



Construction Traffic Management Plan Sydney Metro Trains Facility

Line Wide Works Contract Sydney Metro City & Southwest

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Document Approval

sydney

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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 Environment Manager is responsible for updating this plan to reflect changes to legal and other requirements.

Amendments

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

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Revision	Details
A	Issued for review. This version of this Plan addresses compliance requirements under SSI 5931 Planning Approval as per Sydney Metro Staging report.
00	Addressed comments from stakeholder review. Issued for approval.
01	Addressed comments from NSW Department of Planning, Industry and Environment Review. Re-issued for approval.
02	Minor amendment to Section 4.6 Construction Vehicle Parking and Turning Areas. Figure 4 updated.
03	 Minor amendment for implementation of Gate C at the newly completed Themeda Ave. Updated: Sections 4.3, 4.4, 4.10 & 5.1, Tables 5 & 6, Figure 4, Appendix B Added: Appendix D – Gate C Details Minor amendment to reflect extension of SMTF expansion project boundary into rail corridor east of Tallawong Road. Sections 1.3.1 and 4.1 and Figure 2 updated.
04	Minor amendment to accommodate temporary parking within Tallawong Station commuter carpary • Updated: Sections 4.6 and 5.4
05	Scheduled review of document. Updates to Section 1.3.1 Portion 1 SMTF Expansion Works; Figure 2 LWW Portion 1 SMTF Expansion Work Area; Figure 3 SMTF Expansion Scope of Work; Section 1.8 Revision and Update; Section 4.2 Table 4 Indicative Construction Activities Program; Section 4.5 Table 7 Traffic Generation.
06	Periodic review

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CTMP COMPLIANCE MATRIX

Construction Environmental Management Framework - Northwest Rail Link (TfNSW 2012)			
Condition	Requirement	Reference	
3.2 d	The CEMP and associated sub-plans will require the approval of TfNSW prior to any construction works commencing. Depending on the conditions of approval the CEMP and certain sub-plans may also require the approval of Department of Planning and Infrastructure (DP&I), and other government agencies	Section 1.7	
3.3 a	Where required, the Principal Contractor will prepare issue-specific environmental sub-plans to address each of the relevant environmental impacts at a particular site or stage of the project. Issue specific sub-plans will include: (iii) Traffic and transport management	This plan	
8.2 a	NWRL Principal Contractors will develop and implement a hierarchy of traffic management documentation including:	This Plan: Sections 1.1, 1.2, 1.6	
(i)	A Construction Traffic Management Plan setting out the overall traffic management resources, processes and procedures for the management of traffic and transport during construction of the Project Works and Temporary Works; and		
(ii)	Construction Traffic Control Plans setting out the specific traffic and transport management arrangements to be implemented at specific locations during the construction of the Project Works and Temporary Works		

Planning Approval SSI-5931		
Condition	Requirement	Reference
E29 (c)	A Construction Traffic Management Plan to manage construction traffic and access impacts of the SSI. The Plan shall be developed in consultation with the relevant road authority and shall include, but not necessarily be limited to:	This Plan Sections 1.1, 1.2, 1.5
(i)	identification of construction traffic routes and construction traffic volumes (including heavy vehicle/ spoil haulage) on these routes;	Sections 4.4, 4.5
(ii)	details of vehicle movements for construction sites and site compounds including parking, dedicated vehicle turning areas, and ingress and egress points;	Sections 4.3, 4.6
(iii)	identification of construction impacts that could result in disruption of traffic, public transport, pedestrian and cycle access, property access, including details of oversize load movements	Section 4.9
(iv)	details of management measures to minimise traffic impacts, including temporary road work traffic control measures, onsite vehicle queuing and parking areas and management measures to minimise peak time congestion and measures to ensure safe pedestrian and cycle access	Section 5
(v)	a response plan which sets out a proposed response to any traffic, construction or other incident;	Section 5.8
(vi)	mechanisms for the monitoring, review and amendment of this plan.	Section 1.8 Part B Sections 2 and 3

GLOSSARY

Term	Definition
CBD	Central Business District
CEMF	Construction Environmental Management Framework
CEMP	Construction Environmental Management Plan
CNVMP	Construction Noise and Vibration Management Plan
СоА	Conditions of Approval
CTR	Compliance Tracking Report
DECC	Department of Environment and Climate Change (now Office of Environment and Heritage and EPA)
DPIE	Department of Planning, Industry and Environment
EA	Environment Advisor
EC	Environmental Coordinator
EIS	Environmental Impact Statement
EM	Environment Manager
EMS	Environmental Management System
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
ER	Environmental Representative
ERP	Emergency Response Plan
IC	Independent Certifier
LWW	Line-wide Works (scope of works under Systems Connect contract)
MTS	Metro Trains Sydney
NRT	Northwest Rapid Transit
NWRL	North West Rail Link (now Sydney Metro Northwest)
оонw	Out of hours work
PMP	Pedestrian Management Plan
POEO Act	Protection of the Environment Operations Act 1997
The Project	Sydney Metro City & Southwest
Project Approvals	 Minister for Planning and Infrastructure's Approvals for the Sydney Metro City & Southwest, including: SSI 5931 SMTF Expansion SSI 7400 Sydney Metro City & Southwest Chatswood to Sydenham SSI 8256 Sydney Metro City & Southwest Sydenham to Bankstown
REMM	Revised Environmental Mitigation Measures
RMS	Roads and Maritime Services
RTRF	Rapid Transit Rail Facility (now Sydney Metro Trains Facility)
SCO	Sydney Coordination Office
SEP	Site Environmental Plan
SES	State Emergency Service

Term	Definition
SM	Sydney Metro
SMTF	Sydney Metro Trains Facility (formerly the Rapid Transit Rail Facility)
Spoil	Material generated by excavation into the ground
SSI	State Significant Infrastructure
SWTC	Scope of Works and Technical Criteria
TCG	Traffic Control Group (Sydney Metro Northwest)
ТСР	Traffic Control Plan
TfNSW	Transport for New South Wales
ТМС	Traffic Management Centre
TTLG	Sydney Metro North West Traffic and Transport Liaison Group
VMP	Vehicle Movement Plan
VMS	Variable Message Signs

PART A – OVERVIEW

1. Plan Overview

1.1 Purpose and application

The purpose of this Construction Traffic Management Plan (CTMP) is to describe how Systems Connect will manage traffic and transport during the design and construction of the Sydney Metro Trains Facility (SMTF) Expansion.

The SMTF Expansion is Portion 1 of the Sydney Metro City & Southwest Line-Wide Works contract scope.

Line-Wide Works (LWW) is being delivered by Systems Connect, a CPB Contractors and UGL Engineering joint venture. A project overview is provided in Section 1.3.

This CTMP is a sub-plan of the LWW Construction Environment Management Plan (CEMP) (SMCSWLWC-SYC-1NL-PM-PLN-000031).

1.2 Background

Systems Connect is delivering LWW in four distinct portions as follows, and as described in detail in Section 1.3.

- Portion 1 SMTF expansion works
- Portion 2 SMTF South
- Portion 3 Chatswood to Sydenham Greenfield Works
- Portion 4 Sydenham to Bankstown Power Works

This CTMP covers traffic and transport management during LWW Portion 1 – SMTF Expansion Works. Separate CTMPs will be prepared to cover LWW Portions 2 to 4.

This CTMP has been developed in consultation with relevant stakeholders to address the requirements of the applicable environmental approval documentation, contract and legislative obligations, including:

- Project Planning Approval SSI-5931
- Revised Environmental Mitigation Measures
- Environmental Impact Statement and Submissions Report Tallawong Road, Rouse Hill Rapid Transit Rail Facility (TfNSW, 2013).
- Applicable legislative obligations
- Project Contract Requirements.

Further details about the abovementioned compliance requirements are provided in Part B Element 4 of this Plan.

This CTMP sets out the overall traffic management resources, processes and procedures for the management of traffic and transport during construction of LWW Portion 1 – SMTF expansion works. Specifically, this CTMP will:

- Define and implement traffic and transport mitigation measures as detailed in the project environmental approval documentation
- Identify construction traffic routes, types and volumes of construction vehicles on these routes, and associated route and time restrictions
- Identify traffic generation from other major infrastructure developments, impacts from construction traffic and haulage routes
- Identify potential activities that could result in the disruption to traffic and transport networks, including pedestrian, cyclist and public transport networks and during special events
- Provide details of vehicle movements for construction sites and site compounds including parking, dedicated vehicle turning areas, and ingress and egress points
- Provide details of management measures to minimise traffic impacts, including temporary road work traffic control measures, onsite vehicle queuing and parking areas and

management measures to minimise peak time congestion and measures to ensure safe pedestrian and cycle access

- Provide a response plan which sets out a proposed response to any traffic, construction or other incident
- Provide a mechanism for the monitoring, review and amendment of this CTMP.

1.3 LWW Project Overview and Scope

The Sydney Metro City & Southwest (SMC&S) project will extend Sydney Metro Northwest to the CBD and beyond to Bankstown.

The SMC&S project is being delivered through a suite of contracts for the tunnels, stations, linewide infrastructure and systems.

LWW is a key component of the SMC&S project, with works taking place over the full length of the project as shown in Figure 1.

LWW is being delivered in four distinct portions. Portion 1 SMTF expansion is summarised below. An overview of Portions 2-4 will be included in subsequent revisions of the Plan.



Figure 1 Line-Wide Works Overview

1.3.1 Portion 1 SMTF Expansion Works

The SMTF is a specialised train stabling and maintenance facility located on a 35-hectare site generally bounded by Tallawong Road, Schofields Road, First Ponds Creek and Oak Street in Rouse Hill. It has facilities for stabling, cleaning and washing trains as well as train maintenance that are needed to support train operation.

The areas bordering the site north of Schofields Road have been predominantly semi-rural residential properties on large acreages. Residential sub-division and construction in this area is progressing. Schofields Road has recently been widened to cater for increased residential development including the Ponds housing estate to the south of Schofields Road.

The facility is being expanded and modified to accommodate 24 additional six-car trains and to allow for a future expansion, by others, to accommodate eight-car trains.

The expansion works covers:

• Design and construction of a new test track, turnouts, cross-overs and stabling roads

 Construction of an expansion to the existing maintenance building including fit-out of some sheds/rooms, overhead wiring fitouts, installation of a new gantry crane and modifications to some existing roads.

Temporary construction compounds will be required to support the expansion of the SMTF. These facilities include:

- Site offices
- Light vehicle parking
- Amenities
- Laydown and storage areas
- Material and chemical storage.

The work area required for delivery of the Portion 1 work is represented in Figure 2.

Figure 3 provides an indicative view of the SMTF expansion scope of work.

The SMTF expansion works will occur between Q3 2019 to Q1 2022.



Figure 2 LWW Portion 1 SMTF Expansion Work Area



Figure 3 SMTF Expansion Scope of Work

1.4 Traffic Management Objectives

The traffic management objectives that apply to the LWW SMTF Expansion are:

- Minimise disruptions to pedestrians, cyclists, buses and motorists
- Minimise heavy vehicle movements during peak traffic periods
- Minimise access disruptions to adjoining properties
- Encourage sustainable transport options by site workers.

1.5 Plan Structure

Table 1 Plan Structure

Plan Structure	Details
Part A: Overview	Section 1. Purpose, Background, Project Overview, Objectives, Related Documents, Agency Consultation, Plan Revision, Update and Distribution
	Section 2. Legal and Other Requirements
	Section 3. Roles and Responsibilities
	Section 4. Construction Activities and Construction Traffic
	Section 5. Construction Traffic Management Measures
	Section 6. Communication and Consultation
	Section 7. Road Condition and Maintenance
Part B: Implementation	This section outlines in detail the key processes and systems to support implementation of environmental management outcomes for the project: Element 1. Training
	Element 2. Monitoring, Compliance, Records and Reporting
	Element 3. Auditing, Review and Improvement
	Element 4. Project Specific Requirements
Part C: Appendices	A – TCPs and VMPs B – SMTF Approach & Departure Routes and Turning Path Diagrams C – Consultation Comments D – Gate C details

1.6 Interactions with other Management Plans

This CTMP is a sub-plan of the LWW Construction Environmental Management Plan (CEMP) (SMCSWLWC-SYC-1NL-PM-PLN-000031). This CTMP operates as the over-arching document to a set of traffic management plans for the SMTF Expansion works, which will include:

- Traffic Control Plans (TCP)
- Vehicle Movement Plans (VMP)
- Pedestrian Management Plans (PMP).

The above plans will be prepared and implemented where relevant in order to set out the detailed construction traffic and transport management arrangements to be implemented during the SMTF Expansion works.

The Community Communications Strategy Sydney Metro Trains Facility (LWW-CCS-SMTF) (SMCSWLWC-SYC-1NL-CL-PLN-000080) details procedures and processes for community notification, consultation and complaints management.

1.7 Agency Consultation

In developing and implementing this CTMP, Systems Connect will actively engage and consult with relevant stakeholders including the Sydney Metro North West Traffic Transport Liaison Group (TTLG), Sydney Coordination Office (SCO), Blacktown City Council, RMS and the Environmental Representative. Comments received from stakeholders and Systems Connect's response to those comments is provided in Appendix C.

Table 2 Summary of Review, Endorsements and Approvals of this Plan

Plan	Systems Connect Internal Review & Approva	TTLG Consultation	SCO Review and Endorsement	RMS Review and Approval	ER Review	Sydney Metro Review	Secretary DP&E Review and Approval
Construction Traffic Management Plan	✓	~	~	~	✓	✓	✓

1.8 Revision and Update

This CTMP will be reviewed regularly and amended as needed to ensure that it remains consistent with stakeholder and legal requirements and with project scope, activities and personnel, taking into account factors including:

- The status and progress of LWW project activities
- Changes in LWW scope, design or delivery operations
- Changes in work site conditions or project personnel
- Lessons learnt during LWW delivery and operations
- Changes arising from stakeholder consultation
- Changes as directed by Sydney Metro.

Prior to implementation of new revisions of this CTMP which entail any material changes to the content which are of relevance to stakeholders, then such new revisions will be provided to relevant stakeholders for review and comment via the document management system and the TTLG. Minor amendments to the plan will be approved/rejected by the Environment Representative, as per Condition E27 (e) of the Project Conditions of Approval.

1.9 Distribution

This CTMP is available to all personnel and sub-contractors via the Systems Connect document control management system. A printed or electronic copy of this CTMP is available at each work site.

The document is uncontrolled when printed. One controlled hard copy of this CTMP will be maintained by the Project Director at the Project office.

2. Legal and Other Requirements

2.1 Relevant Legislation

The key legislation relevant to traffic management includes:

- Environmental Planning and Assessment Act, 1979 (EP&A Act)
- The Roads Act 1993.
- Heavy Vehicle National Law 2014
- Work Health and Safety (WHS) Act 2011.

Section 138 of the Roads Act 1993 requires that consent is obtained from the appropriate roads authority for the erection of a structure or the carrying out of work in, on or over a public road. If the applicant is a public authority, the roads authority must consult with the applicant, before deciding whether or not to grant consent.

RMS is the roads authority for the arterial roads in the vicinity of the SMTF.

Blacktown City Council is the roads authority for other roads in the vicinity of the SMTF which may be affected by the SMTF Expansion works.

2.2 **Project Compliance Requirements**

Relevant project compliance requirements are summarised in Part B Element 4 of this document. These include Conditions of Approval (CoA) and Revised Environmental Mitigation Measures (REMMS) as defined in the Sydney Metro Staging Report (May 2019) developed for delivery of works under Planning Approval SSi-5931:

- Conditions of Approval (CoA) from the applicable Project Planning Approval:
 - SSI-5931 Sydney Metro Trains Facility
- Revised Environmental Mitigation Measures (REMM)

The Scope of Work being delivered by Systems Connect (The LWW SMTF Expansion) does not trigger any of the requirements for an Environment Protection Licence (EPL) for activities defined under Schedule 1 of the POEO Act. 1979.

2.3 Relevant Frameworks, Guides and Standards

Frameworks, guides and standards relating to traffic management on LWW include:

- TfNSW North West Rail Link Construction Environmental Management Framework
- Sydney Metro Principal Contractor Health & Safety Standard
- TfNSW General Specification G10 Traffic and Transport Management
- RMS Traffic Control at Worksites Manual
- Australian Road Rules
- Relevant Australian Standards
- Relevant Austroads Guides
- RMS supplements to Australian Standards and Austroads.

The North West Rail Link Construction Environmental Management Framework (CEMF 2012) is applicable to the SMTF Expansion. Section 8 of the CEMF outlines the objectives for construction traffic management, documentation and consultation on the project, and provides examples of mitigation measures. The compliance matrix in Part B Element 4 of this Plan indicates where the management and mitigation measures are addressed in this Plan or other documents linked to this Plan. The objectives of the framework are listed in Section 1.4 of this Plan

3. Roles and Responsibilities

3.1 Systems Connect Team

The roles and responsibilities of key Systems Connect personnel with respect to construction traffic management are outlined in Table 3.

Table 3 Roles and	d Responsibilities
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Role	Responsibility for construction traffic management	
Project Director	Manage the delivery of the LWW including overseeing implementation of traffic management	
	Act as Contractor's Representative	
	Oversee the preparation, approval and implementation of this Plan Oversee the regular review and continual improvement of this Plan	
Environment Manager	Oversee the implementation of all traffic management initiatives including coordinating Systems Connect's response to traffic-related complaints	
	Manage the ongoing compliance with conditions of approval	
	Assist the Environment Manager in the development, implementation, review and improvement of this Plan and other site specific environmental documents.	
	Assist the Environment Manager in the preparation of EPL applications and variations.	
	Implement the environmental induction program	
Environmental Advisor	Conduct and participate in environmental audits	
	The investigation and close out of environmental incidents and complaints	
	Assist in the implementation of site environmental controls	
	Undertake environmental monitoring and inspections	
	Participate in ER Inspections	
Stakeholder and Community	Manage notifications and consultation relating to traffic management	
Relations Manager	Liaise with the Environment Manager in responding to and resolving traffic-related complaints	
Human Resources Manager	Ensure provision of appropriate training and induction in traffic management for all project personnel in conjunction with the Environment, Safety and Traffic Managers	
Commercial Manager	Ensure sufficient resources are allocated to traffic management	
Engineering Manager	Ensure relevant traffic management and mitigation measures are addressed and incorporated in design development	
	Consult with relevant stakeholders as the Systems Connect representative on the TTLG	
	Manage the implementation of this CTMP	
	Manage the preparation and implementation of TCPs and VMPs	
Traffic Manager / Engineer	Ensure that all construction traffic control measures are implemented and maintained	
	Monitoring and reporting on traffic management compliance	
	Manage the activities of the specialist traffic management contractor	
	Manage the Road Occupancy Licence (ROL) application process	
Safety Manager	Ensure relevant traffic management approvals and control measures are addressed in relevant safety documents	

Role	Responsibility for construction traffic management
Construction Manager	Manage the delivery of the construction process across all sites in relation to traffic management in compliance with this Plan, in conjunction with the Environment, Safety and Traffic Managers
Area Managers	Manage construction traffic for their work area activity in compliance with this Plan, in conjunction with the Environment, Safety and Traffic Managers
	Implement and ensure compliance with this Plan
	Construction delivery in relation to traffic management in conjunction with the Environment, Safety and Traffic Managers
	Implement and ensure compliance with this Plan
Site Superintendents	Direct construction personnel to carry out actions to avoid or minimise traffic impacts and to ensure compliance with this plan
	Monitoring and reporting on traffic management compliance
	Hold regular toolbox talks with production personnel, incorporating information on traffic management
	Assist all construction personnel in implementing this Plan
	Monitoring and reporting on traffic management compliance
Environment Coordinator	Assist the Environment Manager in the development, implementation, review and improvement of this Plan and other site specific environmental documents.
	Participate in ER Inspections
Project Engineers	Implement and monitor site traffic management measures in accordance with this Plan
Site Supervisors	Assist the Area Managers and Site Superintendents in implementing this Plan

3.2 Specialist Traffic Management Subcontractor

Systems Connect will engage specialist contractors to provide traffic management advice and services for the project to ensure that traffic management objectives and requirements are consistently achieved and complied with. Services will include:

- Provide input to the preparation, reviews of and amendments to CTMP's
- Prepare, implement and maintain traffic management plans, including:
 - Traffic Control Plans
 - Vehicle Movement Plans
- Provide temporary traffic signage and barriers
- Provide and manage the activities of Traffic Controllers
- Conduct regular inspections of traffic control measures to verify compliance with TCPs and VMPs
- Assist with preparation of ROL applications when required.

Specialist Contractors will be registered under the RMS Registration Scheme Category G Traffic Control.

Personnel who prepare or implement traffic management plans (including TCPs and VMPs) and personnel working in the role of Traffic Controller will have completed formal training with a RMS Approved Training Provider and hold the required RMS qualification for their role. These qualifications will be one or more or the following:

- Prepare a work zone traffic control plan
- Implement traffic control plans
- Traffic controller.

4. **Construction Activities and Construction Traffic**

This section identifies and describes the following aspects of construction traffic and associated impacts:

- The work site
- The construction activities to be carried out and the indicative construction program
- Construction traffic access points
- Construction traffic movements, routes and volumes
- Details of construction vehicle movements including parking and turning areas
- Construction traffic hours
- Potential construction traffic impacts.

4.1 Work Site

As described in Section 1.3.1, the SMTF is a specialised train stabling and maintenance facility located on a 35-hectare site generally bounded by Tallawong Road, Schofields Road, First Ponds Creek and Oak Street. It has facilities for stabling, cleaning and washing trains as well as train maintenance that are needed to support train operation.

The SMTF expansion entails construction of expanded train stabling and maintenance facilities as well as the provision of temporary construction compounds, amenities and other facilities, all to be located within the SMTF expansion premises boundary. The temporary construction facilities include:

- Site offices and staff amenities
- Parking areas
- Temporary access and haul roads
- Laydown areas
- Spoil stockpiling areas.

The construction impact area for SMTF expansion works by Systems Connect is mostly within the Approved Project Boundary under Planning Approval SSI-5931. A section of the construction impact area extends eastwards along the Sydney Metro rail corridor for approximately 250m beyond Tallawong Road.

Site access and egress for all vehicles is directly off Tallawong Road.

All parking and turning of light and heavy vehicles will be accommodated within the limits of the premises boundary.

The locations of construction site offices, amenities, parking and laydown areas have been selected so as to minimise vehicle and pedestrian movements on the site, and to minimise the impact of construction activities on the operations of the SMTF. The locations have been determined with consideration to the locations and configurations of the site access & egress points, construction areas, and operational zones.

The SMTF site showing the project boundaries, SMTF expansion construction areas, temporary construction facilities, access & egress points and access roads is shown on Figure 4 below.



Figure 4 SMTF Expansion Construction Facilities

4.2 Construction Activities Program

The SMTF expansion includes the following major items of work:

- Expansion of the train stabling facilities entailing the construction of 12 new stabling roads to provide stabling for an additional 24 six-car trains
- Construction of a new test track facility
- Expansion of the train maintenance facilities entailing the construction of four train maintenance roads and modifications to one existing road within the maintenance building
- Construction of a locomotive shed to accommodate two locomotives.

Further details of the construction activities and the indicative timeframes are displayed in Table 4 below.

Table	1 Indiantiva	Construction		Drogram
able 4	+ mulcalive	Construction	Activities	Flogialli

Construction Activities	Indicative Timeframes
Site establishment: Site amenities and parking Install temporary access roads Laydown areas Install ERSED controls 	August 2019
 Stabling roads 24-35 and new test track: Combined services routes Drainage Ballasted track construction, tamping and track alignment OHW installation Elevated platforms and walkways 	September 2019 to March 2021

Construction Activities	Indicative Timeframes
Maintenance roads 5-8: Bulk and detailed earthworks Combined services routes Drainage Ballasted and slab track construction OHW installation and conversions Maintenance platform installation and conversions M&E fit out, gantry crane installation	June 2020 to February 2022
Locomotive shed and roads: Bulk earthworks – box out and detail excavation Retaining wall construction Combined services routes Drainage Slab works, structural steel works, cladding and roof structure Ballasted and slab track construction M&E fit out, gantry crane and elevated platform installation 	Work not proceeding

4.3 Construction Traffic Access Points

All construction traffic will enter and exit the site via 3 access and egress points on Tallawong Road – Gates A, B and C. These are described in Table 5 below and shown on Figure 4 on the previous page.

Gate C off the newly completed Themeda Ave will be the main gate used for all construction traffic. Gate A and B however will remain as an alternative access.

The locations of the access gates are such that construction traffic entering and exiting the site will have no impact on access to any adjacent properties.

Access Point	Description
Gate A	 Location: Tallawong Road Main entrance of SMTF 450m north of Schofields Rd / Tallawong Rd intersection Gate A is an existing and permanent entry point to the SMTF site Gate A will be used by light vehicles from the commencement of construction Gate A may be used for 25m long semi-trailer trucks for rail deliveries
Gate B	 Location: Tallawong Road 600m north of Schofields Rd / Tallawong Rd intersection Gate B is an existing and permanent entry point to the SMTF site Gate B will be used by heavy vehicles from the commencement of construction Gate B may be used for 25m long semi-trailer trucks for rail deliveries
Gate C	 Location: Themeda Avenue 250m south of SMTF main entrance 150m north of Schofields Rd / Tallawong Rd intersection Gate C includes pedestrian access point Gate C will be the closest access point to the SMTF expansion main site compound and the construction areas for Stabling Roads 24-35 and Test Track Gate C will minimise construction traffic travel distances and movements through operational zones of the SMTF Vehicles up to 25m long could access Gate C

Table 5 Construction Access Points

4.4 Construction Traffic Movements and Routes

Effective management of heavy vehicle operations is critical to the success of the project and will minimise the impact on the road network. Systems Connect will plan and manage heavy vehicle routes and movements in line with the traffic management objectives to:

- Minimise disruptions to pedestrians, cyclists, buses and motorists
- Minimise heavy vehicle movements during peak traffic periods
- Minimise access disruptions to adjoining properties.

The types of heavy and light construction vehicle movements that will occur both on and off the site during construction will include:

- Medium and heavy rigid trucks and semi-trailer trucks for delivery of materials, supplies, plant & equipment
- Tipper trucks with and without dog trailers for haulage of fill, spoil and related materials on and off the site
- Medium rigid trucks for delivery of concrete
- Medium rigid trucks for waste removal
- Medium and heavy specialised vehicles including cranes, drilling and piling rigs, concrete pump trucks and water carts
- Utes and small trucks for regular trips by construction and technical staff, plant and equipment service personnel etc.

Construction vehicle routes on the site are shown in Figure 4. Construction traffic access roads on the site will include paved roads and unsealed tracks. The locations of the access roads will vary during the stages of construction. Details of the current locations of access roads and vehicle movement requirements will be shown on the site VMP, which will be reviewed and updated as the works progress.

As detailed in Section 4.3, all construction vehicles will enter and exit the site via Gate C off Themeda Avenue. Previous Gate A and B remains as a secondary gates.

The largest vehicles that will enter and exit the site will be 25m long semi-trailer trucks for rail deliveries. These will use Gate A,B or C. Turning paths diagrams for these vehilces are in Appendix B and D.

Details of heavy vehicle / haulage routes to and away from the site are shown in Table 6 below, and on the Construction Traffic Route diagrams presented in Appendix B and D.

As indicated in Table 6, all heavy vehicles will approach and depart the site via Schofields Rd and linked arterial roads.

Schofields Rd is on the southern boundary of the SMTF, and runs east-west. To the east of the SMTF, Schofields Rd extends approximately 2km to its junction with Windsor Rd. To the west, Schofields Rd / South St extends approximately 6km to its junction with Richmond Rd.

Construction vehicles exiting Gate A, Gate B and Gate C will turn right into Tallawong Rd to reach Schofields Rd.

No heavy vehicles will enter residential areas to the south of Schofields Road, or to the north of the SMTF.

There are no schools or childcare centres located along the heavy vehicle / haul routes in the vicinity of the site.

Beyond the extents of Schofields Rd, individual heavy vehicle routes will be planned so as to avoid as far as possible the use of local roads with schools and childcare centres present.

Further details in relation to the management of heavy vehicle routes and mitigation measures to be implemented are presented in Section 5.

Table 6 Construction Heavy Vehicle Routes

Access or Egress	Heavy Vehicle Route Details			
Approach to site	 Approach from west: Richmond Rd to South St to Schofields Rd Left turn from Schofield Rd into Tallawong Road Approach from east: Windsor Rd to Schofields Rd Right turn from Schofields Rd into Tallawong Rd 			
	Gate A	Left turn into Gate A from Tallawong Rd There will be space at Gate A for all vehicles to enter and stop wholly off Tallawong Road No vehicles will queue on Tallawong Rd		
Entry to site	Gate B	Left turn into Gate B from Tallawong Rd There will be space at Gate B for all vehicles to enter and stop wholly off Tallawong Road No vehicles will queue on Tallawong Rd		
	Gate C	Left turn from Tallawong Road into Themeda Avenue		
	Gate A	Right turn from Gate A into Tallawong Rd Departure to west: • Right turn into Schofields Rd • Schofields Rd to South St to Richmond Rd Departure to east: • Left turn into Schofields Rd • Schofields Rd to Windsor Rd		
Exit and Departure from site	Gate B	 Right turn from Gate B into Tallawong Rd Departure to west: Right turn into Schofields Rd Schofields Rd to South St to Richmond Rd Departure to east: Left turn into Schofields Rd Schofields Rd to Windsor Rd 		
Gate C From site to Themeda Ave and right at Tallowong Road		From site to Themeda Ave and right at Tallowong Road to Schofields Road		

4.5 Construction Traffic Generation

Construction traffic will comprise movements of light vehicles, heavy vehicles and specialised vehicles, both to/from the site and internal to the site. Construction traffic will be generated during:

- Arrival and departure of construction staff, service providers and visitors
- Site establishment & disestablishment
- Deliveries of construction plant, equipment and materials

- Transport and stockpiling of spoil
- Waste removal
- Earthworks
- Construction / installation of buildings and rail infrastructure
- Landscaping
- Watercarts for dust suppression.

The volume of construction traffic will fluctuate throughout the project delivery due to factors including construction programming, requirements for deliveries of materials and equipment and construction staff numbers. Construction traffic generation for heavy and light vehicle movements has been forecast based on analysis of these factors and experience of previous projects with similar staff numbers.

Heavy vehicle movements will be greatest during the first stage of construction, from August through December 2019. During this period heavy vehicle movements are required for site establishment, deliveries of equipment and materials, and construction of stabling roads 30-35 and the new test track.

Light vehicle traffic will vary based on staff numbers throughout the project. Forecast light vehicle traffic generation is based on movement in and one out per day, and the following vehicle occupancy rates:

- Office staff, design staff, managers, supervisors and technical staff: 1 person per vehicle
- Construction workers: 3 people per vehicle

The forecast heavy and light vehicle construction traffic is shown in Table 7 below.

The heavy vehicle movement numbers in Table 7 include oversize vehicles. The largest vehicles that are anticipated will be 25m long semi-trailer trucks for rail deliverires. The total forecast number of 25m long trucks is 33 over the duration of the project, with no more than four such truck movements per day.

Management of construction traffic volumes and mitigation measures to be implemented are presented in Section 5.

SMTF Expansion Construction Period	Average Daily Heavy Vehicle Movements	Average Daily Light Vehicle Movements
August 2019 – December 2019	62	100
January 2020 – July 2020	38	140
August 2020 – December 2020	22	140
January 2021 – February 2022	10	50

Table 7 Traffic Generation

Note: The forecast vehicle movement numbers are the total numbers of entry and exit movements per day

4.6 Construction Vehicle Parking and Turning Areas

The construction workforce will park vehicles at designated areas within the site. Three designated parking areas for light vehicles are planned on the site, as indicated on Figure 4.

Construction light vehicles required to be on-hand for construction activities, such as to carry minor equipment & materials or for project staff to attend work locations for short periods, may park in safe locations within construction areas, in accordance with the current VMP.

Parking areas within the site will have capacity to accommodate all construction vehicles and staff cars. If estimated parking requirements increase during construction, temporary staff parking capacity will be increased on site as needed. Under normal circumstances there will be no need for staff to park in the Tallawong Station commuter carpark or in local streets.

Current parking arrangements and restrictions will be will be communicated to all site personnel during site inductions and reinforced during regular toolbox talks. Temporary or ongoing changes in parking arrangements that may become necessary as the project progresses will also be communicated to relevant external stakeholders as the need arises.

Construction staff will be encouraged to travel by public transport or car-pooling arrangements in order to reduce the total number of light vehicles entering and parking on the site. One of the Project sustainability initiatives requires the use of car pooling Apps to reduce traffic congestion at worksites, which is captured in the Project Sustainability Management Plan (SMCSWLWC-SYC-1NL-PM-PLN-000024).

Heavy vehicles will park and queue when necessary within the site. Designated heavy vehicle parking and queuing areas will be established adjacent to laydown and stockpiling areas on the site. Heavy vehicles will not park or queue on roads outside of the site.

All heavy vehicles will enter then leave the site in a forward direction. Turning areas for heavy vehicles will be established adjacent to the laydown and stockpiling areas on the site.

4.7 Construction Traffic Hours

The standard construction hours are defined by the Project Planning Approval SSI-5931 and the Construction Environmental Management Plan and are summarised in Table 8 below.

The majority of construction activities will be undertaken during the standard construction hours of 7am – 6pm on weekdays and 8am – 1pm on Saturdays. Some activities will need to be undertaken outside of these hours as identified in Table 8.

Construction Activity	Construction Hours / Comments		
Standard construction hours	Monday to Friday: Saturdays: Sundays & Public Holidays:	7am – 6pm 8am to 1pm No work	
Non-disruptive preparatory work, repairs or maintenance may be carried out:	Saturday afternoons:1pm – 5pmSundays:8am – 5pm		
Activities requiring the temporary possession of roads:	May need to be undertaken outside the assumed hours during periods of low demand to minimise safety impacts and inconvenience to commuters		
Activities requiring rail possessions:	May need to be undertaken outside the standard construction hours up to 24 hours per day, seven days per week		
Construction traffic:	24 hours per day, seven days per week		
	Restrictions would be in place during peak hours and during special events.		
	At locations where sensitive noise receivers are close to construction sites, significant construction vehicle movements likely to be restricted during evening and night-time periods.		

Table 8 Construction Hours

Further to the requirements in Table 8, and in accordance with the Project Planning Approval SSI-5931, construction works outside of the standard construction hours may be undertaken in the following circumstances:

construction works that generate air-borne noise that is:

- no more than 5 dB(A) above rating background level at any residence in accordance with the Interim Construction Noise Guideline (DECC, 2009)
- no more than the noise management levels specified in Table 3 of the Interim Construction Noise Guideline (Department of Environment and Climate Change, 2009) at other sensitive receivers
- where a negotiated agreement has been reached with affected receivers, where the prescribed noise and vibration levels cannot be achieved
- for the delivery of materials required outside these hours by the NSW Police Force or other authorities (including RMS) for safety reasons
- where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm
- where different construction hours are approved under an EPL
- Works required to be undertaken during rail possessions.

The majority of construction activities will take place during the standard construction hours, with the associated construction traffic movements into and out of the site typically occurring between 6:30am - 6:30pm Monday to Friday, and between 7:30am – 1:30pm Saturdays.

Construction traffic during peak periods will be managed and minimised by measures including:

- Restrictions on heavy vehicle movements during peak periods
- Departure of construction staff from the site at the end of each work day will typically be spread over a three-hour period between 3:30pm – 6:30pm Monday to Friday
- Construction staff will be encouraged to travel to and from the site by public transport
- Heavy vehicle movement close to residential receivers will be avoided during evening and night-time periods.

Peak traffic periods for the SMTF area are taken to be 6am-9:30am and 3pm-6pm, Monday to Friday. Measures for managing and minimising heavy vehicle movements during peak traffic periods are set out in Section 5.3.1 of this CTMP.

Rail possessions for SMTF expansion works will align with planned Sydney Metro possessions where possible. Stand-alone rail possessions for SMTF expansion works may also be required. All possessions will be planned in advance. Section 4.8 below sets out the arrangements for managing out of hours construction traffic movements including those during rail possessions.

4.8 Out of Hours Construction Traffic

As described in Section 4.7, out of hours construction traffic movements will be required on occasions for reasons of:

- Movement of oversize vehicles and deliveries of oversize loads which may require the temporary possession of roads or occupancy of more than one traffic lane. Such movements may need to occur during evening or night-time hours to minimise safety and traffic impacts. All such movements will be strictly in accordance with RMS requirements for oversized vehicles and any applicable ROL and TCP. ROL applications will be submitted to the relevant road authority at least 10 days prior to the associated work.
- Construction traffic movements required during rail possessions.
- Construction traffic associated with repair or maintenance work or other approved out of hours work.

Out of hours construction activities and deliveries (except in emergency situations) will be assessed and managed in accordance with the Out of Hours Work Protocol.

As a general rule, significant construction vehicle movements during evening and night-time periods will be limited as far as practicable. Heavy vehicle movements close to residential receivers will be avoided during evening and night-time periods.

4.9 Construction Traffic Impacts

Construction vehicle movements have potential to impact upon other road traffic, cyclists, pedestrians, public transport and property access. There is also a range of potential

environmental impacts, mostly in relation to construction vehicle movements on the work site. There is some potential for minor cumulative impacts due to other projects occurring concurrently in the vicinity of the SMTF.

The construction traffic and potential impacts are summarised in Table 9.

Table 9	9	Construction	Traffic	Impacts
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Potential Construction Traffic Impacts				
Activity: Construction	traffic travelling to and from the SMTF precinct			
Road traffic	No significant impacts on other road traffic No delays anticipated at the Schofields Rd / Tallawong Rd intersection Minor increase in overall traffic volumes on arterial and local roads in close proximity to the site			
Cyclists Pedestrians Public transport Property access	No impacts			
Noise	Construction traffic during standard construction hours will have a negligible impact on overall traffic noise levels Out of hours construction vehicle movements could have a minor noise impact			
Activity: Construction	traffic entering and exiting the SMTF site			
Road traffic	Construction traffic entering and exiting the site will lead to increased traffic volumes on Tallawong Rd. This is anticipated to have only a minor impact on traffic flow and not result in any significant traffic disruption or congestion. Vehicles entering the site will turn left into the site from Tallawong Rd and are not expected to have a significant impact on other road traffic. Road traffic volumes on Tallawong Rd near Gate A are typically low. Construction vehicles exiting the site from Gate A are not expected to have a significant impact on other road traffic. The opening of Tallawong Metro Station has resulted in increased traffic along the short section of Tallawong Rd between Schofields Rd and Themeda Ave. Construction vehicles exiting the site from Gate C will turn right into Tallawong Rd via the signalised Tallawong Rd / Themeda Ave intersection. This will lead to an increase in traffic periods. This could result in minor delays to other road traffic using the intersection, however is not expected to have a significant impact on traffic flows beyond that point.			
Cyclists Pedestrians	No impact on cyclist and pedestrian routes in the immediate vicinity of the site. The opening of Tallawong Metro Station has resulted in increased pedestrian and cyclist traffic along the short section of Tallawong Rd between Schofields Rd and Themeda Ave. Construction vehicles entering and exiting the SMTF site are not expected to have an impact on that pedestrian and cyclist traffic. Pedestrian and cyclist traffic on Tallawong Rd to the north of Themeda Ave is very low, and is not expected to increase significantly. There will be no impacts on cyclists north of Themeda Ave. There could be minor delays for pedestrians north of Themeda Ave when construction vehicles are entering and exiting the site.			
Public transport Property access	No impacts			
Noise	Negligible impact during standard construction hours. Construction vehicles entering and exiting during out of hours could have noise impacts on nearby residential receivers			

Activity: Oversize veh	icle movements and deliveries of oversize loads				
Road traffic	Oversize vehicles will be used for delivery of rail. These will be 25m long semi- trailers. There could be short term delays for road traffic on Tallawong Rd, and at the signalised Tallawong Rd / Themeda Ave intersection No delays anticipated at the Schofields Rd / Tallawong Rd intersection or beyond.				
Cyclists Pedestrians	Potential safety hazard for cyclists and pedestrians on Tallawong Rd. There could be short term delays for cyclists and pedestrians on Tallawong Rd and at the signalised Tallawong Rd / Themeda Ave intersection.				
Public transport	There could be short term delays for buses servicing Tallawong Station via the Tallawong Rd / Themeda Ave intersection				
Property access	No impacts				
Noise	Negligible impact during standard construction hours. Oversize vehicles entering and exiting during out of hours could have noise impacts on nearby residential receivers				
Activity: Construction	Activity: Construction vehicle movements on the work site				
Environmental WHS	 Noise from construction vehicles Use of unsealed access tracks on the SMTF expansion site: Dust, sediment run-off Sediment and mud tracking onto Tallawong Rd Safety of people on the SMTF site 				

4.10 Cumulative Traffic Impacts

Any Concurrent construction projects in close proximity may have the potential to generate a range of cumulative impacts, including:

- Increased traffic volumes and congestion
- Increased safety risk to other road traffic, cyclists and pedestrians
- Conflicting or confusing traffic signage and other traffic control measures
- Construction delays and inefficiencies
- Confusion as to responsibility for traffic control.

Systems Connect will consult with relevant stakeholders, through the TTLG, in relation to any present and planned concurrent works and the potential cumulative construction traffic impacts, including those from multiple ROLs operating concurrently in the area.

At present there are no known major civil infrastructure or commercial development projects scheduled to occur in the vicinity of the SMTF concurrent with the SMTF expansion.

Minor construction projects which are soon taking place concurrent with the SMTF expansion and may have the potential to result in some cumulative traffic volume include:

- The future petrol station development at Themeda Avenue
- Future residential/commercial projects at the area

Traffic flow into the area is limited to construction vehicles only as sign posted on the intersection and should not be impacting the general traffic.

5. Construction Traffic Management Measures

This section describes the key strategies and mitigation measures to be implemented to minimise construction traffic impacts on road traffic, cyclists, pedestrians, local residents, businesses and other sensitive receivers. This includes measures in relation to:

- Site access and egress
- Traffic control measures
- Driver responsibility
- Construction traffic volumes, routes and scheduling
- On-site vehicle movements
- Cyclists and pedestrians
- Property access
- Environmental controls.

Construction traffic management strategies and mitigation measures will be applied through a set of traffic and environmental management plans, which will include:

- Traffic Control Plans (TCP)
- Vehicle Movement Plans (VMP)
- Pedestrian Management Plans (PMP)
- Site Environmental Plans (SEP).

5.1 Site access and traffic control measures

Vehicle movements into and out of construction sites have potential to impact upon other road traffic, cyclists, pedestrians and property access, as well as potential environmental impacts of noise and mud tracking onto surrounding roads. The potential impact of construction traffic movements into and out of the site are assessed in Section 4.9.

All construction vehicles will enter and exit the site via the new Gate C. Existing Gate A and B as detailed in Section 4.3 may still be used occasionaly. The locations and design of these access points take into consideration factors to ensure safe entry and exit to the construction site and to minimise impacts road users, including:

- The access points will be clearly visible to approaching traffic
- The access points will have adequate sight distance for vehicles exiting the site
- The access points will have capacity to accommodate the traffic generated by the site
- The access points will accommodate the turning movements of the largest vehicles that will be accessing the site, and
- The locations of the access points will not impact upon any adjacent properties.

Measures to manage traffic will also address changes in existing traffic arrangements. These measures will be defined in site-specific TCPs and VMPs, including details of:

- Site approach and departure routes. All heavy vehicles will approach and depart the site via arterial roads, as detailed in Section 4.4:
 - Schofields Rd and Windsor Rd to the east
 - Schofields Rd / South St and Richmond Rd to the west
- Site entry and exit points. All construction vehicles will enter and exit the site via three access points on Tallawong Road Gates A, B and C, as detailed in Section 4.3.
- Directions for vehicles turning into and out of the site:
 - All heavy vehicle entries to the site will be left turn in
 - All vehicles will enter and exit the site in a forward direction
 - All vehicles must give way to pedestrians and cyclists when entering the site
 - All vehicles must stop when exiting and give way to all road traffic, cyclists, pedestrians
 - Vehicles must not stop or queue on Tallawong Rd prior to site entry
 - Vehicles entering the site must be wholly off Tallawong Rd before stopping

- Access to all adjacent properties to be maintained at all times
- Safe access for cyclists and pedestrians to be maintained at all times
- Security point locations, including boom-gates where present, will be such that vehicles do not need to stop or queue on Tallawong Rd
- SMTF site speed limits
- Construction vehicle routes, parking and turning areas on the SMTF expansion site
- Pedestrian walkways on the SMTF site for access to site offices, crib rooms and the like
- Traffic controllers to manage vehicle movements, cyclists and pedestrians when required
- All necessary traffic management signage
- Temporary and permanent fencing and barriers.

5.1.1 Traffic management signage

All necessary traffic management signage will be provided in accordance with TCPs and VMPs, and will include

- Advance warning signs for drivers, cyclists and pedestrians
- Site entry point identification signage, to be clearly visible to approaching traffic
- Traffic control signs at site access gates facing both entering and exiting vehicles, such as 'Stop', 'No Entry', 'Construction Vehicles Only' and 'Left Turn Only'
- Pedestrian information signs such as 'Pedestrian Crossing' and 'No Pedestrian Access'
- Directional signage and line-marking where required to direct and guide drivers, cyclists and pedestrians past the site and on the surrounding road network
- Variable Message Signs (VMS) will be used when appropriate to complement static signage to advise about changes to traffic conditions, such as any potential delays, traffic diversions, speed restrictions or alternative routes.

5.1.2 Fencing and barriers

Temporary and permanent fencing and barriers will be in place for purposes of site security, to restrict access to hazardous areas, to delineate construction vehicle routes, mobile plant operating areas, parking areas, pedestrian walkways and so on.

Various types of fencing and barriers will be installed at site entry and exit points, and within the work site, and may include:

- Concrete jersey kerb barriers
- Water filled plastic delineators
- Expandable plastic barriers
- Plastic mesh fencing
- Weldmesh temporary fencing
- Chain wire mesh fencing
- Rigid steel security fencing, and so on.

All fencing and barriers will be inspected and maintained during the project, repositioned as and when needed, and appropriately secured to prevent movement or injury.

5.1.3 Temporary traffic control arrangements

Construction activities may cause temporary disruptions to normal traffic flow on Tallawong Rd. This could include movements of oversize vehicles, delivery of oversize loads, temporary road works or traffic incidents. In such circumstances, temporary traffic control measures will be implemented to minimise the impacts on road traffic, pedestrians, cyclists and property access, and ensure the safety of all road uses. Control measures will be applied through activity-specific TCPs, and may include:

- An approved ROL
- Traffic Controllers
- Temporary speed limit reductions

- Temporary signage to advise and guide drivers, pedestrians and cyclists
- Temporary pedestrian and cyclist routes
- Temporary fencing and barriers
- Temporary traffic signals or modifications to existing signals
- Police presence if necessary.

ROL applications will be submitted at least 10 days prior to the associated works.

Access to properties and safe access for cyclists and pedestrians will be maintained at all times.

Access for emergency vehicles will be maintained at all times.

5.1.4 Traffic Controllers

The need for traffic controllers to control construction traffic during normal day-to-day operations is not anticipated. However, there will be circumstances in which traffic controllers will be required to manage oversize heavy and vehicle movements, to control road traffic, and to monitor the need to control and assist cyclist and pedestrian movements. Circumstances which will require traffic controllers to be present will be on applicable TCPs, and may include:

- Oversize vehicle movements or deliveries of oversize loads
- Activities which require the possession of sections of road
- High numbers of heavy vehicles entering or leaving the site during a short period of time
- Temporary road works.

Traffic controller requirements will be indicated on applicable TCPs.

The specialist traffic management subcontractor engaged by Systems Connect will provide all Traffic Controllers. All people engaged in the role of Traffic Controller have completed the mandatory training and hold the necessary qualifications to perform the duties.

All Traffic Controllers will wear compliant 'Authorised Traffic Controller' high visibility clothing and will carry their current Traffic Controller qualification at all times while controlling traffic.

5.2 Driver responsibilities

Drivers engaged in any capacity on the project have a responsibility to drive safely and comply with Australian Road Rules, all rules & regulations applicable to heavy vehicles all project-specific traffic management requirements including TCPs and VMPs.

All drivers will receive appropriate induction information covering driver responsibilities and construction traffic management, which will include:

- All Drivers must comply with all road rules and exercise due care at all times
- Drivers of heavy vehicles must be familiar with and comply with the requirements of:
 - RMS Heavy Vehicle Driver Handbook
 - RMS Load Restraint Guide
- Drivers must take special care when entering and exiting the work site
- Haulage and delivery vehicles must not park or idle in local roads while awaiting their allocated arrival time. Only approved roadside lay-bys are to be used.
- Drivers will be provided with and must comply with the requirements of TCPs and VMPs, including:
 - Approved site approach and departure routes
 - Stop when entering and exiting the site and give way to all traffic, cyclists and pedestrians
 - Give way to pedestrians and cyclists when entering the site
 - Stop when exiting the site and give way to all road traffic, cyclists and pedestrians
 - Comply with site speed limits
 - Comply with heavy vehicle queuing arrangements
 - Comply with site parking and turning arrangements

- Drivers of heavy vehicles must follow approved heavy vehicle routes to and from the site
- Drivers of delivery vehicles must comply with approved delivery schedules and timing
- Drivers must aim to minimise the impacts of vehicle noise e.g. avoiding unnecessary use of horns and compression braking.

5.3 Construction Traffic Volumes, Routes and Scheduling

The effective management of construction vehicle movements on site and throughout the road network is fundamental to achieving the construction traffic management objectives.

As detailed in Section 4.5, construction traffic will comprise movements of light vehicles, heavy vehicles and specialised vehicles, both to/from the site and internal to the site. Construction traffic will be associated with a wide range of activities, and traffic volume will fluctuate throughout the SMTF expansion project. Average daily vehicle movements are not expected to exceed the figures stated in Table 7 of Section 4.5.

Systems Connect will implement a range of strategies and mitigation measures to manage traffic volumes, scheduling and routes so as to minimise the associated impacts on road users, residents and other sensitive receivers.

5.3.1 Construction traffic volumes and scheduling

Measures to be implemented to manage overall construction traffic volumes, peak period traffic impacts as well as impacts on the local road network and community will include:

- Construction staff will be encouraged to travel to and from work by public transport or carpooling arrangements
- Construction staff travelling between the site and Systems Connect's North Sydney office will travel by public transport (Sydney Metro Northwest and Sydney Trains)
- Minimise volume of spoil requiring transport off-site by targeting 100% on-site stockpiling and re-use of all excavated materials
- Minimise volume of waste to be transported off site through a range of waste avoidance, reuse and recycling measures
- Construction traffic will be scheduled, to the greatest extent practicable, to outside of peak traffic periods and any special events
- Minimise heavy vehicle movements during peak traffic periods, including during school zone times where applicable. This will be achieved through scheduling, such as:
 - Heavy vehicle haulage and deliveries of materials and equipment will be scheduled for outside of peak periods as far as practicable
 - Waste collection vehicles will be scheduled to attend site outside of peak periods
 - Travel to and from site by special vehicles such as mobile cranes will be scheduled for outside of peak periods
- Departure of construction staff from the site at the end of each work day will typically be spread over a three-hour period between 3:30pm – 6:30pm Monday to Friday, which will assist in minimising congestion impacts on local roads, in particular the Tallawong Rd / Themeda Ave intersection.

5.3.2 Heavy Vehicle Routes

Heavy vehicle movements and haulage routes will be managed so as to minimise heavy vehicle impacts on other road users, residential areas and other sensitive receivers. Strategies and mitigation measures to manage heavy vehicle impacts will include:

- As detailed in Section 4.4, all heavy vehicles will approach and depart the SMTF site via arterial roads:
 - Schofields Rd and Windsor Rd to the east
 - Schofields Rd / South St and Richmond Rd to the west

- Heavy vehicles will not enter residential streets or town centre areas in the suburbs in the vicinity of the SMTF: Kellyville Ridge, The Ponds, Rouse Hill or Schofields
- Heavy vehicle routes beyond the vicinity of the SMTF will be assessed and established so as to:
 - Maximise the use of regional and arterial roads and minimise the use of local roads as far as practicable
 - Avoid as far as possible the use of local roads with sensitive facilities such as schools, child care centres, hospitals and shopping centres
 - Ensure that the proposed heavy vehicles can safely negotiate the route, taking into account road weight limits, height restrictions, surface conditions, grades, road geometry and other accessibility considerations
- Where heavy vehicle routes through residential areas or along local roads with sensitive facilities cannot be avoided:
 - The presence of sensitive facilities shall be communicated to drivers and the need for safe and careful driving in accordance with all applicable road rules shall be reinforced
 - Use of routes with schools or childcare centres shall be avoided during school pick-up and drop-off periods.
 - Use of routes through residential areas shall be avoided during evening and night-time periods
- All materials requiring delivery to the site by heavy vehicle will be sourced from local suppliers wherever possible so as to minimise travel distances and driver fatigue
- All heavy vehicle entries will be left turn in
- All heavy vehicles will enter and exit in a forward direction
- Haulage and delivery vehicles must not queue on public roads outside of the site. All queuing, if required, will take place in designated areas within the site.
- Haulage and delivery vehicles must not park or idle in local roads outside of construction hours or while awaiting their allocated arrival time. Only approved roadside lay-bys are to be used.
- All heavy vehicles must be regularly inspected and maintained

5.4 Construction Vehicle and Plant Movements On-Site

Movement and operation of vehicles and mobile plant on construction sites is a high risk activity, and it is essential that effective measures are implemented to eliminate or minimise the associated risks to drivers, plant operators, people on foot, property and environment.

Systems Connect will implement a range of strategies and measures to manage and control vehicle and plant movements on site.

VMPs will be developed and implemented to define the arrangements for vehicle movements at site entry and exit areas and within the site.

Detailed strategies, management and mitigation measures are described below.

Movement of vehicles, plant and people on foot

- Access roads and tracks will be established on the site for all construction vehicle and mobile plant movements. These will be clearly delineated and signposted.
- Pedestrian walkways and crossing points will be established to keep pedestrians separated from vehicles and mobile plant. These will be clearly delineated and signposted.
- No-Go Zones for people on foot, and for heavy vehicles and mobile plant.
- People on foot will not be present within the swing radius or path of travel of mobile plant, below suspended loads, or otherwise within 5m of mobile plant.
- If a worker on foot is needed to work in close proximity to mobile plant, such as to spot for underground services, then at all times the worker must be in clear line of sight of the plant operator and in clear and continuous communication with the plant operator.
- Spotters and / or Traffic Controllers will be in place when there is a risk of vehicles or mobile
 plant coming into contact with any people, other vehicles or plant, fixed structures,
 overhead services, excavations or other hazards.

- Exclusion zones will be established where appropriate around the operating zones of large mobile plant such as cranes and scrapers.
- All construction vehicles and mobile plant will be fitted with flashing yellow lights, non-tonal reversing beepers, horns and two-way radios.
- Overhead services in construction areas or above travel routes will be tigertailed.

Traffic controls

- Existing speed limits will be complied with at all times. Additional, lower speed limits will be put in place when needed for specific high risk areas within the site, such as in and around site compounds and at pedestrian crossing points. Speed limits will be shown on VMPs.
- Warning signs will be installed on the approach to hazards such as pedestrian crossings, intersections, blind corners, overhead wiring, embankments and open excavations.
- UHF radio communications between truck drivers, construction supervisors and traffic controllers will be used to coordinate heavy vehicle entries to the site and movements of vehicles and plant within the site.

Parking, queuing and turning

- All construction-related parking, turning, queuing and marshalling will take place within the site.
- Under normal circumstances construction vehicles and staff will not park in any parts of Tallawong Station including the commuter carpark, time-limited parking places or "Kiss and Ride" zones, or in any of the surrounding streets.
- Light vehicle parking areas will be established on the site. Parking areas will be located in strategic locations at site compounds and construction areas so as to minimise vehicle and pedestrian movements.
- Heavy vehicle parking, queuing, marshalling and turning areas will be established on the site. These areas will be established in strategic locations near material delivery points, laydown areas and stockpiling areas.
- The need for remote parking locations with shuttle bus transfers for construction staff is not anticipated. The need for such arrangements will be monitored during the progress of the works, and will be implemented if the need arises.
- Provision of shuttle bus services for construction workers between the work site and public transport facilities will not be required due to the close proximity of Tallawong Metro station.

Site Inductions and Toolbox Talks

- Site induction and regular toolbox talks will be held to explain, discuss and reinforce the risks and control measures associated with on-site vehicle and plant movements, including:
 - Requirements of TCPs and VMPs
 - Site traffic routes, pedestrian walkways, speed limits, parking, turning and queuing
 - Hazardous areas, exclusion zones
 - Any new or altered hazards, any changes to work areas and access routes etc;
 - Control of vehicle and plant noise, dust and mud tracking.

5.5 Pedestrians and Cyclists

Works will be carried out so that safe public pedestrian and cyclist access in the vicinity of the worksite is maintained, and that any disruptions to pedestrians and cyclists are minimised. The work site will be secured to prevent public access.

Pedestrian and cyclist activity in the vicinity of the site is low, and existing pedestrian and cyclist routes will remain in place throughout the SMTF expansion works. All of the works are inside Metro Trains Sydney (MTS) private property. There is no public access to the construction site.

There may however be circumstances which result in temporary disruptions to pedestrians and cyclists, or require pedestrian and cyclist routes to be temporarily altered, such as oversize vehicle movements or unusually high numbers of heavy vehicles entering or leaving the site over short periods of time.

Measures that will be implemented to ensure safe public pedestrian and cyclist access is maintained and to minimise any disruptions will include:

- TCPs to be in place for site entry and exit areas
- All construction vehicles to stop prior to entering or exiting the site, and to give way to all
 road traffic, cyclists and pedestrians before proceeding
- All construction vehicles to enter and exit the site in a forward direction
- Advance warning signs for road traffic, cyclists and pedestrians to warn of construction vehicles entering and leaving the road
- Temporary alternative routes for cyclists and pedestrians to be established when needed, including all necessary temporary signage and barriers
- Traffic Controllers to direct traffic and guide cyclists and pedestrians will be in place when needed

Construction staff pedestrian movements to access the site and within the site will be shown in PMPs/VMPs, which will be developed in consultation with MTS, prior to and updated as needed for construction works. Routes (including from the train station), crossing points, access gates, internal walkways and all required safety features/management measures including signage and delineation will be shown in PMPs/VMPs as necessary.

5.6 Property Access

Works will not impact on access to residential or commercial properties. Measures that will be in place to ensure that such impacts do not occur will include:

- No construction vehicle parking on public roads. All parking will be on the SMTF site.
- No queueing of heavy vehicles on public roads. All queuing will be on the SMTF site.
- Access to residential and other properties will be maintained during movements of oversize vehicles or other activities which may require temporary road closures or the use of more than one traffic lane. Traffic Controllers will be in place during such activities as required by the applicable TCPs.

5.7 Environmental control measures

Vehicle movements into, out of and within construction sites can have significant environmental impacts, including noise, dust, sediment run-off and mud-tracking onto surrounding roads.

The potential environmental impacts of construction traffic associated with the SMTF expansion are assessed in Section 4.9.

Systems connect will implement a range of control measures to minimise and mitigate environmental impacts of construction traffic, including:

- Covering of all loads prior to leaving the site
- Measures to prevent mud and dirt being tracked off the site may include:
 - Suitable wheel cleaning facilities at site exit points wheel wash tanks, rumble grids and/or rock pads, hand-held pressure washing hoses at locations where run-off is collected in sediment collection devices
 - Access roads within 25m of site exit points to have a suitable all-weather surface such as bitumen spray seal
- Regular water spraying on unsealed vehicle tracks on the site
- Roads and footpaths in the site exit areas will be regularly inspected for mud and soil tracking with prompt actions taken to remove / control any contamination
- Road sweepers will be available to clean any mud or dirt tracked onto Tallawong Rd
- Heavy vehicles must not queue on public roads
- Heavy vehicles must not park or idle in local roads outside of standard construction hours or while awaiting their allocated arrival time at the SMTF site
- Significant construction vehicle movements during evening and night-time periods will be limited as far as practicable. Heavy vehicle movements close to residential receivers will be avoided during evening and night-time periods.

- Out of hours construction activities and deliveries (except in emergency situations) will be assessed and managed in accordance with the Out of Hours Work Protocol.
- Heavy vehicle and plant noise and pollution emissions will be monitored to ensure they are compliant with the allowable noise levels and manufacturer's specifications.

The SMTF expansion site will have will have appropriate drainage and sedimentation control including sediment basin and silt traps.

The locations of wheel wash facilities, sediment controls and other environmental protection measures will be included in the Site Environmental Management Plans.

Further details covering the management of noise, air quality, water quality and sediment impacts is provided in the following LWW documents:

- Construction Environment Management Plan (CEMP) (SMCSWLWC-SYC-1NL-PM-PLN-000031).
- Construction Noise and Vibration Management Plan (CNVMP) (SMCSWLWC-SYC-1NL-PM-PLN-000371).

5.8 Emergency and Incident Response

Systems Connect will provide support to emergency services agencies and all relevant authorities in responding to and managing emergencies and unplanned incidents which may arise on roadways and other areas within and in the vicinity of the site.

The types of emergencies or incidents that may occur include, but are not limited to:

- Motor vehicle collisions
- Pedestrians or cyclists struck by motor vehicles
- Sydney Metro train incidents
- Grass, bush and building fires
- Environmental spills
- Construction type incidents involving closure of a lane, shoulder, footpaths or shared path.
- Police operations
- Severe weather conditions, including flooding and major storm events
- Terrorist attacks and bomb threats
- Anti-social behaviour.

The priorities in responding to any emergency situation or other incident within or in connection with the project are to:

- 1. Protect the life, health and safety of all people
- 2. Prevent environmental harm
- 3. Prevent property damage
- 4. Maintain access to adjacent properties
- 5. Maintain flows of road traffic, pedestrian movements and public transport operations
- 6. Restoration of normal traffic flows and public transport operations
- 7. Restoration of normal construction activities.

Relevant Authorities

In event of an emergency situation or incident, Systems Connect will immediately notify all relevant authorities in accordance with legislation and according the circumstances. Systems Connect will at all times cooperate with and comply with directions of relevant authorities. Relevant authorities may include:

- Emergency services
- RMS Transport Management Centre
- Blacktown City Council
- TfNSW

- Sydney Metro
- Safework NSW
- EPA
- DPIE
- NSW Health.

Notification of Project Personnel and Impacted Stakeholders

In addition to the above authorities, the following key project personnel and potentially impacted stakeholders will be notified as soon as reasonably practicable.

- Principal's Representative
- MTS
- Impacted neighbouring residents and businesses
- LWW personnel:
 - Project Director
 - Safety Manager
 - Environment Manager
 - Stakeholder & Community Relations Manager
 - Traffic Manager
 - Construction Manager
 - SMTF Area Manager and construction personnel.

LWW Emergency and Incident Response Plans and Procedures

Systems Connect's procedures and processes for responding to different categories of emergency situations and incidents are defined in the following LWW documents:

- Safety and Health Management Plan (SHMP) (SMCSWLWC-SYC-1NL-PLN-000010)
- Construction Environment Management Plan (CEMP) (SMCSWLWC-SYC-1NL-PM-PLN-000031)
- Emergency Response Plan (SMCSWLWC-SYC-1NL-PM-PLN-000748)
- Community Communications Strategy Sydney Metro Trains Facility (LWW-CCS-SMTF) (SMCSWLWC-SYC-1NL-CL-PLN-000080).

Together, the above plans and strategies will set out the following in relation to emergency situations and other incidents:

- Define the immediate response steps to be followed
- Define Systems Connect's role and responsibilities, and those of key personnel
- Define the roles and responsibilities of relevant authorities and other parties: emergency services, road authorities, public transport operators, Blacktown City Council, Safework NSW, EPA
- Define the incident notification and reporting requirements and procedures
- List the emergency contact details for emergency services, relevant authorities, key Systems Connect personnel, and external emergency response service providers
- List the emergency and incident response resources: LWW emergency response teams, materials, equipment, information, external service providers
- Procedures for evidence collection, incident investigation, corrective actions and record keeping
- Arrangements for rehearsing, reviewing, maintaining and updating emergency and incident response plans and procedures
- Requirements for emergency response training and information for all SMTF expansion staff, subcontractors, drivers and visitors, which will include:

- Induction training for all people
- Emergency response training for emergency wardens and other emergency response team members
- Regular reinforcement and updates via toolbox talks
- Emergency response information displays on site pre-start boards and noticeboards
- Copies of this plan and all LWW emergency and incident response plans and procedures to be readily available on the SMTF expansion site.

6. Communication and Consultation

Significant or regular disruptions to the local road network are not anticipated during the works. However, in the event of construction transport activities which may result in temporary localised disruptions, Systems Connect will meet the reasonable needs and desires of the community for information on any changed traffic conditions, cyclist and pedestrian impacts and property access arrangement. Systems Connect will ensure that the public and other key stakeholders are informed of planned traffic arrangements, including any activities which may result in delays.

Communications, consultation and the dissemination of information associated with traffic and access will be undertaken as outlined in this section.

The aim of consultation and broad communication on traffic and access matters is to:

- Facilitate community feedback regarding traffic issues
- · Recommend alternative and appropriate travel patterns during periods of change
- Manage traffic impacts to protect affected residential and business amenity
- Provide timely, accurate and comprehensive traffic information using all available media to inform road users and the community of the project's traffic impact mitigation measures.

Ongoing consultation with stakeholders will ensure that effective traffic management measures are developed and implemented to minimise disruption and inconvenience.

Details of Systems Connect's processes and procedures for community liaison are contained in the Community Communications Strategy Sydney Metro Trains Facility (LWW-CCS-SMTF) (SMCSWLWC-SYC-1NL-CL-PLN-000080).

6.1 Consultation

Systems Connect has a key role in building and maintaining relationships with stakeholders who have a specific interest in the SMTF expansion construction activities and associated traffic and transport impacts.

The Community Communications Strategy Sydney Metro Trains Facility (LWW-CCS-SMTF) (SMCSWLWC-SYC-1NL-CL-PLN-000080) provides a list of stakeholders with a specific interest in the SMTF expansion. The key traffic and transport stakeholders identified for the project are outlined in Table 10.

Stakeholders and Target Audiences	Interest				
Residents, Businesses and Property Owners					
Residents, businesses and property owners adjacent to the SMTF site	Medium				
Local Government Authorities					
Blacktown City Council	Medium				
Road User Groups and Service Providers					
Private road users: motorists, pedestrians, cyclists	Medium				
Public transport users	Low				
NRMA	Low				
Bicycle NSW	Low				
Public Transport Providers (Busways / Sydney Metro / Cooee Busways)	Medium				
Bus and Coach Association	Low				
NSW Taxi Council	Low				

Table 10 Project Traffic Stakeholders

Stakeholders and Target Audiences	Interest			
Freight & logistics industry	Low			
Australian Trucking Association	Low			
Australian Logistics Council	Low			
Emergency Services – Police, Fire, Rural Fire, Ambulance, SES	Medium			
Transport Workers Union	Low			
Government				
NSW Department of Planning, Industry and Environment	Medium			
Roads and Maritime Services	Medium			
Sydney Coordination Office	Medium			
Sydney Metro	Medium			
Transport for NSW	Medium			
Transport Management Centre	Medium			

6.2 Sydney Metro North West Traffic and Transport Liaison Group

The TTLG has been established by Sydney Metro to be the central forum for consultation in relation to traffic and transport management on the Sydney Metro Northwest project. Key functions of the TTLG are to:

- Inform the development of and review this CTMP and associated TCPs & VMPs.
- Inform the detail design of temporary and permanent traffic and transport measures
- Inform ongoing management measures prior to and during construction
- Review ROL applications to monitor potential cumulative impacts from multiple ROLs operating concurrently in one area
- Consider any one-off or special events and make appropriate short-term adjustment to traffic management arrangements as needed

This CTMP has been developed in consultation with and aims to meet the reasonable requirements of the relevant road authorities, transport operators and other stakeholders via the TTLG. Systems Connect will continue to consult with relevant stakeholders via the TTLG.

The Systems Connect Traffic Manager or a delegate will be a member of the TTLG and will act as the authorised LWW representative for the SMTF expansion project.

In addition to the Traffic Manager, representatives from the Systems Connect Community Team, Construction Team or other relevant specialists, as required, may also attend TTLG meetings to discuss and provide respective input. Other attendees of the TTLG may include Sydney Coordination Office (SCO), Blacktown City Council, RMS and the Environmental Representative.

The Systems Connect Traffic Manager, and other Systems Connect representatives when appropriate, will discuss with and inform the TTLG of the following matters relating to the SMTF expansion works:

- Construction works, design or staging issues.
- · Construction traffic issues: volumes, routes, impacts, management and mitigation measures
- Issues related to pedestrians, cyclists or mobility-impaired road users
- Planned changes in traffic conditions

- Construction activities which may require temporary road occupancy, road closures, detours or other significant traffic changes or impacts
- Planned ROL applications
- The use of any weight restricted roads by heavy vehicles
- Community and other stakeholder concerns, comments or feedback
- Communication strategies and actions to be taken.

6.3 Community Notifications

Systems Connect will coordinated engagement ch with Sydney Metro and the members of the TTLG to enable the local community and other stakeholders to receive timely and accurate information relating to the SMTF expansion works and associated traffic and transport issues.

The communication tools that will be available for information dissemination with regard to traffic and transport for the project are outlined below:

 Notification to emergency services: Emergency service agencies provide a vital service to the community, and they need to have up to date information about changed traffic conditions and potential delays they may experience throughout the road network.

Systems Connect will ensure all emergency services agencies are regularly consulted about proposed changed traffic conditions, with the TTLG being the main forum for notification of major changes.

• Static roadwork information signs: The installation of roadwork information signs is considered the most effective method to notify road users of changes to the road network. Several standard roadwork information signs are available for use during construction. These will be utilised to advertise changed traffic conditions, such as temporary road closures, turning restrictions and periods where delays are expected.

The design of all signs will comply with the Australian Standards and RMS signposting guidelines.

Information signs will be incorporated into the applicable TCPs, and are to be installed a minimum of 5 business days prior to the traffic changes.

• Variable Message Signs (VMS): Variable message signs (VMS) are real-time traffic communications tools that help reduce delays, keep traffic flowing smoothly and can enhance road safety. Systems Connect will, when appropriate, utilise portable VMS to complement and enhance advance warning signage and provide changed traffic condition information to road users.

When VMS are not being used for construction purposes, they can also be utilised to support incident management operations, and for the display of road safety messages. The message library for all VMS will be developed in consultation with the TTLG.

- Traffic advertisements: Significant changes to traffic conditions that have the potential to impact on road users, such as temporary closures or detours, will be advertised via local newspapers, radio and the project website. All advertising will be developed by the Systems Connect Community Team in consultation with Sydney Metro, and will not be released until Sydney Metro acceptance has been obtained.
- Traffic alerts: Alerts will be issued in regard to any major traffic changes/impacts, incidents
 or undue congestion. Alerts will be will be distributed to various key stakeholders including
 the RMS via the Transport Management Centre (TMC) for dissemination via Live Traffic
 NSW.
- **Community letterbox notifications:** The Systems Connect Community team will distribute letterbox notifications to local residents and businesses developments that may be affected by construction activities, including changes to traffic conditions. Notifications will be provided to Sydney Metro for review and approval prior to distribution.

Table 11 provides a summary of the methods that will be used to inform the community of changes to road and traffic conditions. It also provides a summary of the purpose and frequency of each method of communication.

Table 11	Community	Consultation	and Notification	Mothode
	Community	Consultation	and Notification	weinous

ТооІ	Purpose	Frequency
Traffic alert emails Email alerts to RMS vis the Transport Management Centre, Blacktown City Council, transport operators and emergency services to advise of major traffic changes including road or lane closures and detours, incidents or undue congestion		5 business days prior to changes As soon as practicable following incidents or undue congestion
Advertisements	To inform of significant traffic changes, detours and traffic disruptions as required to comply with approvals; in local newspapers, radio and project website	5 business days prior to changes
Letterbox notifications	Notification letters to inform local residents and businesses potentially affected by planned traffic changes	7 business days prior to changes
Community emails	To inform and update the community of project progress, milestones, activities planned for the following month, current and upcoming traffic changes	Monthly
Community information line	Access to the project team during construction hours with message service after hours via a 1800 number	N/A
TfNSW Sydney Metro website	Systems Connect will provide information in electronic format suitable to be uploaded onto the TfNSW Sydney Metro website, including copies of advertisements, traffic alerts, notification letters and other public material related to the works	To coincide with distribution
Systems Connect website	Information about the SMTF expansion construction activities will be placed on the Systems Connect website including information about traffic changes, and executive summaries of publicly available reports relating to the project activities.	As required
Roadwork Information Signs	Roadwork information signage will be installed at the location of traffic changes to give advice to road users and pedestrians on the type and duration of change, such as temporary closures, detours, temporary cyclist and pedestrian route etc	7 business days prior to changes
Variable Message Signs (VMS)	Electronic VMS will be used when appropriate to complement static signage and provide information to road users about changes to traffic condition. Can also be utilised to provide information in relation to	7 business days prior to changes
	emergencies, incidents and traffic delays and to display road safety messages	

7. Road Condition and Maintenance

7.1 Road Condition Surveys and Reports

Prior to commencement of construction works, relevant sections of roads which could be affected by construction traffic will be subject to a road dilapidation survey. This will include as minimum all local roads from the SMTF expansion site access and egress points to the nearest arterial road, that being Schofields Rd.

Dilapidation surveys will be conducted by an independent and qualified person or team.

Dilapidation reports shall assess the current condition of the roads and describe mechanisms to restore any damage that may occur as a result of construction traffic. Reports will be submitted to the relevant road authorities for review prior to the commencement of haulage activities.

7.2 Maintenance and Repair

Systems Connect will ensure that all signage, fencing, barriers and other traffic control assets are at all times fit for purpose, clean and tidy.

During the progress of the works, there is potential for Systems Connect's activities to cause damage to public roads, footpaths, shared paths or cycleways. Systems Connect will, in a timely manner, repair all such damage and restore the affected road, footpath, shared path or cycleway to a condition at least equivalent to the condition it was in immediately prior to the damage.

Excavation adjacent to RMS road infrastructure is not anticipated. However, if it does become necessary, then all such excavation works will meet the requirements of RMS Technical Direction GTD 2012/001 "Excavation Adjacent to RMS Infrastructure".

7.3 Final Inspections

Upon completion of the works, all temporary traffic arrangement and controls will be removed, and the area restored to at least the state which existed prior to the commencement of the works.

Final dilapidation reports will be prepared to assess any damage that may have resulted from the construction work. Systems Connect will reinstate the affected roads in accordance with the methods specified in the final dilapidation report. Measures to restore or reinstate any affected roads will be undertaken in a timely manner, in accordance with the reasonable requirements of the asset owner.

Final dilapidation surveys will be conducted by an independent and qualified person or team acceptable to Sydney Metro and the relevant road authorities.

7.4 Record Keeping

Records and reports of all maintenance activities will be documented accordingly. The Systems Connect Traffic Manager will be responsible for the keeping of records of road maintenance.

PART B - IMPLEMENTATION

1. Elements and Expectations

Part B of this Plan explains how potential air quality and dust impacts during the SMTF Expansion works will be minimised and managed. Compliance with all elements is required at all times to minimise the likelihood of causing unauthorised environmental harm and maximise the uptake of opportunities to reduce environmental impact.

Part B contains the following:

- Environmental Elements and Expectations: These describe what is required of Systems Connect to implement the objectives of the Environment and Sustainability Policy Statement:
 - (i) **Element** Key aspects for managing this function in delivering the LWW Works
 - (ii) Intent A one-line statement describing the overall purpose of the Element
 - (iii) **Expectation** The outcomes achieved as part of each Element.
- **Requirements:** These are the specific actions required to demonstrate compliance with the Elements and Expectations.
- **Responsibility and Key Contributor:** Designation of responsibility for achieving compliance with the stated Expectation. Key contributors assist/contribute to achieving compliance.
- **Deliverables:** Tangible outcomes produced to demonstrate compliance with the environmental Elements and Expectations





Element 1: Training

Expectations		How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Deliverables
1.1	All LWW personnel will complete a LWW Project Induction before they are authourised to work on the Project. All LWW construction sites personnel will undertake a site induction prior to commencing work on site	 Induction presentation will include: Relevant legislative requirements (Roads Act, Heavy Vehicle National Law, WHS Act etc.) Traffic management objectives Overview of road users, resident and other stakeholders in the area Key traffic management requirements: Site entry and exit points Site approach and departure routes Heavy vehicle routes and travel times Speed limits on site and in surrounding area Parking locations for site staff Parking, turning and queuing arrangements for heavy vehicles No parking or queuing in surrounding roads Vehicle noise control Dust control and wheel washing 	Environment Manager Environmental Advisor HR Manager Training Manager	Induction presentation Induction records
1.2	Toolbox talks are used to reinforce key management requirements and lessons learnt	Toolbox talks will be held regularly during site establishment, investigative works and construction works. Toolbox talks will also be presented periodically and when there are changes in site conditions or work methods which may increase the risk of adverse traffic impacts, such as when construction vehicle routes on the site change, and prior to OOHW or oversize deliveries. Toolbox talks will reinforce and reiterate information from inductions and will explain the requirements for traffic management in further detail.	Environment Manager Area Managers Site Supervisors Environmental Advisor Environmental Coordinators	Toolbox talk presentations Toolbox Talk records
1.3	All personnel involved in preparing or implementing TCPs, VMPs and associated traffic controls will hold qualifications in accordance with RMS requirements	 All personnel involved in the preparation or implementation of traffic controls will have completed formal training with a Registered Training Organisation and hold the appropriate qualification for their role, these qualifications being: Prepare a work zone traffic control plan Implement traffic control plans Traffic controller System Connect will check, verify and maintain records of the qualifications of all such personnel. 	Environment Manager Environmental Advisor HR Manager Competency Manager Traffic Manager Area Manager	Training qualifications Training records

Element 2: Monitoring, Compliance, Records and Reporting

All staff, employees and subcontractors will actively drive complaint environmental performance of the SMTF Expansion Works

Expectations	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Deliverables
2.1 Worksites will be regularly inspected to ensure the adequacy of traffic controls	 Systems Connect will conduct regular reviews to ensure compliance with this Plan. A regular inspection program for traffic control will be undertaken as follows: Systems Connect Superintendent or Site Supervisors will conduct daily site inspections which will include traffic control measures Systems Connect staff will conduct weekly inspections of site entry/exit areas and all construction areas to monitor implementation of and compliance with traffic control measures The specialist traffic management organisation engaged by Systems Connect will conduct periodic inspections of traffic control measures to verify compliance with TCPs and VMPs. When TCPs are in place, inspections and audits will be conducted in accordance with the Traffic Control at Worksites Technical Manual (RMS, 2018). Inspections will cover the presence, condition, and compliance with traffic management arrangements as defined in VMPs and TCPs, including: Signage, barriers and fencing Site speed limits Site approach and departure routes Staff parking Heavy vehicle parking, queuing, turning and use of approved haulage routes Dust, sediment and mud tracking controls Construction vehicles are not causing traffic congestion on any parts of the road network Pedestrian and cyclist movements property access in the vicinity of the SMTF expansion site are not being impacted Traffic Controllers are present when required and performing their duties 	Traffic Manager Area Manager Environment Manager Environmental Advisor Environmental Coordinator Superintendent Site Supervisors Specialist traffic control organisation	Environment Inspection Reports Site Diary entries
2.2 Records and Reporting	 Traffic management compliance records and reports will be maintained, and will include: Daily site inspection records Weekly site inspection forms Specialist traffic control organisation inspection reports Toolbox attendance records Training and competency records Records of community enquiries and complaints and Systems Connect's responses Copies of all TCPs, VMPs and approved ROLs Results and outcomes of inspections will be reported internally on a monthly basis. Quarterly Compliance Tracking Reports (CTR) will be prepared to report on compliance with the Project Approvals Conditions of Approval (CoA). 	Traffic Manager Environment Manager Environmental Advisor Environmental Coordinators HR Manager Competency Manager Area Manager Superintendent Site Supervisors Specialist traffic control organisation	Traffic management inspection records Training records

Element 3: Auditing, Review and Improvement

Exp	ectations	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Deliverables
3.1	Audits are undertaken to ensure compliance with the requirements of this Plan	Regular audits and reviews will be conducted of LWW construction activities and management processes and records to assess and verify compliance with this plan, and to identify any non- compliances and opportunities for improvement. This Plan will be audited within six months of the commencement of construction and thereafter as per the CEMP. Audits of this Plan may include external Road Safety Audits of the traffic management controls implemented under this CTMP and associated TCPs and VMPs. Road Safety Audits would be arranged by Systems Connect and conducted by road safety auditors who are pre-qualified with the RMS. Further details of the audit and review process are set out in the CEMP (SMCSWLWC-SYC- 1NL-PM-PLN-000031)	Environment Manager Traffic Manager Environmental Advisor Environmental Coordinators	Audit Reports
3.2	All non-compliances and opportunities are reported and actioned	A non-compliance is an action or omission that does not conform to the requirements of this Plan or any legal and other requirements. Non-compliances or opportunities for improvement may be identified during inspections or audits, or during investigations into incidents or complaints. Action plans will be developed to improve performance through addressing non-compliances and implementing opportunities for improvement. Actions plans will be documented within audit or inspection reports, incident reports or in Corrective Actions as applicable. Procedures for corrective actions are further addressed in the CEMP (SMCSWLWC-SYC-1NL- PM-PLN-000031).	Environment Manager Traffic Manager Environmental Advisor Environmental Coordinators	Audit Reports Corrective Action Reports
3.3	Review and update of this plan and continual improvement	 This CTMP and the associated TCPs and VMPs will be regularly reviewed and amended in accordance with Section 1.7 of this Plan: To ensure that they remain consistent with client and legal requirements, with project scope, staging, activities, traffic routes, site access points and personnel. Based on the outcomes of audits, non-compliances, incidents and corrective actions. The regular review and update of this Plan CTMP and the associated TCPs and VMPs, and the implementation of action plans to address non-compliances or opportunities for improvement will together ensure continual improvement. 	Environment Manager Traffic Manager Environmental Advisor Environmental Coordinators	Regular reviews of and amendments to this Plan

Element 4: Project Specific Requirements

Construction Environmental Management Framework - Northwest Rail Link (TfNSW 2012)

Construction Environmental Management Framework - Northwest Rail Link (TfNSW 2012)							
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing			
3.2 d	The CEMP and associated sub-plans will require the approval of TfNSW prior to any construction works commencing. Depending on the conditions of approval the CEMP and certain sub-plans may also require the approval of Department of Planning and Infrastructure (DP&I), and other government agencies	Implementation of this Plan: Section 1.7	Project Director Environment Manager Environmental Advisor	Prior to construction			
3.3 a	Where required, the Principal Contractor will prepare issue-specific environmental sub-plans to address each of the relevant environmental impacts at a particular site or stage of the project. Issue specific sub-plans will include: (iii) Traffic and transport management	This plan	Environment Manager Environmental Advisor	Prior to construction			
4.1 a	Throughout construction, TfNSW and the Principal Contractors will work closely with stakeholders and the community to ensure they are well informed regarding the construction works.	Implementation of this Plan: Sections 1.5 and 6 Implementation of a Community and	Environment Manager Environmental Advisor Stakeholder & Community Relations Manager Traffic Manager	Prior to and throughout construction			
4.1 b	Stakeholders and the community will be informed of significant events or changes that affect or may affect individual properties, residences and businesses. These will include: (iii) Changes to traffic conditions and access arrangements for road users and the affected public	Stakeholder Involvement Plan					
4.2 a	This communication and consultation strategy will form the basis of a Stakeholder and Community Involvement Plan which will be developed by the NWRL Contractors.	Implementation of this Plan: Sections 1.6 and 6 Implementation of a Community and	Environment Manager Environmental Advisor Stakeholder & Community	Prior to and throughout construction			
4.2 b	Key elements of the communication and consultation strategy which will be implemented at appropriate times in the construction process will include: (ii) Notification (including targeted letterbox drops) of works that may affect transport (such as road closures, changes to pedestrian routes and changes to bus stops); (iii) Traffic alerts (via email) to all key traffic and transport stakeholders advising of any changes to access and local traffic arrangements (at least seven days prior to significant events); (iv) Print and radio advertisements regarding major traffic changes;	Stakeholder Involvement Plan	Relations Manager Traffic Manager				

Construc	Construction Environmental Management Framework - Northwest Rail Link (TfNSW 2012)							
No.	Requireme	ent		How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing		
5.1 a	The majority of the station and above ground construction activities will be undertaken between 7am – 6pm on weekdays and 8am – 1pm on Saturdays.		and above ground construction activities will be 6pm on weekdays and 8am – 1pm on Saturdays.	Implementation of this Plan: Sections 4.7 and 4.8	Environment Manager Environmental Advisor	Throughout construction		
5.1 b	5.1 b Some activities will need to be undertaken outside these hours (as identified in Table 1.5).		-	Traffic Manage Area Managers				
	Activity	Construction Hours	Comments or Exceptions					
	Construction Traffic	24 hours per day, seven days per week	Restrictions would be in place during peak hours and during special events. At locations where sensitive noise receivers are close to construction sites, significant construction vehicle movements are likely to be restricted during evening and night-time periods.					
5.1 d	Other works without any (iii) The deliv or other auth	which can be u further approva very of materials norities (includir	Indertaken outside of standard construction hours I include: s outside of approved hours as required by the Police Ig RMS) for safety reasons;					
8.1 a	The following traffic management objectives will apply to the construction of the project:		ement objectives will apply to the construction of the	Implementation of this Plan: Section 1.4	Environment Manager Environmental Advisor	Prior to and throughout construction		
(i)	Minimise disruptions to pedestrians, cyclists, buses and motorists		estrians, cyclists, buses and motorists	-	Environmental Coordinators			
(ii)	Minimise he	avy vehicle mov	vements during peak traffic periods		Area Manager Traffic Manager			
(iii)	Minimise ac	cess disruptions	s to adjoining properties	-				
(iv)	Encourage s	sustainable tran	sport options by site workers	-				
8.2 a	NWRL Principal Contractors will develop and implement a hierarchy of traffic management documentation including:		s will develop and implement a hierarchy of traffic n including:	Implementation of this Plan: Sections 1.1, 1.2, 1.6	Environment Manager Environmental Advisor	Prior to and throughout construction		
(i)	A Constructi managemen traffic and tra Works; and	on Traffic Mana It resources, pro ansport during o	agement Plan setting out the overall traffic ocesses and procedures for the management of construction of the Project Works and Temporary		Traffic Manager			
(ii)	Construction managemen construction	Traffic Control at arrangements of the Project V	Plans setting out the specific traffic and transport to be implemented at specific locations during the Vorks and Temporary Works					

Construc	onstruction Environmental Management Framework - Northwest Rail Link (TfNSW 2012)							
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing				
8.2 b	TfNSW and its Contractors will undertake liaison with agencies and the community regarding traffic management. This will involve:	Implementation of this Plan Sections 1.5 and 6.2	Environment Manager Environmental Advisor	Prior to and throughout construction				
(i)	Establishment of a Traffic and Transport Liaison Group likely to consist of representatives from NWRL Contractors, TfNSW, RMS, NSW Police and bus operators. The group would review Road Occupancy Licence Application to monitor potential cumulative impacts from multiple Road Occupancy Licences operating concurrently in one area.	LWW representation and participation in the Traffic and Transport Liaison Group (TTLG Consultation and liaison with the Sydney Coordination Office (SCO)	Traffic Manager Area Manager					
(ii)	Establishment of a Central Project Coordination Committee which will seek to coordinate NWRL works with other major developments. The committee will also take a strategic approach to longer term traffic and transport management and review permanent arrangements including network integration with NWRL facilities.							
8.3	Examples of traffic mitigation measures include: * Minimising heavy vehicle movements during peak traffic times. * Avoidance of local road for heavy vehicle routes, where feasible. * Providing safe pedestrian and cyclist movements around the worksites.	Implementation of this Plan: Section 5	Environment Manager Environmental Advisor Environmental Coordinators Area Manager Traffic Manager	Prior to and throughout construction				

Planning Ap	Planning Approval SSI-5931							
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing				
C21	All excavations adjacent to RMS road infrastructure shall meet the requirements of RMS Technical Direction GTD 2012/0001 "Excavation adjacent to RMS infrastructure".	Implementation of this plan Section 7.2	Environment Manager Traffic Manager Environmental Advisor Area Manager	Throughout construction				
C22	The Proponent shall consult with relevant Councils regarding the use of any weight restricted road by heavy construction vehicles if required	Implementation of this plan Sections 1.5 and 6.2 Consultation with Blacktown City Council through the TTLG	Environment Manager Traffic Manager Environmental Advisor Traffic Manager	Prior to and throughout construction				
C25	The Proponent shall undertake regular consultation with the RMS to negotiate road access during construction of the SSI in conjunction with the establishment of the signalised intersection of Schofields/Tallawong Road.	Implementation of this plan Sections 1.5 and 7.2 Consultation with RMS and other stakeholders through the TTLG The signalised intersection Schofields/Tallawong Road is complete and operational.	Sydney Metro Environment Manager Traffic Manager Environmental Advisor	Prior to and throughout construction				
C26	Without limiting the outcomes of the Construction Traffic Management Plan for the SSI, construction traffic shall be scheduled, to the greatest extent practicable, to outside of AM and PM peak traffic periods, and special events. Methods used to limit construction traffic outside of peak traffic periods shall be incorporated into the Construction Traffic Management Plan (condition E29(c)).	Implementation of this plan Section 5.3.1	Traffic Manager Area Manager Environment Manager Environmental Advisor	Throughout construction				
E18	Access to private property shall be maintained during construction unless otherwise agreed with the property owner in advance. A landowner's access that is physically affected by the SSI shall be reinstated to at least an equivalent standard, in consultation with the property owner.	Implementation of this plan Section 5.6	Traffic Manager Area Manager Stakeholder & Community Relations Manager Environment Manager Environmental Advisor	Prior to and throughout construction				
E20	Traffic generation from other major developments shall be taken into account and addressed during preparation of the Construction Traffic Management Plan (See Condition (E29(c)).	Implementation of this plan Section 4.10	Traffic Manager Area Manager	Throughout construction				

Planning Approval SSI 5931 – Rapid Transit Rail Facility (SMTF)

Planning Ap	Planning Approval SSI-5931							
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing				
			Environment Manager Environmental Advisor					
E21	A Traffic and Transport Liaison Group shall be established by the Proponent to inform the detail design of temporary and permanent traffic and transport measures and to inform ongoing management measures prior to and during construction of the SSI. The Group shall be chaired by the Proponent and shall comprise of representatives from relevant road authorities (including RMS and councils), transport operators, and emergency services. The Group shall be consulted on and shall inform the preparation of the Construction Traffic Management Plan and associated plans.	Implementation of this Plan Sections 1.5 and 6.2 Systems Connect representation and participation in the TTLG	Traffic Manager Area Manager Environment Manager Environmental Advisor Stakeholder & Community Relations Manager	Prior to and throughout construction				
E22	Upon determining the haulage route(s) for construction vehicles associated with the SSI, and prior to construction, an independent and qualified person or team shall undertake a Road Dilapidation Report. The report shall assess the current condition of the road and describe mechanisms to restore any damage that may result due to traffic and transport related to the construction of the SSI, both during and after construction. The Report shall be submitted to the relevant road authority for review prior to the commencement of haulage. Following completion of construction, a subsequent report shall be prepared to assess any damage that may have resulted from the construction of the SSI. Measures undertaken to restore or reinstate roads affected by the SSI shall be undertaken in a timely manner, in accordance with the reasonable requirements of the relevant road authority, and at the full expense of the Proponent.	Implementation of this plan Section 7 Preparation and submission of dilapidation reports	Traffic Manager Area Manager Environment Manager Environmental Advisor	Prior to and post- construction				
E23	Safe pedestrian and cyclist access through or around worksites shall be maintained during construction. In circumstances where pedestrian and cyclist access are restricted due to construction activities, a satisfactory alternate route shall be provided and signposted.	Implementation of this Plan Section 5.5	Traffic Manager Area Manager Environment Manager Environmental Advisor	Prior to and throughout construction				
E24	Construction vehicles (including staff vehicles) associated with the SSI shall be managed to:	Implementation of this Plan	Traffic Manager Area Manager	Throughout construction				
	(a) minimise parking or queuing on public roads;	Sections 4.6, 5.4	Environment Manager Environmental Advisor					
	 (b) minimise idling and queuing in local residential streets where practicable; 	Sections 4.6, 5.4						

Planning Approval SSI-5931							
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing			
	 (c) minimise the use of local roads (through residential streets and town centres) to gain access to construction sites and compounds; and 	Sections 4.4, 5.4					
	(d) adhere to the nominated haulage routes identified in the Construction Traffic Management Plan (condition E29(c)).	Sections 4.4, 5.4					
E29 (c)	A Construction Traffic Management Plan to manage construction traffic and access impacts of the SSI. The Plan shall be developed in consultation with the relevant road authority and shall include, but not necessarily be limited to:	This Plan Sections 1.1, 1.2, 1.5	Environment Manager Traffic Manager Environmental Advisor	Prior to construction			
	 (i) identification of construction traffic routes and construction traffic volumes (including heavy vehicle/ spoil haulage) on these routes; 	Sections 4.4, 4.5					
	 details of vehicle movements for construction sites and site compounds including parking, dedicated vehicle turning areas, and ingress and egress points; 	Sections 4.3, 4.6					
	 (iii) identification of construction impacts that could result in disruption of traffic, public transport, pedestrian and cycle access, property access, including details of oversize load movements 	Section 4.9	-				
	 (iv) details of management measures to minimise traffic impacts, including temporary road work traffic control measures, onsite vehicle queuing and parking areas and management measures to minimise peak time congestion and measures to ensure safe pedestrian and cycle access 	Section 5	~				
	 (v) a response plan which sets out a proposed response to any traffic, construction or other incident; 	Section 5.8					
	(vi) mechanisms for the monitoring, review and amendment of this Plan.	Section 1.8 Part B Sections 2 and 3					

Revised Environmental Mitigation Measures - Planning Approval SSI-5931							
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing			
Т1	Directional signage and line-marking would be used to direct and guide drivers and pedestrians past construction sites and on the surrounding network. This would be supplemented by permanent and portable Variable Message Signs, where reasonable and feasible, to advise drivers of any potential delays, traffic diversions, speed restrictions, or alternative routes.	Implementation of this Plan Section 5.1	Traffic Manager Area Manager Environment Manager Environmental Advisor Environmental Coordinator	Throughout construction			
T2 T3	The public would be notified of proposed traffic changes by newspaper, radio, project web site and other forms of community liaison. Co-ordination would occur with RMS via the Transport Management Centre's Traffic Operations Manager in the event of incidents or undue congestion.	Section 6.3	Stakeholder & Community Relations Manager Environment Manager Environmental Advisor Traffic Manager	Throughout construction 5 business days prior to traffic changes As soon as practicable following incidents or undue congestion			
Τ4	Management of pedestrian and vehicular access to and past construction sites would occur to ensure safe entry and exit procedures. Depending on the location, this may require manual supervision, physical barriers, temporary traffic signals and modification to existing signals or, on occasions, police presence.	Section 5.1	Traffic Manager Area Manager Environment Manager Environmental Advisor Environmental Coordinator	Throughout construction			
Т5	Access to existing properties and buildings would be maintained.	Section 5.6	Traffic Manager Area Manager Environment Manager Environmental Advisor Environmental Coordinator	Throughout construction			
Т6	Traffic controllers would manage heavy vehicle movements at worksites and monitor the need for pedestrian control.	Section 5.1.4	Traffic Manager Area Manager Environment Manager Environmental Advisor Environmental Coordinator	Throughout construction			
Т7	All trucks would enter and exit the worksites in a forward direction, where feasible and reasonable.	Section 5.1	Traffic Manager Area Manager	Throughout construction			

Revised Environmental Mitigation Measures (REMM) - Project Approval SSI-5931

Revised Environmental Mitigation Measures - Planning Approval SSI-5931						
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing		
			Environment Manager Environmental Advisor Environmental Coordinator			
T10	The need for, and provision of, alternative remote parking locations and shuttle bus transfers for daytime and night time construction staff would be considered for all construction sites during detailed construction planning.	Section 5.4	Traffic Manager Area Manager Environment Manager Environmental Advisor Environmental Coordinator	Prior to and throughout construction		
T12	The Traffic and Transport Liaison Group established for the NWRL would consider individual events and any other special event needs and, make reasonable and feasible short-term adjustment to the construction phase activities and / or review and update detailed TMPs.	Section 6.2	Traffic Manager Environment Manager Environmental Advisor Stakeholder & Community Relations Manager	Prior to and throughout construction		
T34	Shuttle bus services for construction workers, would be provided to service strategic off-site parking areas and public transport facilities, such as Schofields Railway Station.	Section 5.4	Traffic Manager Area Manager	Not required		
T35	Scheduling the movements of heavy vehicle haulage and deliveries outside peak periods, where feasible and practicable.	Section 4.7	Area Manager Traffic Manager	Prior to and throughout construction		
T36	TfNSW would liaise with the RMS and other stakeholders to manage cumulative issues during RTRF construction.	Sections 4.10 and 6.2	Traffic Manager Environment Manager Environmental Advisor Stakeholder & Community Relations Manager	Prior to and throughout construction		



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Appendix A: TCPs and VMPs

TCPs and VMPs will be inserted into this Appendix as and when they are prepared.

Appendix B: Construction Traffic Diagrams

SMTF Approach and Departure Routes Turning Path Diagram for Largest Vehicle – Schofields Road to Tallawong Road Turning Path Diagram for Largest Vehicle – Tallawong Road to SMTF Gate A Turning Path Diagram for Largest Vehicle – Tallawong Road to SMTF Gate B



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Turning Path Diagram for Largest Vehicle – Schofields Road to Tallawong Road – Prime Mover and Long Semi-Trailer (25m)



Turning Path Diagram for Largest Vehicle – Tallawong Road to SMTF Gate A – Prime Mover and Long Semi-Trailer (25m)



Turning Path Diagram for Largest Vehicle – Tallawong Road to SMTF Gate B – Prime Mover and Long Semi-Trailer (25m)

Appendix C: Consultation

Details of all consultation review comments received and Systems Connect's response to each comment are provided on the CTMP Review Comments Register below.

NO.	DATE	COMPANY	DOCUMENT REF*	COMMENTS	SYSTEMS CONNECT RESPONSE	CLOSED OUT
1	20/06/2019	SM	Section 1.8, p 13	In the section "Prior to implementation" it would be provided to the stakeholders for review and comment via the document management system and TTLG.	Change made as per comment	CLOSED OUT
2	20/06/2019	SM	Section 1.9, 2nd paragraph, p13	This refers to CNVMP. Shouldn't this be CTMP?	Corrected to read CTMP	CLOSED OUT
3	20/06/2019	SM	Section 4.7, Table 8: Construction Hours	The bottom cell under Construction Activity should be 'Out of Hours Construction traffic"	The terms in Table 8 are taken from the applicable Sydney Metro CEMF. The Construction Activity of "Construction Traffic" applies to construction traffic during Standard Hours and Out of Hours. No change made.	CLOSED OUT
4	21/06/2019	ER	Section 3.1, Table 3: Roles and Responsibilities	Against roles of Environmental Advisor and Environmental Coordinators: add "and participate in ER inspections"	'Participate in ER Inspections' added to both roles	CLOSED OUT
5	21/06/2019	ER	Section 4.9, Table 9: Construction Traffic Impacts	Under 'Activity: Construction traffic entering and exiting the SMTF site'. Change in two places: "The opening of Tallawong Metro Station is likely to result in increased traffic" change to: "The opening of Tallawong Metro Station has resulted in increased traffic"	Change has been made in two places as per comment	CLOSED OUT
6	21/06/2019	ER	Section 4.9, Table 9: Construction Traffic Impacts	Under 'Activity: Construction traffic entering and exiting the SMTF site'. Comment: Against 'Noise': Define "significant traffic impacts"	The word 'significant' removed	CLOSED OUT
7	21/06/2019	ER	Section 4.9, Table 9: Construction Traffic Impacts	Under 'Activity: Oversize vehicle movements and deliveries of oversize loads'. Against 'Public transport and Property access' Comment: As for cyclists and pedestrians, could there be short term delays for buses servicing Tallawong Station via the Tallawong Rd / Themeda intersection?	Added against 'Public Transport': There could be short term delays for buses servicing Tallawong Station via the Tallawong Rd / Themeda Ave intersection	CLOSED OUT
8	21/06/2019	ER	Section 5.1: Site access and traffic control measures	'Vehicles must not stop not stop or queue on Tallawong Rd prior to site entry' Comment: Delete repeated text: "not stop"	Repeated text deleted	CLOSED OUT
9	21/06/2019	ER	Section 5.1: Site access and traffic control measures	'Security point locations including boom-gates where present' Comment: "Clearly any boom gates or on-site traffic control must be located so as not to cause vehicle queueing on Tallawong Rd"	Comment has been incorporated: "Security point locations, including boom-gates where present, will be such that vehicles do not need to stop or queue on Tallawong Rd"	CLOSED OUT
10	21/06/2019	ER	Section 5.7: Environmental Control Measures	'Suitable wheel cleaning facilities at site exit points – wheel wash tanks, rumble grids and/or rock pads' Comment: "Could also include hand held high pressure hoses at a location where run-off is collected in sediment collection devices"	Hand-held pressure wash hoses added as per comment	CLOSED OUT
11	21/06/2019	ER	Section 5.8: Emergency and Incident Response	List of Relevant Authorities Comment: "While not an authority, should MTS be included on this list?"	MTS is included in the 'Notification of Project Personnel and Impacted Stakeholders"	CLOSED OUT
12	21/06/2019	ER	Section 5.8: Emergency and Incident Response	List of Relevant Authorities Comment against bullet point 'TfNSW': "And Sydney Metro"	Sydney Metro added to list	CLOSED OUT

NO.	DATE	COMPANY	DOCUMENT REF*	COMMENTS	SYSTEMS CONNECT RESPONSE	CLOSED OUT
13	21/06/2019	ER	Section 5.8: Emergency and Incident Response	Notification of Project Personnel and Comment against bullet point 'Sydney Metro Operator': "Is this MTS?"	Yes. 'Sydney Metro Operator' has been changed to 'MTS'	CLOSED OUT
14	21/06/2019	ER	Element 4: Project Specific Requirements Planning Approval SSI-5931 Condition No. C26	Comment: "I don't see where this is addressed in 5.4"	Corrected to Section 5.3.1	CLOSED OUT
15	19/06/2019	SCO	Section 4.4: Construction Traffic Movements and Routes	Please provide turning paths for the largest vehicle entering Tallawong from Schofields Rd and entry/egress to Gates A and B	Turning path diagrams have been inserted for the largest vehicle turning from Schofields Rd into Tallawong Rd, and Tallawong Rd into Gate A. The largest vehicles that will be able to use Gate B and the associated turning path diagrams will be determined once Gate B has been designed. Corresponding text has been added to Section 4.3 Table 5 and to Section 4.4	CLOSED OUT
16	19/06/2019	SCO	Section 4.6: Construction Vehicle Parking and Turning Areas	What is the capacity of the parking areas on site. Is this likely to meet demand and discourage staff from parking in commuter car parks?	Paragraph added stating that parking areas will have capacity to accommodate all construction vehicles and staff cars, and that there will be no need for staff to park in the commuter carpark	CLOSED OUT
17	19/06/2019	SCO	Section 4.7: Construction Traffic Hours	This section mentions that construction traffic during peak periods will be managed and minimised and that restrictions will be placed on heavy vehicle movements during peak periods. What is the "peak period" defined as and how will movements be restricted?	Paragraph added to Section 4.7 setting out the "peak period". Measures to manage and minimise heavy vehicle movements during peak period are set out in Section 5.3.1: Construction traffic volumes and scheduling	CLOSED OUT
18	19/06/2019	SCO	Section 4.7: Construction Traffic Hours Table 8: Construction Hours	Will the proposed rail possessions fall under the planned Sydney Metro and Sydney Trains possessions schedule? Further details need to be provided as possessions are generally planned months and even years in advance.	Paragraph added stating that rail possessions will align with Sydney Metro possessions where possible, and that stand-alone possessions may also be required. All will be planned in advance. Section 4.8 sets out the arrangements for managing out of hours traffic including during rail possessions.	CLOSED OUT
19	19/06/2019	SCO	5.1.3: Temporary traffic control arrangements	If oversized vehicles are anticipated, please provide swept paths at major intersections and entry/egress points to the site. What are the expected volumes of oversized vehicles?	Turning path diagrams have been inserted for the largest vehicle turning from Schofields Rd into Tallawong Rd, and Tallawong Rd into Gate A. The largest vehicles that will be able to use Gate B and associated turning path diagrams will be determined once Gate B has been designed. Corresponding text has been added to Section 4.3 Table 5 and to Section 4.4Total forecast number of oversize vehicles (25m long trucks for rail delivery) is 33 trucks, with a maximum of four such truck movements per day. This has been added to Section 4.5.	CLOSED OUT
20	19/06/2019	SCO	Section 5.3: Construction Traffic Volumes, Routes and Scheduling	It is mentioned that the "traffic volume will fluctuate throughout the SMTF expansion project". Are these fluctuations expected to exceed the volumes stated in Table 7?	Statement added to Section 5.3: "Average daily vehicle movements are not expected to exceed the figures stated in Table 7 of Section 4.5".	CLOSED OUT
21	19/06/2019	SCO	Section 5.4: Construction Vehicle and Plant Movements	It is important that heavy vehicle parking, queuing and marshalling is maintained on the site. Construction vehicles are not to park in any of the 1/2 Hour Parking or "Kiss and Drop" zones at Tallawong Station, nor should they be queuing along any of the roads surrounding Tallawong Station.	Noted. Section 5.4 has been amended and now includes: * All construction-related parking, turning, queuing and marshalling will take place within the site * Construction vehicles and staff will not park in any parts of Tallawong Station including the commuter carpark, time-limited parking places or "Kiss and Ride" zones, or in any of the surrounding streets * Heavy vehicle parking, queuing, marshalling and turning areas will be established on the site.	CLOSED OUT
22	19/06/2019	SCO	Section 6.1: Consultation	In addition to the stakeholders mentioned, Cooee Busways will also need to be consulted. This company operates "The Ponds On Demand" Bus Service which incorporates Tallawong Station.	Cooee Busways added to Section 6.1 Table 10	CLOSED OUT

NO.	DATE	COMPANY	DOCUMENT REF*	COMMENTS	SYSTEMS CONNECT RESPONSE	CLOSED OUT
23	19/06/2019	SCO	Section 6.3: Community Notifications Table 11: Community Consultation and Notification Methods	Letterbox notifications to residents need to be disseminated at least 7 days prior to commencement of works	Noted. Changed to 7 days.	CLOSED OUT
24	19/06/2019	SCO	General	Road Occupancy Licenses must be applied for road possessions at 10 days prior to commencement of works	Noted. Statement to this affect added in Sections 4.8 and 5.1.3	CLOSED OUT
25	21/06/2019	BCC	General	The proposed CTMP is approved subject to: Construction traffic being limited to the routes listed at Attachment B – via Schofields Road and then Tallawong Road	Noted. All heavy vehicle construction traffic wil be limited to the routes shown in Appendix B.	CLOSED OUT
26	21/06/2019	BCC	General	The proposed CTMP is approved subject to: Trucks are not permitted to use roads in residential areas, including residential streets to the north of the project site	Noted. Trucks will not use residential streets to the south of Schofields Rd, or to the north of the SMTF, as per routes shown in Appendix B	CLOSED OUT
27	21/06/2019	BCC	General	The proposed CTMP is approved subject to: If short-term temporary road closures or ROL's are required, then applications must be submitted to Blacktown City for approval. Applications must be made in advance. Further information and application forms are available on our website	ROL applications will be submitted to BCC for approval at least 10 days in advance	CLOSED OUT
28	19/06/2019	RMS	Section 4.2: Construction Traffic Access Points	Access from Gate B is currently under planning by the Finishing Works Contractor, scheduled to be completed by end 2019-early 2020. In table 4, the proposal is to commence construction activities from August 2019. Please confirm access/egress arrangements	Gate A will be used from commencement of construction. Gate B will be constructed and put into use from January 2020. This has been clarified in Section 4.3	CLOSED OUT
29	19/06/2019	RMS	Section 4.4: Construction Traffic Movements and Routes	Consider cumulative impacts with construction of fourth leg at Tallawong/Themeda intersection as heavy vehicle movements are also expected during early parts of the first stage of construction	Cumulative impacts are considered addressed in Section 4.10, which has been expanded and re-numbered from 4.9.1	CLOSED OUT
30	19/06/2019	RMS	Section 4.8: Out of Hours Construction Traffic	Are there any OSOM movements planned?	Yes. Rail deliveries will be by 25m long semi-trailer. This is stated in Section 4.9 Table 9, with management measures set out in Section 5.1.3	CLOSED OUT
31	19/06/2019	RMS	Section 4.9: Construction Traffic Impacts	Significant vehicle movements should be avoided during the peak periods	Measures to manage and minimise heavy vehicle movements during peak period are set out in Section 5.3.1: Construction traffic volumes and scheduling	CLOSED OUT
32	19/06/2019	RMS	Appendix A: TCPs and VMPs	Please provide the TCPs and VMPs when developed	Noted. TCPs and VMPs will be provided when developed.	CLOSED OUT
33	19/06/2019	RMS	All	Please provide swept path analysis of the movements required for access and egress	Turning path diagrams have been inserted for the largest vehicle turning from Schofields Rd into Tallawong Rd, and Tallawong Rd into Gate A. The largest vehicles that will be able to use Gate B and the associated turning path diagrams will be determined once Gate B has been designed. Corresponding text has been added to Section 4.3 Table 5 and to Section 4.4	CLOSED OUT
34	19/06/2019	RMS	General	There is little to no mention about concurrent works in the vicinity of the project site. Concurrent works present a safety hazard such as conflict of interest, Delays to works through disrupted deliveries (access/egress). Confusion with worker / project responsibility for shared zones. Conflict of req'd comms / signage. Inadequate segregation or separation of workers/ public. Consider a shared traffic management statement to ensure responsibilities at shared area are managed appropriately.	Cumulative impacts from concurrent works are considered addressed in Section 4.10, which has been expanded and re-numbered from 4.9.1. Section 4.10 includes Systems Connect coordination and consultation with the contractor responsible for construction of the Access Development Road at the Tallawong Rd / Themeda Rd intersection.	CLOSED OUT
35	19/06/2019	RMS	General	Gate B - shared construction traffic ingress and egress with adjacent projects shall be co-ordinated to ensure that traffic queue is minimised, alleviate safety issue and to ensure network efficiency. Agreed arrangements shall be monitored for effectiveness, compliance, improvement and safety.	Cumulative impacts from concurrent works are considered addressed in Section 4.10, which has been expanded and re-numbered from 4.9.1. Section 4.10 includes Systems Connect coordination and consultation with the contractor responsible for construction of the Access Development Road at the Tallawong Rd / Themeda Rd intersection.	CLOSED OUT

NO.	DATE	COMPANY	DOCUMENT REF*	COMMENTS	SYSTEMS CONNECT RESPONSE	CLOSED OUT
36	19/06/2019	RMS	General	Gate B - shared traffic volume due to construction vehicle ingress and egress shall be co-ordinated with adjacent projects and relevant stakeholders/ authority. Agreed arrangements shall be monitored for effectiveness, compliance, improvement and safety.	Cumulative impacts from concurrent works are considered addressed in Section 4.10, which has been expanded and re-numbered from 4.9.1. Section 4.10 includes Systems Connect coordination and consultation with the contractor responsible for construction of the Access Development Road at the Tallawong Rd / Themeda Rd intersection.	CLOSED OUT
37	19/06/2019	RMS	Section 4.5: Construction Traffic Generation	"HV movements will be greatest from August - December 2019" - Please ensure cumulative impact from adjacent project is considered in the CTMP to ensure safety, staging and efficiency issues are mitigated.	Cumulative impacts from concurrent works are considered addressed in Section 4.10, which has been expanded and re-numbered from 4.9.1. Section 4.10 includes Systems Connect coordination and consultation with the contractor responsible for construction of the Access Development Road at the Tallawong Rd / Themeda Rd intersection.	CLOSED OUT
38	19/06/2019	RMS	General	Figure 4 indicates that there are access road from Access point A to reach internal work sites within the SMTF construction facilities. LWW to consider that due diligence for safe access via Gate A is considered and detailed in the CTMP	Safe access via Gate A is addressed in Section 5.1. Safe access arrangements arrangements within the SMTF site are addressed in Section 5.4. These sections have been reviewed in light of this comment and are considered to be appropriate and adequate.	CLOSED OUT
39	22/07/2019	SM	Section 5.2, Driver responsibilities, p.30	Should include that heavy vehicles are not to park on Tallawong Road, Schofields road or other local roads if waiting for scheduled arrival time, as highlighted in 5.3.2.	Text added to Section 5.2 that vehicles should not park in local roads whilst waiting for arrival time, as per 5.3.2.	CLOSED OUT
40	22/07/2019	SM	Element 2, item 2.1, 3rd dot point, p.44	Need to define what periods this would be, daily or weekly?	For this facility, the need for TCPs is not expected to be significant. When TCP's are in place, inspections and audits will be conducted in accordance with the Traffic Control at Worksites Technical Manual (RMS, 2018). Text added to Element 2, item 2.1	CLOSED OUT
41	22/07/2019	SM	Appendix B, p.58	No diagram for left turn of 25m heavy vehicles from Schofields Road to Tallawong Road. Confirm that this movement will not occur.	The left turn in movement from Schofields Road to Tallawong Road does not allow for oversize (25m) vehicles. This movement will not occur. Text added to Section 4.4.	CLOSED OUT

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Appendix D: Gate C Details

Appendix E: Correspondence (attach as required)