

Appendix B8: Traffic and Transport Management Sub- Plan

CABRAMATTA LOOP PROJECT

ACKNOWLEDGEMENT TO COUNTRY

Fulton Hogan acknowledges the Cabrogal of the Darug Nation People as the Traditional Owners of the land we are working on, and pay our respect to their Elders past, present and emerging.

We recognise their deep connection to Country and value the contribution to caring for, and managing the land and water.

We are committed to pursuing genuine and lasting partnerships with Traditional Owners to understand their culture and connections to Country in the way we plan for and carry out the delivery of the Works.



Document control

This is an e-copy of the Plan and it interfaces with the other associated plans, which together describe the proposed overall project management system for the project.

The latest revision of this plan is available on the Fulton Hogan server. If any unsigned hard copies of this document are printed, they are valid only on the day of printing.

The revision number is included at the bottom of each page. When revisions occur, the entire document will be issued with the revision number updated accordingly for each owner of a controlled copy.

Attachments/Appendices to this plan are revised independently of this plan.

Revision History

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Glossary/ Abbreviations

Term/ abbreviation	Definition
ARTC	Australian Rail Track Corporation
CEMP	Construction Environmental Management Plan
CoA	The Minister's conditions of approval for the CSSI.
Construction Boundary	Has the same meaning as the definition of the term in the Project approval: The area required for project construction as described in the documents listed in Condition A1 .
Council	Liverpool City Council and/or Fairfield City Council
CSSI	Critical State Significant Infrastructure, as described in Schedule 1 of the project approval, the carrying out of which is approved under the terms of the project approval.
DPI	NSW Department of Primary Industries
DPIE	NSW Department of Planning, Industry and Environment
DPIE EES Group	Environment, Energy and Science Group of DPIE
DPIE Water Group	Water Group of DPIE and the National Resources Access Regulator
Ecologically sustainable development	Using, conserving and enhancing the community's resources so that the ecological processes on which life depends are maintained and the total quality of life now and in the future, can be increased (Council of Australian Governments, 1992).
EIS	Environmental Impact Statement
ENM	Excavated Natural Material, as defined in <i>The excavated natural material exemption</i> .
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPL	Environment Protection Licence under the POEO Act
ER	Environmental Representative for the CSSI
ESCP	Primary Erosion and Sediment Control Plan
EWMS	Environmental Work Method Statement
HP	Hold Point: a point in the construction or verification process beyond which work may not proceed without receiving authorisation from the appropriate party.
Minister, the	NSW Minister for Planning and Public Spaces
NA	Not applicable
Non-compliance	Failure to comply with the requirements of the Project Approval or any applicable license, permit or legal requirements.
Non-conformance	Failure to conform to the requirements of project system documentation including this PCEMP or supporting documentation.
OEH	Office of Environment and Heritage
OEMS	Operational Environmental Management System
Planning Secretary, the	Has the same meaning as the definition of the term in the Project approval: Planning Secretary of DPIE (or nominee, whether nominated before or after the date on which the project approval was granted)

Term/ abbreviation	Definition
Planning Secretary's approval or agreement, the	Has the same meaning as the definition of the term in the Project approval: A written approval or agreement from the Planning Secretary (or nominee)
POEO Act	<i>Protection of the Environment Operations Act 1997 (NSW)</i>
Project, the	Cabramatta Loop
Project approval, the	The Minister's approval for the CSSI.
Publicly Available	Has the same meaning as the definition of the term in the Project approval: To be made available on the website required under Condition B10 of the project approval.
Relevant council(s)	Has the same meaning as the definition of the term in the Project approval: Any or all as relevant, Fairfield City Council or Liverpool City Council.
RMM	Revised Mitigation Measure
TCaWS	TfNSW Traffic Control as Work Sites: Technical Manual
TfNSW	Transport for NSW (formerly RMS)
TSWD	Technical Specification and Works Description
TTMP	Traffic and Transport Management Sub-Plan
Work	Has the same meaning as the definition of the term in the Project approval: Any physical work for the purpose of the CSSI including construction and low impact work.

1. Introduction

1.1. Purpose

This Traffic and Transport Management Sub-Plan (TTMP) describes how Fulton Hogan will manage construction of the Cabramatta Loop Project (the project) to ensure that impacts on traffic and transport are minimised.

This TTMP has been prepared to detail how Fulton Hogan will comply with the project approval, and implement and achieve relevant performance outcomes, commitments and mitigation measures specified in the EIS as amended by the Submissions Report (also known as 'Revised Mitigation Measures' (RMM)) during construction of the project. Additionally, this TTMP has been prepared to address the requirements of ARTC Technical Specification and Works Description (TSWD) Appendix 04 Additional Environmental Requirements and Environment Protection Licence (EPL) Number 3142 (held by ARTC for railway activities – railway infrastructure operations) to the extent that it applies to Fulton Hogan's activities.

For the avoidance of doubt, this CEMP relates to the construction phase only. Detailed design environmental requirements will be addressed as part of the detailed design phase, separate to the CEMP approvals process. Detailed design is generally completed about six months after CEMP approval. In addition, operational environmental requirements will be met during the operational phase (upon the completion of construction) and addressed in the Operational Environmental Management System (OEMS) required under CoA D1

1.2. Background

Chapter 8 of the EIS assessed the extent and magnitude of potential impacts of construction and operation of the project on traffic and transport. As part of this, a detailed traffic and transport assessment was undertaken and included in the EIS as:

- EIS Volume 2 – Technical Report 1 – Cabramatta Loop Project: Traffic, Transport and Access Impact Assessment, prepared by GHD for ARTC, dated August 2019.

1.3. Structure of TTMP

This TTMP is part of Fulton Hogan's environmental management framework for the project and is supported by other documents, such as the Unexpected Heritage Finds and Human Remains Procedure and Environmental Work Method Statements. The review and document control processes for this TTMP are described in Chapters 11 and 12 respectively of the CEMP.

1.4. Consultation for Preparation of the TTMP

Consultation with TfNSW, Liverpool City Council and Fairfield City Council has been undertaken during the preparation of this TTMP to comply with CoA C4(a) and RMM C1.1. Consultation has also been undertaken with the relevant emergency services and public transport/ bus operators to satisfy the requirements of RMM C1.1.

A summary of the key issues raised in relation to the TTMP is provided below. It is noted that at the date of Revision 3 of the TTMP, Liverpool City Council had provided no further comments. There were no outstanding issues in relation to the comments received from TfNSW, Fairfield City Council, the relevant emergency services and public transport/ bus operators.

TfNSW

TfNSW were issued the TTMP Rev0. They provided the below commentary, which has been included into the pertinent sections of the TTMP:

- Please obtain Local Council approval for these works
- Any reference to RMS or Roads and Maritime should be updated to Transport for NSW (TfNSW)
- Any reference to Traffic Control Plans (TCPs) should be updated to Traffic Guidance Schemes (TGS') as per Traffic Control at Worksites Manual v6

- Construction vehicles
 - No traffic controllers should stop general traffic to allow construction vehicles to enter or exit, without an approved ROL
 - Site access must be left in left out, in a forward motion only.
 - No Construction vehicles should obstruct any pedestrian crossings or footpaths.
 - No Construction vehicles should queue/layover on any State or Regional road without an approved ROL
- Road Occupancy Licenses
 - All ROLAs to be submitted 10 business days in advance
 - ROL applications are required for any impact to State Roads, Regional Roads or any Local road within 100m to a State Road or signalised intersection
 - All activation and deactivation of ROLs for work shifts must use the web application system and not call the TMC.

Liverpool City Council

Liverpool City Council were issued the TTMP Rev0. They confirmed that they would respond within 10 working days, however after 15 days they did not reply. Fulton Hogan sent a follow up email which was not responded to. If Liverpool City Council responds after the TTMP is approved, then Fulton Hogan will address those comments at that point in time.

Fairfield City Council

Fairfield City Council confirmed that the proposed arrangements within the TTMP are considered appropriate. Fairfield City Council provided further comments, generally related to:

- Within the TTMP, the following additional approvals are required:
 - Fairfield Local Traffic Committee approval
 - The one way operation prior to it implementation
 - Regulatory signage, traffic facilities and line marking for the final road designs
 - Road occupancy(s) and
 - Various Roads Act approvals for the final road designs.
- Temporary arrangements included in traffic control plans are approved and implemented through the TCP process
- A note that the NSW speed zoning guidelines (version 4.0 September 2011) for temporary speed limits at work sites requires approval from TfNSW, not Council.
- During construction access for pedestrians, emergency vehicles, cyclists, domestic waste collection and access to properties is to be maintained.
- The TTMP, subject to the above limitations, is endorsed by Council for implementation.

It is acknowledged that review of the TTMP by the Fairfield Local Traffic Committee in October 2021 may trigger an update to this TTMP. Fulton Hogan will work with Fairfield City Council to address any further comments at that point in time.

Relevant emergency services (NSW SES)

The SES confirmed that their organisation does not provide comments on Traffic Management Plans, as they do not have the capacity or resources to do so.

Public transport/ bus operators

The local bus provider, Network Systems were issued the TTMP Rev0. They confirmed that their network is not impacted by the project.

Copies of all consultation correspondence is included at Appendix A5 of the CEMP.

Ongoing consultation will be undertaken during detailed design and construction of the project as required by the environmental documents. This will be subject to a separate consultation process to that required for preparation of this TTMP.

2. Objectives, Targets and Environmental Performance Outcomes

2.1. Objectives

The key objective of the TTMP is to ensure that traffic impacts during construction are minimised and are within the scope permitted by the planning approval. This includes minimising delays, ensuring consideration is given to the needs of all road users and maintaining safety for both workers and the general public.

To achieve these objectives, Fulton Hogan will undertake the following:

- Ensure appropriate controls and procedures are implemented during construction activities to address potential traffic impacts along the Project corridor
- Ensure appropriate measures are implemented to address the relevant CoA and environmental management measures outlined in Table 1 and Table 2 respectively
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Section 3.1 of this plan.
- Keep traffic delays to a minimum
- Minimise disruption to businesses
- Comply with CoA
- Maintain satisfactory property access including consultation with property owners and tenants
- Minimise disturbance to the environment
- Ensure the safety of employees, contractors, the general public, Project Verifier (PV) and ARTC & council personnel, pedestrians, cyclists and traffic
- When required, obtain approvals and licenses such as Occupation of Footpath / Roadway.
- The roads to the South of the Cabramatta Creek are within the local jurisdiction of Liverpool City Council. The roads to the North are within the local jurisdiction of Fairfield City Council. The Hume Hwy and Cabramatta Roads are governed by TfNSW.
- Design temporary roadways and detours in accordance with Austroads Road Design Guide, Traffic Control at Worksites Manual.
- Meet the requirements of the Roads and Maritime Traffic Control at Works Sites Manual (TCaWS)
- Design all temporary roads using Austroads Guide to Road Design (AGRD).

For all works on a local road an application will be made for a *Road Opening Permit* Application to undertake works in the local road reserve (Section 138 of the Roads Act).

Progress against the nominated objectives will be continually assessed during the course of the project. The delivery of the objectives for this project is the responsibility of the Project Director or nominee.

2.2. Environmental Performance Outcomes

The construction-related environmental performance outcomes relevant to this TTMP are listed in Table 1. A cross reference is also included to indicate where the environmental performance outcome is addressed in this TTMP in terms of how it will be implemented and achieved.

Table 1: Environmental Performance Outcomes Relevant to Traffic and Transport Management

Key Issue (as listed in Table 22.5 of the EIS)	Environmental Performance Outcome	Document Reference
1. Transport and Traffic	1. The project assists in meeting the forecast demand for container freight transport on the SSFL.	1. Not Applicable to this TTMP

Key Issue (as listed in Table 22.5 of the EIS)	Environmental Performance Outcome	Document Reference
	<p>2. The project assists in encouraging a shift in freight transport from road to rail, supporting a reduced rate of growth in truck movements and associated traffic congestion.</p> <p>3. The performance of the local and regional network is not significantly impacted during construction.</p> <p>4. Motorist, pedestrian and cyclist safety is maintained or improved.</p>	<p>2. Not Applicable to this TTMP</p> <p>3. Refer Sections 6 and 8</p> <p>4. Refer Sections 8.1 and 8.3</p>

3. Legal and Other Requirements

3.1. Legislation

Legislation relevant to traffic and transport management includes:

- An approved and valid road opening or access permit granted by the issuing authority of the road being accessed
- An approved relevant Speed Zone Authorisation (SZA)
- Australian Road Rules
- Roads Regulation 2008.
- TfNSW Traffic Control at Worksites Manual Ed6

Legislation relevant to traffic management also includes the *Environmental Planning and Assessment Act 1979* (EP&A Act), under which the project approval was granted. Relevant provisions of the EP&A Act are explained in the register of legal and other requirements included in Section 3.3.1 of the CEMP.

3.2. Conditions of Approval

The CoA relevant to this TTMP are listed in Table 2. A cross reference is also included to indicate where the condition is addressed in this TTMP or other project management documents.

Table 2: Conditions of Approval Relevant to TTMP

CoA No.	Condition Requirements	Document Reference												
PART C - CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN														
C4	<p>CEMP Sub-Plans must be prepared in consultation with the relevant government agency(ies) and council(s) identified for each CEMP Sub-Plan in Table 3.</p> <p>Table 3: CEMP Sub-Plan and relevant public authorities</p> <table border="1"> <thead> <tr> <th></th> <th>Required CEMP Sub-Plan</th> <th>Relevant government agency(ies) and council(s) to be consulted for each CEMP Sub-Plan</th> </tr> </thead> <tbody> <tr> <td>(a)</td> <td>Traffic and Transport</td> <td>TfNSW and relevant council(s)</td> </tr> <tr> <td>(b)</td> <td>Noise and Vibration</td> <td>Relevant council(s)</td> </tr> <tr> <td>(c)</td> <td>Soil and Water</td> <td>DPIE Water Group, Sydney Water and relevant council(s)</td> </tr> </tbody> </table> <p><i>Note: This condition does not preclude the preparation of subplans the proponent has committed to preparing in documents referenced in Condition A1.</i></p>		Required CEMP Sub-Plan	Relevant government agency(ies) and council(s) to be consulted for each CEMP Sub-Plan	(a)	Traffic and Transport	TfNSW and relevant council(s)	(b)	Noise and Vibration	Relevant council(s)	(c)	Soil and Water	DPIE Water Group, Sydney Water and relevant council(s)	Section 1.4
	Required CEMP Sub-Plan	Relevant government agency(ies) and council(s) to be consulted for each CEMP Sub-Plan												
(a)	Traffic and Transport	TfNSW and relevant council(s)												
(b)	Noise and Vibration	Relevant council(s)												
(c)	Soil and Water	DPIE Water Group, Sydney Water and relevant council(s)												
C5	The CEMP Sub-Plans must state how:													
(a)	the environmental performance outcomes identified in the documents listed in Condition A1 as modified by these conditions will be achieved;	Section 2.2												
(b)	the mitigation measures identified in the documents listed in Condition A1 as modified by these conditions will be implemented;	Through the implementation of this TTMP												
(c)	the relevant terms of this approval will be complied with; and	Through the implementation of this TTMP												
(d)	issues requiring management during construction (including cumulative impacts), as	Refer Section												

CoA No.	Condition Requirements	Document Reference
	identified through ongoing environmental risk analysis, will be managed.	11.4
C6	Details of all information requested by an agency to be included in a CEMP Sub-plan as a result of consultation, including copies of all correspondence from those agencies, must be provided with the relevant CEMP Sub-Plan .	Section 1.4
C7	Construction must not commence until the CEMP and all CEMP Sub-Plans have been approved by the ER and must be implemented for the duration of construction. Where construction of the CSSI is staged, construction of a stage must not commence until the CEMP and sub-plans for that stage have been approved by the ER.	CEMP (main section) Sections 1.4 and 2.2
PART E – TRAFFIC AND TRANSPORT		
E36	Access to all utilities and properties must be maintained during construction, where practicable, unless otherwise agreed with the relevant utility owner, landowner or occupier.	Section 8.1
E37	Safe pedestrian, cyclist and vehicular access must be maintained around construction compounds, construction ancillary facilities and work sites during construction. Where pedestrian, cyclist or vehicular access is restricted or removed due to construction, the relevant council(s) and the community must be informed one month before any disruption in accordance with the Communication Strategy under Condition B2 .	Sections 8.1 - 8.3
E38	Any property access physically affected by the CSSI during construction must be reinstated to at least an equivalent condition, unless otherwise agreed by the landowner or occupier.	Section 8.2
Road Dilapidation		
E39	The Proponent must provide, before establishment of the Jacquie Osmond Reserve compound, a safe access road of appropriate standard for use by both construction vehicles and other public users to the parking area at Cabramatta Creek on the eastern side of the rail corridor and adjacent to Jacquie Osmond Reserve.	By ARTC
E40	Before any local or private road is used by a Heavy Vehicle for the purposes of construction of the CSSI, a Road Dilapidation Report must be prepared for the road. A copy of the Road Dilapidation Report must be provided to the relevant council(s) within three (3) weeks of completion of the survey and no later than one (1) month before the road is used by Heavy Vehicles associated with construction of the CSSI.	Section 8.2
E41	If damage to roads occurs as a result of the construction of the CSSI, the Proponent must either (at the landowner's discretion): (a) compensate the relevant road authority for the damage so caused. The amount of compensation may be agreed with the relevant road authority, but compensation must be paid even if no agreement is reached; or (b) rectify the damage to restore the road to at least the condition it was in pre-works as	Section 8.2

CoA No.	Condition Requirements	Document Reference
	identified in the Road Dilapidation Report .	
E42	Before the Jacquie Osmond Reserve compound is decommissioned, the Proponent must ensure that the access road between Station Street and Jacquie Osmond Reserve is rectified to a suitable standard for ongoing access by public users. The rectification works must include at a minimum, the grading and asphalt re-sheeting of the road. The design of the rectification works must be undertaken in consultation with Council.	Section 10
Parking		
E43	Construction vehicles (including staff vehicles) associated with the CSSI must be managed to minimise parking, idling and queuing on public roads.	Section 9 & 10
E44	The Proponent must minimise the permanent loss of on-street car parking spaces. The selection of any location(s) to replace on-street parking must take into account the ability to provide landscaping to address visual amenity, limit increases in impervious surfaces and be undertaken in consultation with Council. The Proponent must consider any landscaping and urban design plans, endorsed by Council at or before the date of this approval, relevant to the selected location(s) in the design of the parking.	As per project Urban Landscape Design
Road Safety		
E45	The ancillary road infrastructure associated with the CSSI (including new or modified local roads, parking, pedestrian and cycle infrastructure) must be designed to meet relevant design, engineering and safety guidelines.	Road Alignment package, RD-01
E46	An independent Road Safety Audit(s) must be undertaken by an appropriately qualified and experienced person to assess the safety performance of new or modified local roads, heavy and over-height vehicle routes, parking, pedestrian and cycle infrastructure provided as part of the CSSI to ensure that relevant road safety standards are met.	Section 7 for temporary modifications. RSA for permanent alignment will be included within the Road Alignment package, RD-01
Pedestrian and Cyclist Transport		
E47	All pedestrian and cyclist infrastructure impacted by the CSSI must: <ul style="list-style-type: none"> (a) be replaced to a standard equal or better to that existing prior to impact; (b) include appropriate signage and wayfinding measures; and (c) be completed and ready for use before operation of the CSSI. 	Section 8.3.4

3.3. Revised Mitigation Measures

Relevant construction-related RMM from the Submissions Report are listed in Table 3. A cross reference is also included to indicate where the measure is addressed in this TTMP or other project management documents.

Table 3: Revised Mitigation Measures Relevant to TTMP

ID No.	Revised Mitigation Measure	Document Reference
Traffic, Transport and Access		
General Impacts of Construction Activities on Traffic, Transport, Access, Pedestrians and Cyclists		
C1.1	<p>A construction traffic management plan will be prepared by the contractor and implemented as part of the CEMP. It will include measures to minimise the potential for impacts on the community and the operation of the surrounding road and transport environment, including those listed in this EIS.</p> <p>The construction traffic management plan will be developed in consultation with relevant emergency services, Liverpool City Council, Fairfield City Council, Roads and Maritime Services, and public transport/bus operators.</p>	<p>This TTMP</p> <p>Section 1.4</p>
Traffic Delays		
C1.2	<p>Oversized vehicles will use designated heavy vehicle routes or routes approved by Roads and Maritime Services.</p> <p>Oversized traffic movements will be carried out, where possible, outside of peak road network periods, minimising the impacts on the road network.</p> <p>Should oversized vehicles be required, the contractor will be responsible for obtaining necessary permits/approvals, where required. Where possible, major road networks such as Cabramatta Road East and the Hume Highway will be used for access to the site by heavy vehicles.</p>	Section 8.4
Temporary Parking Space Loss		
C1.3	<p>Where parking spaces are lost or access is impeded, particularly for extended periods, alternative parking will be provided wherever feasible and reasonable. This will include consideration of other privately owned (or vacant) land within close proximity to Cabramatta Station.</p>	Section 9
Delays to Emergency Services		
C1.4	<p>A minimum lane width of about 3.5 m will be provided along Broomfield Street during construction to facilitate the access of emergency service vehicle.</p>	Section 7
Parking Space Loss		

ID No.	Revised Mitigation Measure	Document Reference
C1.5	<p>The project site will be managed to minimise construction worker parking on surrounding streets. A worker car parking strategy will be developed in consultation with the relevant local council to identify measures to reduce the impact on the availability of on street and off street parking. The strategy will identify potential mitigation measures including alternative parking locations.</p> <p>The strategy will encourage contractor staff to:</p> <ul style="list-style-type: none"> ▪ park within compound sites ▪ use public transport ▪ car share. 	Section 10
Traffic Impacts		
C1.6	Where possible, heavy vehicle activity will be avoided, during school pick-up and drop-off periods (8:00 am to 9:30 am and 2:30 pm to 4:00 pm school days) in the vicinity of schools, when pedestrian and vehicle activity is generally greater.	Section 8.1
C1.7	The extent and duration of temporary road closures along Broomfield Street and Sussex Street will be minimised to reduce the impact on local traffic, with diversions in place to the adjoining road network.	Section 9
C1.8	Work areas will provide safe clearances from through traffic lanes in line with Roads and Maritime's Traffic Control at Works Sites Manual. Should road works speed zones be required, the contractor will develop necessary plans and obtain approvals by the governing authority (Roads and Maritime) in consultation with the local council.	Sections 7 & 8.5
Residential Access		
C1.9	<p>Driveway and pedestrian access to properties adjoining the works is to be maintained.</p> <p>Where disruptions to access cannot be avoided, consultation will be undertaken with the owners and occupants of affected properties, to confirm their access requirements and to discuss alternatives.</p> <p>Potentially affected property owners and residents will be contacted before the commencement of works. Residents will be notified via door knocks, newsletters or letter box drops providing information on the proposed works, working hours and a contact name and number should any enquiries wish to be registered.</p> <p>Open trenches will be filled or covered using road plates at the end of each day to minimise impacts on vehicular access to properties, where necessary.</p>	Section 8.1, 9.1.1 & 10
Access to Jackie Osmond Reserve		
C1.10	The contractor will consult with Liverpool City Council and the relevant sporting associations to minimise potential conflicts between vehicles, pedestrians and cyclists at the reserve, particularly during weekend periods when sporting activities are likely to occur.	Section 10

ID No.	Revised Mitigation Measure	Document Reference
Informal Parking within Jacquie Osmond Reserve		
C1.11	The contractor will consult with Liverpool City Council and the relevant sporting associations with regards to scheduling and access arrangements when works are being undertaken on Cabramatta Creek bridge, to minimise the potential impacts associated with the loss of access to informal parking in Jacquie Osmond Reserve.	Section 10
Heavy Vehicles Damaging Local Roads		
C1.12	A dilapidation survey will be undertaken of the Fairfield City Council and Liverpool City Council owned/managed roads within the proposed haulage routes prior to works commencing and provided to the relevant council.	Section 6
Temporary Closure of Shared Path		
C1.13	The Western Sydney Cycling Network and Bicycle NSW will be notified prior to the proposed closure and/or diversion of the Parramatta to Liverpool Rail Train Cycleway within the project site.	Section 8.3.3
Construction Traffic Noise		
C2.10	Traffic flow, parking and loading/unloading areas will be planned to minimise reversing movements within the site.	Sections 8.1 & 10
Anxiety, confusion and safety concerns from changes to roads, footpaths and cycle routes		
C13.4	A construction traffic management plan will be prepared as part of the CEMP as per mitigation measure C1.1. This will detail the actions and infrastructure needed to ensure a continuous, safe and efficient movement of traffic for both the general public and construction workers. This will include defined routes, diversions, signage, safe crossing points for pedestrians and cyclists and where needed, traffic management staff.	This plan as a whole
Reduced health benefits from changes to areas of public recreation and active transport routes		
C13.6	<p>Public consultation will be carried out prior and during construction to inform the public about the routes to access and the availability of public reserves and softball area.</p> <p>Signage will be provided to identify access points to reach areas of public recreation and active transport routes.</p> <p>Consultation with key stakeholders such as Southern Districts Softball Association will be carried out to ensure the active lifestyle of members could be maintained at this location.</p>	<p>Consultation as per Section 1.4</p> <p>Signage as per Section 8.1</p>

3.4. Traffic Management Risk Assessment Workshop

A Traffic Management Risk Assessment Workshop will be conducted prior to the commencement of any traffic management works on site. This will identify and address the risks associated with the road safety, traffic management and local network issues specific to the site.

All project stakeholders will be invited to attend the Risk Management workshop. This will include Fulton Hogan, ARTC, Liverpool and Fairfield City Councils, and any other interested parties that may be required. Additional workshops and trainings will be undertaken to train the project team regarding the implementation of this plan, TGSs and when traffic arrangement issues need to be reinforced or reviewed.

The outcomes of the workshop will be documented in the Project Risk Register that is appended to the Risk Management Plan. The outcomes will also be integrated into future revisions of this TTMP as required. This Plan will be submitted to ARTC initially and periodically following risk workshops during construction.

At the time of writing Revision 1 this report, the Risk Assessment had not been undertaken. This revision allows ARTC to undertake their initial review prior to the Risk Assessment workshop.

Fulton Hogan will consult with residents and the local community prior to making any changes to the current traffic conditions. This consultation process will be well documented and will provide the community with sufficient time to receive feedback from the community prior to any traffic changes being made.

4. Traffic Management Responsibilities

The project team is responsible for all construction activities, including the implementation and maintenance of the various temporary traffic management arrangements and have the qualifications depicted under 'Traffic Controllers' of this Plan.

Fulton Hogan's initial project team organisational structure is appended to the Project Management Plan (PMP) and overall roles and responsibilities are outlined in both PMP and the CEMP. Specific responsibilities for the implementation of construction traffic management are detailed below. In addition, at least one of the site personnel is required to carry an Orange (Design and Inspect) licence for TGS.

4.1. Project Director

- Ensures the Project's road safety and traffic management objectives are achieved
- Ensures that all the incidents caused by site activity, and incidents on public roadway that are unrelated to the construction activity are reported to ARTC.
- Reporting incidents to ARTC, Transport Management Centre and Police as required. Coordinating with local authorities for any incidents.

4.2. Site / Project & Senior Project Engineers

The engineers are responsible for ensuring traffic management:

- Is properly planned, organised, directed and controlled
- Is properly resourced with people, equipment, facilities and systems
- Meets the requirements of the contract
- Complies with all other legislation
- Is achieving its objectives.

Engineers are also responsible for;

- Maintaining and adjusting traffic control measures and devices to assist prevailing traffic flows, minimise lane and shoulder occupancies and any lost traffic flow capacity and minimise traffic flow delay durations and queuing
- Obtaining Road Occupancy Licences from relevant councils
- Monitoring of over-dimension heavy vehicle movements
- Preparing and submitting TGSs (where required) for individual tasks including those of subcontractors
- Ensuring that control measures are maintained and that work-in-progress is inspected
- Reporting traffic incidents to the Project Director.
- Ensuring subcontractors/suppliers have suitable qualifications and experience
- Carrying out and recording weekly inspections and verifications to demonstrate compliance

4.3. Project Superintendent

- Co-ordinates the field resources
- Supports the delivery of the road safety and traffic management objectives
- Assists with the implementation of the TTMP
- Provides direction and support to enable effective planning of temporary traffic management arrangements
- Ensures all field team members receive the appropriate training
- Managing all Emergency Controls as depicted in Incident and Emergency Response Plan (IERP).

4.4. Foreman

- Ensure compliance to the approved TGSTGSs
- Issues the required TGSTGSs and, where relevant, road occupancy approvals and speed zone authorisations to the traffic control crew / or subcontractor

- Ensures adequate plant, equipment and human resources are made available for the installation and maintenance of temporary control devices
- Conducts pre-start inspections and regular night / weekly inspections of traffic control arrangements, and ensure all deficiencies are rectified
- Assist with the implementation of mitigation measures to address unsafe road conditions, and unusual traffic congestion
- Assist with the management of unplanned incidents, providing initial response to make the site safe
- Records unplanned incident details, and when traffic controls are in operation, including the installation and removal of regulatory signage.

4.5. Environmental Manager

- Ensures compliance against project planning approvals
- Verifies consistency amongst CEMP and other sub-plans

4.6. Functional Personnel

Functional personnel provide support for all construction activities and their traffic management related responsibilities are described above

WHS team is responsible for managing haulage routes in compliance with WHS Management Plan and Chain of Responsibility.

4.7. Community Relations Manager

- Liaises with the community for all aspects of community and stakeholder issues
- Represents the Project for all community and stakeholders issues
- Conducts consultation with stakeholders for traffic planning, and provides an on-going liaison role
- Prepares and distributes changed traffic condition information to the community

Community relations including addressing complaints.

5. Time Management

Fulton Hogan aims to meet its time related obligations. Among them are:

- Submitting TGSs and VMPs at least three business days prior to its proposed use
- Submitting ROLs for TfNSW roads 10 business days in advance for any works impacting State or Regional roads, or any local road within 100m of a State Road or signalised intersection
- Submitting Road Opening Applications for councils roads at least 10 business days prior to its proposed use
- Notifying ARTC and council at least one day prior to opening temporary roadways and detours to traffic
- Complete and independent Road Safety Audit for modified local roads
- Notifying residents and businesses affected by disruption to property access or by night works in built-up areas. A letter will:
 - be “letter-box-dropped” at least three Business Days before the proposed date
 - detail the dates and times of the proposed access restrictions and contact details
- Performing work and Services only in the times permitted
- Lodging early as possible (at worst no less than 10 Business Days before the work) a road occupancy application. Noting, however, the exemptions for emergencies and hazards
- Publication of upcoming traffic changes in VMS at five days before the event
- Notification regarding opening of the project (or part thereof) 10 days prior Provide three month notification to relevant parties of any closure between Railway Parade and Jacquie Osmond Reserve

These notifications will be carried out in accordance with the Communication Strategy.

6. Construction Traffic Impacts

Potential traffic impacts from the construction of the Project were assessed in Section 8 of the Environmental Impact Statement (EIS). A list of the mitigation strategies can be found in Table 3 of this report.

The approved freight routes into the project using TfNSW roads will be via Hume Highway and Cabramatta Road East. The local roads networks will provide the access into the project from the state network. Fulton Hogan will undertake dilapidation surveys of the council owned and managed roads within the proposed haulage routes prior to the commencement of works. Records will be provided to the relevant council.

Details of the construction activities, including staging and work hours, are in Section 8.3.6 of the EIS. Construction activities would require a range of plant and equipment including light and heavy vehicles. Vehicles used during construction may include:

- Road trucks: Including rigid trucks (12.5 metres long) and B-doubles (25 metres long) for haulage of materials
- Light vehicles: Such as cars and vans used for construction worker movements
- Agitator trucks (5.5 metres long): For laying concrete foundations
- Fuel trucks (12.5 metres long): For haulage and of fuel for use in plant and equipment.

General traffic and transport impacts that may occur to a varying degree and duration during construction of the project include:

- Some temporary increases in travel times for vehicles and on-road cyclists due to speed limit restrictions around areas where the project joins existing roads and where construction activities need to be completed under traffic. To a much lesser extent, travel times would also be affected by the increased number of heavy vehicles hauling material between the work sites and the temporary ancillary sites
- Changes to the safe operating profile of the road network due to the addition of construction traffic (including heavy vehicles) and the use of temporary traffic controls
- Temporary traffic diversions for works such as drainage road crossings, large crane setups, or driveway reinstatements.
- Temporary detours (mainly associated with infrequent construction activities requiring completion outside of normal operating hours)
- Short-term alteration to existing property and business access arrangements
- Altered routes for pedestrians
- Detours and closures
- Minor kerbside parking changes on some local roads
- Safety impacts through temporary work areas.

Fulton Hogan will undertake regular monitoring and inspections of the traffic management controls to determine the effectiveness of the mitigation strategies. This also includes consultation with property managers and/or owners affected by the works.

7. Traffic Guidance Schemes

Fulton Hogan will implement approved Traffic Guidance measures for any works which disrupt free traffic movement in road related areas such as highway, local roads, car parks, driveways, pedestrian accesses/ facilities etc. As the project is located within multiples local government areas, Fulton Hogan will consider the requirements of each governing body when preparing TGSs. All temporary traffic lanes will be a minimum width of 3500mm, and as required for emergency vehicle access

Fulton Hogan will ensure that an independent Road Safety Audit (RSA) is completed by a suitably qualified person to assess the safety performance of new or modified local roads, heavy and over-height vehicle routes, parking, pedestrian and cycle infrastructure to ensure that relevant road safety standards are met.

These measures will include Traffic Guidance Schemes (TGS) and Vehicle Movement Plans (VMP) as required and will encompass vehicle movement and pedestrian movement for both construction resources and the general public. Any property accesses affected by the construction activities will also be identified on the TGSs.

TGSs for any activity associated with the Works, including the use of temporary warning signs, will be developed on the basis of the following documents, and in the order of hierarchy listed below:

1. ARTC Cabramatta Loop Project TSWD
2. Roads and Maritime Traffic Control at Worksites Manual
3. AS 1742.3 - 2002 "Traffic Control Devices for Works on Roads"
4. Austroads: Guide to Traffic Management – Part 2: Traffic Theory
5. Construction Transport, Traffic and Access Management Plan

Copies of any traffic guidance schemes must be issued to the ARTC Project Manager and the Project Verifier.

No traffic controllers will stop general traffic to allow construction vehicles to enter or exit, without an approved ROL. No Construction vehicles will obstruct any pedestrian crossings or footpaths. No Construction vehicles should queue/layover on any State or Regional road without an approved ROL"

Temporary lighting during construction will be designed and installed to minimising light spill and glare into neighbouring properties. Public places and footpaths will be adequately lit at night time in accordance with the CPTED principles.

TGSs must not be hand drawn and all text, dimensions and symbols must be clear and legible to the naked eye. Property accesses, side roads and any special features affecting position of signs and devices must be shown on TGSs, as required.

TGSs must be designed and implemented to allow for and accommodate the passage of over-dimension heavy vehicles through all the road occupancies. The project team is required to liaise with the TfNSW, Liverpool and Fairfield City Councils to establish communication protocols for the passage of over-dimension heavy vehicles through all road occupancies.

For all planned and scheduled maintenance and other works under the contract; Fulton Hogan will prepare Traffic Control Plans as follows:

7.1. For Works which are Accommodated by Standard TGSs

Fulton Hogan will use the standard TGSs that have been extracted from TCaWS. The standard TGSs will be examined for suitability; approved and signed by Traffic Manager or delegate, who holds the "Traffic Control Worksite Planning" qualification (i.e. holds a current TfNSW Prepare a Work Zone Traffic Management Plan qualification).

7.2. For Works requiring a Non-Standard TGS

Non-Standard TGSs will be signed off by a person employed by Fulton Hogan or engaged as a subcontractor who has qualified in the TfNSW "Design and Audit Traffic Control Plans" course (i.e. holds a current Roads and Maritime's

Prepare a Work Zone Traffic Management Plan qualification) and is experienced in the design and implementation of traffic management plans.

Work will not begin until ARTC has approved the non-standard TGS. In circumstances that affect local roads or residents, the TGS will also need to be issued to the relevant council(s).

7.3. For Works requiring a VMP

Vehicle Movement Plans (VMPs) will be developed to provide for traffic associated with the Works such as trucks delivering materials and equipment and work supervisors' vehicles, to safely manoeuvre into and out of traffic streams, and turn at work areas, stockpile sites, local roads and turn around. VMP/s will also reflect the vehicle entry and exit points to the worksite and indicate clearly that these are the only points where interface with the road traffic is permitted.

Some typical VMPs that will be prepared include the following;

- Deliveries to Site Compound
- Deliveries and construction vehicle access to Broomfield St works
- Temporary haul road between site compound and northern works

VMPs may be prepared integrating into Traffic Staging Plans and Construction Staging Plans reflecting the work activity so that the intended purpose and objectives in the plan are met.

The VMPs will be progressively updated throughout the Project. An example of the VMP from a previous project is provided below. The format of the VMP allows it to be easily understood for all that require information regarding site access. For example, if one were to require access into gate 19, a quick reference notes that this is a southbound, left in, left out access and to utilise UHF30 for entry contact. This VMP will be issued to the project team and as an instruction to all suppliers to ensure compliance by delivery drivers. Included in the VMP is a list of delivery protocols and contact details to ensure that all vehicle movements in and out of site are managed consistently and do not compromise the safety of the road user.

A Project wide VMP will be issued to ARTC for review. At the time of writing Revision 1 of this report, no VMP had been prepared.

All subcontractors and suppliers will also receive a copy of the VMP as reference document. This is in accordance with Fulton Hogan's Chain of Responsibility policy, and will assist with the coordination of deliveries to site.

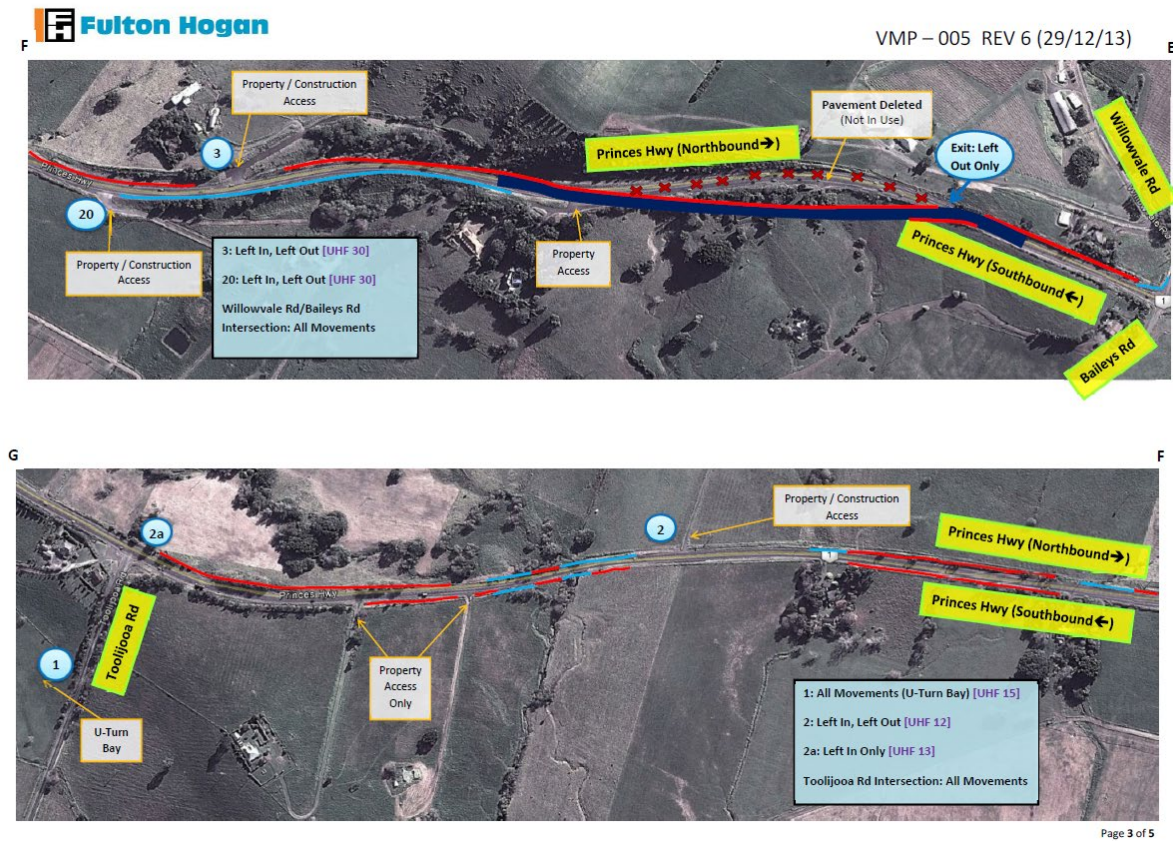


Figure 1: Sample VMP

VMPs will be prepared by a suitably qualified person who is experienced in the design and implementation of traffic management plans. A second person with similar experience should review and sign off the final VMP (i.e. VMPs should not be prepared and signed off by the same person). Work will not begin until ARTC has approved the VMP.

7.4. Modifications to TGSs and VMPs

Traffic guidance schemes shall be regularly reviewed for their effectiveness, and shall be amended and recorded in traffic control register with revision and approval date. As and when deemed necessary to maintain or improve safety of the public and construction activities; including both vehicular and pedestrian movements;

When there are programmed changes to the construction activities that will affect traffic movements on public roads; and when existing traffic control measures are required to be amended to improve traffic flow or to minimise the impact of construction traffic on road users. Any modifications to approved TGSs and VMPs will be issued to ARTC & PV.

8. Key Traffic Management and Safety Issues

8.1. General Road Users and the Public

For each zone of the Project, safety will be considered based on the specific nature of the works. Fulton Hogan will provide the skills and resources required to minimise the overall effect of the works on road users and the public to keep safety front of mind. This will be done through strategic planning and implementation of sound construction techniques that will always consider the impact and safety of road users and the public.

The zones across the project are shown below:

Table 4: Project Zones

Zone	Ch. Start	Ch. Finish	Description
Zone 1	32,180	32,880	Broomfield Street – 104 Broomfield Street to Sussex Street
Zone 2	32,880	33,095	Bridges – Sussex Street to Jacquie Osmond Reserve
Zone 3	33,095	33,940	Civil & Property – Jacquie Osmond to Peter Warren

Measures that Fulton Hogan will use to deliver public safety include:

- Providing separation between the public and the works. This is a key element to providing safety to road users and the construction team. This will be done through the use of barriers, haul roads, side tracks, staging works and roadside furniture such as approved safety barriers to provide sufficient separation and safety measures to minimise the impact of the works
- Implementing specific traffic management measures only where absolutely necessary to reduce traffic speed, volumes and alignment to provide safety to both construction crews and the public
- Limiting the working hours of works that could pose substantial impact on road users and the public
- Minimising disruption during peak traffic periods, public holiday weekends and school holidays by limiting the extent of traffic management undertaken during these times
- Limiting the volume of heavy vehicle movements during school pickup and dropoff times wherever possible (0800-0930 and 1430-1600 school days)
- Providing and maintaining public access to affected properties, through traffic and educational facilities. Construction Method Statements (CMS) and the VMP will be developed for specific areas that require work access restrictions to maintain public access. Fulton Hogan's community team will be overall responsible for discussions with these affected parties to determine what measures will be put in place
- Providing and maintaining access to utilities for the duration for the works, Fulton Hogan will consult the utility providers which have assets within the work area, to ensure that provisions for safe access is maintained
- Implementation of visual barriers to reduce potential distraction of road users
- Community consultation and notification to keep road users and the public up to date regarding traffic management measures or restrictions, this will be undertaken in accordance with the project Communication Strategy.
- Where disruptions cannot be avoided, Fulton Hogan will consult the owners and occupants of properties to confirm their access requirements and discuss alternatives
- Install signage to identify access points to places of recreation if the project works impact on the pre-existing conditions of the area
- Activating and deactivating TfNSW ROLs using the web application

- Ensuring that site access is left in left out, and in a forward motion only An appropriate layout of compounds sites, construction methodology and hoardings to will be established to prevent any construction items exiting the site in an uncontrolled manner

The strategy and subsequent refinement of the Traffic Management Plan will consider and address the potential safety impact of construction works on the public. Fulton Hogan will manage these issues through planning, implementation and inspection of the works.

8.2. Road Conditions

Fulton Hogan will undertake an inspection of roads which adjoin the worksite. A dilapidation report will be prepared and submitted to ARTC and the relevant council. This will be provided to council within weeks of completion of survey, and no later than one month before the road is used for heavy vehicle haulage. Council will be provided an opportunity to respond to the reports prior to commencement of construction.

Fulton Hogan will ensure that any road, footpath, driveway or property access, shared path or cycleway, which is open to the public, is at all times kept free of any mud or trip hazards for the duration of the project. Fulton Hogan's primary control for mud tracking is to cancel mud-generating activities during wet weather periods. A watercart or similar plant will be made available to clean mud and debris off trucks and vehicles prior to accessing any public roads. Water runoff from cleaning activities will be managed via the relevant ESCP for each area, which is addressed in the CEMP.

Any damage to roads, footpaths or cycleways, driveway or property access that was caused by Fulton Hogan's activities will be repaired to the same condition that it was prior to the occurrence of the damage, unless otherwise agreed by the landowner or occupier. Alternatively, Fulton Hogan will compensate the relevant road authority's to rectify any damage caused by Fulton Hogan.

8.3. Pedestrians and Cyclists

8.3.1. Identifying Pedestrian and Cyclist Needs

When planning construction activities, the project team will give consideration to the:

- Number of pedestrians
- Type of pedestrian activity: whether office, retail, residential or recreational
- Origin and destination points of the pedestrians, and their desired travel path
- Needs of vulnerable pedestrians, such as young children, the elderly, vision impaired, disabled people, people with prams and trolleys
- Proximity of pedestrian generation developments, such as schools, shopping centres, railway stations, bus terminals
- Production and implementation of Pedestrian Management Plans
- Measures will be implemented to maintain pedestrian and vehicle access, including parking for businesses and affected properties. Where necessary Fulton Hogan will develop alternative pedestrian and vehicular access, and parking arrangements in consultation with affected businesses, properties and pedestrians.
- Pedestrian and cyclist facilities that are impacted by the project will be reinstated at the completion of works or wherever necessary

There are certain construction activities, particularly the bridgeworks, whereby pedestrian and cyclist access from Broomfield Street to Jackie Osmond Reserve will not be available. Provisions will be made to accommodate pedestrians and cyclists a through via an alternate approved route Any closures or disruptions will be communicated to the community one month in advance of the works, in accordance with the Communication Strategy.

Fencing will be installed to restrict physical access to hazardous areas and for site security, which will be appropriately sign posted. Various types of temporary and semi-permanent fencing may be installed including plastic mesh; water filled plastic delineators, weldmesh pool fencing, chain wire mesh, and the like. All physical barriers must be maintained during the Project and appropriately secured to prevent injury to the public.

8.3.2. Providing Temporary Footpaths

Where the work areas restrict access to existing footpaths, the project team will be required to develop and implement alternative routes and facilities. This will be initiated through community engagement to confirm any specific requirements or suggestions that they may have regarding any changes required.

Alternative routes may include using the opposite footpath or detours via other streets.

Alternative facilities may include footpath protections such as barriers or a speed reduction to ensure adherence to minimum lateral clearances to traffic or provision of temporary footpaths through the work area.

All temporary footpaths will be required to be:

- Clearly defined
- Signposted appropriately to indicate the direction of the footpath
- Constructed of an all-weather surface, free of trip hazards
- Designed to accommodate the type of pedestrians to be encountered within the area
- Provided with pram ramps, hand rails and street lighting where required
- The minimum width specified by the road authority
- Kept well maintained while in operation.
- Kept free from obstruction during the works
- Consider CPTED principles to maximise the visibility of footpaths for good surveillance, sight lines and orientation

In locations where pedestrians are diverted onto the existing roadways adjacent to traffic flows, additional treatments will be required to be implemented by the Traffic Manager to ensure adequate safety separation is provided and that it is clearly delineated.

A TGS/VMP will be developed by the Fulton Hogan for any alterations to existing pedestrian footpaths.

8.3.3. Cyclists

When planning construction activities, the project team will give consideration to the:

- Number of cyclists
- Type of cycling activity: school children, recreational, commuter, utility, touring or sport training
- Origin and destination points of the cyclists, and the connectivity of their routes
- Needs of vulnerable cyclists, such as young children under 12 years
- Proximity of cyclist generating developments, such as schools, universities, public transport terminals, shopping precincts etc.
- The travel speed of cyclists.

There are certain construction activities, particularly the bridgeworks, whereby pedestrian and cyclist access from Broomfield Street to Jackie Osmond Reserve will not be available. Provisions will be made to accommodate pedestrians and cyclists via a temporary diversion over Cabramatta Creek. Councils, the Western Sydney Cycling Network and Bicycle NSW and Liverpool BUG will be consulted prior to any cyclist path diversions.

8.3.4. Pedestrian and Cyclist Infrastructure Impacted by the Project

All pedestrian and cyclist infrastructure impacted by the project will;

- be replaced to a standard equal or better to that existing prior to impact;
- include appropriate signage and wayfinding measures; and
- be completed and ready for use before operation of the project

8.4. Oversized Vehicles

Oversized vehicles will use designated heavy vehicle routes or routes approved by TfNSW. Fulton Hogan will ensure oversized traffic movements are carried out, where possible, outside of peak road network periods, minimising the impacts on the road network.

Should oversized vehicles be required, Fulton Hogan will obtain necessary permits/approvals, where required. Where possible, major road networks such as Cabramatta Road East and the Hume Highway will be used for access to the site by heavy vehicles.

Oversized loads will be managed in accordance with the Chain of Responsibility (CoR) Plan for the project.

8.5. Road Occupancy & Licenses

Fulton Hogan will obtain a Road Occupancy License (ROL) or similar council approval for the works which impact traffic. Fulton Hogan will also obtain Speed Zone Authorisation (SZA) or similar council approval for any speed limit adjustments required for the works.

For oversize loads (such as bridge girders or precast drainage pits), Fulton Hogan will obtain the necessary approvals to accommodate for the safe passage and unloading of oversize deliveries.

Permits will be submitted to the relevant authorities with sufficient time to allow the authority to undertake their review without affecting the progress of the works.

9. Traffic Staging

Fulton Hogan's staging, sequencing and traffic management scheme, has been optimised to minimise impacts to the surrounding road network and the community. By limiting the number of major traffic route changes to a main one at the project outset, through to completion, maximises the effectiveness of the road occupancies reducing traffic interface and disruption. A project staging, traffic, cyclist and pedestrian impact assessment will be prepared in consultation with local Councils and ARTC for the delivery of the works. The traffic staging will require approval from the respective councils, and TfNSW as required.

No construction vehicle parking will be allowed on local roads without council consultation and approval, to eliminate any complaints from residents and the wider community. Fulton Hogan will plan and monitor the works in such a manner as to minimise queuing or idling on public roads.

The proposed traffic staging for the works is as follows:

1. Low-Impact Works: will be carried out under local, short-term traffic management arrangements under stop-go traffic control. Works will take less than two weeks each at a time including:
 - Permanent offset replacement parking works - Railway Parade (+7 spots)
 - Temporary at grade car parking if required
 - Minor clearing of trees on Broomfield Street
 - Potholing existing utility services, Survey and Investigations.
2. Project Works: Fulton Hogan's traffic management scheme allows for a long term installation of Broomfield Street Northbound detour via Cumberland Street, around the worksite. This detour captures Sussex Street Eastbound Underbridge which due to the existing low clearance of the underbridges only allows light vehicles in this direction. Northbound traffic now detoured, attempting to access the properties within the project site will be able to access from the detour onto Junction Street, Boundary Lane and Bridge Street (end of detour re-join Broomfield Southbound).

By providing this detour Fulton Hogan can maximise the worksite it possesses at any one time reducing traffic holds and impacts during day time operation, minimises night shift works and decreases the construction program duration. Similarly by maintaining this scheme, only undertaking lateral shifts and changing parking it will be more consistent and predictable for the road users.

With consideration given to the resident access on Broomfield Street, it is not feasible to provide Type F traffic barriers. Whilst Type F barriers would provide greater separation and protection of motorists and construction workers, the requirement to maintain driveway access at such short intervals deems this option not feasible. Alternatively, Fulton Hogan will provide plastic traffic barriers, such as ArmorZone or similar. This style of containment barrier will allow for section breaks to be provided across driveways so that resident access can be maintained during the works.

Consideration will be given to the temporary at-grade carpark in close proximity to the project site if required. The DPIE Planning & Assessment Report for the project noted that a maximum of 66 car spaces will be affected along Broomfield Street during construction. During initial construction stages the car parking available to residents and commuters around the project was monitored and found to be considerably more than what was recorded at the time of the DPIE Planning and Assessment Report. This is due to the construction of two new multi storey car parks in the area surrounding the car park, one in Cabramatta CBD and the other at Warwick Farm Train Station. Due to this additional availability the project completed a consistency assessment review of the parking availability and was able to impact up to 112 spaces on Broomfield Street in the short term without an impact on available commuter spaces. This will significantly reduce program duration for the works and result in an over-all lower impact to the surrounding community as the completed street can be handed back to the community for full public access sooner and noisy works durations are also reduced in the Broomfield St area. Fulton Hogan will continue to monitor and regularly assess the parking space usage within Broomfield St and the adjoining local roads generally within 800m of Cabramatta Station for the duration of the works. If the car spaces reach 75% of their capacity, or there are a series of community complaints, then Fulton Hogan will review the staging methodology and consider alternate arrangements, an offset parking solution and/or an alteration to the construction footprint.

Fulton Hogan will undertake periodic inspections and monitoring of Broomfield St and adjoining local roads during construction, minimum weekly. The inspection will tally the amount of car spaces occupied on Broomfield St and adjoining roads to ensure that sufficient capacity is maintained to accommodate commuter car parking demand during construction. Fulton Hogan will complete a checklist during each inspection, and provide a summary of the inspections for inclusion within the monthly client report. Fulton Hogan will use the findings from each inspection to determine if the 75% occupancy of car spaces on Broomfield St and adjoining local roads generally within 800m of Cabramatta station is maintained.

Fulton Hogan will also maintain photographic records of the inspections and adjoining road networks, these can be provided upon request.

9.1. Broomfield Street Civil Works

The Broomfield St civil works can be broken down into 3 stages, those being;

- Stage 1 – Sussex St underbridge – Junction St
- Stage 2 – Junction St to Boundary Lane
- Stage 3 – Boundary Lane to Bridge St

Figure 2 below provides an overview of the breakdown of Broomfield St;



Figure 2: Breakdown of Broomfield St Civil Stages

9.1.1. Cross Sections During Construction

The civil works will be staged in such a manner as to minimise the disruption to residents, through traffic and parking during construction. Certain activities such as the stormwater drainage installation will require greater separation between the work area and through traffic; Fulton Hogan will alternate configurations during the works to accommodate for the required separation.

Fulton Hogan will maintain resident driveway access throughout the project, this will be in the form of temporary fill being placed into the pavement box-out, or the installation of steel plates. There will be intermittent periods for works such as drainage trenching where only limited access will be available during a work shift. This will be communicated to the residents before any access limitations are had. There are certain trades such as the subgrade preparation whereby a temporary driveway access will be provided by way of steel plate or gravel placement. Temporary arrangements that are left in place during nonworking periods will be made safe prior to the completion of each shift. Residents and affected properties will be consulted in accordance with the project Communications Strategy.

The first configuration includes for southbound parking and a through lane, and the second includes for through traffic only. These will apply for both the drainage and pavement widening works to the east of Broomfield Street, and the retaining wall and shared path works to the west of Broomfield Street. Consideration will be given to maintaining the existing angled parking on Broomfield St west and this will be subject to the independent RSA.

Cross sections of the drainage and pavement works to east of Broomfield St can be seen in the figures below. Figure 3 will be used when additional working space and separation is required for activities such as drainage works, and Figure 4 will be used for activities such as pavement and finishing works

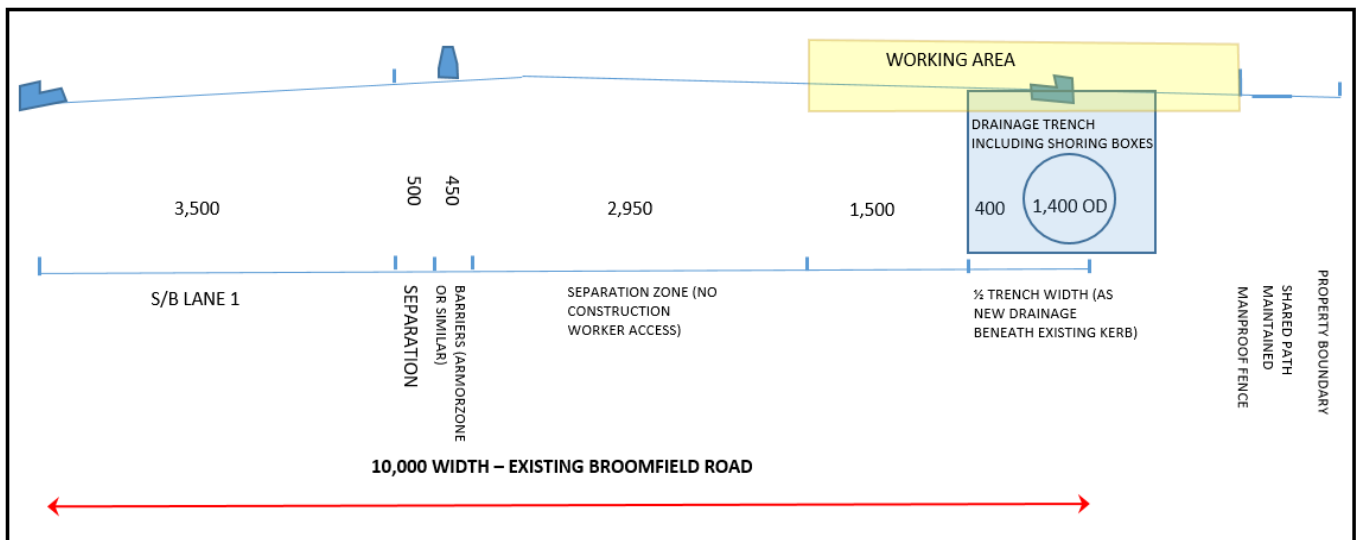


Figure 3: Cross Section Configuration 1 Broomfield St

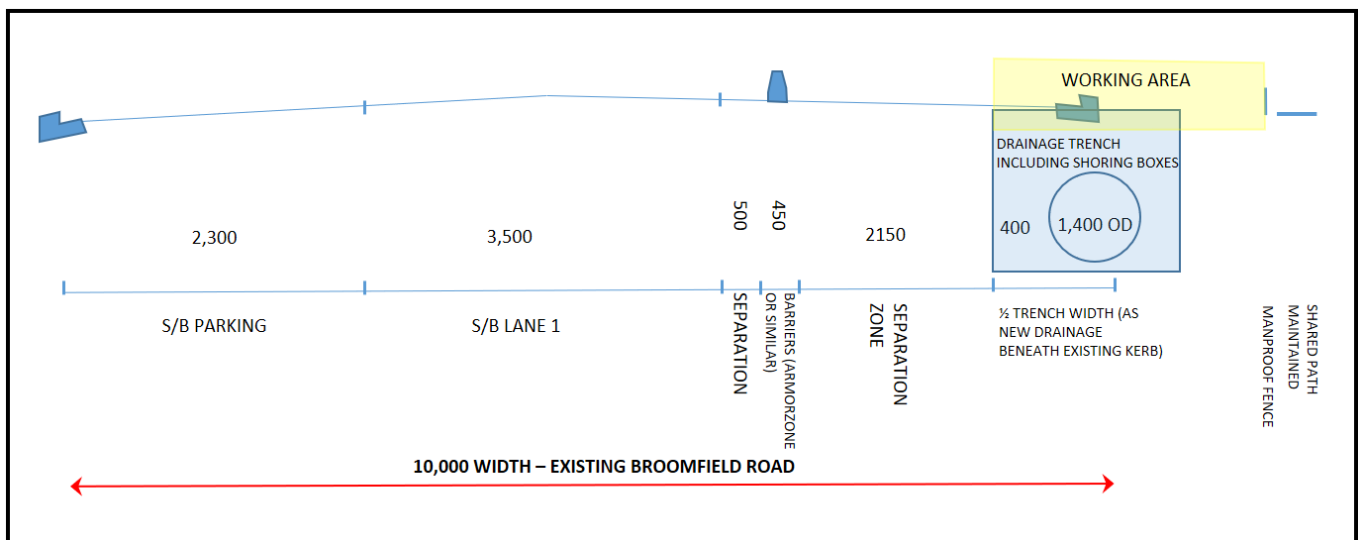


Figure 4: Cross Section Configuration 2 Broomfield St

Cross sections of the retaining wall and shared path works to west of Broomfield St can be seen in the figures below. Figure 5 will be used when additional working space and separation is required for activities such as retaining wall construction, and Figure 6 will be used for activities such as finishing works

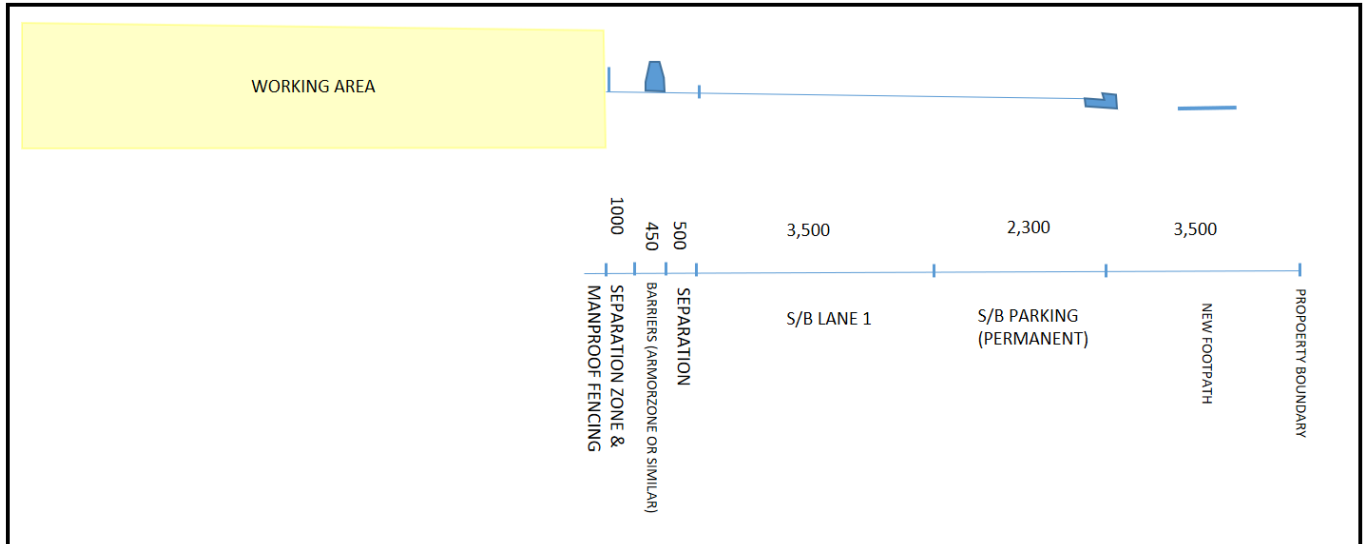


Figure 5: Typical Cross Section of Broomfield St Stage 2 Configuration 1

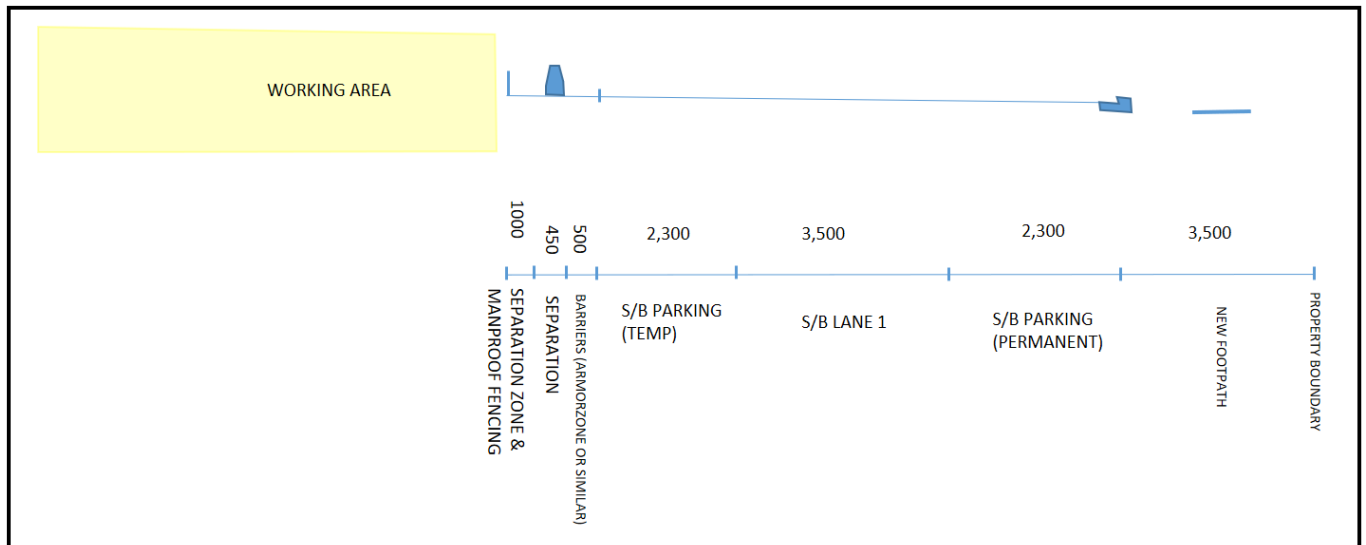


Figure 6: Typical Cross Section of Broomfield St Stage 2 Configuration 2

9.1.2. Eastern Broomfield St Works

Existing angled parking Broomfield western kerb is to be removed. This allows for Southbound through traffic access, whilst providing a safe separation zone between the traffic and the work site. The Southbound lane (3.5m) gets shifted to west. This stage allows the construction of the utilities adjustments, drainage and pavement widening to the East of Broomfield Street, from the underbridge to Junction St.

The drainage sections which cross Sussex Street will require multiple shifts whereby access in and out of Sussex Street in both directions will be limited. This will be completed in consultation with council and the local residents, with sufficient notice being provided to all stakeholders.

The traffic devices will be adjusted accordingly as the works progress north up Broomfield St. This will be done in accordance with the project TGSs. Adequate advance warning and delineation will be provided to residents and through traffic of any changes to the alignments of the work site and travel lanes.

9.1.3. Western Broomfield St Works

Involves the traffic switch moving traffic from western side onto the newly constructed resident side south of Junction Road. In the completed and switched area, parallel parking is in the permanent locations on the eastern kerb line. The shared path is detoured to the eastern footpath as a pedestrian route. A Cyclist detour has been put in place to manage cyclists around the construction site. The western works site allows the removal of redundant stormwater, construction of new retaining wall/rail corridor boundary. Bridge Street to Junction Street Eastern parking closed – Junction Street to Sussex Street Western Parking is closed.

As the civil works progress north, the parking between Junction and Bridge Streets will be closed. This will provide an increased site footprint to the northern section of Broomfield St, which is required for the retaining and noise wall construction activities.

Rail corridor access will be maintained at Broomfield St at approximately 32km320. Temporary parking will be provided to the south of the access on the west of Broomfield, and permanent parking will be provided to the east. This traffic stage will be left in place until the road completion and traffic switched onto the completed works at the completion of Broomfield Street works.

9.2. Bridge Works, Track Works and Southern Civil Works

Access to the bridge and southern civil works will be had from the east of the permanent works. Vehicles and deliveries will access the work area from the main compound as a priority. Broomfield Road will be the secondary option for instances where access through the compound is not feasible. The rail works will be the same, a detailed breakdown of the rail access requirements is addressed in a separate plan.

Some bridge activities will require a temporary full closure of Sussex St. Vehicles will not be permitted to use the underbridge and a detour will be in place. This includes for activities such as bridge piling and girder installation. This will be communicated well in advance, and a TGS will be provided as per Section 7 of this plan.

Activities that required large working areas such as heavy lifts may require a temporary closure of the pedestrian through access. This will be communicated in accordance with Section 8.3 of this plan.

During the bridge works, there will be periods whereby pedestrian and cyclist access from Broomfield Street to Jacquie Osmond Reserve will not be available. Fulton Hogan will notify the relevant authorities 3 months prior to any closure. A cyclists and pedestrian management plan will be provided to all pertinent parties for review and acceptance prior to any closure.

Figure 7 below demonstrates the general arrangement that will be provided for the Southern works. Access to the work front will be provided from the site compound, by doing so Fulton Hogan are able to minimise impact on the surrounding residents and businesses.



Figure 7: General Arrangement for Southern Works

10. Site Compound

Fulton Hogan's site compound will be located within the Western footprint of the existing Jacquie Osmond Reserve, Warwick Farm. Public road access will be via the Hume Highway and Sappho Road for all vehicles, in accordance with consistency assessment CA-CLP-04. Considerations related to this CA require project related impacts on Hume Highway/Sappho Road intersection to remain within the Level of Service category B and an average wait time of 28 seconds or less. This will be measured via an initial count of vehicles exiting JOR in afternoon peak and comparison against an assumed target volume of 37 project vehicles per hour using the intersection. Any identified levels above this or reports of a perceived impact will result in immediate measures to reduce the impact, such as diversion through Stations St or staggered departures from JOR. An overview of the site compound can be seen in Figure 8.

Consultation will be undertaken with council, the adjoining businesses and residents, and the relevant sporting associations affected by the site compound and access. The consultation process will be undertaken in accordance with Communication Strategy. Fulton Hogan will liaise with Liverpool City Council and the relevant sporting associations to coordinate access, especially over weekends, during activities such as the bridge construction works, as to minimise the potential loss of informal parking to JOR.

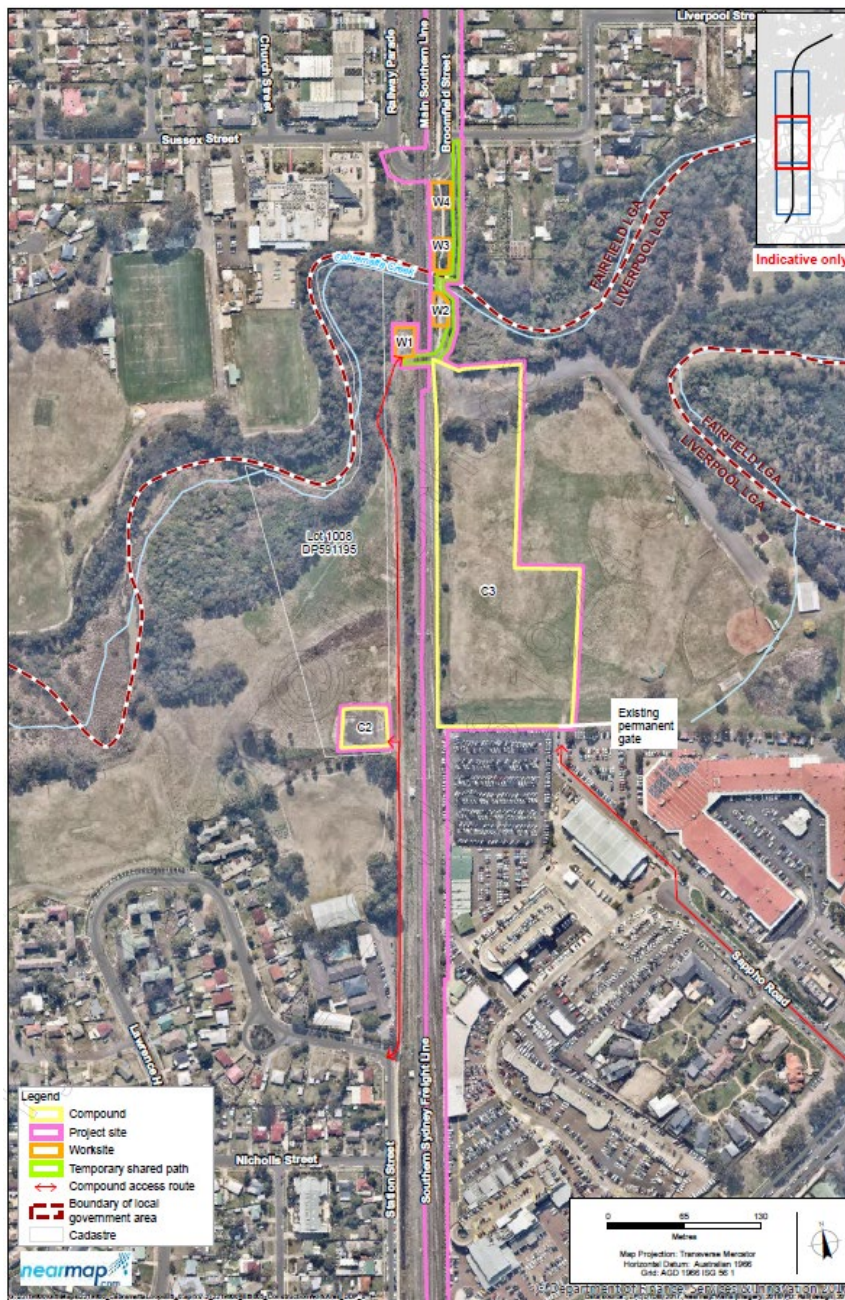


Figure 8: Potential Construction Ancillary Facility Sites C2 and C3 Identified in the EIS (p7.5)

The site compound will include for a turning head, which will minimise reversing movements of heavy vehicles. Fulton Hogan will provide and maintain safe access into and out of the site compound, driveway, haul roads and access roads for the duration of the project. The access to Jacquie Osmond Reserve from Sappho Road will be shared with council, this can be seen in Figure 9. Fulton Hogan will make good the access road between Station St and Jacquie Osmond Reserve before establishment of the compound, this will be for the use of both public and construction vehicles.

Prior to decommissioning the site compound and haul roads, Fulton Hogan will reinstate the adjoining public roads affected by the site compound to a suitable standard for ongoing public access, and will be completed in consultation with council. The access road from Station St to JOR will be graded and resheeted prior to project completion.

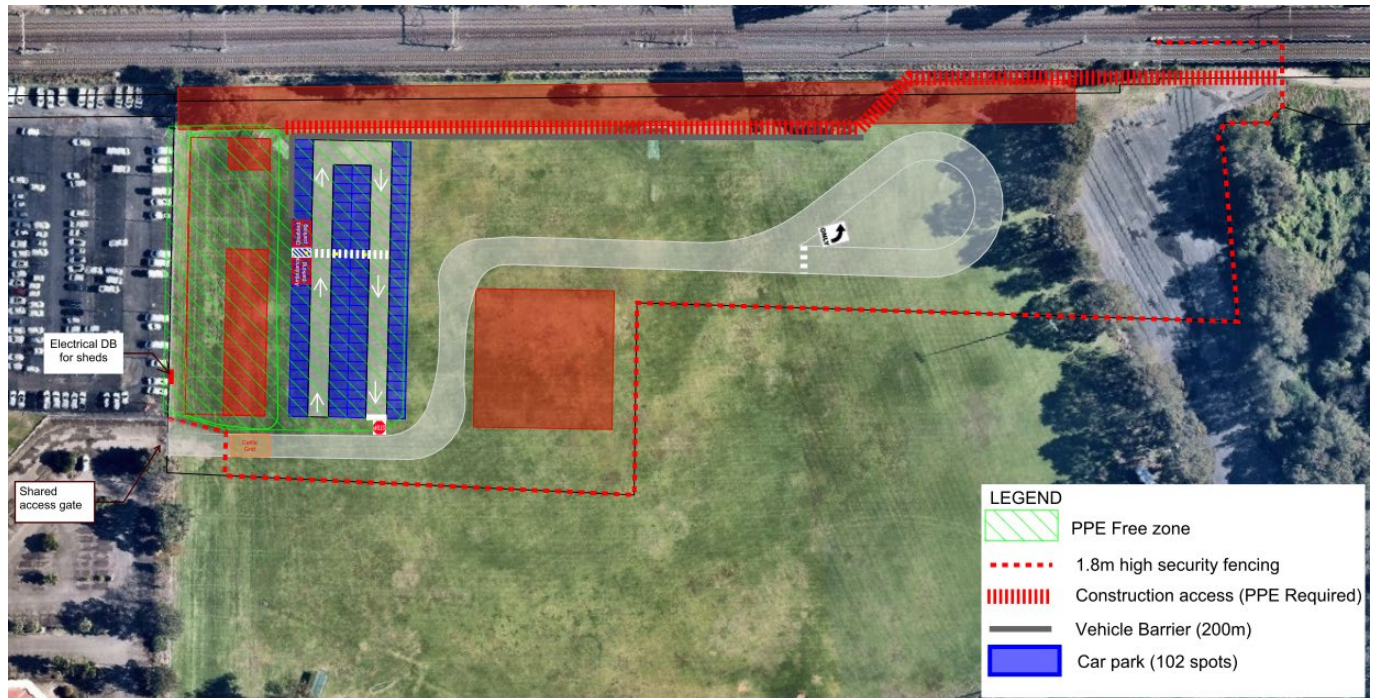


Figure 9: Site Compound General Layout

10.1. Worker Parking Strategy

Construction vehicles will be accommodated within the works area as far as feasible, and carpooling will be encouraged from the compound to the work area, dependant on any Health directives or restrictions. There will be no construction vehicle parking on Broomfield St during the works except within the working areas. Traffic volumes will be monitored by the Fulton Hogan traffic manager to ensure that construction vehicles are not taking up commuter parking spaces.

The general layout of Fulton Hogan's compound can be seen in Figure 9. All vehicles that are required for construction worker access, but are not required as part of the construction activities will remain in the compound during each shift. The site compound access and parking facilities will have sufficient capacity to not impact on the local road networks. Additionally, employees will be encouraged to utilise public transport if possible.

11. Compliance Management

11.1. Roles and Responsibilities

Fulton Hogan's Project Team organisational structure and overall roles and responsibilities are outlined in Section 4.1 of the CEMP. Specific responsibilities for the implementation of environmental controls are detailed in Section 4 of this TTMP.

11.2. Training

All employees, subcontractors and utility staff working on site will undergo site induction training relating to traffic and transport management issues, including:

- requirements of this TTMP
- relevant legislation
- roles and responsibilities for traffic and transport management.
- Worker parking, property access, haul routes and minimising movements during school hours

Further details regarding staff induction and training are outlined in Chapter 5 of the CEMP.

11.3. Complaints

Complaints will be recorded and addressed in accordance with Section 6.2.3 of the CEMP and the Communication Strategy (CS).

11.4. Inspections and Monitoring

Regular inspections and monitoring of sensitive areas and activities with potential to impact traffic and transport will be undertaken during construction as documented in Sections 8.1 and 8.2 of the CEMP respectively. This will ensure that issues requiring management (including cumulative impacts) are appropriately managed.

11.5. Auditing

Auditing (both internal and external) will be undertaken to assess the effectiveness of environmental mitigation measures, compliance with this TTMP, ARTC specifications and other relevant approvals, permits and licences. Auditing requirements are detailed in Section 8.4 of the CEMP.

11.6. Reporting

General reporting requirements and responsibilities are documented in Chapter 9 of the CEMP.

11.7. Non-conformances

Non-conformances will be dealt with and documented in accordance with Chapter 10 of the CEMP.

12. Review and Improvement of TTMP

The TTMP will be reviewed to ensure compliance with legislative requirements and its suitability and effectiveness for the project.

The review may be in the form of:

- A formal management review
- A second party audit, and/or
- An inclusion as a separate item at a site meeting.

The Environmental Manager may review and update the TTMP more regularly where:

- Significant changes in construction activities occur
- Where targets are not being achieved, or
- In response to audits and non-conformance reports.

Any changes to the TTMP will be approved by the ER and made in accordance with the process outlined in Section 1.6 of the CEMP.