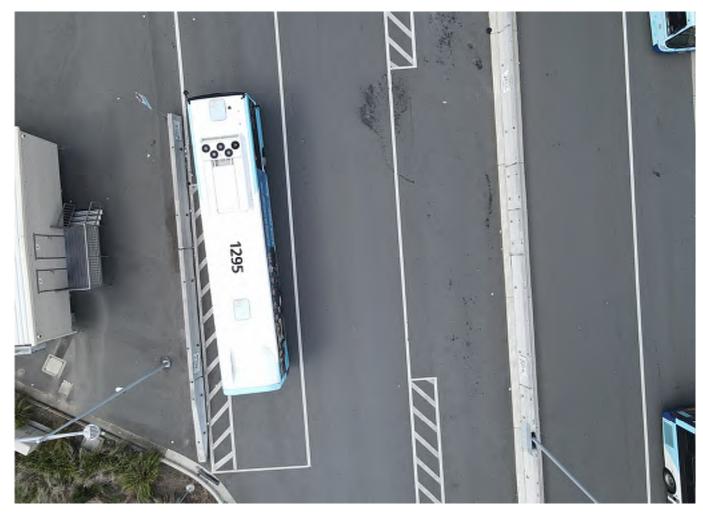
Appendix 4 Dilapidation Report

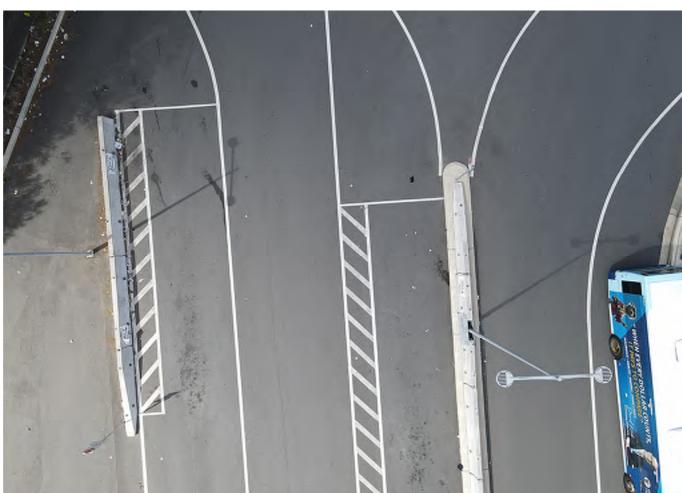












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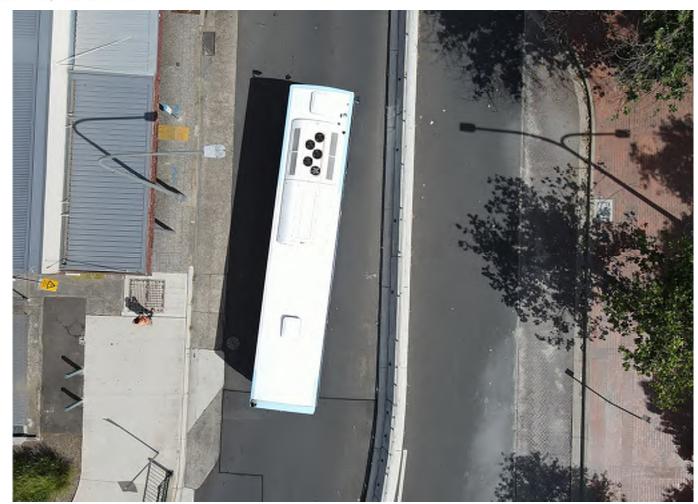
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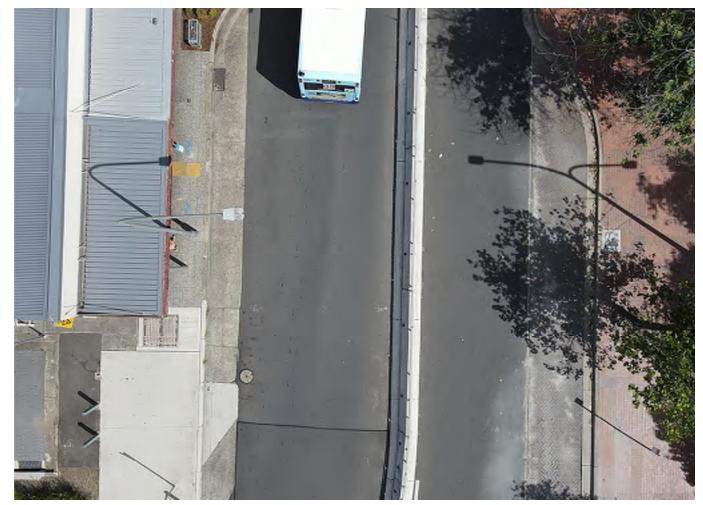


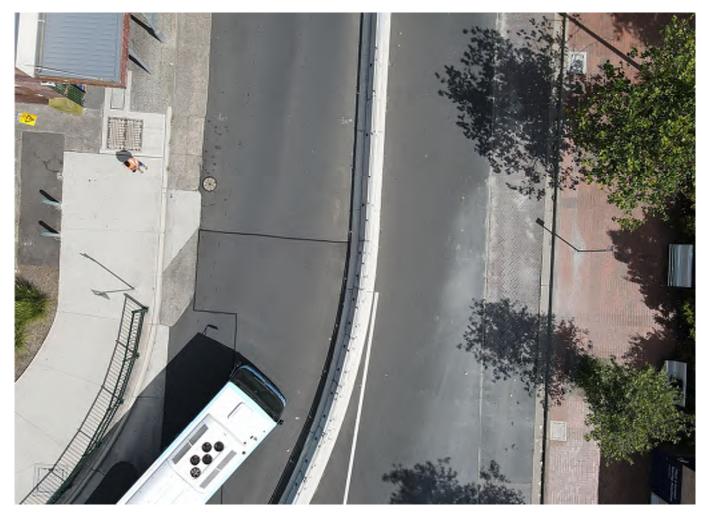


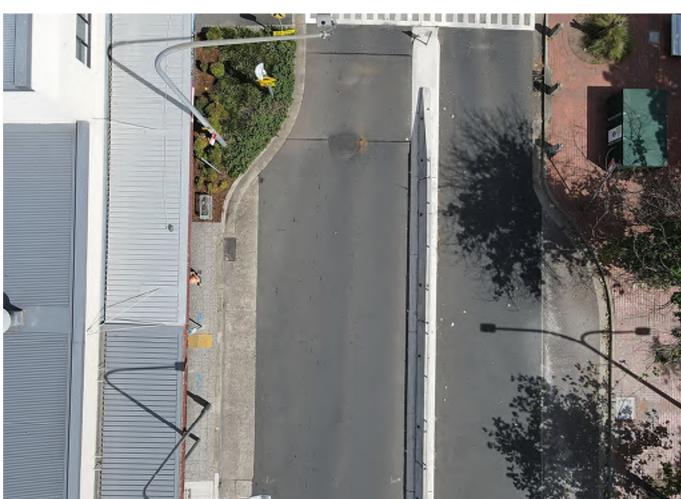
Road Dilapidation conducted on the 11/03/2024











Road Dilapidation conducted on the 11/03/2024

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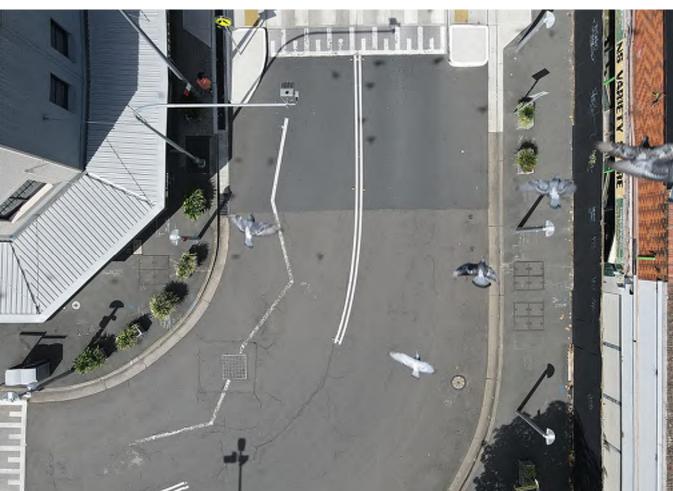
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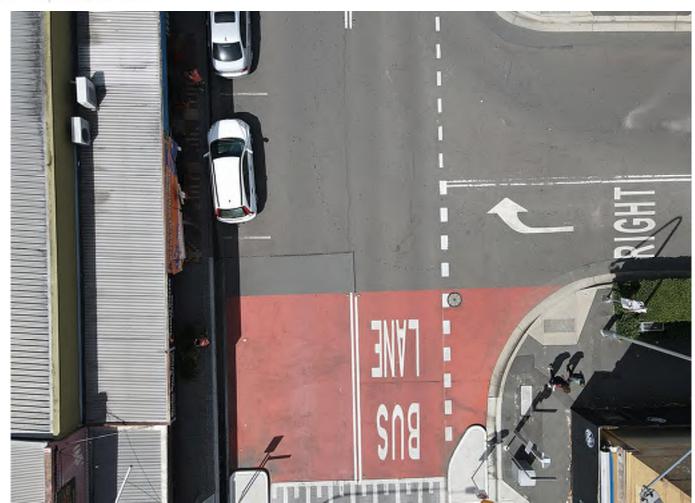




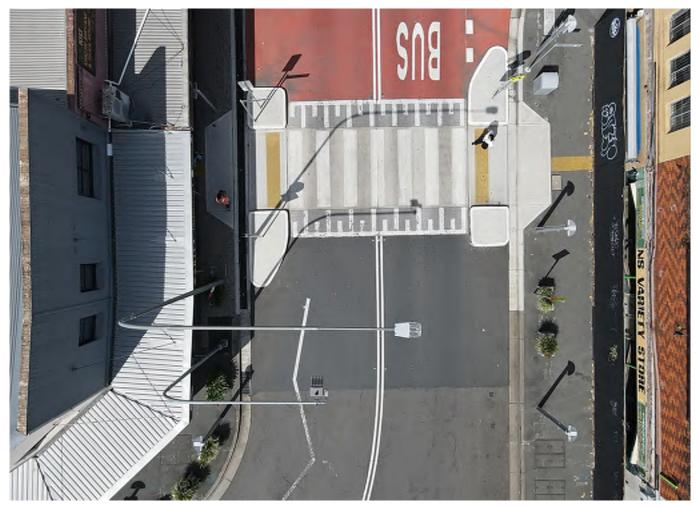
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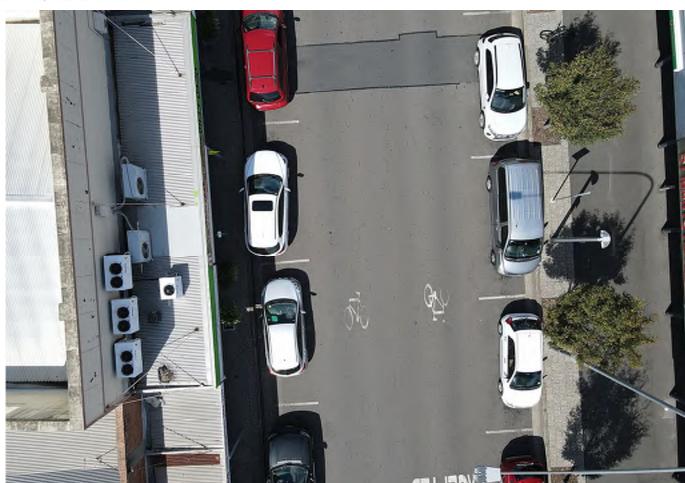




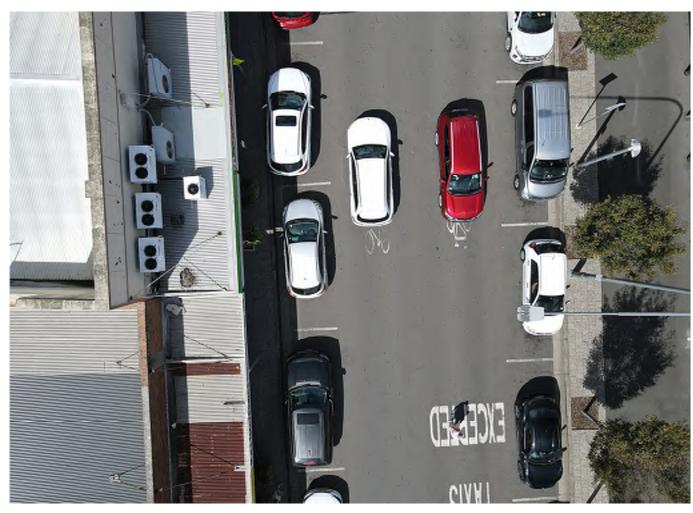
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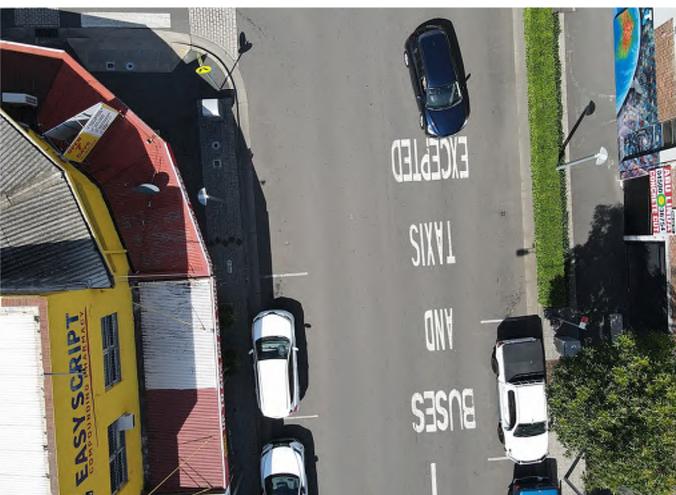
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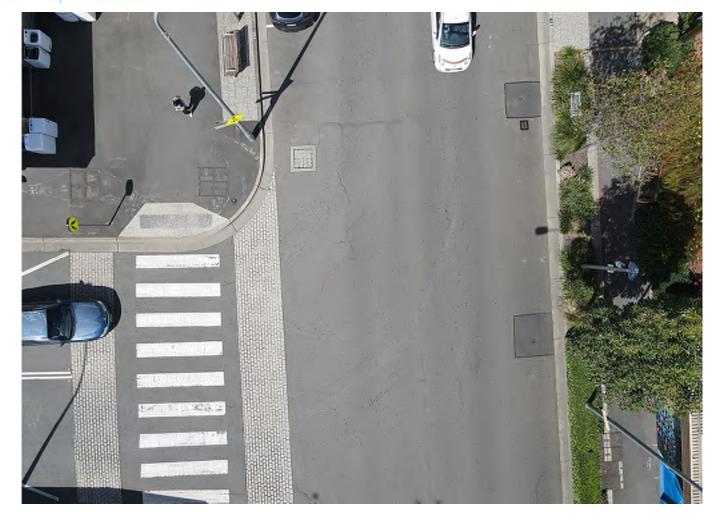


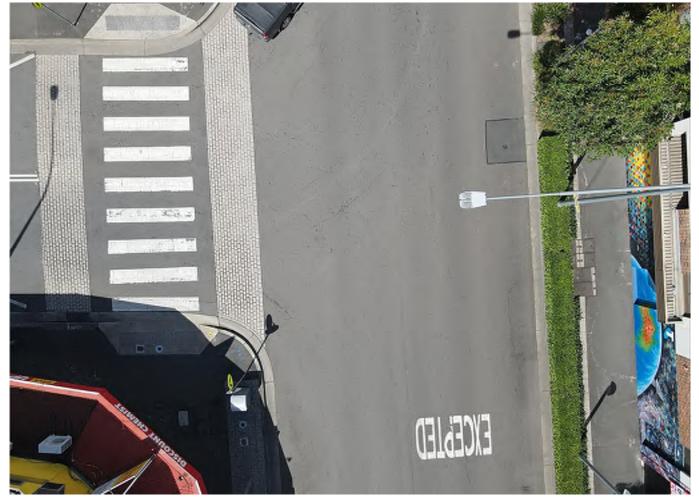
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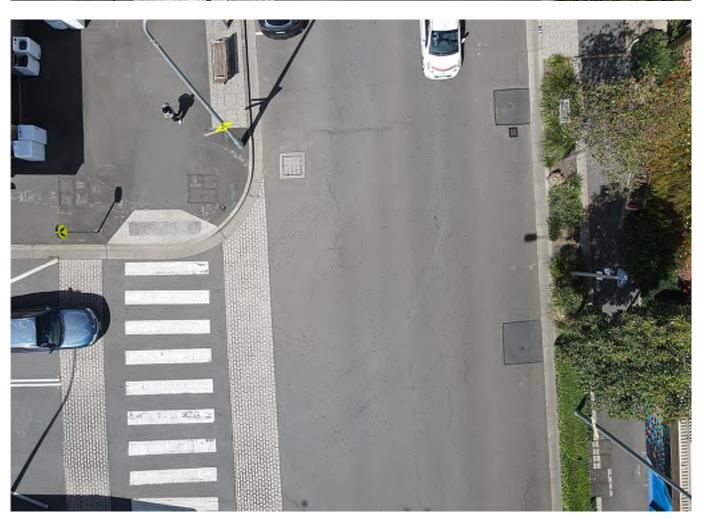


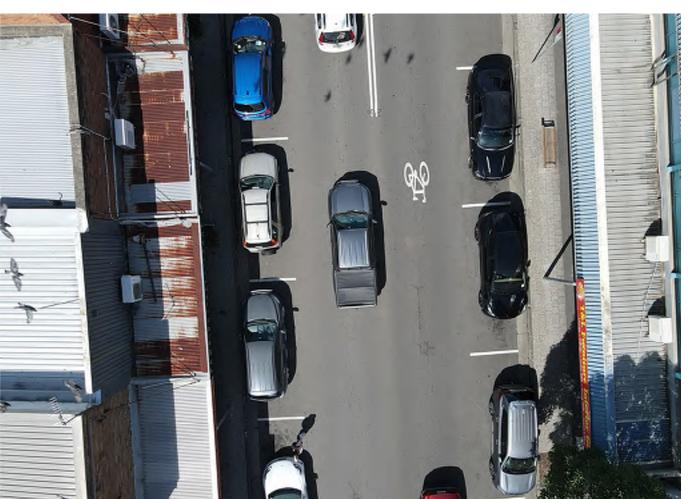








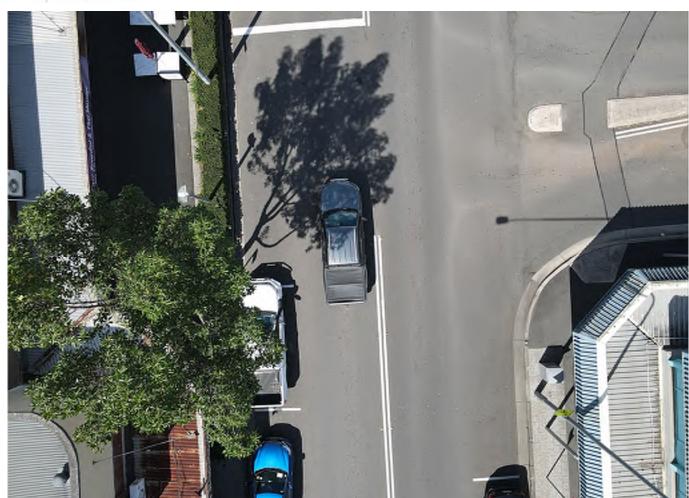


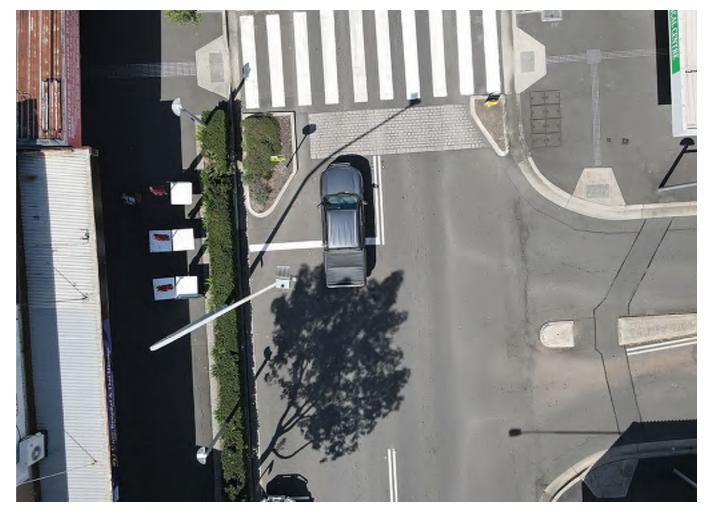


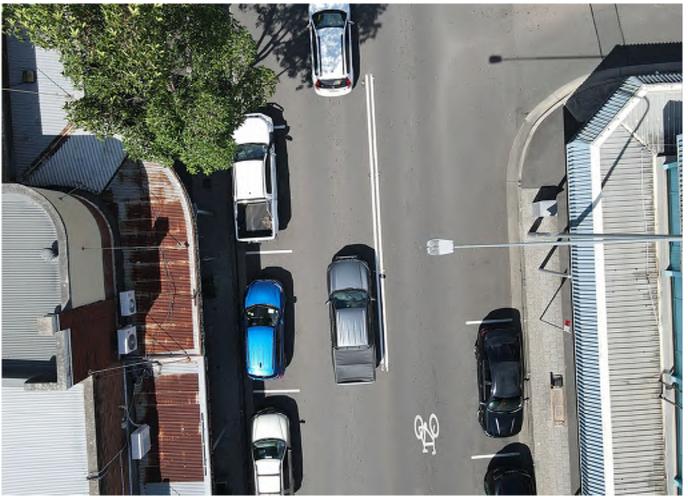
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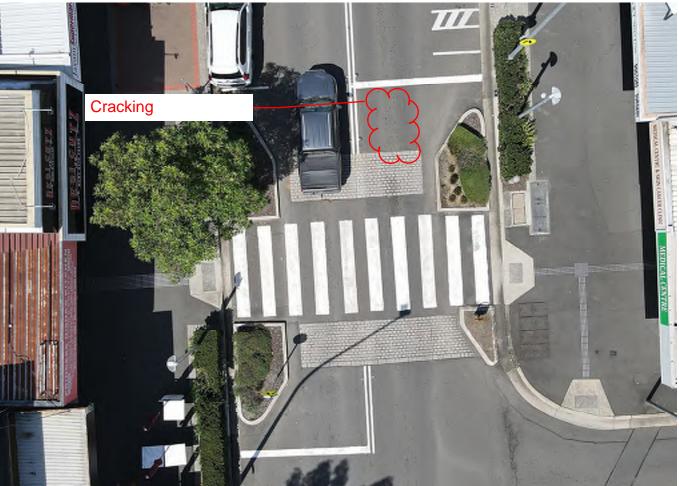
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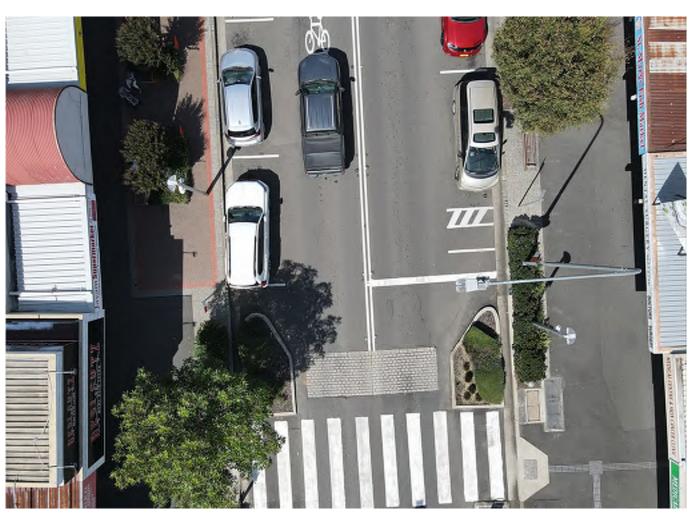
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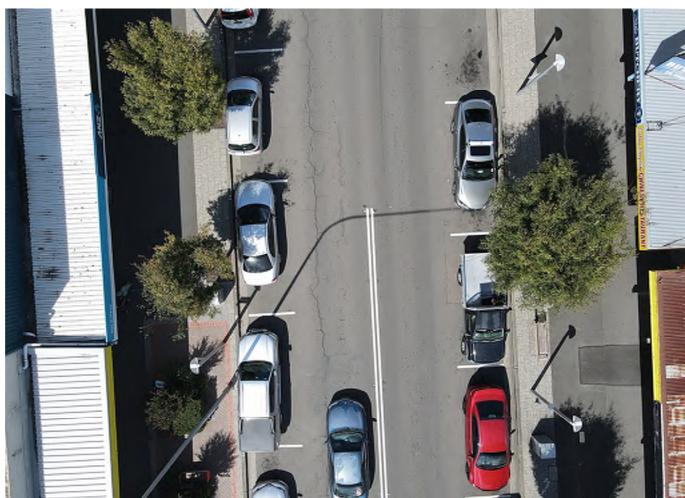
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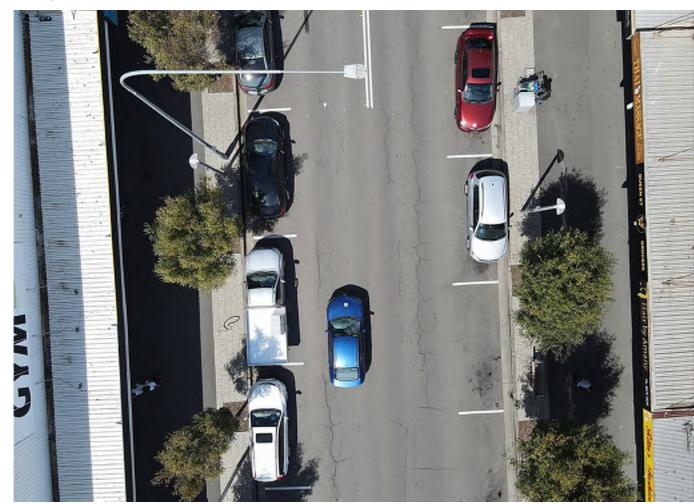


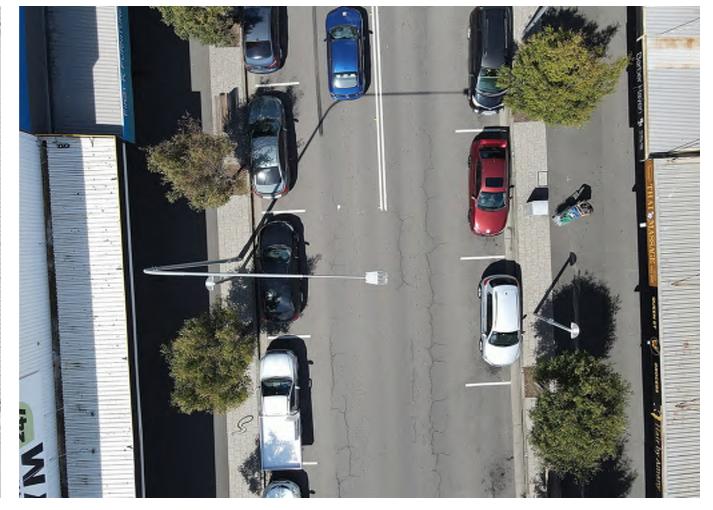


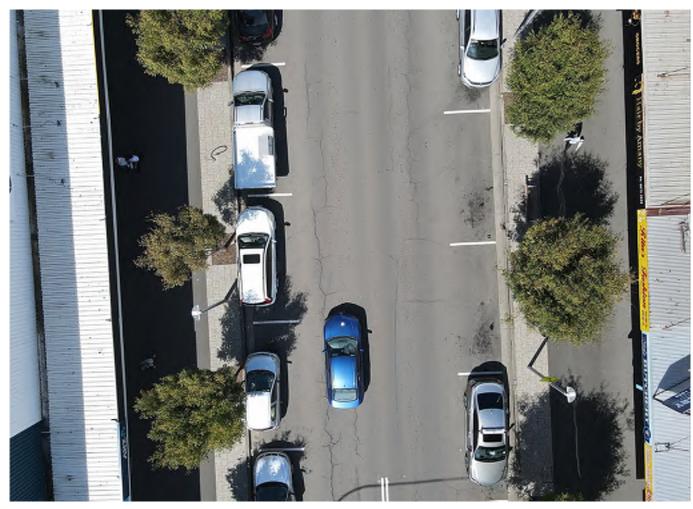
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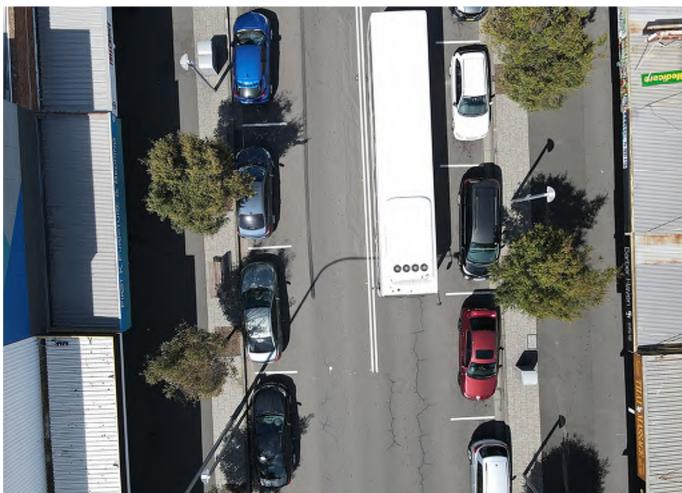
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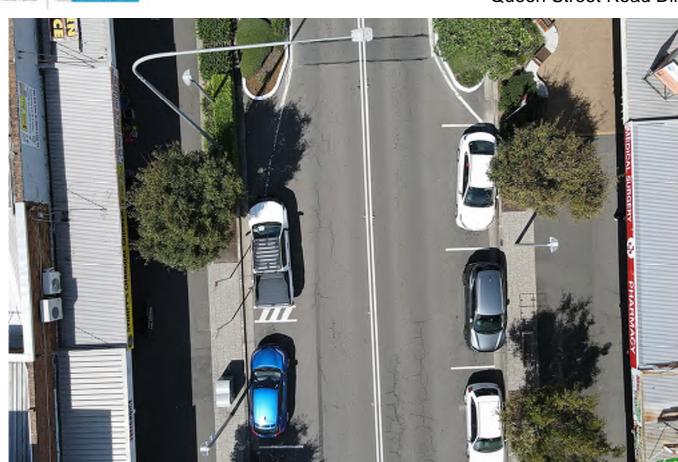




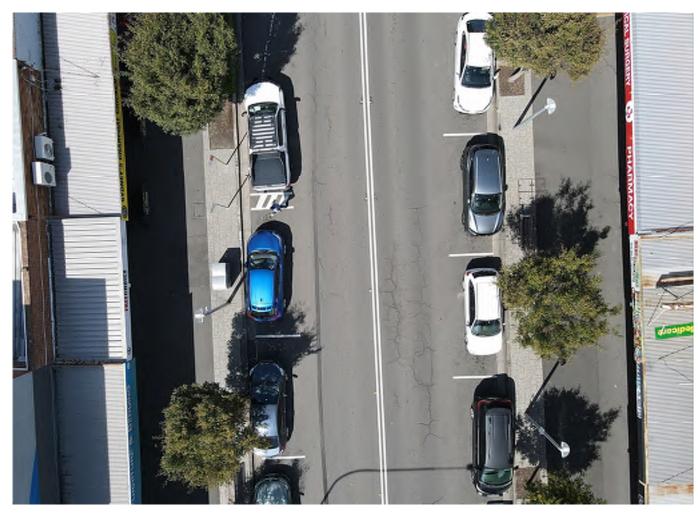
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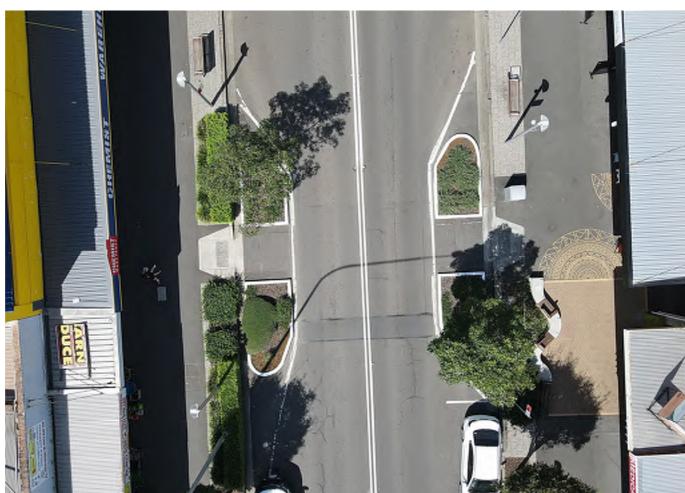
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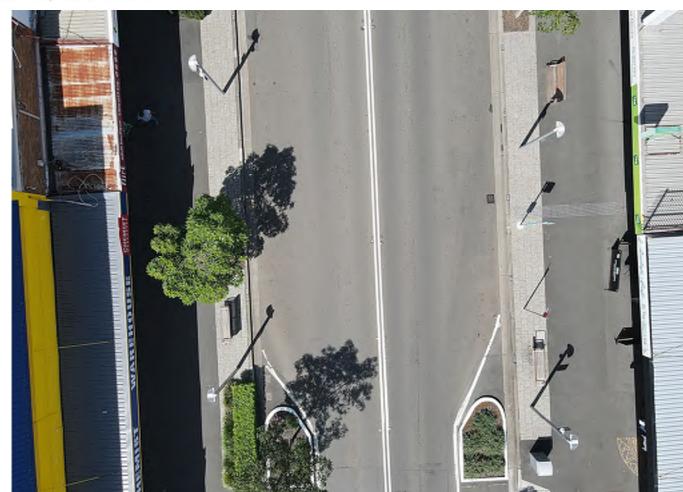


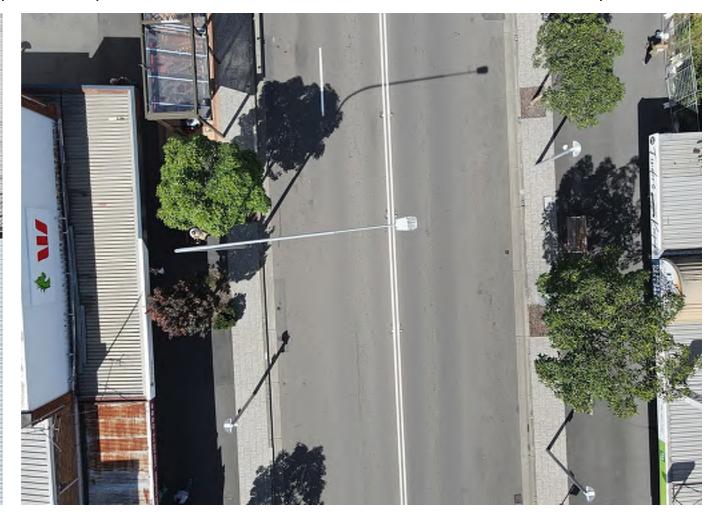


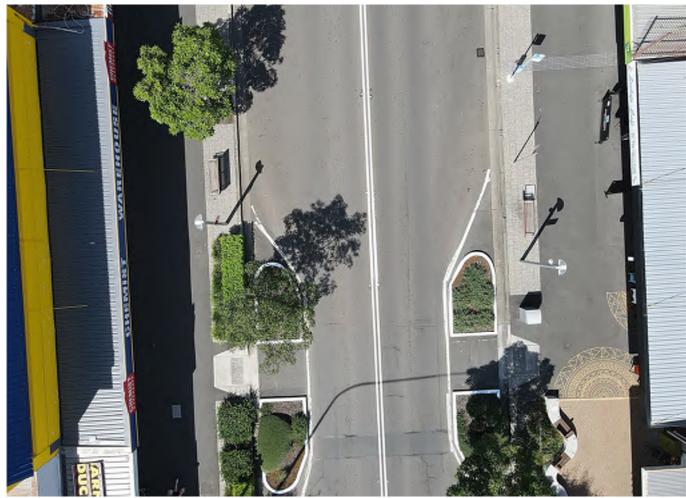
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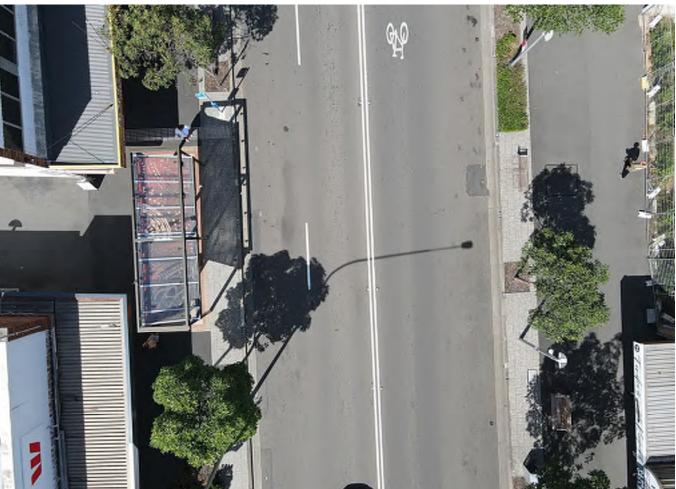
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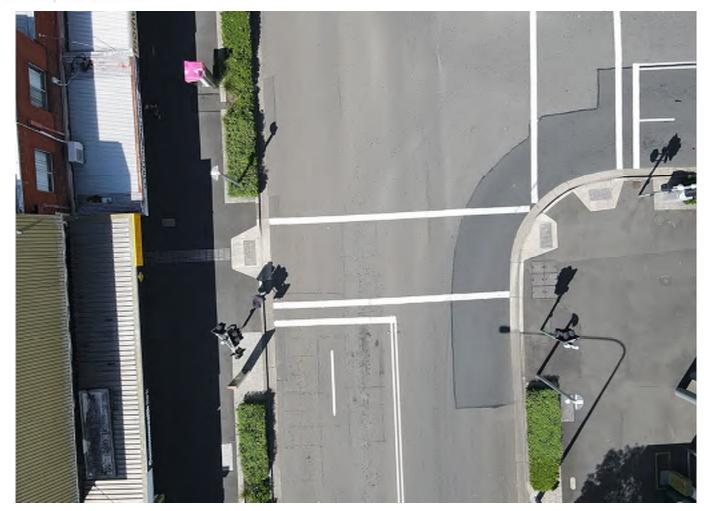


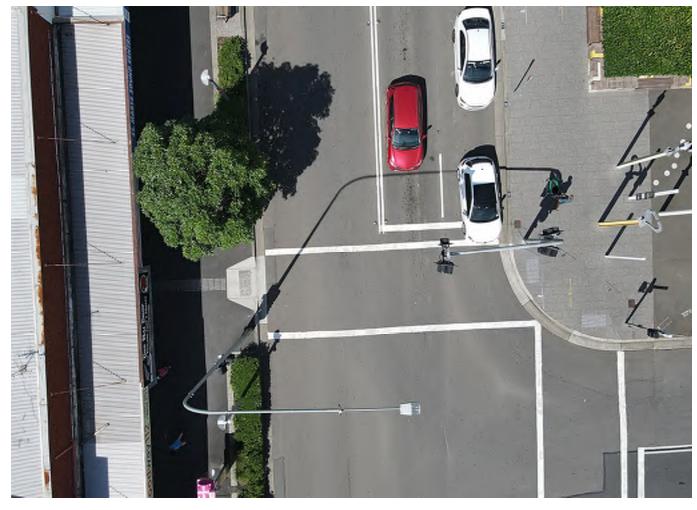


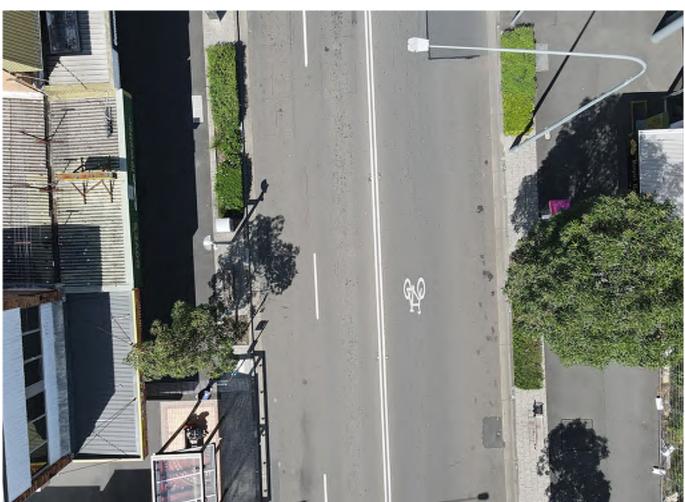
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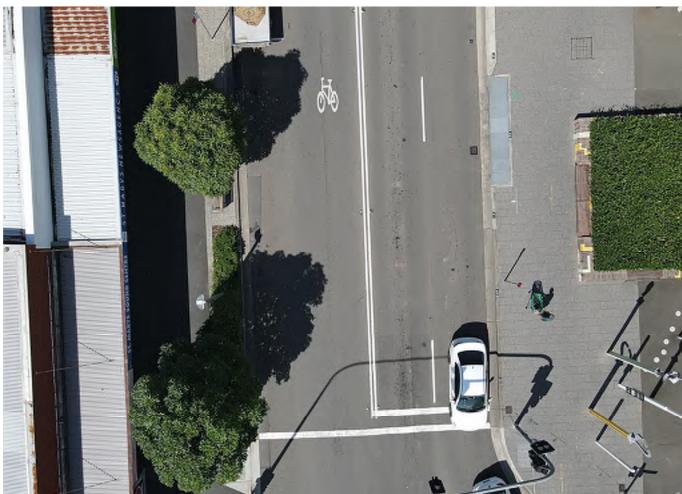
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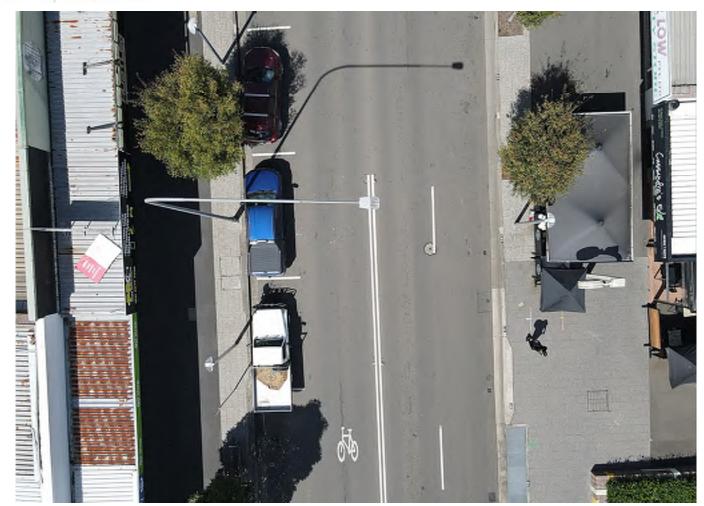


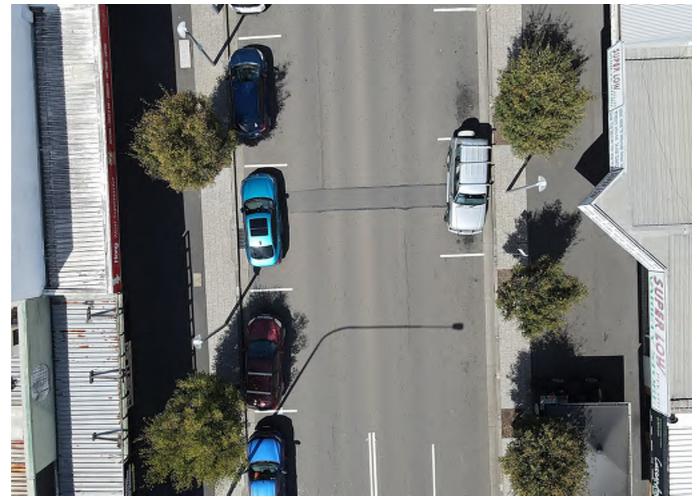


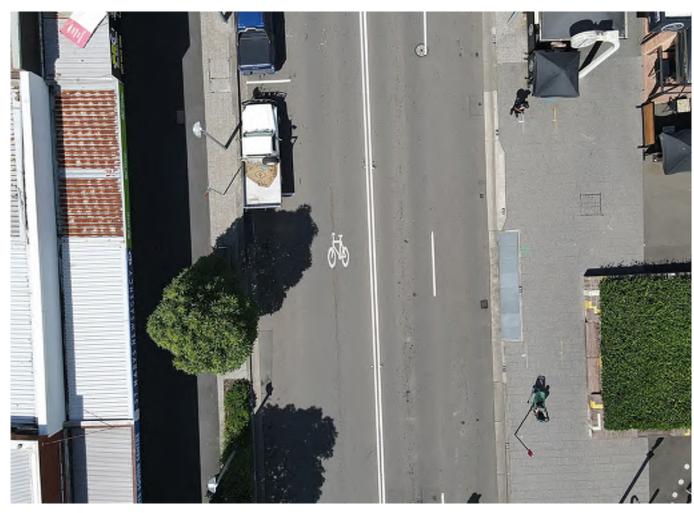
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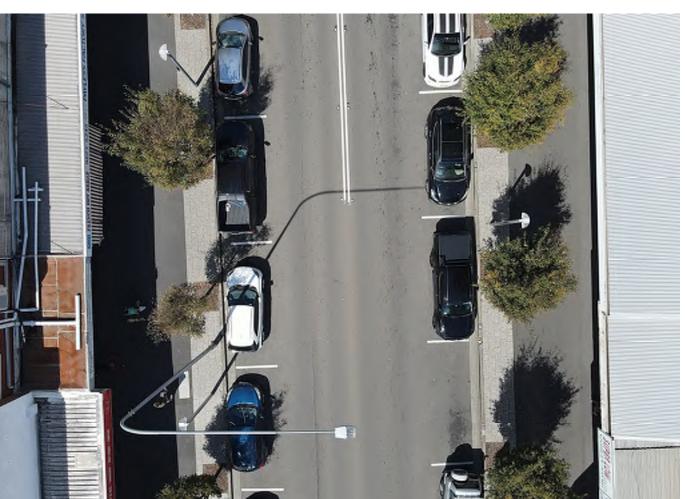
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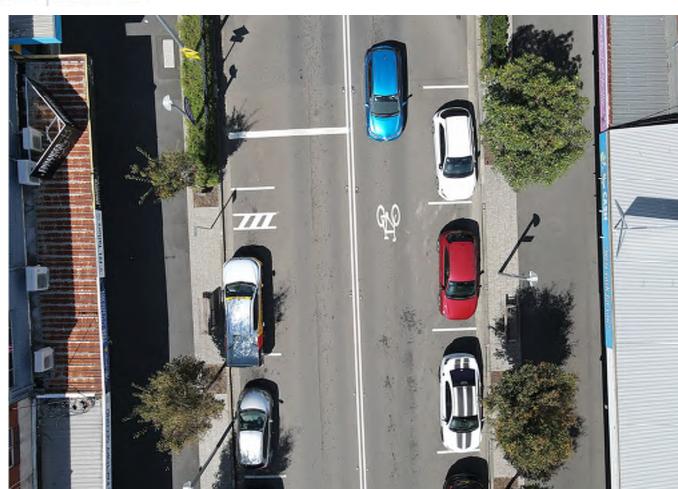




Road Dilapidation conducted on the 11/03/2024

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Road Dilapidation conducted on the 11/03/2024

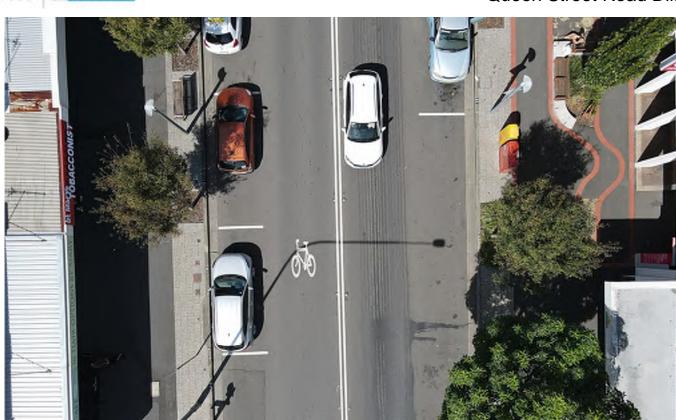
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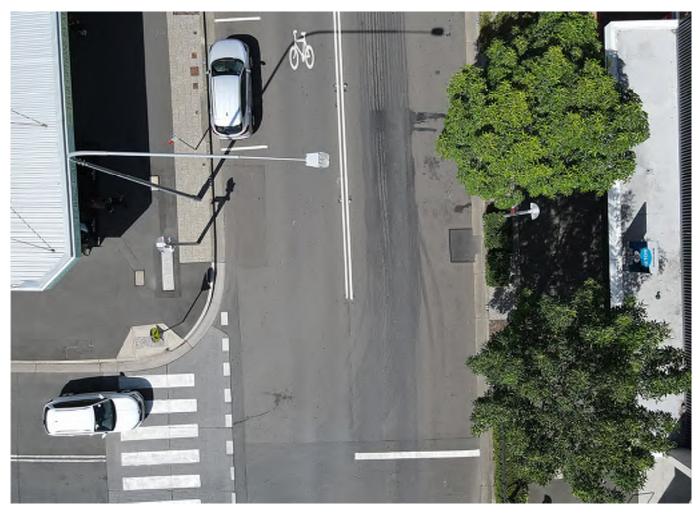


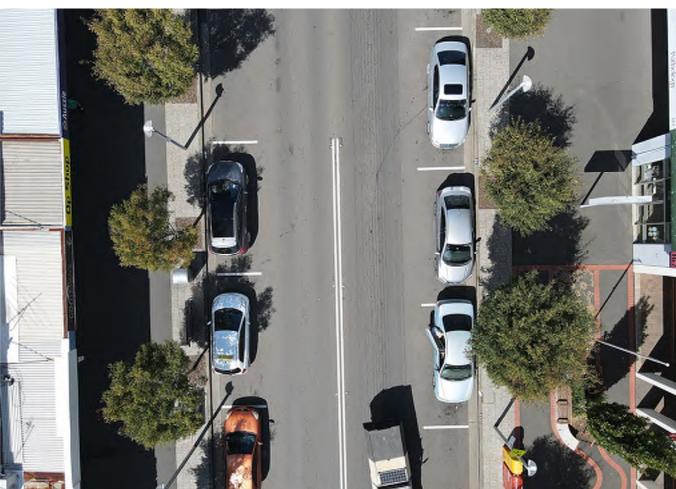
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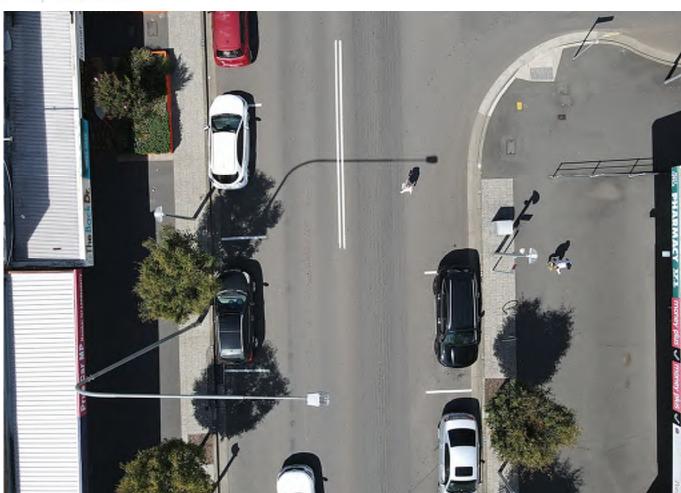


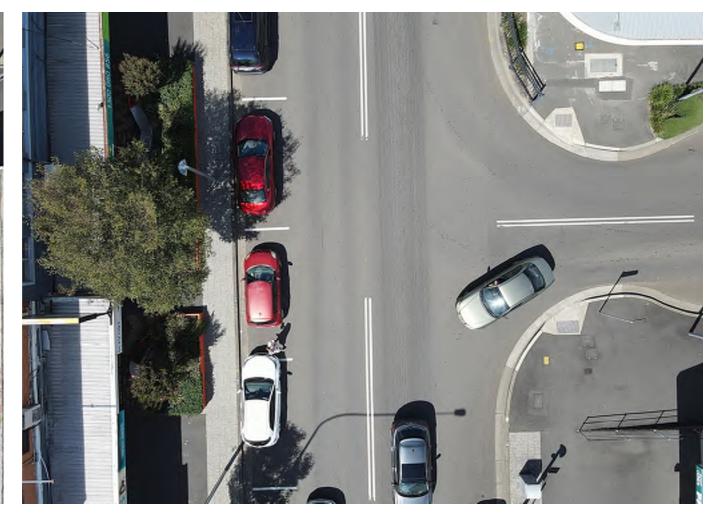


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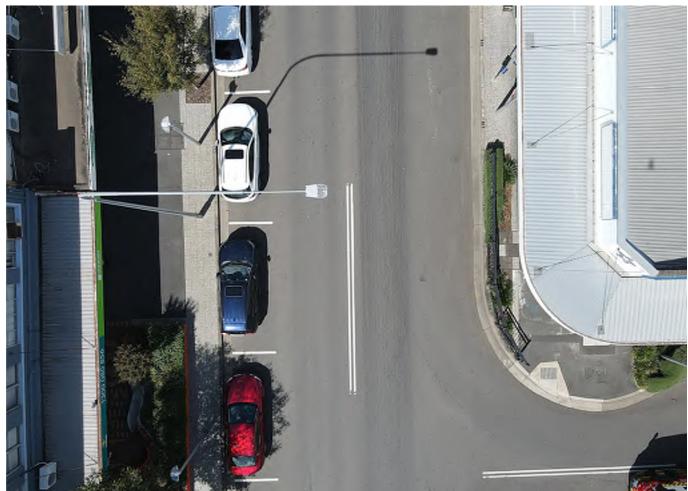
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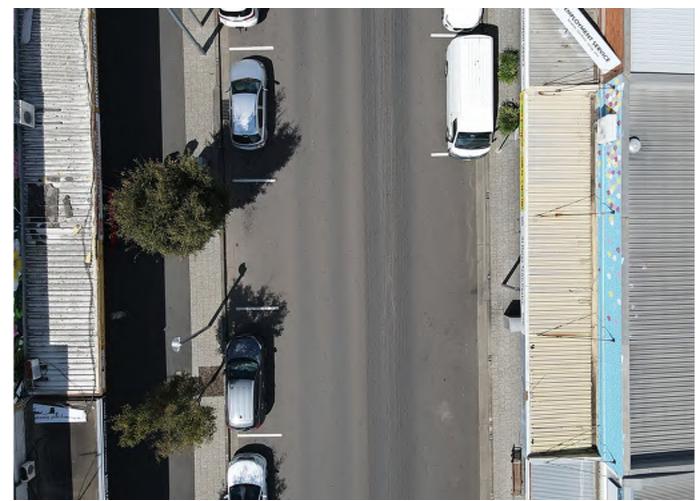


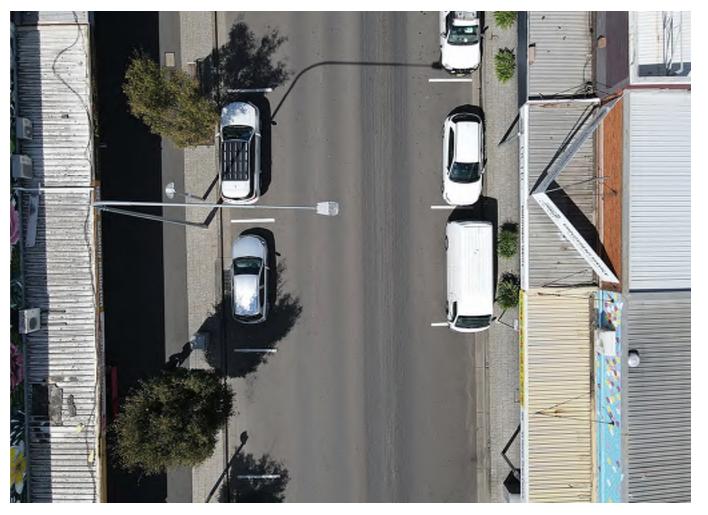


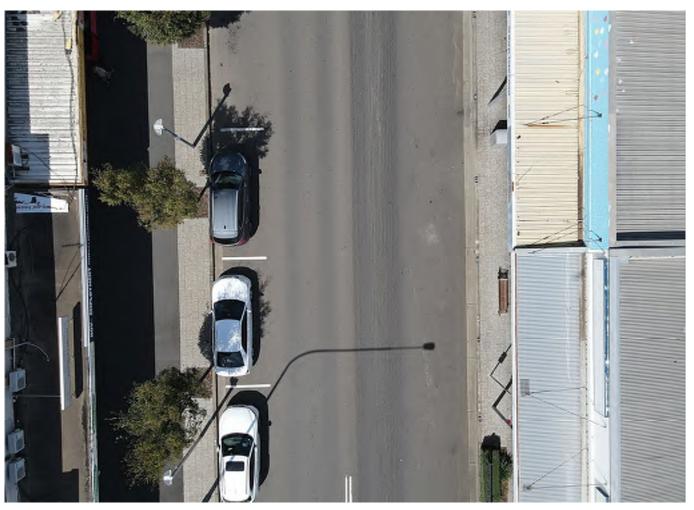
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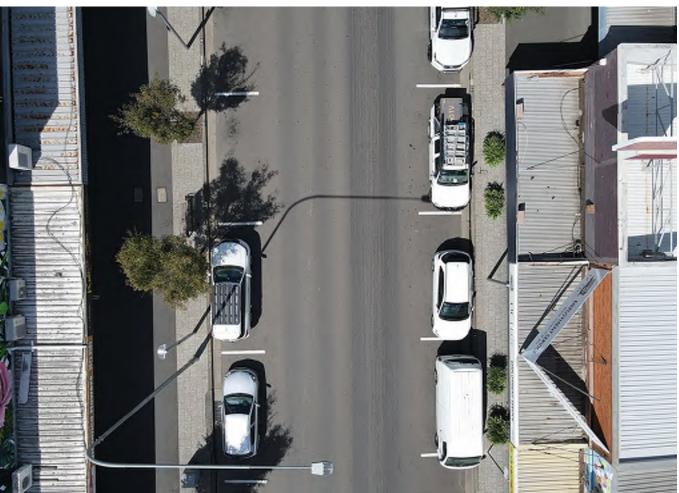
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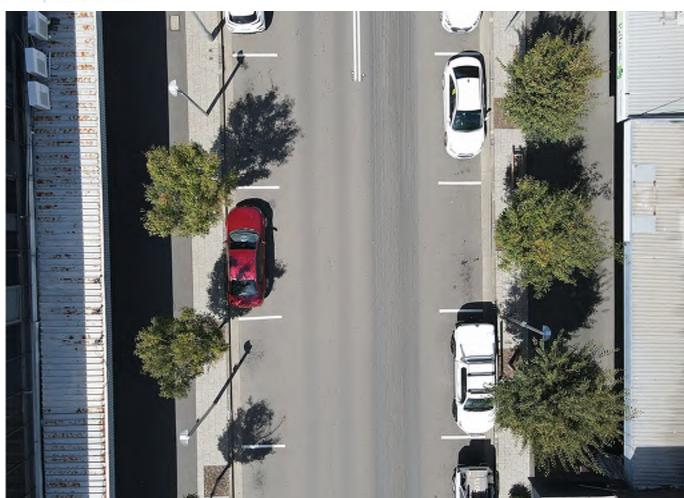


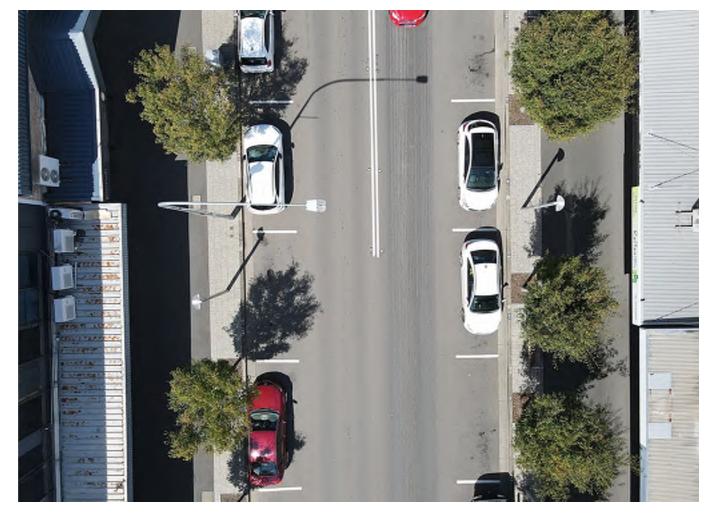


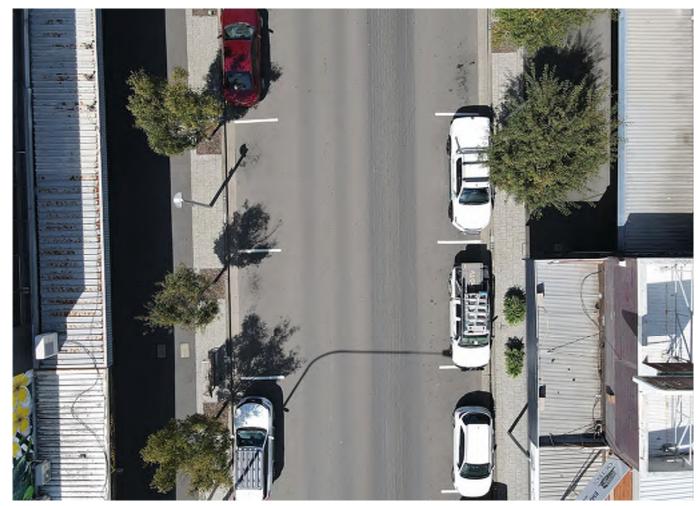
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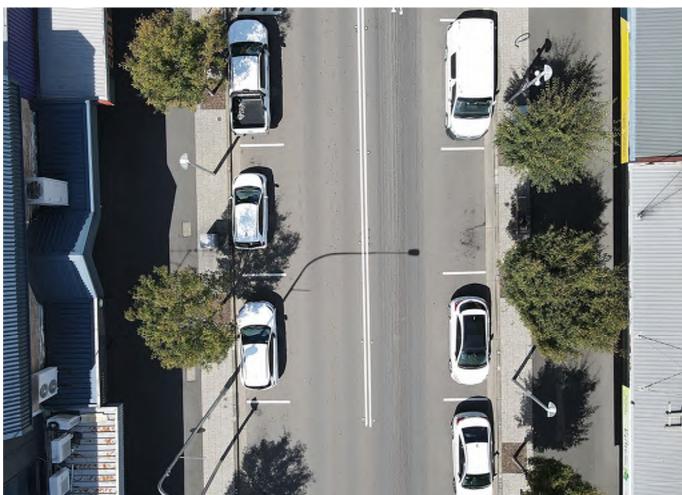
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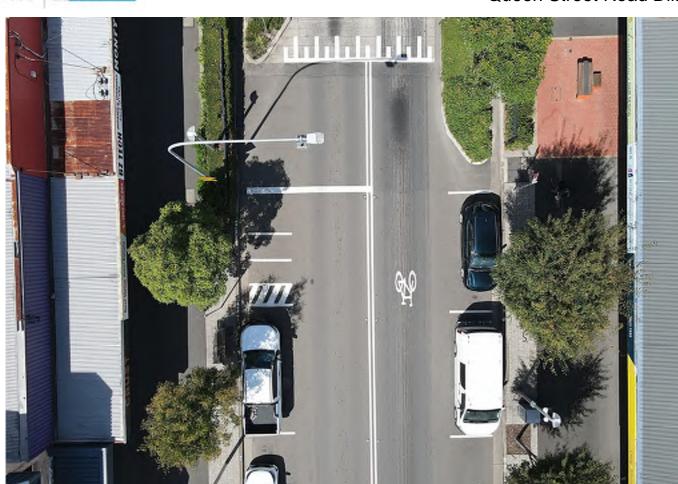




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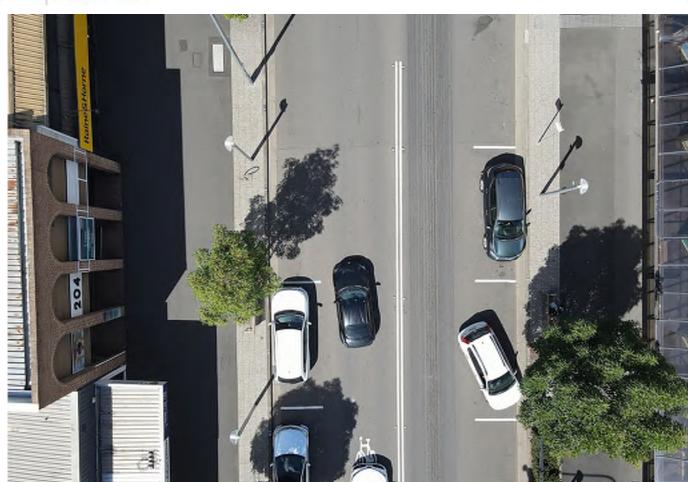


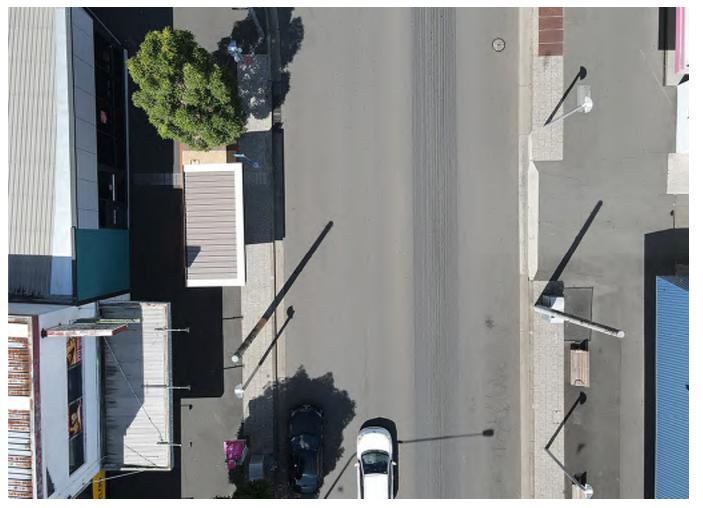


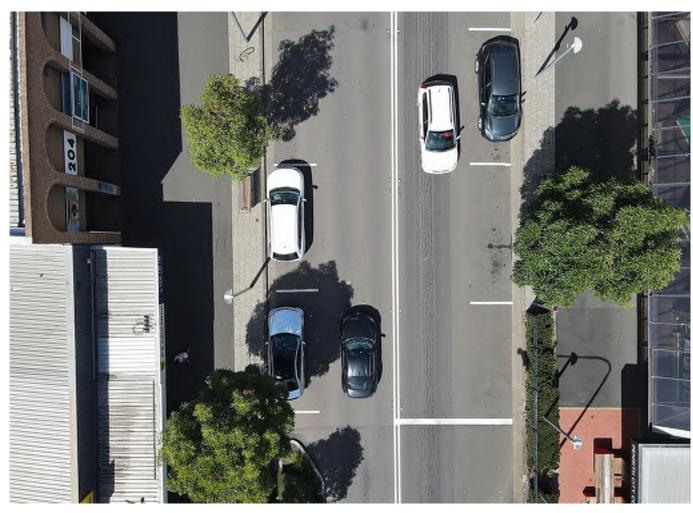
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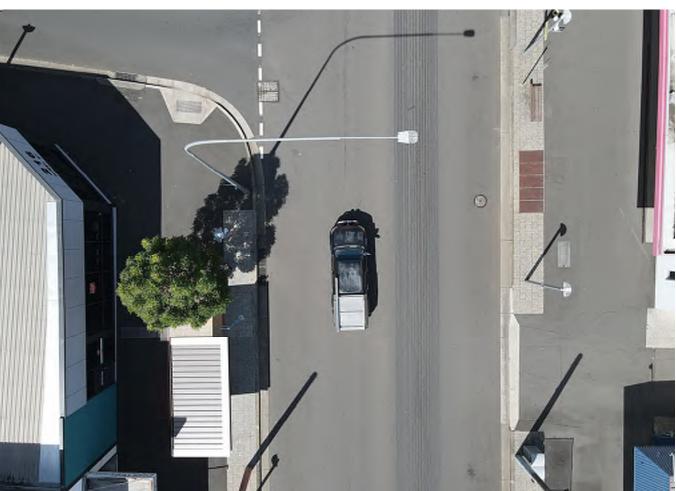
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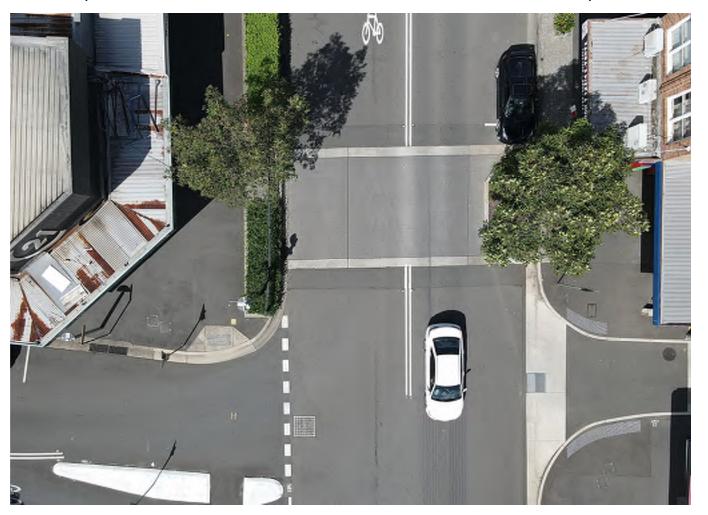


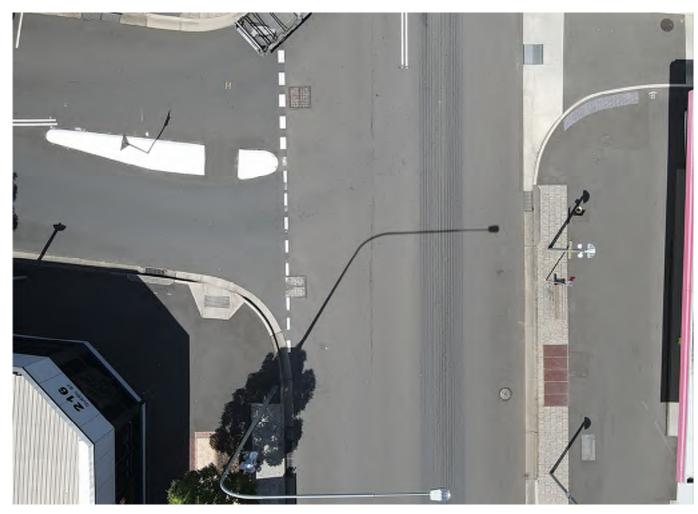
Road Dilapidation conducted on the 11/03/2024

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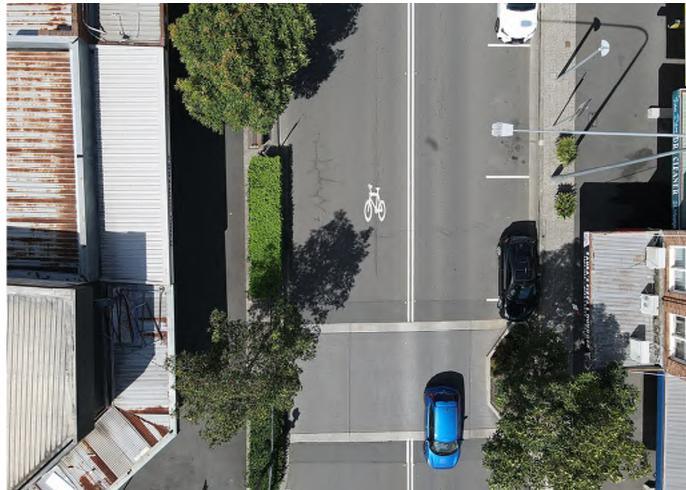


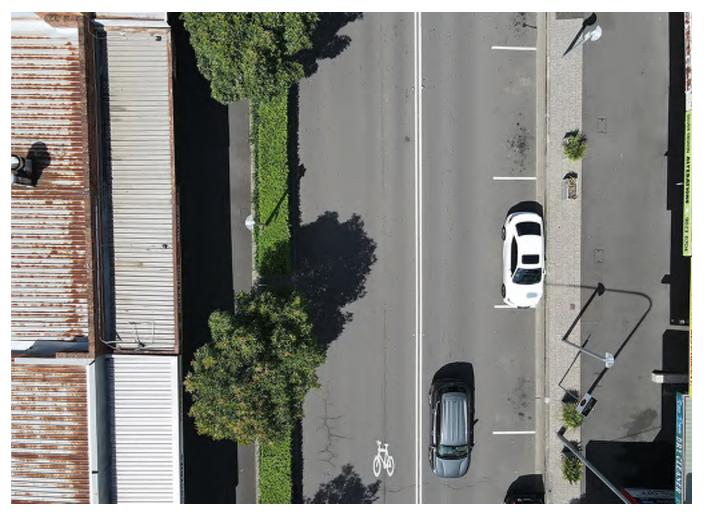


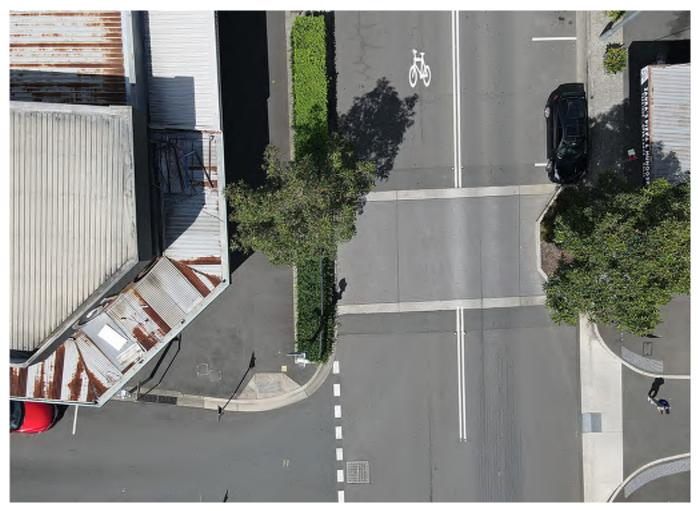


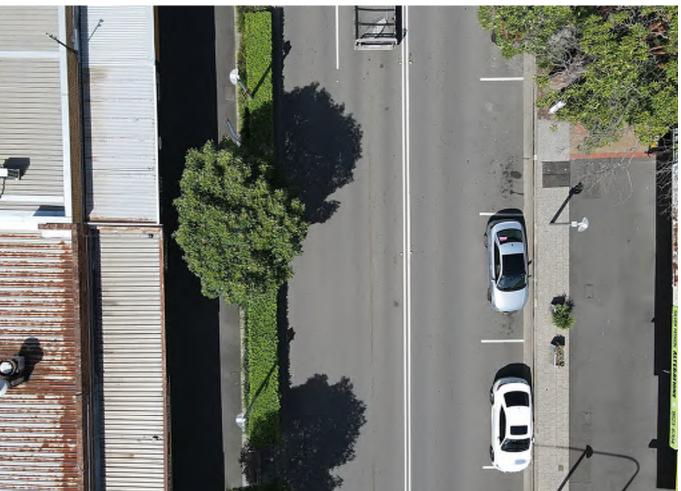








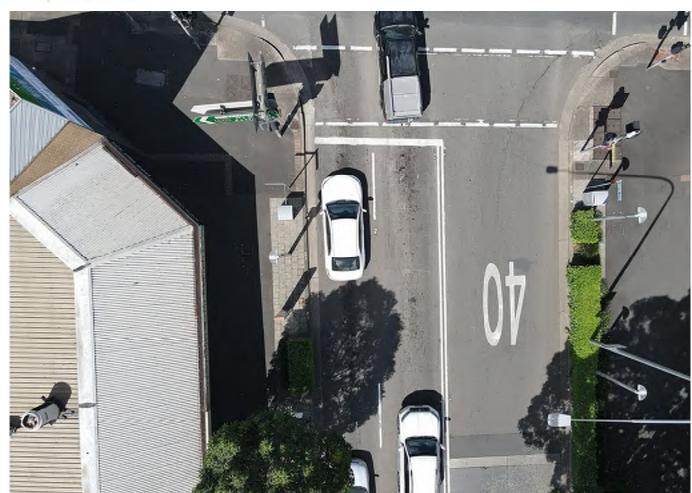


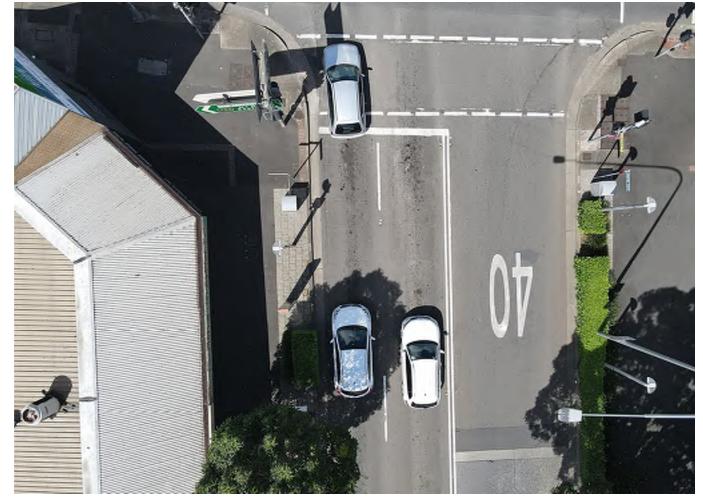


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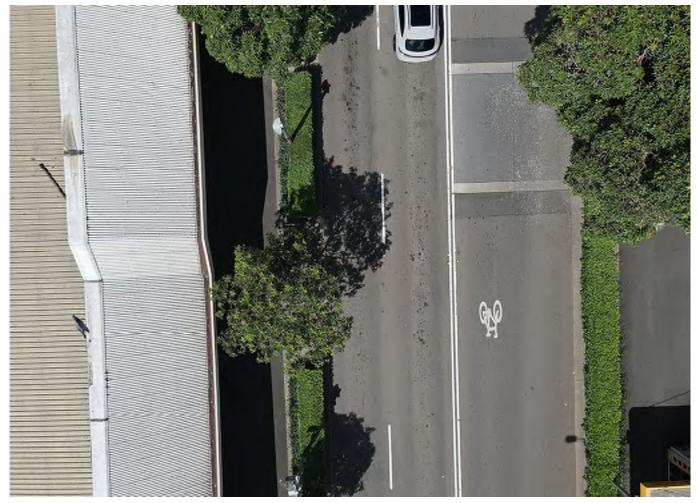


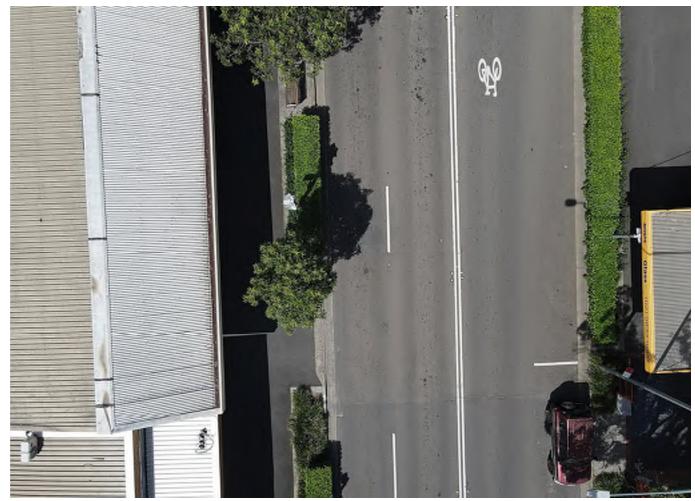


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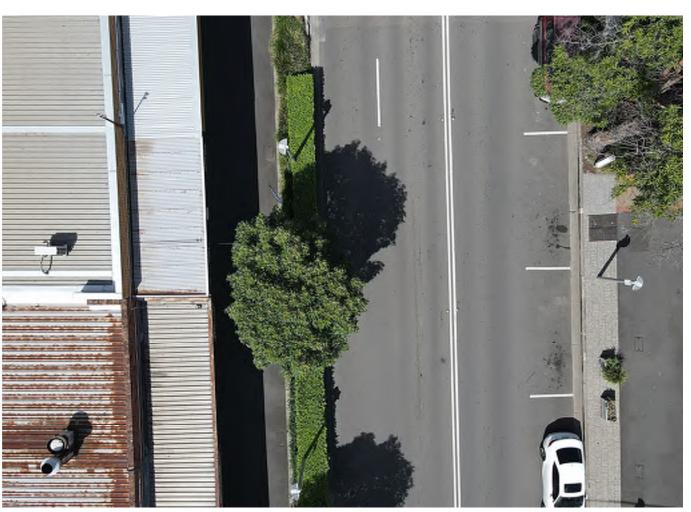
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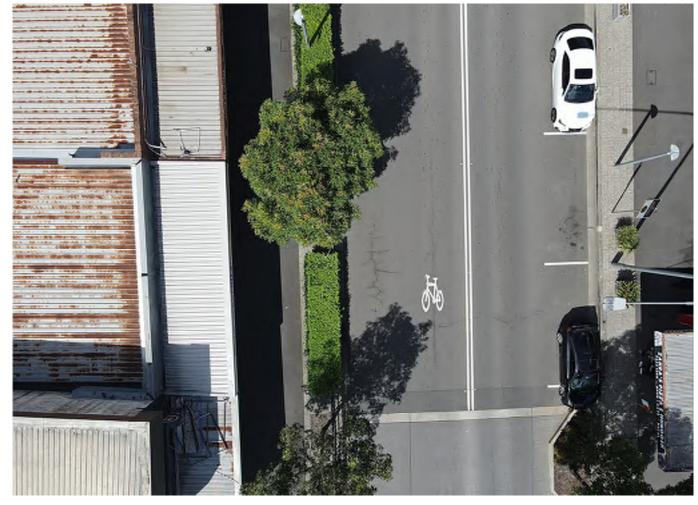




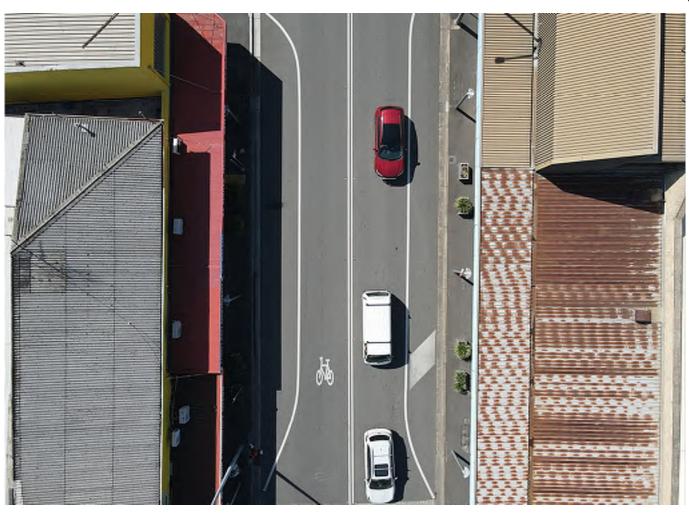
Road Dilapidation conducted on the 11/03/2024

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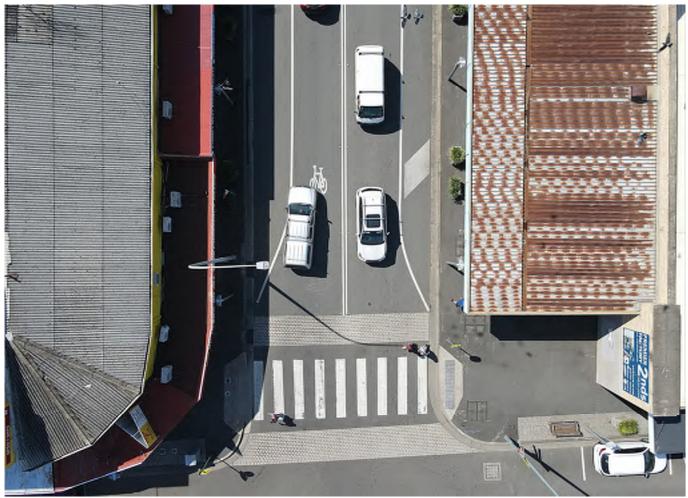




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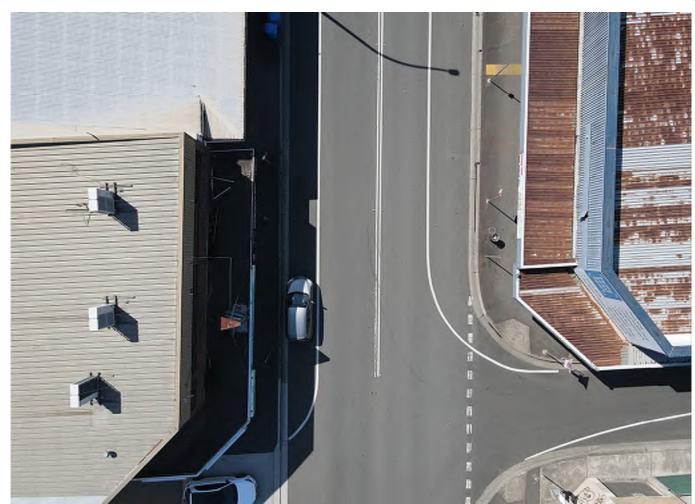




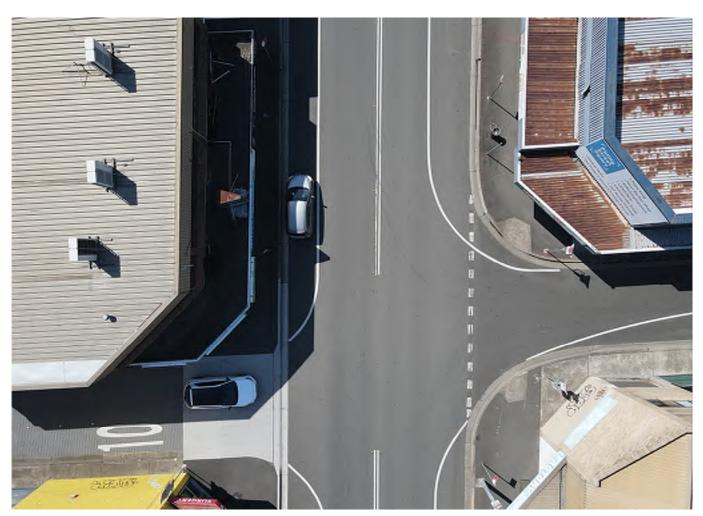


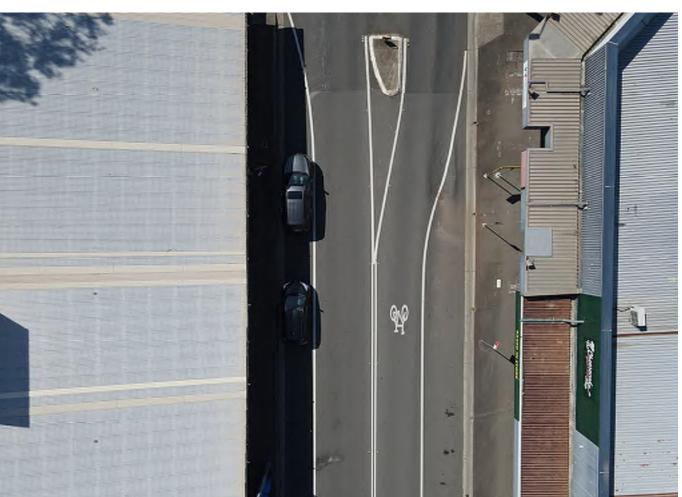
Road Dilapidation conducted on the 12/03/2024

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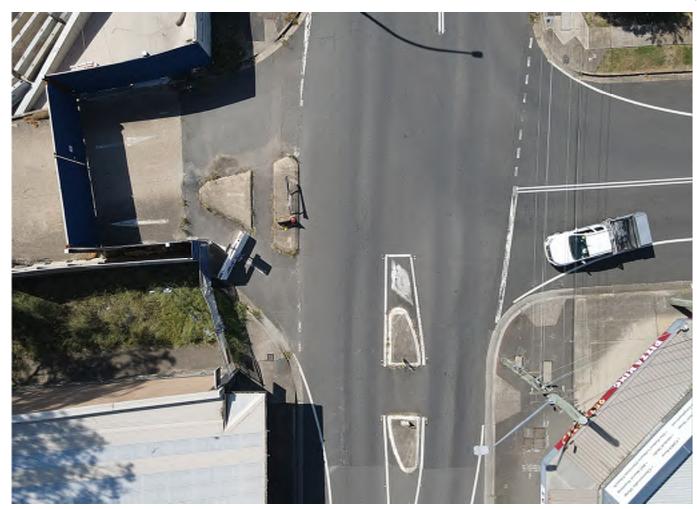




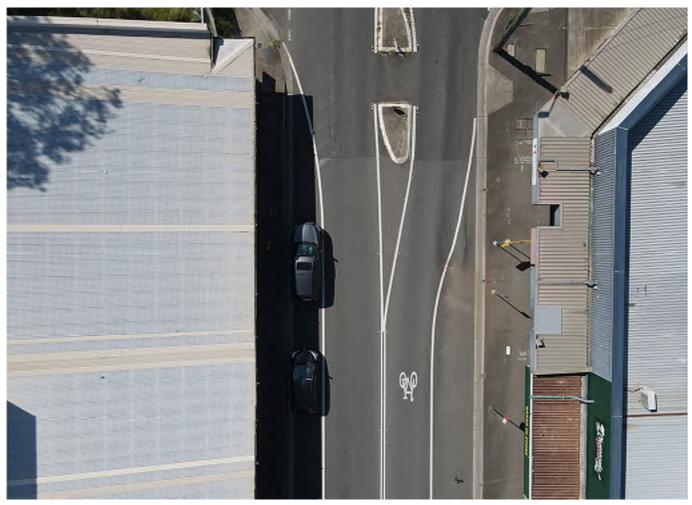


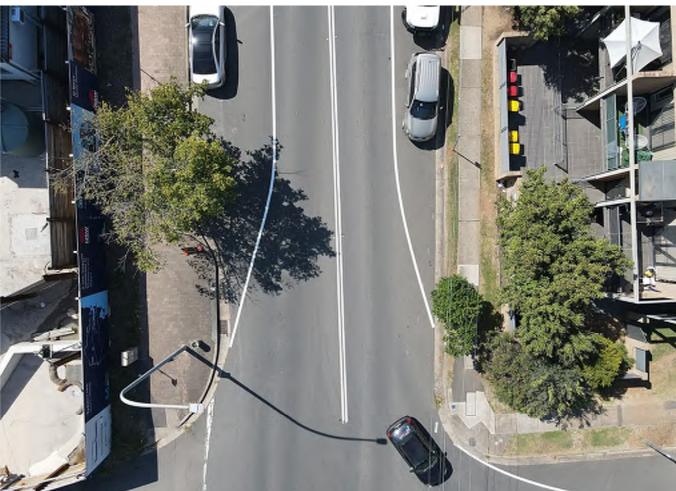
Road Dilapidation conducted on the 12/03/2024

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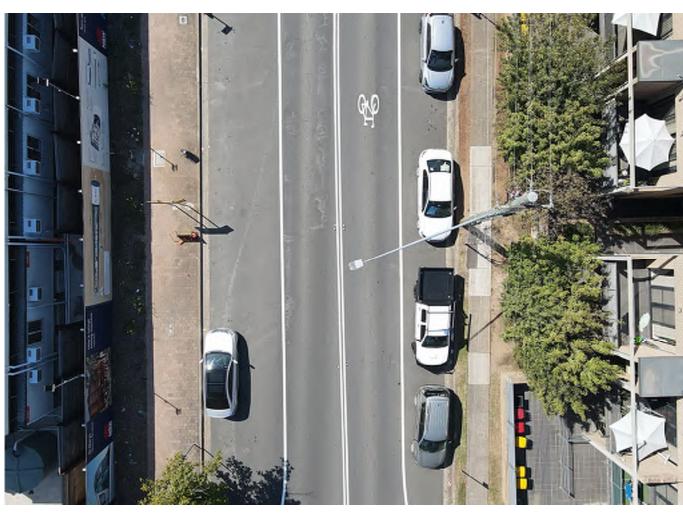


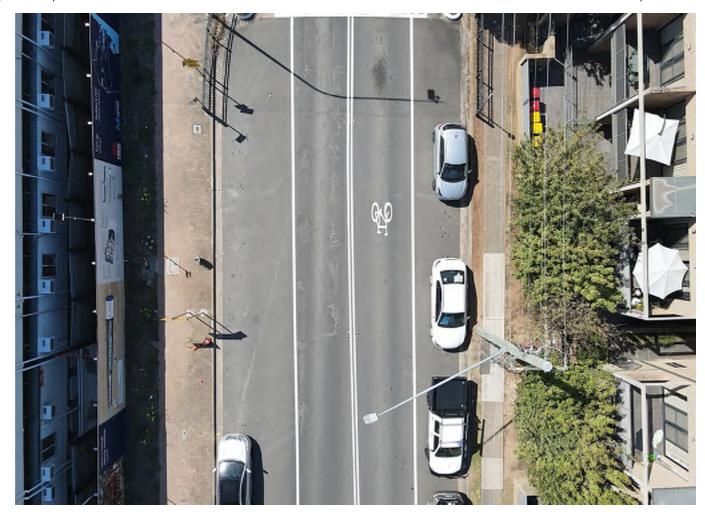


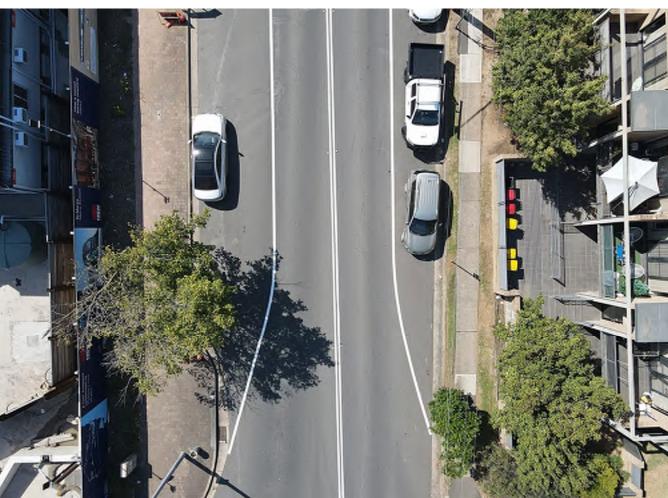


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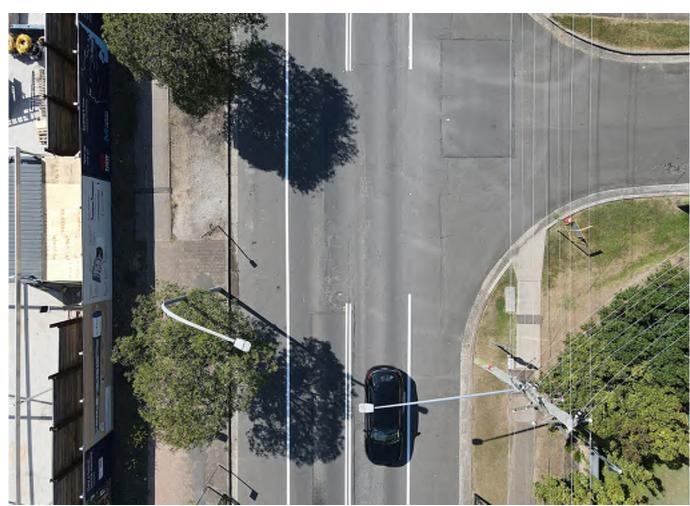


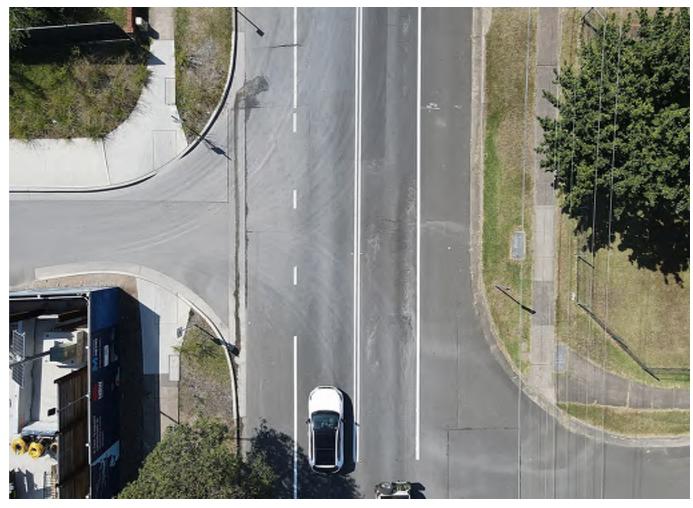




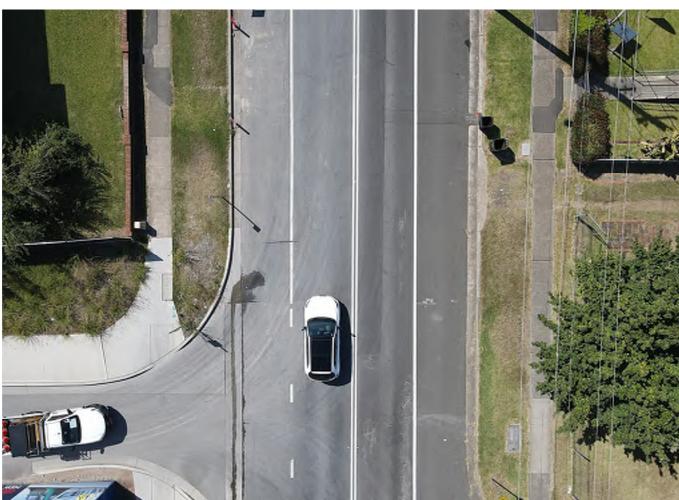
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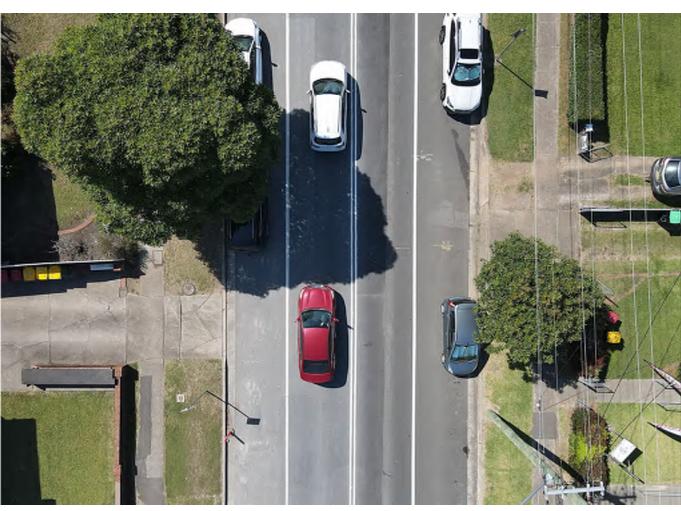


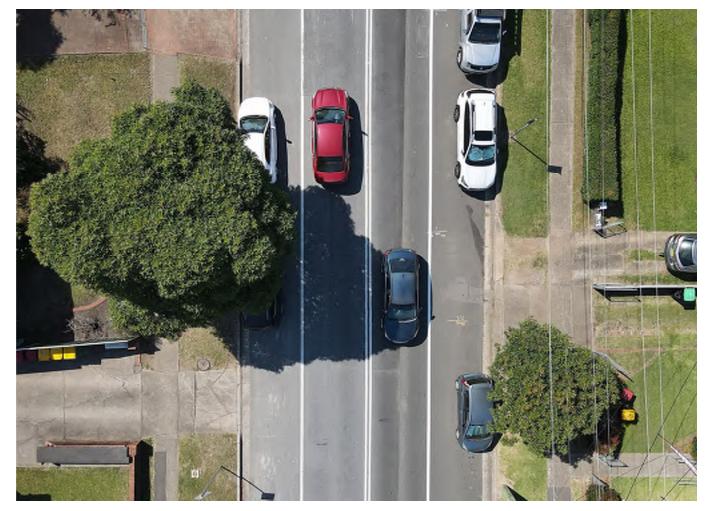


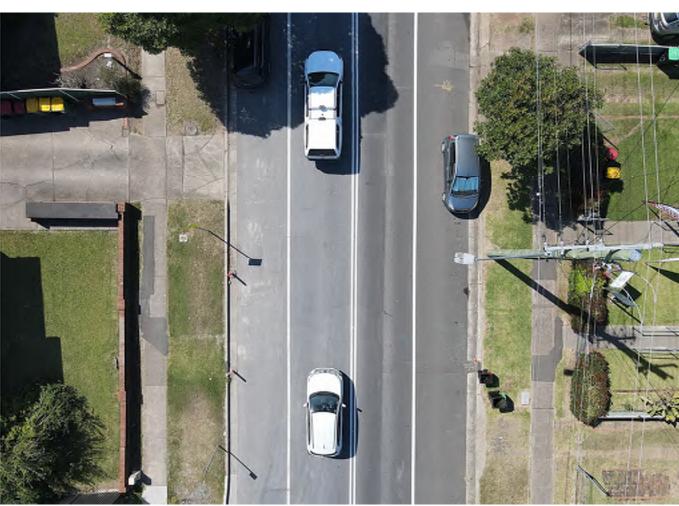


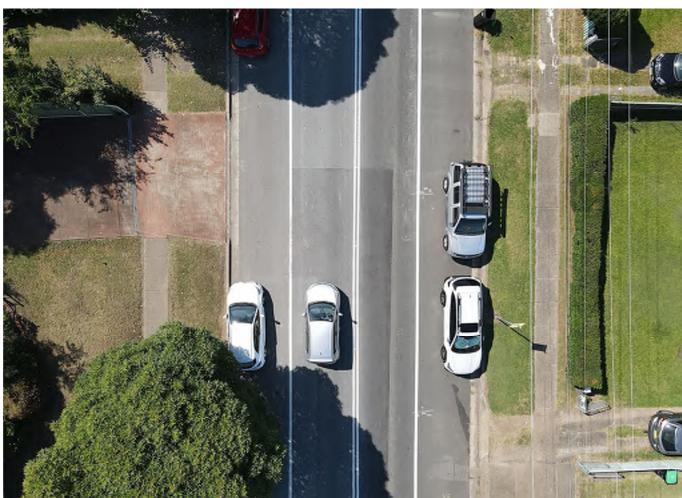
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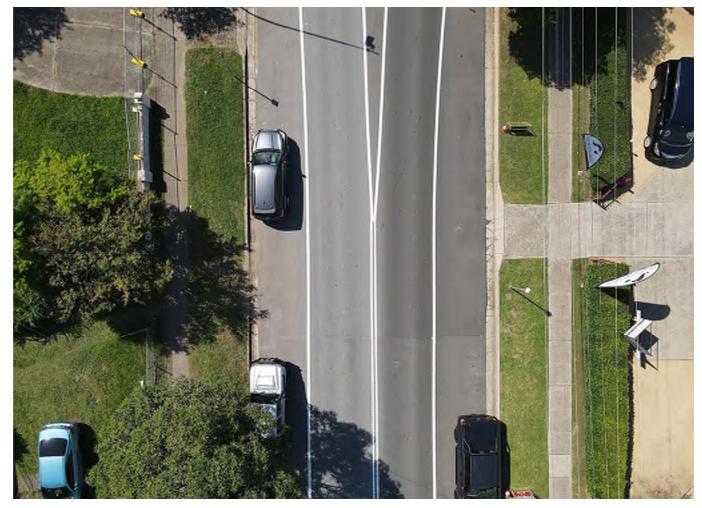


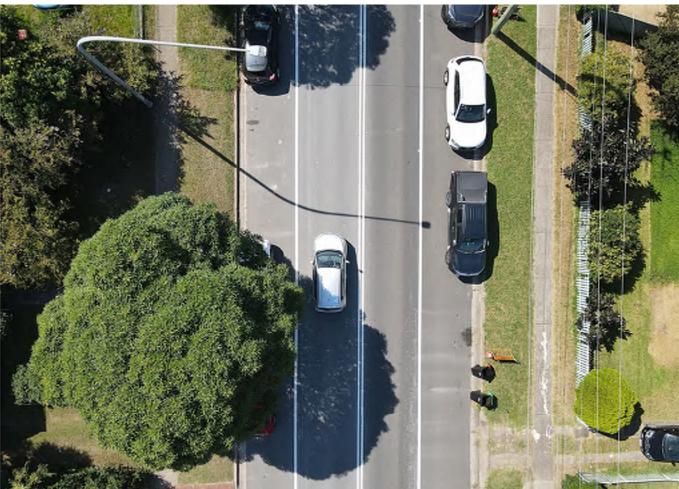


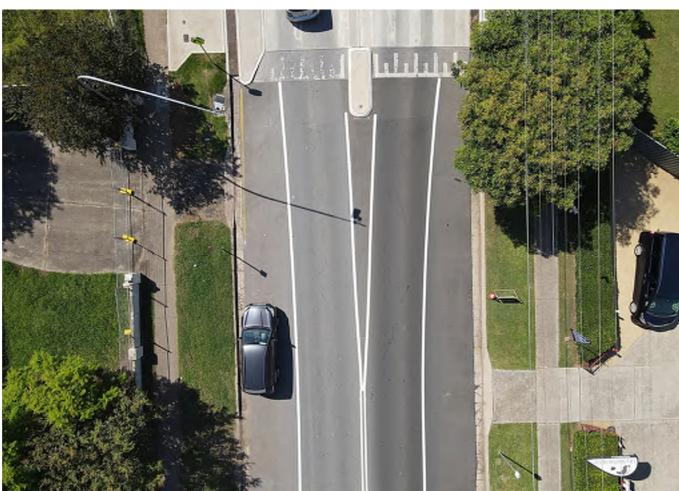
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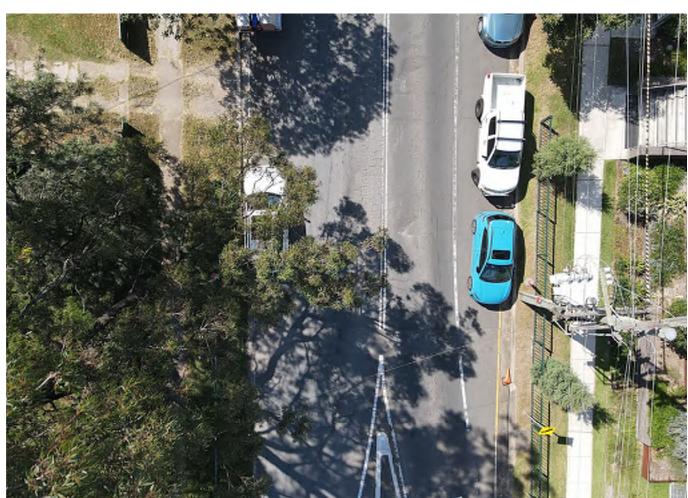
Road Dilapidation conducted on the 12/03/2024

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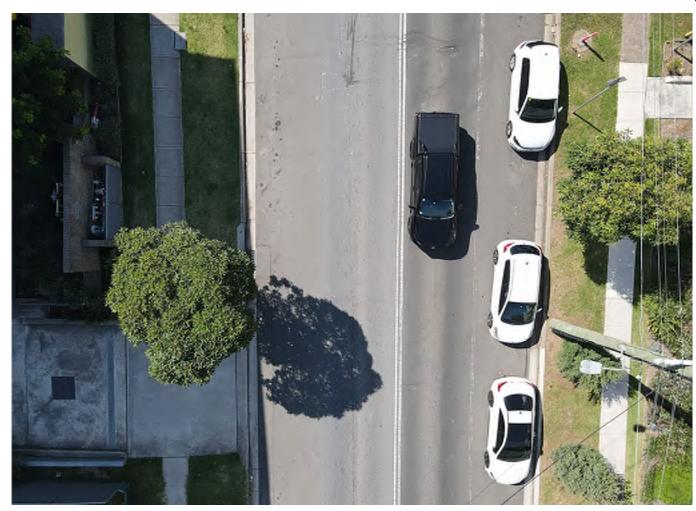


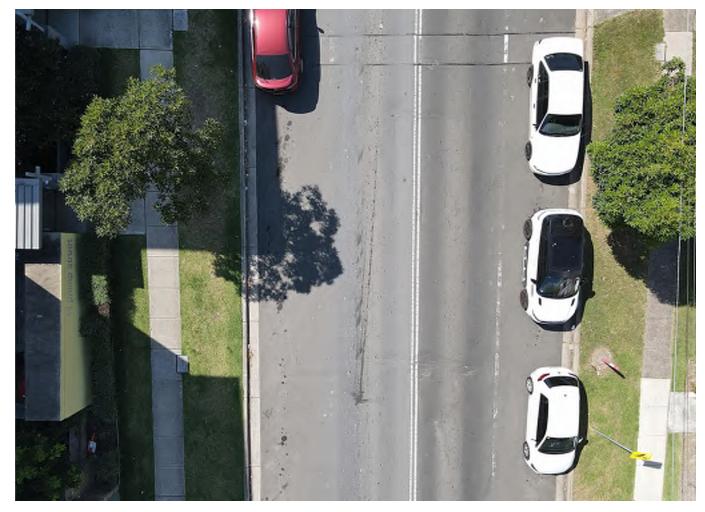


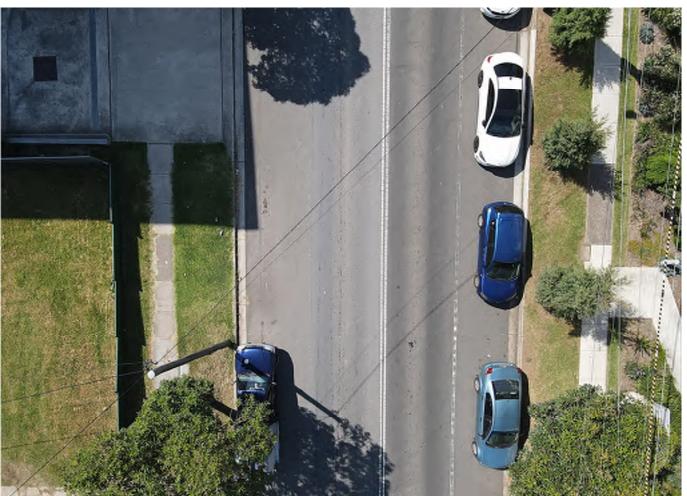


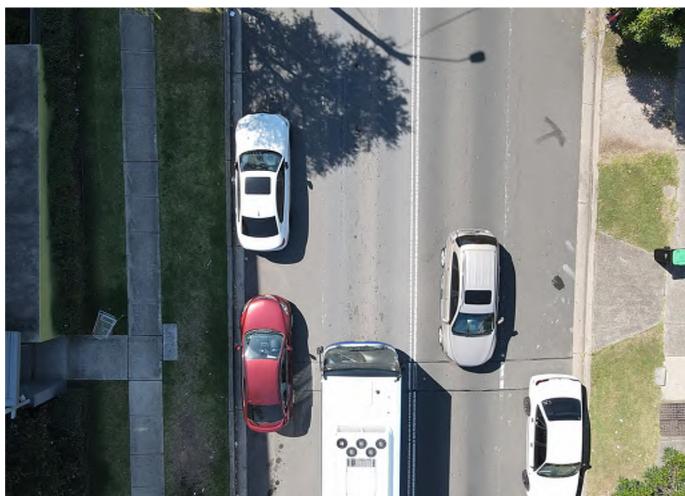
Road Dilapidation conducted on the 12/03/2024

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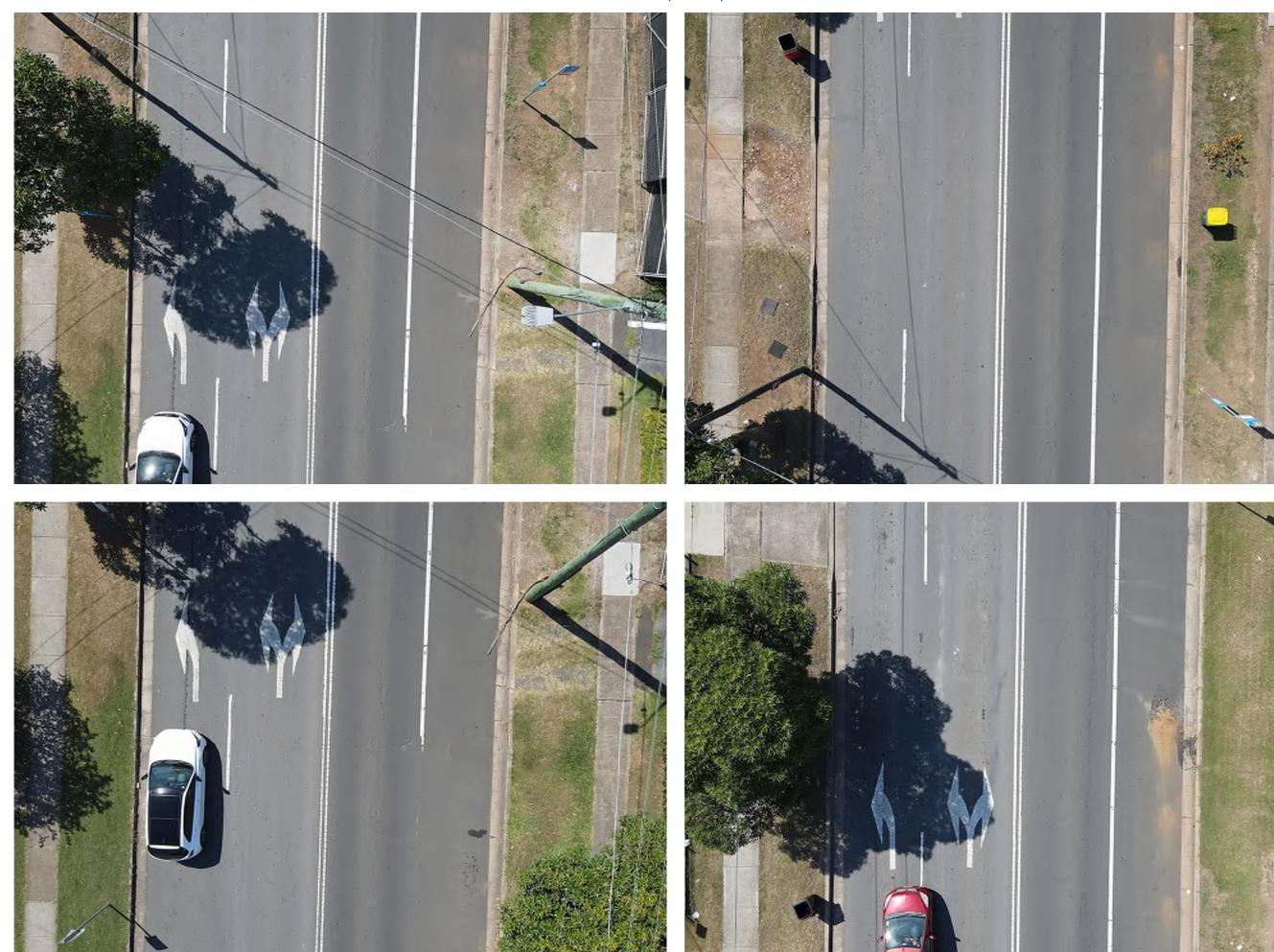
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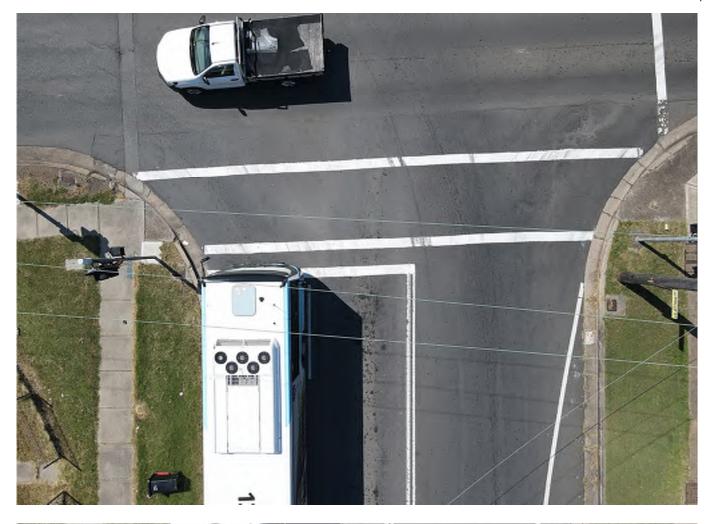
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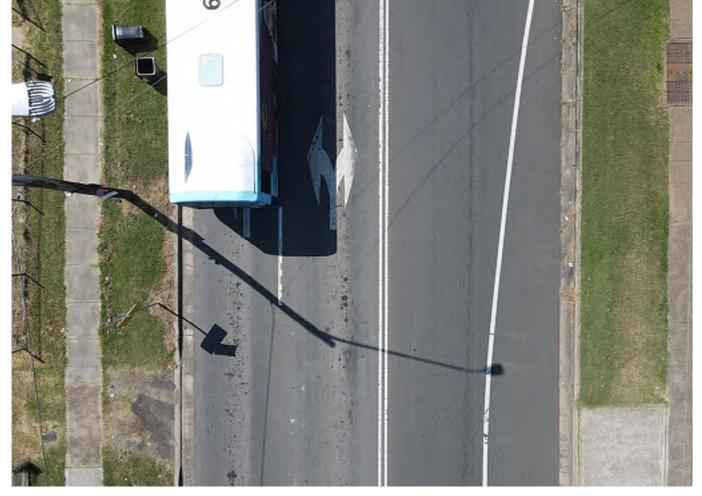


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SYDNEY METRO - WESTERN SYDNEY AIRPORT STATION BOXES AND TUNNELLING WORKS

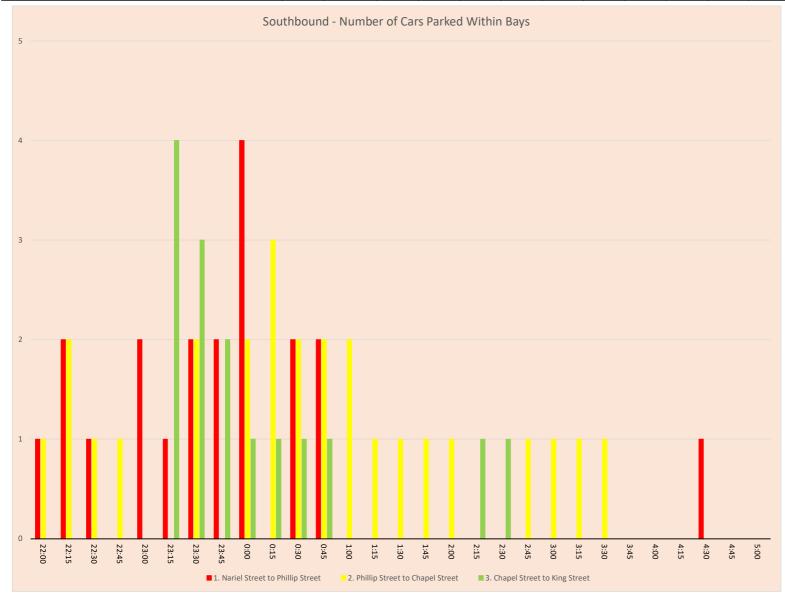
Appendix 5 Parking occupancy survey

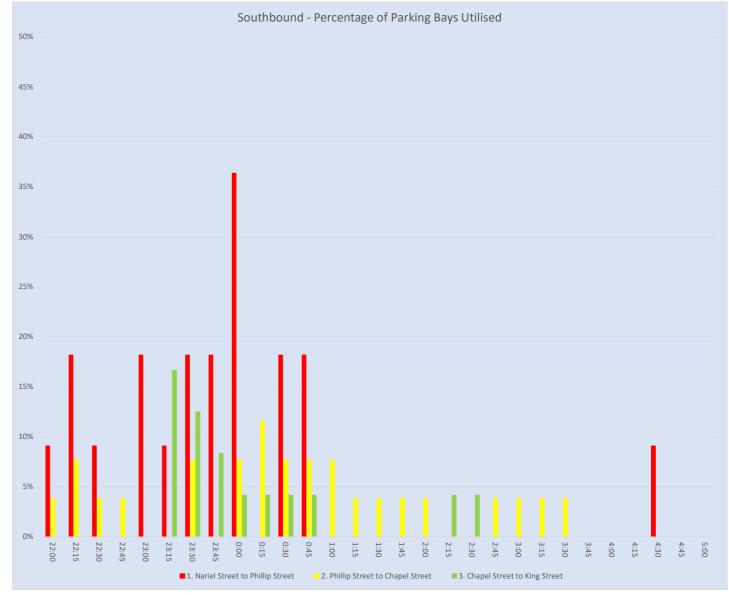


Southbound Parking Lanes	Number of Parking Bays
1. Nariel Street to Phillip Street	11
2. Phillip Street to Chapel Street	26
3. Chapel Street to King Street	24

										N	umber of	Cars Park	ed																
Southbound Parking Lanes	22:00	22:15	22:30	22:45	23:00	23:15	23:30	23:45	0:00	0:15	0:30	0:45	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00	4:15	4:30	4:45	5:00
1. Nariel Street to Phillip Street	1	2	1	0	2	1	2	2	4	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
2. Phillip Street to Chapel Street	1	2	1	1	0	0	2	0	2	3	2	2	2	1	1	1	1	0	0	1	1	1	1	0	0	0	0	0	0
3. Chapel Street to King Street	0	0	0	0	0	4	3	2	1	1	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0

Number of Cars Parked Percentages																													
Southbound Parking Bays	22:00	22:15	22:30	22:45	23:00	23:15	23:30	23:45	0:00	0:15	0:30	0:45	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00	4:15	4:30	4:45	5:00
1. Nariel Street to Phillip Street	9%	18%	9%	0%	18%	9%	18%	18%	36%	0%	18%	18%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	0%	0%
2. Phillip Street to Chapel Street	4%	8%	4%	4%	0%	0%	8%	0%	8%	12%	8%	8%	8%	4%	4%	4%	4%	0%	0%	4%	4%	4%	4%	0%	0%	0%	0%	0%	0%
3. Chapel Street to King Street	0%	0%	0%	0%	0%	17%	13%	8%	4%	4%	4%	4%	0%	0%	0%	0%	0%	4%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%





Northbound Parking Lanes	Number of Parking Bays
4. Great Western Highway to Crana Street	18
5. Crana Street to Charles Hackett Drive	11
6. Charles Hackett Drive to Belar Street	12
7. Belar Street to Nariel Street	11

	Number of Cars Parked																												
Northbound Parking Lanes	22:00	22:15	22:30	22:45	23:00	23:15	23:30	23:45	0:00	0:15	0:30	0:45	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00	4:15	4:30	4:45	5:00
4. Great Western Highway to Crana Street		1	1	1	1 1	L	1	0 (		0	0	1 1	ı 📗	1	0 (		0	0	0 0		0	0 0			0 (		0	0	0 0
5. Crana Street to Charles Hackett Drive		0	0	0	0 0		0	0 1	1	1	1	1 (		0	0 (	) :	1	0	0 0		0	0 0	) (	)	1 (	) (	0	0	0 0
6. Charles Hackett Drive to Belar Street		1	1	0	0 0		1	0 (		0	0	1 (		0	1 (		0	0	1 1	ı	1	0 0			1 (		0	0	0 0
7. Belar Street to Nariel Street		1	1	0	0 0		0	0 (		0	1	1 (		0	0 (		0	0 (	0 0		1	1 1	ı c	)	0 (	) (	0	0	0 0

											Number of Cars Parked Percentages																			
Northbound Parking Lanes	22:00	22:15	5 2	22:30	22:45	23:00	23:15	23:30	23:45	0:00	0:15	0:30	0:45	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00	4:15	4:30	4:45	5:00
4. Great Western Highway to Crana Street	6	i%	6%	6%	6%	6%	6%	0	% 0%	09	6 0	% 6	6%	69	6 0	% 0%	6 09	6 09	6 09	6 0%	0%	5 (	09	% 09	6 (	0%	% 09	% (	)% (	0%
5. Crana Street to Charles Hackett Drive	0	1%	0%	0%	0%	6 0%	0%	0	% 9%	99	6 9	% 9	% 0%	6 09	6 0	% 09	6 99	6 09	6 09	6 0%	0%	5 (	09	% 09	6 !	9% 0	% 09	% (	)% (	0%
6. Charles Hackett Drive to Belar Street	8	%	8%	0%	0%	6 0%	8%	0	% 0%	09	6 0	% 8	% 0%	6 09	6 8	% 09	6 09	6 09	6 89	6 8%	8%		09	% 09	6	3% 0	% 09	% (	)% (	0%
7. Belar Street to Nariel Street	9	1%	9%	0%	0%	6 0%	0%	0	% 0%	09	6 9	% 9	% 0%	6 09	6 0	% 0%	6 09	6 09	6 09	6 0%	9%	5 9	9% 99	% 09	6 (	0%	% 09	% (	)% (	0%



