

JHCPB Joint Venture

Construction Environmental Management Plan

RIC-JHC-MPL-00-PL-250-001

Project	Design and Construction of Rozelle Interchange Project
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List of emergency and key contacts

Position	Name	Phone
EPA pollution hotline	N/A	131 555
Fire and Rescue NSW	N/A	000 (for pollution incidents that present an immediate threat to human health or property) 1300 729 579 (for pollution incidents that do not present an immediate threat to human health or property)
The Ministry of Health	N/A	Camperdown Public Health Unit 02 9515 9420 (working hours) 02 9515 6111 (after hours)
SafeWork NSW	N/A	131 050
Inner West Council	N/A	02 9392 5000
24 hour community information line	N/A	1800 660 248
JHCPB Environment and Sustainability Manager	Charles Scarf	0438 247 725
JHCPB Project Director	Steven Keyser	0422 009 396
Environmental Representative	Cameron Weller	0428 271 496
Roads and Maritime Representative	Tarnjit Chahal	02 8588 5005
TfNSW Environmental Representative	Peter Morrall	0448 072 528

Glossary / Abbreviations

Abbreviations	Expanded text
AA	Acoustics Advisor
ACHMP	Aboriginal Cultural Heritage Management Plan
AQMP	Air Quality Management Plan
ASS	Acid Sulfate Soils
CEMP	Construction Environmental Management Plan
CoA	Condition of Approval
Compliance audit	Verification of how implementation is proceeding with respect to a CEMP (which incorporates the relevant Approval conditions)
Construction	<p>As defined in SSI 7485 Infrastructure Approval, includes all physical work required to construct the CSSI, other than the following low impact work:</p> <ol style="list-style-type: none"> a. survey works including carrying out general alignment survey, installing survey controls (including installation of global positioning system (GPS)), installing repeater stations, carrying out survey of existing and future utilities and building and road dilapidation surveys; b. investigations including investigative drilling and excavation; c. the erection or removal of demountable buildings at ancillary facilities in approved locations; d. treatment of contaminated sites subject to the recommendations of a Site Contamination Report prepared in accordance with Condition E181; e. clearing of vegetation, as identified in the EIS and Submissions and Preferred Infrastructure Report; f. installation of mitigation measures including noise (excluding acoustic sheds), erosion and sediment controls and temporary exclusion fencing for sensitive areas; g. property acquisition adjustment works including installation of property fencing; h. low impact utility works defined and undertaken, in accordance with the approved Utility Management Strategy required under Condition E140; i. establishing minor construction ancillary facilities in accordance with Condition C24; j. archaeological testing under the Code of practice for archaeological investigation of Aboriginal objects in NSW (DECCW, 2010) or archaeological monitoring undertaken in association with [a]-[i] above to ensure that there is no impact on heritage items; k. other activities determined by the ER to have minimal environmental impact which may include construction of minor access roads, temporary relocation of pedestrian and cycle paths and the provision of property access including access and egress to construction ancillary facilities; and l. maintenance of existing buildings and structures required to facilitate the carrying out of the CSSI. Where heritage items, or threatened species, or threatened ecological communities (within the meaning of the Biodiversity Conservation Act 2016) are adversely affected or potentially adversely affected by any low impact work as defined in (a) to (l) above, that work is construction, unless otherwise determined by the Secretary in consultation with OEH or DPI Fisheries (in the case of impact upon fish, aquatic invertebrates or marine vegetation).

Abbreviations	Expanded text
	Construction does not include site establishment works where such works are included as part of a Site Establishment Management Plan approved under Condition C22.
DDMP	Dust Deposition Monitoring Program
DPIE	Department of Planning, Industry and Environment
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)
EEC	Endangered Ecological Community
EIS	WestConnex M4-M5 Link Environmental Impact Statement
EMM	Environmental Management Measure as outlined in the project EIS documentation.
EMS	Environmental Management System
EMS, the	John Holland's Environmental Management System
Environmental aspect	Defined by AS/NZS ISO 14001:2015 as an element of an organisation's activities, products or services that can interact with the environment.
Environmental impact	Defined by AS/NZS ISO 14001:2015 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.
Environmental incident	An unexpected event that has, or has the potential to, cause harm to the environment and requires some action to minimise the impact or restore the environment.
Environmental objective	Defined by AS/NZS ISO 14001:2015 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve.
Environmental policy	Statement by an organisation of its intention and principles for environmental performance.
Environmental Representative	A suitably qualified and experienced person independent of project design and construction personnel employed for the duration of construction. The principal point of advice in relation to all questions and complaints concerning environmental performance.
Environmental target	Defined by AS/NZS ISO 14001:2015 as a detailed performance requirement, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.
EP&A Act	Environmental Planning and Assessment Act 1979 (NSW)
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
EPL	Environment Protection Licence
ESCP	Erosion and Sediment Control Plan
EWMS	Environmental work method statement
FFMP	Flora and Fauna Management Plan
GWMP	Groundwater Management Plan
Hold point	A verification point that prevents work from commencing prior to approval
Iron Cove Link	A tunnel connection between the Anzac Bridge and Victoria Road, east of Iron Cove Bridge
JHCPB	John Holland CPB Contractors Joint Venture
Minister, the	Minister of the NSW Department of Planning and Environment (or delegate)
NAHMP	Non-Aboriginal Heritage Management Plan
NML	Noise management level
Non-compliance	Failure to comply with the requirements of the Project approval or any applicable licence, permit or legal requirements

Abbreviations	Expanded text
Non-conformance	Failure to conform to the requirements of Project system documentation including this CEMP or supporting documentation
NRAR	Natural Resources Access Regulator, which is an independent regulator responsible for the compliance and enforcement of water regulation in NSW. The NRAR took over these functions from DPI Water and Water NSW and became operational on 30 April 2018.
NVMP	Noise and Vibration Management Plan
OEH	Office of Environment and Heritage
PESCP	Progressive Erosion and Sediment Control Plan
PIRMP	Pollution Incident Response Management Plan
POEO Act	Protection of the Environment Operations Act 1997 (NSW)
Project	Design and Construction of the Rozelle Interchange Project
REMMs	Revised environmental management measures as outlined in the Project SPIR.
RFP	Request for Proposal
RMS	Roads and Maritime Services, now Transport for NSW
ROL	Road occupancy licence
Rozelle Interchange	An interchange at Lilyfield and Rozelle, including a connection to the proposed future Western Harbour Tunnel and Beaches Link project
SAP	Sensitive Area Plan
SEARs	Secretary's Environmental Assessment Requirements
Site establishment works	<p>Activities undertaken to establish a construction ancillary facility so that it is able to be used to support the construction of the CSSI, including demolition of existing structures on the site, erection of site fencing / hoarding, provision of utility services to the site, site levelling, provision of site access, erection of demountable buildings, provision of hardstand areas, and erosion and sedimentation controls.</p> <p>However, site establishment works do not include:</p> <p>(a) piling (except for piling required for the erection of noise barriers around construction compounds); or</p> <p>(b) the erection of acoustic sheds at construction compounds including the hardstand area on which it will be erected; or</p> <p>(c) establishing tunnel shafts/dives.</p>
SPIR	M4-M5 Link Submissions and Preferred Infrastructure Report
SSWMP	Soil and Surface Water Management Plan
TTAMP	Traffic and Transport and Access Management Plan
TfNSW	Transport for NSW (nee. Roads and Maritime Services)
UMS	Utilities Management Strategy
WMP	Waste Management Plan

1. Introduction

1.1. Background

WestConnex is one of the NSW Government's key infrastructure projects which aims to ease congestion, create jobs and connect communities. Together with the other components of the WestConnex Program of Works and the proposed future Sydney Gateway, the WestConnex M4-M5 Link will facilitate improved connections between western Sydney, Sydney Airport and Port Botany and south and south-western Sydney, as well as better connectivity between the important economic centres along Sydney's Global Economic Corridor and local communities (refer to Figure 1). Due to its importance, the WestConnex M4-M5 Link project was declared to be critical state significant infrastructure (CSSI) by the Minister for Planning on 15 August 2017.

This Construction Environmental Management Plan (CEMP) has been prepared in accordance with the Conditions of Approval which were granted to the Project on 17 April 2018, as well as subsequent Approved Modification Reports.

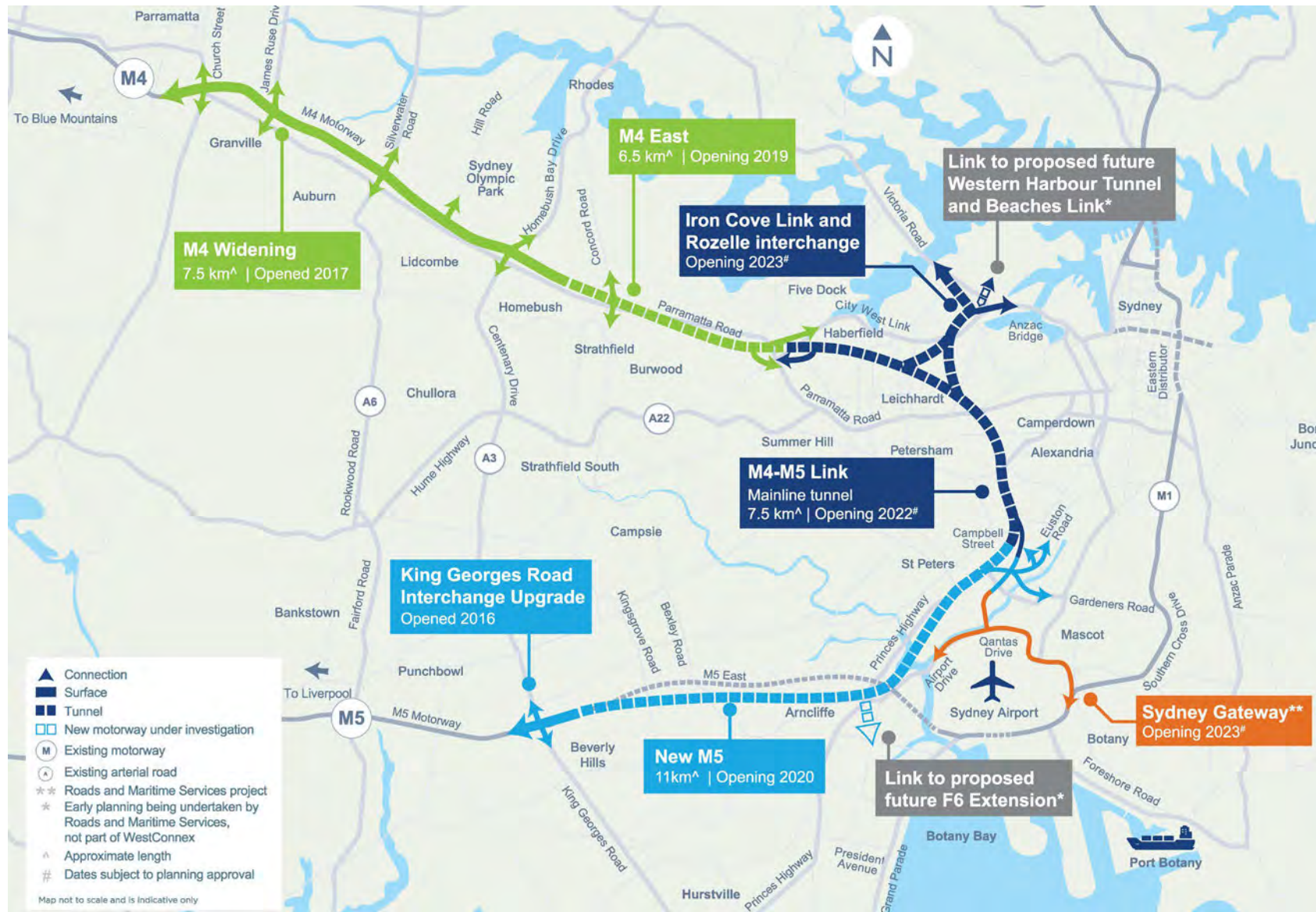
The WestConnex M4-M5 Link is being delivered in two stages:

- Stage 1, the Mainline Tunnels which includes the construction and operation of the M4-M5 Link Tunnel between the New M4 at Haberfield and the New M5 at St Peters, and
- Stage 2, the Rozelle Interchange, which will connect the Stage 1 mainline tunnels to the surrounding surface road network and includes the construction and operation of (see Figure 1)
 - › An interchange at Lilyfield and Rozelle, including a connection to the proposed future Western Harbour Tunnel and Beaches Link project, and
 - › A tunnel connection between the Anzac Bridge and Victoria Road, east of Iron Cove Bridge.

This Construction Environmental Management Plan (CEMP) applies only to Stage 2 of the M4-M5 Link, the Rozelle Interchange Project (the Project), which is being managed by Roads and Maritime Services (RMS).

A detailed description of the Project is provided in Chapter 5 of the WestConnex M4-M5 Link Environmental Impact Statement (EIS).

Figure 1 Overview of related projects



1.2. Purpose of this CEMP

This CEMP and sub-plans have been prepared to outline and describe how John Holland CPB Contractors Joint Venture (JHCPB) will, during the construction of the Project, comply with the NSW Minister for Planning's Conditions of Approval (CoA). Additionally, it outlines how JHCPB will minimise environmental risks and achieve environmental outcomes on the Project by providing a structured approach to ensure appropriate revised environmental management measures (REMMs) and controls are implemented.

This CEMP is the overarching document in the Environmental Management System (EMS) for the Project that includes a number of management documents. It is applicable to all staff and sub-contractors associated with the construction of the Project.

Implementing the CEMP and sub-plans effectively will enable the Project to meet the requirements of the Minister's CoA, the Environment Protection Licence (EPL) and REMMs (see Annexure A).

The CEMP has been prepared in accordance with:

- RMS QA Specifications G36, G38 and G40,
- The Project's Conditions of Approval (CoA),
- The Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004),
- John Holland's EMS, which is the EMS for this Project, and
- AS/NZS ISO 14001.

This CEMP will:

- Describe the Project, including the construction activities to be undertaken and their scheduling during construction,
- Identify the environmental obligations applicable to the Project and the hazards and risks associated with the works,
- Outline the environmental management policies, guidelines and principles to be followed in the construction of the Project,
- Describe the roles and responsibilities of personnel in relation to environmental management during construction of the Project,
- Outline specific mitigation measures and controls to be applied on site to avoid or minimise negative environmental impacts and prevent unauthorised environmental harm,
- Provide specific mechanisms for compliance with the applicable policies, approvals, licences, permits, consultation agreements and legislation, and
- Outline a monitoring and review regime to check the adequacy of controls as they are implemented during construction.

The requirements of the Planning Approval relevant to this plan are shown in Table 1 CoA requirements for CEMP, with a cross-reference to indicate where each requirement is addressed within this CEMP. Agency consultation requirements for each sub-plan are outlined in Annexure E.

This CEMP is the overarching document in the environmental management system for the Rozelle Interchange. It is applicable to all staff and sub-contractors associated with the construction of the Project.

Additional conditions of relevance to work under the CEMP, and where this CEMP addresses the condition, is included in Annexure H.

Table 1 CoA requirements for CEMP

CoA No.	Requirement	Reference	How Addressed
C1	A Construction Environmental Management Plan (CEMP) must be prepared in accordance with the Department's <i>Guideline for the Preparation of Environmental Management Plans</i> (DIPNR, 2004) to detail how the performance outcomes, commitments	This document Annexure A	This CEMP has been prepared in accordance with the Department's Guideline for the Preparation of

CoA No.	Requirement	Reference	How Addressed
	and mitigation measures specified in the documents listed in Condition A1 will be implemented and achieved during all stages of construction.		Environmental Management Plans (DIPNR, 2004), which is evidenced in Annexure A.
C2	The CEMP must provide:	-	-
C2(a)	a description of activities to be undertaken during construction (including the scheduling of construction and figures depicting the site layouts of the construction ancillary facilities);	Section 1.3	This CEMP details the activities and scheduling to be undertaken during construction in Section 1.3. This includes site layouts of the construction ancillary facilities.
C2(b)	details of environmental policies, guidelines and principles to be followed in the construction of the CSSI;	Section 1.5 Annexure A and Annexure C	The Project environmental policy is provided in Annexure C and the overarching environmental management system (including the principles and policies to be followed) are detailed in Section 1.5. All relevant guidelines and legislation are outlined in Annexure A.
C2(c)	a schedule for compliance auditing;	Section 3.9.3 Compliance Tracking and Environmental Audit Program (CTEAP)	A schedule for compliance auditing is referenced in Section 3.9.3. Compliance auditing is also detailed in the Project CTEAP.
C2 (d)	a program for ongoing analysis of the key environmental risks arising from the activities described in subsection (a) of this condition, including an initial risk assessment undertaken before the commencement of construction of the CSSI;	Section 3.2.1 Section 3.12 Annexure B	An environmental risk assessment has been undertaken for the Project as described in Section 3.2.1, the results of which are included in Annexure B. Ongoing environmental risk assessments for the Project will be undertaken through quarterly management reviews described in Section 3.12.
C2(e)	details of how the activities described in subsection (a) of this condition will be carried out to: <ul style="list-style-type: none"> (i) meet the performance outcomes stated in the documents listed in Condition A1, and (ii) manage the risks identified in the risk analysis undertaken in subsection (d) of this condition; 	Section 4 and the CEMP Sub-plans	Environmental aspect specific performance outcomes and risk management are addressed and detailed in the CEMP sub-plans (Appendices B1-B9).
C2(f)	an inspection program detailing the activities to be inspected and frequency of inspections;	Section 3.9.1	Inspections will be undertaken in accordance with the details provided in Section 3.9.1.
C2(g)	a protocol for managing and reporting any: incidents, and	Section 3.8 <i>Annexure G</i>	Section 3.8 details the protocols to follow in the management and reporting

CoA No.	Requirement	Reference	How Addressed
	non-compliances with this approval and with statutory requirements;		of incidents and non-compliance. Furthermore, the Environmental Incident Classification and Reporting Procedure in Annexure G will be followed in the case of any incidents or non-compliances.
C2(h)	procedures for rectifying any non-compliance with this approval identified during compliance auditing, incident management or at any time during construction;	Section 3.10	Section 3.10 details procedures for rectifying non-compliances with the terms of the approval.
C2(i)	a list of all the CEMP Sub-plans required in respect of construction, as set out in Condition C4. Where staged construction of the CSSI is proposed, the CEMP must also identify which CEMP Sub-plan applies to each of the proposed stages of construction;	Section 4	The CEMP sub-plans required for the Project are listed in the Table of Contents and Section 4 of this CEMP.
C2(j)	a description of the roles and environmental responsibilities for relevant employees and their relationship with the ER;	Section 3.3.1	Section 3.3.1 details the roles and environmental responsibilities of key Project employees and their relationship with the ER where relevant.
C2(k)	an outline of the training and induction for employees, including contractors and sub-contractors, in relation to environmental and compliance obligations under the terms of this approval; and	Section 3.5	An outline of the training and induction programs for all project employees is provided in Section 3.5.
C2(l)	the process for periodic review and update of the CEMP and all associated plans and programs.	Sections 3.12 and 3.13	The CEMP and its associated plans and programs will be reviewed and updated in accordance with the details provided in Sections 3.12 and 3.13.
C3	The CEMP must be endorsed by the ER and then submitted to the Secretary for approval no later than one (1) month prior to the commencement of construction, or where construction is staged no later than one (1) month prior to the commencement of that stage.	Section 2.2	This CEMP will be endorsed by the ER endorsement prior to submission to the Secretary for approval, at least one month prior to the commencement of construction.
C7	Any of the CEMP Sub-plans may be submitted to the Secretary along with, or subsequent to, the submission of the CEMP .	Section 2.2	The CEMP Sub-plans will be submitted for approval to DPIE with or subsequent to the final submission of the CEMP for DPIE approval.
C8	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Secretary. The CEMP and CEMP Sub-plans , as approved by the Secretary, including any minor amendments approved by the ER , must be implemented for the duration of construction. Where the CSSI is being staged, construction of that stage is not to commence until the relevant CEMP and CEMP sub-plans have been endorsed by the ER and approved by the Secretary.	Section 2.2	Construction will not commence until the CEMP and all CEMP Sub-plans have been approved by DPIE. The CEMP and all CEMP Sub-plans will be implemented for the duration of construction.

1.3. Project description

The Project involves the design and construction of the WestConnex M4-M5 Link Rozelle Interchange, which will connect the WestConnex M4-M5 Link Mainline Tunnels to the surrounding surface road network. It is located east of the Sydney CBD and crosses the suburbs of Annandale, Leichhardt, Lilyfield and Rozelle. The project is generally located within the City of Sydney and Inner West Council local government areas (LGAs). An overview of the project is shown in Figure 2

1.3.1. Key Project components

Table 2 below describes the key components of the Project (refer to Chapter 5 of the EIS).

Table 2 Key project components

Main Component	Description
Rozelle Interchange including connections to the proposed future Western Harbour Tunnel and Beaches Link project (refer to Section 5.3.2 and 5.3.5 of the EIS)	<p>A new interchange at Lilyfield and Rozelle that will connect the M4-M5 Link mainline tunnels with City West Link, Anzac Bridge, the Iron Cove Link and the proposed future Western Harbour Tunnel and Beaches Link.</p> <p>These connections will involve:</p> <ul style="list-style-type: none"> ▪ Tunnels that would allow for underground mainline connections between the New M4 and New M5 motorways and the proposed future Western Harbour Tunnel and Beaches Link (via the M4-M5 Link mainline tunnels), ▪ A dive structure and tunnel portals within the Rozelle Rail Yards, north of the City West Link/The Crescent intersection, and ▪ Entry and exit ramps that would extend north underground from the tunnel portals in the Rozelle Rail Yards to join the mainline connections to the proposed future Western Harbour Tunnel and Beaches Link.
Iron Cove Link (refer to Section 5.3.2 and 5.3.4 of the EIS)	<p>Twin tunnels that will connect Victoria Road near the eastern abutment of Iron Cove Bridge and Anzac Bridge. Underground entry and exit ramps will also provide a tunnel connection between the Iron Cove Link and the New M5/St Peters interchange (via the M4-M5 Link mainline tunnels).</p>
Rozelle surface works (refer to Section 5.6 of the EIS)	<p>These surface works will include:</p> <ul style="list-style-type: none"> ▪ Realigning The Crescent at Annandale, including a new bridge over Whites Creek and modifications to the intersection with City West Link, ▪ A new intersection on City West Link around 300 metres west of the realigned position of The Crescent, which would provide a connection to and from the New M5/St Peters interchange (via the M4-M5 Link mainline tunnels), ▪ Widening and improvement works to the channel and bank of Whites Creek between the light rail bridge and Rozelle Bay at Annandale, to manage flooding and drainage for the surface road network, ▪ Reconstructing the intersection of The Crescent and Victoria Road at Rozelle, including construction of a new bridge at Victoria Road, ▪ New and upgraded pedestrian and cyclist infrastructure, and ▪ Landscaping, including the provision of new open space within the Rozelle Rail Yards.
Iron Cove Link surface works (refer to Section 5.7 of the EIS)	<p>These surface works will include:</p> <ul style="list-style-type: none"> ▪ Dive structures and tunnel portals between the westbound and eastbound Victoria Road carriageways, to connect Victoria Road east of Iron Cove Bridge with the Iron Cove Link, ▪ Realignment of the westbound (southern) carriageway of Victoria Road between Springside Street and the eastern abutment of Iron Cove Bridge, ▪ Modifications to the existing intersections between Victoria Road and Terry, Clubb, Toelle and Callan Streets, and ▪ Landscaping and the establishment of pedestrian and cyclist infrastructure.
Motorway operation complexes (MOCs) (refer to Section 5.8.1 of the EIS)	<p>Three motorway operations complexes will be constructed:</p> <ul style="list-style-type: none"> ▪ Rozelle West (MOC2 or Rozelle Interchange Facilities Area), ▪ Rozelle East (MOC3 or Main Ventilation Facility), and ▪ Iron Cove Link (MOC4 or Iron Cove Ventilation Facility). <p>These motorway operations complexes can include substations, water treatment plants, ventilation facilities, offices, on-site storage and parking for employees.</p>

Main Component	Description
Ventilation systems (refer to Section 5.8.2 of the EIS)	Two ventilation facilities will be constructed: <ul style="list-style-type: none"> ▪ The Rozelle ventilation facility, and ▪ The Iron Cove Link ventilation facility. The ventilation systems will include ventilation supply and exhaust facilities, axial fans, ventilation outlets and ventilation tunnels.
Drainage and water treatment infrastructure (refer to Section 5.9 of the EIS)	Drainage infrastructure to collect surface and groundwater for treatment at dedicated facilities. Water treatment would occur at: <ul style="list-style-type: none"> ▪ An operational water treatment facility at Rozelle, ▪ The constructed wetland within the Rozelle Rail Yards, and ▪ Iron Cove Link.
Ancillary infrastructure and operational facilities (refer to Section 5.8 of the EIS)	This includes ancillary infrastructure and operational facilities for electronic tolling and traffic control and signage (including electronic signage).
Emergency access and evacuation facilities (refer to Section 5.3.3 of the EIS)	This includes pedestrian and vehicular cross and long passages and fire and life safety systems.
Utility works (refer to Section 5.10 of the EIS)	This includes protection and/or adjustment of existing utilities, removal of redundant utilities and installation of new utilities.

1.3.2. Construction sites

A number of temporary ancillary facilities will be required to support construction of the Project including the four main ancillary facilities which were assessed as part of the EIS and SPIR. Table 3 describes the temporary and permanent facilities and the construction activities that will occur at the four main construction ancillary facilities. Further detail of the construction activities is provided in Section 1.3.3.

Table 3 Project construction ancillary facilities

Ancillary facility	Primary use during construction	Temporary facilities	Permanent facilities
Rozelle civil and tunnel site (C5)	Construction of permanent ventilation facilities Construction of MOCs M02 and M03 Road header launch site Tunnelling and spoil management.	<ul style="list-style-type: none"> ▪ Site offices ▪ Staff and workforce amenities ▪ Stores and laydown ▪ Workshop/maintenance (construction site facilities) ▪ Tunnel launch and support ▪ Tunnel spoil management ▪ Temporary ventilation ▪ Temporary substations ▪ Parking. 	Ventilation facility Ventilation supply facility Substation MOCs M02 and M03 Workshop facilities/bulky equipment store Operational water treatment facility Fire pump room and water tanks.
The Crescent civil site (C6)	Support for general surface works, e.g. road realignment, bridge construction, works along Whites Creek.	<ul style="list-style-type: none"> ▪ Site offices ▪ Staff and workforce amenities ▪ Parking. 	None.
Victoria Road civil site (C7)	Support for general surface works, e.g. road reconstruction, bridge construction.	<ul style="list-style-type: none"> ▪ Site offices ▪ Staff and workforce amenities ▪ Store and laydown ▪ Workshop/maintenance (construction site facilities) 	None.
Iron Cove Link civil site (C8)	Support construction of the Iron Cove Link surface works Excavation of the initial sections of the Iron Cove Link tunnels Construction of a bioretention facility Construction of MOC M04.	<ul style="list-style-type: none"> ▪ Site offices ▪ Staff and workforce amenities ▪ Stores and laydown ▪ Workshop/maintenance (construction site facilities) ▪ Parking. 	Ventilation facility Substation MOC M04.
The Glebe Island Ancillary Facility	Support construction of the project by facilitating a laydown and assembly area.	<ul style="list-style-type: none"> ▪ Site offices ▪ Staff and workforce amenities ▪ Laydown ▪ Workshop/maintenance (construction site facilities) ▪ Parking 	None.

The establishment of the ancillary facilities prior to CEMP approval will be in accordance with the Site Establishment Management Plan (SEMP) prepared for the Project. Where a facility is to be established following the approval of the CEMP (or in instances where establishment of an ancillary facility is not yet complete prior to approval of the CEMP), establishment of those facilities will be completed in accordance with this CEMP and sub-plans. All facilities will be operated in accordance with this CEMP and sub-plans.

Additional minor ancillary facilities or changes to the approved ancillary facilities may also be required during construction. The Approval pathways for these additional or changed facilities are detailed in Annexure D.

1.3.3. Construction activities and sequence

Key construction activities of the Project are described in Table 4. The list is not exhaustive and some of these activities may be undertaken prior to construction as part of early works packages or site establishment activities. These early works packages and site establishment activities include activities that do not constitute 'construction' as defined in the CoA and will be managed in accordance with the SEMP or the Project Utilities Management Strategy (UMS) for utility works.

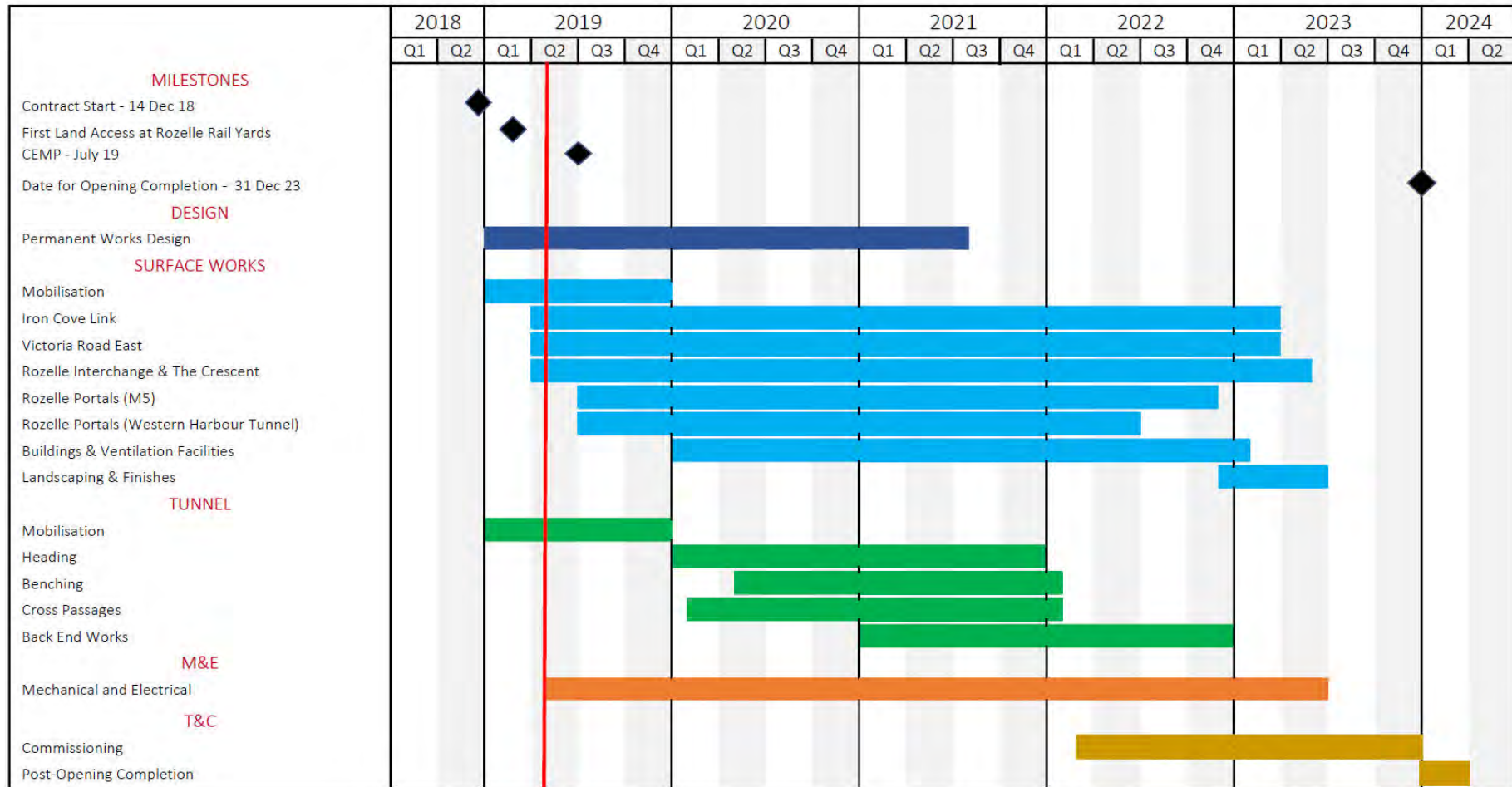
Table 4 Indicative construction activities

Component	Typical activities
Site establishment works (covered by the SEMP and UMS)	<ul style="list-style-type: none"> ▪ Demolish (non-heritage) buildings and structures, ▪ Vegetation clearing and removal (as identified in the EIS or SPIR), ▪ Install site fencing and hoarding, ▪ Adjust utilities within ancillary facility sites, ▪ Other low impact utility works, <ul style="list-style-type: none"> › Establish construction ancillary facilities and access, ▪ Erection of demountable buildings, ▪ Traffic management measures, ▪ Install safety and environmental controls including erosion and sedimentation controls, ▪ Provision of hardstand areas (except for areas associated with acoustic sheds), ▪ Establish temporary noise attenuation measures, ▪ Treatment of contaminated sites (subject to the recommendations of a Site Contamination Report), ▪ Installation of mitigation measures including noise (excluding acoustic sheds), erosion and sediment controls and temporary exclusion fencing for sensitive areas, ▪ Property acquisition adjustment works, including installation of property fencing, ▪ Establish temporary pedestrian and cyclist diversions, ▪ Archaeological testing under the <i>Code of practice for archaeological investigation of Aboriginal objects in NSW</i> (DECCW, 2010) or archaeological monitoring undertaken in association with the above activities above to ensure that there is no impact on heritage items, and ▪ Maintenance of existing buildings and structures required to facilitate the carrying out of the project.
Early construction activities (covered by the CEMP)	<ul style="list-style-type: none"> ▪ High impact utility works, ▪ Heritage salvage or conservation works (if required), ▪ Establish acoustic sheds and the hardstand area on which it will be erected, and ▪ Demolition of heritage items.
Tunnelling (covered by the CEMP)	<ul style="list-style-type: none"> ▪ Construct temporary access tunnels including shafts and dives, ▪ Excavate mainline tunnels, entry and exit ramps and associated tunnelled infrastructure and install ground support, ▪ Spoil management and haulage, ▪ Finishing works in tunnel and provision of permanent tunnel services, ▪ Test plant and equipment, and ▪ Construct sumps in tunnels as required.
Surface earthworks and structures (covered by the CEMP)	<ul style="list-style-type: none"> ▪ Vegetation clearing and removal, ▪ Topsoil stripping, ▪ Excavate new cut and fill areas, ▪ Construct dive and cut-and-cover structures, ▪ Install stabilisation and excavation support (retention systems) such as sheet pile walls, diaphragm walls and secant pile walls (where required), ▪ Construct required retaining structures, and ▪ Excavate new road levels.
Bridge works (covered by the CEMP)	<ul style="list-style-type: none"> ▪ Construct piers and abutments, ▪ Construct headstocks, ▪ Construct bridge decks, slabs and girders, and ▪ Demolish and remove redundant bridges.

Component	Typical activities
Drainage (covered by the CEMP)	<ul style="list-style-type: none"> ▪ Construct new pits and pipes, ▪ Construct new groundwater drainage system, ▪ Connect drainage to existing network, ▪ Construct water quality basins, constructed wetland, and bioretention facility and basin, ▪ Construct construction water treatment plants, ▪ Construct drainage channels, ▪ Construct spill containment basins, ▪ Construct onsite detention tanks, ▪ Adjustments to existing drainage infrastructure where impacted, ▪ Widening and naturalisation of a section of Whites Creek, and ▪ Demolish and remove redundant drainage.
Pavement (covered by the CEMP)	<ul style="list-style-type: none"> ▪ Lay select layers and base, ▪ Lay road pavement surfacing, and ▪ Construct pavement drainage.
Operational ancillary facilities (covered by the CEMP)	<ul style="list-style-type: none"> ▪ Install ventilation systems and facilities, ▪ Construct water treatment facilities, ▪ Construct fire pump rooms and install water tanks, ▪ Construct MOC buildings and ventilation facilities, ▪ Test and commission plant and equipment, ▪ Construct electrical substations to supply permanent power to the Project, and ▪ Install intelligent transport system infrastructure including communication and electrical utilities.
Finishing works (covered by the CEMP)	<ul style="list-style-type: none"> ▪ Line mark to new road surfaces, ▪ Erect directional and other signage and other roadside furniture such as street lighting, ▪ Erect toll gantries and other control systems, ▪ Construct pedestrian and cyclist paths, ▪ Carry out earthworks at disturbed areas to establish the finished landform, ▪ Carry out landscaping, ▪ Closure and backfill of temporary access tunnels (except where these are to be used for inspection and/or maintenance purposes), and ▪ Site demobilisation and preparation of the site for a future use.

Construction of the Project is planned to start in 2019, with completion planned for 2023. The total period of construction works is expected to be around four years. Refer to Figure 3 for an indicative construction program.

Figure 3 Indicative construction program



1.4. Scope of the CEMP

This CEMP and associated sub-plans cover the environmental management practices and procedures to be implemented for the operation of the construction ancillary facilities and all Project construction activities (refer to Section 1.3.3 and Figure 4). This CEMP shall be updated as necessary to ensure all components of the Project construction are covered.

All site establishment works that are for the purpose of establishing the construction ancillary facilities that are required prior to approval of this CEMP, will be managed in accordance with a standalone SEMP.

All low impact utility works (as defined by the UMS) required prior to the approval of this CEMP will be managed by the UMS. Once the CEMP is approved, low impact utility works nominated in the UMS may be managed by UMS or CEMP.

All high impact utility works are considered construction and will be managed through CEMP.

Once construction has finished, the operation of the Project will be managed through an Operational Environmental Management Plan (OEMP).

The M4-M5 Link Mainline Tunnels is managed separately under Mainline Tunnels specific management plans and programs.

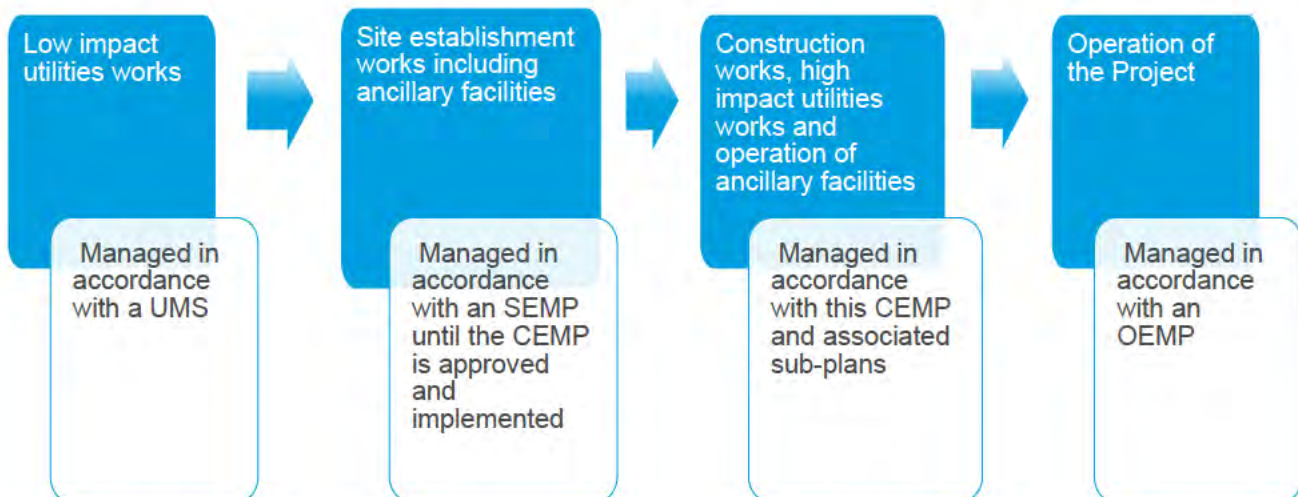


Figure 4 Scope of environmental management plans

1.5. Environmental Management System overview

1.5.1. Overview of Project Environmental Management System

The Project EMS (which is accredited to ISO 14001) is based on the John Holland EMS, tailored to satisfy Project-specific requirements. It provides a framework to ensure an integrated approach to meeting Project requirements and defines how JHCPB will minimise impacts to the environment. It comprises a combination of governance documentation, Project-specific management plans (including this CEMP), procedures and tools.

In accordance with the JHCPB Environmental Policy (see Annexure C), JHCPB will:

- Continually improve the EMS to enhance performance, such as through management review and CEMP revisions (see Sections 3.12 and 3.13), and
- Maintain third party certification of the EMS to ISO 14001 as independent verification of implementation and effectiveness.

1.5.2. Relationship between this CEMP and other EMS documents

The John Holland and project EMS contains policies, standards, manuals, plans, procedures, processes and other documents that enable the project to achieve its objectives through planned and controlled processes (refer to Figure 5).

This CEMP comprises one part of a suite of documents that form the Project EMS, comprising:

- Global mandatory requirements applied across all John Holland projects,
- John Holland Environment Management Manual,
- JHCPB Environmental Policy (provided at Annexure C),
- Project Construction Environment Management Plan, sub-plans, and the SEMP (refer to Sections 1.4 and 4), and
- John Holland and project environmental procedures, tools and knowledge.

Other Project plans that the CEMP interfaces with include the Project Management Plan, Construction Plan, Design Plan, Quality Plan, Project WHS Management Plan and other environmental management documents (e.g. plans, protocols, strategies, reports and programs) to ensure the Project CoA and REMMs are implemented (refer to Annexure E).

Table 1 outlines the sub-plans, sub-plan attachments and documents that most closely relate to the CEMP and form the CEMP framework, which is required to manage significant environmental hazards and other potential major impacts on the environment and community.

Figure 5 Relationship between CEMP and EMS

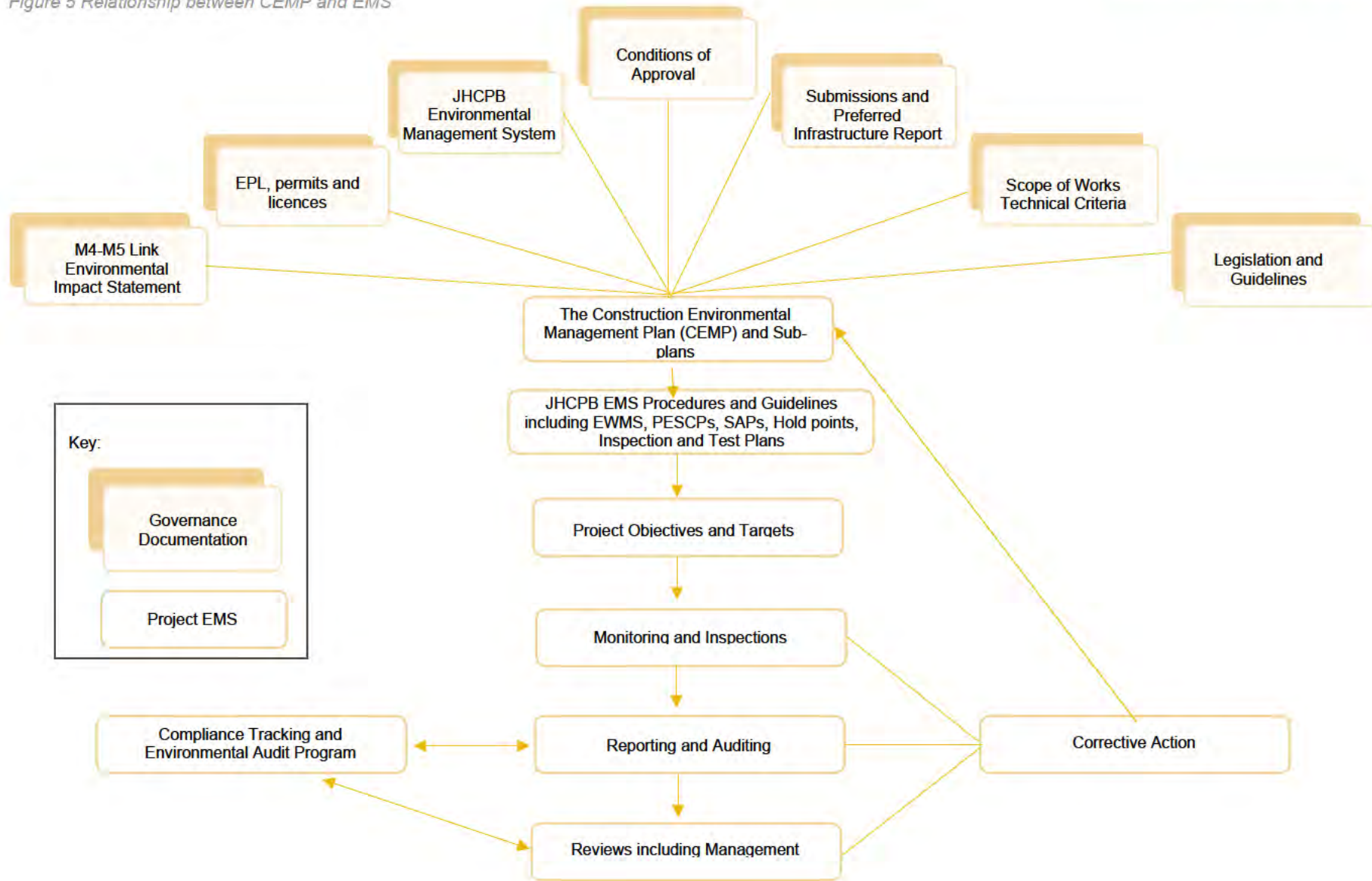


Table 5 CEMP sub-plan framework

CEMP sub-plans	Sub-plan attachments	Stand-alone documentation (linked to CEMP)
Traffic and Transport and Access Management Plan (TTAMP)	N/A	Communication Strategy Construction Parking and Access Strategy (also called the Car Parking Strategy) Pedestrian and Cycle Implementation Strategy (sub-plan to project Urban Design and Landscape Plan) Road Dilapidation Report/s Road Safety Audits
Noise and Vibration Management Plan (NVMP)	<ul style="list-style-type: none"> ▪ Noise Insulation Program ▪ Out-of-Hours Work Protocol ▪ Noise and Vibration Monitoring Program 	<ul style="list-style-type: none"> ▪ Blast Management Strategy ▪ Blast Monitoring Program ▪ Communication Strategy ▪ Monthly Noise and Vibration Reports ▪ Construction Noise and Vibration Impact Statements
Flora and Fauna Management Plan (FFMP)	<ul style="list-style-type: none"> ▪ Microbat Management Survey Method 	<ul style="list-style-type: none"> ▪ Tree Report ▪ Microbat Management Strategy
Air Quality Management Plan (AQMP)	<ul style="list-style-type: none"> ▪ Dust Deposition Monitoring Program 	<ul style="list-style-type: none"> ▪ N/A
Construction Soil and Surface Water Management Plan (SSWMP)	<ul style="list-style-type: none"> ▪ Surface Water Monitoring Program ▪ Contaminated Land Management Plan 	<ul style="list-style-type: none"> ▪ Flood Mitigation Strategy ▪ Unexpected Contaminated Land and Asbestos Finds Procedure ▪ Water Reuse Strategy ▪ Stormwater Drainage Report ▪ Erosion and Sediment Control Plans (ESCPs)
Groundwater Management Plan (GWMP)	<ul style="list-style-type: none"> ▪ Groundwater Monitoring Program 	<ul style="list-style-type: none"> ▪ Groundwater Modelling Report and Updated Groundwater Modelling Report ▪ Settlement Monitoring Program ▪ Geotechnical Model
Non-Aboriginal Heritage Management Plan (NAHMP)	<ul style="list-style-type: none"> ▪ Unexpected Heritage Finds Procedure 	<ul style="list-style-type: none"> ▪ Heritage Interpretation Plan ▪ Heritage Salvage Strategy ▪ Archaeological Excavation Report ▪ Heritage Archival Recording and Salvage Report ▪ Historical Archaeological Research Design and Excavation Methodology
Construction Aboriginal Cultural Heritage Management Plan (ACHMP)	<ul style="list-style-type: none"> ▪ Unexpected Heritage Finds Procedure. 	<ul style="list-style-type: none"> ▪ N/A
Waste Management Plan (WMP)	<ul style="list-style-type: none"> ▪ N/A 	<ul style="list-style-type: none"> ▪ Sustainability Strategy ▪ Water Reuse Strategy

1.5.3. Hold points

Hold points are verification point that prevents work from commencing prior to approval from either the JHCPB Environment and Sustainability Manager (or delegate) or RMS.

JHCPB's EMS and processes establish internal hold points for key activities that require environmental management measures to be in place prior to the activity starting, as identified in Annexure A. Table 6 provides a table of additional RMS G36, G38 and G40 hold points requirements that relate to the construction activities.

Table 6 Internal hold points

Process held	Permit / Approval required	Where addressed
Activities outside of normal construction hours (refer to Section 3.6.2)	Out of Hours Works Permit	OOHW Protocol
Clearing / pruning vegetation, disturbing / excavating new area	Land Disturbance Permit	Vegetation Clearance Procedure
Discharge of all dewatering operations, including sediment basins and excavated areas retaining water	Water Discharge Permit	Dewatering and Discharge Procedure
Establishment of new minor ancillary facility	Minor Ancillary Facilities Permit	Annexure D
Entering a no-go zone (safety, heritage, ecological, occupational hygiene)	Permit to Enter a No-Go Zone	Project Safety Plan

2. Endorsement and approval

2.1. Internal approval of CEMP and sub-plans

The JHCPB Environment and Sustainability Manager and JHCPB Project Director will review the CEMP and sub-plans and give their internal approval. The CEMP will then be submitted to RMS prior to commencement of works as outlined in G36 Clause 3.1. Once RMS and JHCPB are satisfied with the CEMP and sub-plans, they will be submitted to the Environmental Representative for endorsement in accordance with CoA C3 and C6. The CEMP review and approval process is shown in Figure 6.

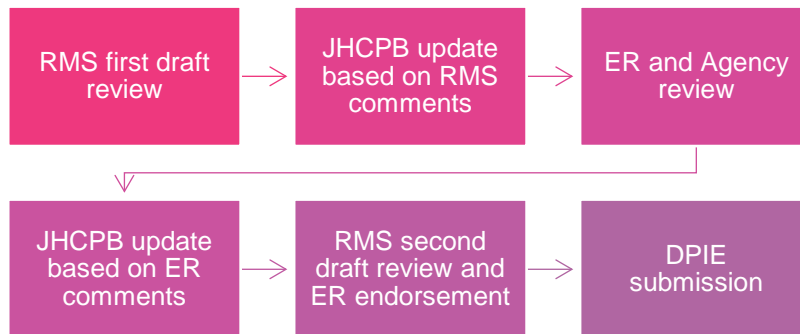


Figure 6 CEMP review and approval process

Any updates to the CEMP will be approved in accordance with the procedure in Section 3.13.

2.2. External endorsement and approval process

Table 7 presents a summary of the relevant authority(s) and council(s) that will be consulted during preparation of the CEMP sub-plans and monitoring programs in accordance with CoA C4 and C9, respectively. The agency consultation and approval requirements for the CEMP, sub-plans and other related environmental management documents are also summarised in Annexure E.

In accordance with CoA C3, C6, and C14 after endorsement by the Environmental Representative, the CEMP, sub-plans and construction monitoring programs will be submitted to the Secretary for approval no later than one month prior to the commencement of construction.

Construction will not commence until the CEMP, CEMP sub-plans and construction monitoring programs have been approved by the Secretary (refer to CoA C8, C15). Refer also to Section 3.9.2, for additional information on construction monitoring programs.

The CEMP and CEMP sub-plans, as approved by the Secretary, including any minor amendments approved by the Environmental Representative, must be implemented for the duration of construction.

The ongoing consultation requirements for the project with external agencies and the community engagement are summarised in Section 3.7.2 and 3.7.3 respectively.

Table 7 CEMP consultation approval requirements

Plan/program	CoA	Stakeholders																
		DPIE	RMS	EPA	OEH	NRAR	DPE Fisheries	NSW Health	Sydney Water	Port Authority	Heritage Council of NSW	Heritage Division	Sydney Coordination Office	Inner West Council	City of Sydney Council	Canada Bay Council	ER	AA
CEMP																		
CEMP	C3	A	C														E	
CEMP Sub-plans																		
Transport and Traffic and Access Management Plan	C4, C6	A	C						C	C			C	C	C	C	E	
Noise and Vibration Management Plan	C4, C6	A	C	C						C				C	C	C	E	E
Flora and Fauna Management Plan	C4, C6	A	C		C					C				C	C		E	
Air Quality Management Plan	C4, C6	A	C	C										C	C		E	
Soil and Surface Water Management Plan	C4, C6	A	C	C	C	C			C	C				C	C		E	
Ground Water Management Plan	C4, C6	A	C			C			C	C							E	
Non-Aboriginal Heritage Management Plan	C4, C6	A	C			C			C	C	C	C		C	C		E	
Aboriginal Heritage Management Plan	C4, C6	A	C			C			C	C							E	
Waste Management Plan	C4, C6	A	C														E	
CEMP Sub-plan monitoring programs																		
Surface Water Quality Monitoring Program	C9, C14	A	C	C		C			C	C				C	C		E	
Ground Water Monitoring Program	C9, C12 C14	A	C	C		C	C		C	C				C	C		E	
Noise and Vibration Monitoring Program	C9, C11 C14	A	C					C	C	C				C	C	C	E	E
Dust Deposition Monitoring Program	C9, C14	A	C	C										C	C		E	
Blast Monitoring Program	C9	No blasting currently proposed.																

3. Environmental Management Plan

3.1. Preparation and availability of the CEMP

The CEMP for this Project has been prepared in accordance with the relevant CoA identified in Table 1, requirements of the Department of Planning and Environment's *Guideline for the Preparation of Environmental Management Plans* (DIPNR, 2004), and the Project Environmental Policy (provided in Annexure C). It incorporates all requirements of the EIS documentation and all relevant licences, permits and Approvals for the Project.

The CEMP will be made available on the WestConnex M4-M5 Link Rozelle Interchange Project website after endorsement by the Environmental Representative and approval by the Secretary.

The JHCPB Environmental Policy (Annexure C) will be displayed on the WestConnex M4-M5 Link Rozelle Interchange Project website and at site offices and will be communicated to staff and other interested parties via inductions and ongoing awareness programs.

3.2. Planning

3.2.1. Environmental Risk Assessment Workshop

An initial environmental risk assessment was undertaken during the early planning phases of the project. Following this an environmental risk assessment workshop was held on 29 May 2019 and reviewed the following activities:

- Earthworks and excavation,
- Vegetation clearance,
- Operation of ancillary facilities,
- General construction activities, including piling, concrete works, mechanical and electrical works, buildings and landscaping,
- Tunnel excavation, and
- Spoil transport, deliveries, general plant operation on public roads.

The May 2019 environmental risk assessment workshop involved representatives from JHCPB environment and construction teams, the Proponent, the Environmental Representative, and the Acoustic Advisor.

Annexure B contains a list of environmental aspects and impacts including those identified in the risk assessment workshop. Minutes and notes from the risk assessment workshop are kept on the JHCPB EMS for auditing purposes.

Each activity was assessed to identify the relevant steps in the activity and the associated environmental hazards, initial risk levels, mitigation measures and to avoid, manage and/or minimise the risks and residual risks. Each of these items were documented in an environmental risk register (Annexure B). Where residual risk is assessed as high, or if required under the Contract Specification, an Environmental Work Method Statement will be developed for that activity.

Where relevant, the requirements from the Roads and Maritime Environmental Specifications, CoA and REMMs will be incorporated into the environmental risk assessment, particularly in developing the agreed activity specific site controls.

Ongoing analysis of the key environmental risks arising during construction will be undertaken as part of the management review process detailed in Section 3.12. Any required updates to the CEMP as a result of the management review process will be undertaken in accordance with Section 3.13.

3.2.2. Regulatory requirements and compliance

3.2.2.1. Legislation

A register of legal and other requirements for the Project is contained in Annexure A. This register will be reviewed at regular intervals, such as during management reviews, and updated with any applicable changes. Any changes made to the legal requirements register will be communicated to the wider Project team, including Subcontractors where necessary through toolbox talks, specific training and other methods detailed in Section 3.5.2 of this CEMP.

3.2.2.2. Approvals, permits and licences

A number of approvals, permits and licenses have and/or will be obtained for the Project, these have been identified in Annexure A. The register will be maintained by the JHCPB Environment and Sustainability Manager and will be reviewed prior to the commencement of construction and/or stages of construction, and at regular intervals during construction and at least annually as part of the management review.

In accordance with the Project Approval all necessary licences, permits and approvals required for the development of the Project will be obtained and maintained as required throughout the life of the Project and provided on the Project website. No condition of the Project Approval removes the obligation for RMS or the JHCPB to obtain, renew or comply with such necessary licences, permits or approvals except as provided under Section 5.3 of the EP&A Act.

Table 8 outlines the environmental approvals, permits and licences relevant to the delivery phase of the Project.

Table 8 Summary of environmental approvals, permits and licences

Approval / permit / licence	Regulatory authority	Relevant Project component	Responsibility / timeframe	Status
Instrument of Approval under Division 5.2 of the <i>Environmental Planning and Assessment Act, 1979</i>	DPIE	Whole Project	RMS / Prior to commencement of works	Approved 17 April 2018 and modified 25 February 2019
Environment Protection Licence (EPL) under the <i>Protection of the Environment Operations Act 1997</i>	NSW Environment Protection Authority (EPA)	Road construction (see Schedule 1, Clause 35)	JHCPB / Prior to scheduled activities or works that enable a scheduled activity	Not yet issued
Road Occupancy Licences (ROL) under Section 138 of the <i>Roads Act 1993</i>	Transport Management Centre (RMS)	Work on an existing public/classified road	JHCPB / Prior to any works on affected roads (with the exception of local roads)	Ongoing – multiple licences may be required
Aquifer interference approval may be required in accordance with section 91 of the <i>Water Management Act 2000</i>	NRAR	Works that may interfere with an aquifer	JHCPB / Prior to any works that may interfere with an aquifer	Aquifer interference approvals are not currently enabled under the <i>Water Management Act 2000</i> . Ongoing consultation with NRAR will be undertaken to identify updated Approvals requirements.
Department of Infrastructure and Regional Development Permit under the <i>Airports (Protections of Airspace) Regulations 1996 and Airports Act 1996</i>	Department of Infrastructure and Regional Development	The intrusion of plume rises at Rozelle into the prescribed airspace for Sydney Airport	JHCPB / Prior to activities that cause the intrusion of plume rises into the prescribed airspace for Sydney Airport	Approved 23 November 2017

3.2.3. Environmental objectives and targets

As a means of assessing environmental performance during construction of the Project, environmental objectives and targets have been established. These objectives and targets have been developed with consideration of the requirements of the Project's CoA's and REMMs, and key issues identified through the environmental assessment and risk assessment process. The objectives and targets are consistent with the Project Environmental Policy and will assist in monitoring whether the commitments of the policy are being met. The CEMP Sub-plans provide further discussion on how the objectives and targets, Project CoA and REMMs will be addressed during construction (refer to Section 4).

The performance of the Project will be monitored against the objectives and targets. Project performance monitoring will be documented in the Project's 6-monthly construction compliance reports (refer to Section 3.9.4) and on a quarterly basis as part of the management review.

Environmental management objectives and targets for the Project are provided in Table 9 below.

Table 9 Environmental objectives and targets

Objective	Target	Measurement tool	Timeframe	Actions to be undertaken	Accountability
Project Performance Outcomes – Construction Phase (developed by the Project)					
Implement and continually improve an environmental management system in accordance with AS/NZS ISO 14001	<ul style="list-style-type: none"> Address non-conformances and corrective actions within specific timeframes 	Audits, management reviews	External audit to be undertaken within 6 months of commencement of works and then annually Internal audit to be undertaken within 3 months of commencing construction Quarterly management reviews	Implementation of the CEMP	Project Director
Regularly identify and implement opportunities for improved environmental performance	<ul style="list-style-type: none"> 100% of scheduled inspections of environmental controls occur 	Environmental inspections	Monthly inspections	Environmental controls inspections to be identified, scheduled and conducted	Environmental Representative Environment and Sustainability Manager
	<ul style="list-style-type: none"> All non-conformances closed out within timeframe agreed upon with auditor 	External compliance audits	Annual independent external audits (the first within 6 months of commencement of works)	Implementation of the CEMP	Project Director
Educate the Project team, including Sub-contractors, on key environmental issues and management controls to promote a culture of shared responsibility	<ul style="list-style-type: none"> Compulsory on site induction 	Induction	Prior to commencement of works on site	Conduct site inductions	Environment and Sustainability Manager
	<ul style="list-style-type: none"> One toolbox talk / pre-start meeting with an environmental focus 	Toolbox talks – environmental focus	Monthly toolbox talks as required Daily pre-start meeting before each shift	Environmental personnel to present at pre-start or toolbox talks	Environment and Sustainability Manager Project Managers
Prevent pollution, reduce waste and commit to recovery and recycling	<ul style="list-style-type: none"> Full compliance with statutory Approvals 	Audits, environmental monitoring	External audit to be undertaken within 6 months of commencement of works and then annually Internal audit to be undertaken within 3 months of commencing construction Monthly inspections	Implement the CEMP and WMP	Environment and Sustainability Manager Project Managers

Objective	Target	Measurement tool	Timeframe	Actions to be undertaken	Accountability
	<ul style="list-style-type: none"> Zero unauthorised discharges 	Audits, environmental inspections	External audit to be undertaken within 6 months of commencement of works and then annually Internal audit to be undertaken within 3 months of commencing construction Monthly inspections	Implement the SSWMP	Project Managers
	<ul style="list-style-type: none"> All construction personnel inducted in soil and water management 	Induction	Prior to commencement of works on site	Implement the SSWMP and site inductions	Project Managers Environment and Sustainability Manager
Compliance with all legal requirements	<ul style="list-style-type: none"> No regulatory infringements or prosecutions 	No formal regulatory warning. Audits, compliance reporting, management review	External audit to be undertaken within 6 months of commencement of works and then annually Internal audit to be undertaken within 3 months of commencing construction Six monthly compliance reports Quarterly management reviews	Implement the CEMP and Compliance Tracking and Environmental Audit Program	Project Managers Environment and Sustainability Manager
	<ul style="list-style-type: none"> Zero enforcement notices and penalties 	Audits, compliance reports, management review	External audit to be undertaken within 6 months of commencement of works and then annually Internal audit to be undertaken within 3 months of commencing construction Six monthly compliance reports Quarterly management reviews	Implement the CEMP and sub-plans	Project Managers Environment and Sustainability Manager
Project Performance Outcomes – Construction Phase (derived from Section 5, Appendix A of the Project EIS)					
<u>Consultation</u> The project is developed with meaningful and effective engagement during project design and delivery.	<ul style="list-style-type: none"> Engaged and informed community and key stakeholders. 	Refer to Communication Strategy	Ongoing	Undertake community consultation in accordance with Communication Strategy	Communication Team

Objective	Target	Measurement tool	Timeframe	Actions to be undertaken	Accountability
<p><u>Transport and Traffic</u> Network connectivity, safety and efficiency of the transport system in the vicinity of the project are managed to minimise impacts. The safety of transport system customers is maintained. Impacts on network capacity and the level of service are effectively managed. Works are compatible with existing infrastructure and future transport corridors.</p>	<ul style="list-style-type: none"> Minimise impacts to local streets from loss of parking, road closures and heavy vehicles. Minimise impacts to road network efficiency during construction. Maintain pedestrian and cyclist safety Access to properties would be maintained. 	<p>Audits, compliance reports, management reviews</p>	<p>External audit to be undertaken within 6 months of commencement of works and then annually Internal audit to be undertaken within 3 months of commencing construction Six monthly compliance reports Quarterly management reviews</p>	<p>Implement the TTAMP and Construction Parking and Access Strategy</p>	<p>Project Managers Environment and Sustainability Manager</p>
<p><u>Air Quality</u> The project is designed, constructed and operated in a manner that minimises air quality impacts (including nuisance dust and odour) to minimise risks to human health and the environment to the greatest extent practicable.</p>	<ul style="list-style-type: none"> Effective management of dust, odour and other emissions during construction. 	<p>Audits, environmental inspections</p>	<p>External audit to be undertaken within 6 months of commencement of works and then annually Internal audit to be undertaken within 3 months of commencing construction Monthly inspections</p>	<p>Implement the AQMP, DDMP</p>	<p>Project Managers Environment and Sustainability Manager</p>
<p><u>Health and safety</u> The project avoids or minimises any adverse health impacts arising from the project. The project avoids, to the greatest extent possible, risk to public safety.</p>	<ul style="list-style-type: none"> Establish and operate ancillary facilities and construction sites to protect road user and public safety Hazardous materials within project areas will be managed to protect human health Minimise incidents and crashes and risks to public safety during construction. 	<p>Environmental inspections</p>	<p>Monthly inspections</p>	<p>Implement the CEMP, NVMP, SSWMP and TTAMP</p>	<p>Project Managers Environment and Sustainability Manager</p>

Objective	Target	Measurement tool	Timeframe	Actions to be undertaken	Accountability
<p><u>Noise and Vibration – Amenity</u> Construction noise and vibration (including airborne noise and ground-borne noise) are effectively managed to minimise adverse impacts on acoustic amenity.</p>	<ul style="list-style-type: none"> Comply with the relevant criteria from the NSW Industrial Noise Policy Minimise increases in road traffic noise Effective management of construction noise and vibration in accordance with relevant guidelines. 	Environmental monitoring, environmental inspections	Monthly inspections	Implement the NVMP	Project Managers Environment and Sustainability Manager
<p><u>Noise and Vibration – Structural</u> Construction noise and vibration (including airborne noise and ground-borne noise) are effectively managed to minimise adverse impacts on the structural integrity of buildings and items including Aboriginal places and environmental heritage. Increases in noise emissions and vibration affecting environmental heritage as defined in the Heritage Act 1977 during operation of the project are effectively managed.</p>	<ul style="list-style-type: none"> No damage to features of heritage conservation significance from vibration. 	Environmental inspections	Monthly inspections	Implement the NVMP and NAHMP	Project Managers Environment and Sustainability Manager
<p><u>Biodiversity</u> The project design considers all feasible measures to avoid and minimise impacts on terrestrial and aquatic biodiversity. Offsets and/or supplementary measures are assured which are equivalent to any remaining impacts of project construction and operation.</p>	<ul style="list-style-type: none"> Minimise impact to aquatic biodiversity values Minimise removal of high retention value trees Compensatory tree planting 	Audits, management review	External audit to be undertaken within 6 months of commencement of works and then annually Internal audit to be undertaken within 3 months of commencing construction Six monthly compliance reports Quarterly management reviews	Implement the FFMP and SSWMP	Project Managers Environment and Sustainability Manager

Objective	Target	Measurement tool	Timeframe	Actions to be undertaken	Accountability
<p><u>Urban Design and Visual Amenity</u></p> <p>The project design complements the visual amenity, character and quality of the surrounding environment.</p> <p>The project contributes to the accessibility and connectivity of communities.</p> <p>The project minimises adverse impacts on the visual amenity of the built and natural environment (including public open space) and capitalises on opportunities to improve visual amenity.</p>	<ul style="list-style-type: none"> ▪ Sympathetic urban design that integrates with adjacent and historical land uses ▪ Establish and operate ancillary facilities to minimise adverse impacts on the visual amenity of the local community. 	<p>Audits, management review</p>	<p>External audit to be undertaken within 6 months of commencement of works and then annually</p> <p>Internal audit to be undertaken within 3 months of commencing construction</p> <p>Six monthly compliance reports</p> <p>Quarterly management reviews</p>	<p>Implement the UDLP</p>	<p>Project Managers</p> <p>Environment and Sustainability Manager</p>
<p><u>Socio-economic, Land Use and Property</u></p> <p>The project minimises adverse social and economic impacts and capitalises on opportunities potentially available to affected communities.</p> <p>The project minimises impacts to property and business and achieves appropriate integration with adjoining land uses, including maintenance of appropriate access to properties and community facilities, and minimisation of displacement of existing land</p>	<ul style="list-style-type: none"> ▪ Minimise property acquisition ▪ Manage the property acquisition process to minimise impacts to community ▪ Minimise impacts to businesses during construction ▪ Make provision for social infrastructure. 	<p>Refer to Communication Strategy</p>	<p>Ongoing</p>	<p>Implement the Communication Strategy and Business Management Plan</p>	<p>Communication Team</p> <p>Environment and Sustainability Manager</p>

Objective	Target	Measurement tool	Timeframe	Actions to be undertaken	Accountability
<p><u>Water – Hydrology and Quality</u> Long term impacts on surface water and groundwater hydrology (including drawdown, flow rates and volumes) are minimised. The environmental values of nearby, connected and affected water sources, groundwater and dependent ecological systems including estuarine and marine water (if applicable) are maintained (where values are achieved) or improved and maintained (where values are not achieved). Sustainable use of water resources. The project is designed, constructed and operated to protect the NSW Water Quality Objectives where they are currently being achieved, and contribute towards achievement of the Water Quality Objectives over time where they are currently not being achieved, including downstream of the project to the extent of the project impact including estuarine and marine waters (if applicable).</p>	<ul style="list-style-type: none"> ▪ Design and construct tunnels to minimise groundwater inflow ▪ Establish water quality discharge criteria with consideration of NSW Water Quality Objectives ▪ Effectively treat water to meet water quality discharge criteria ▪ Maximise reuse of treated water during construction. 	<p>Environmental monitoring, environmental inspections</p>	<p>Monthly inspections</p>	<p>Implement the SSWMP and GWMP</p>	<p>Project Managers Environment and Sustainability Manager</p>

Objective	Target	Measurement tool	Timeframe	Actions to be undertaken	Accountability
<p>Flooding The project minimises adverse impacts on existing flooding characteristics. Construction and operation of the project avoids or minimises the risk of, and adverse impacts from, infrastructure flooding, flooding hazards, or dam failure.</p>	<ul style="list-style-type: none"> ▪ Meet flooding criteria determined during project detailed design. 	<p>Environmental monitoring, environmental inspections</p>	<p>Monthly inspections</p>	<p>Implement the Flood Mitigation Strategy</p>	<p>Project Managers Environment and Sustainability Manager</p>
<p>Soils The environmental values of land, including soils, subsoils and landforms, are protected. Risks arising from the disturbance and excavation of land and disposal of soil are minimised, including disturbance to acid sulfate soils (ASS) and site contamination.</p>	<ul style="list-style-type: none"> ▪ Erosion and sediment controls will be implemented in accordance with Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom 2004) and Volume 2D (DECCW 2008), commonly referred to as the 'Blue Book' ▪ Manage ASS in accordance with good practice measures ▪ Manage contamination to protect environmental values and human health. 	<p>Environmental inspections</p>	<p>Monthly inspections</p>	<p>Implement the SSWMP</p>	<p>Project Managers Environment and Sustainability Manager</p>

Objective	Target	Measurement tool	Timeframe	Actions to be undertaken	Accountability
<p><u>Heritage</u> The design, construction and operation of the project facilitates, to the greatest extent possible, the long term protection, conservation and management of the heritage significance of items of environmental heritage and Aboriginal objects and places. The design, construction and operation of the project avoids or minimises impacts, to the greatest extent possible, on the heritage significance of environmental heritage and Aboriginal objects and places.</p>	<ul style="list-style-type: none"> ▪ Establish archival recording of items of heritage significance that will be demolished ▪ Salvage features and fabric of heritage significance for redistribution to the community ▪ Minimise impacts on heritage items during construction ▪ Incorporate key heritage values and stories into the final urban design and landscaping outcome ▪ Minimise damage to features of heritage conservation significance from vibration ▪ Avoid damage to AHIMS site #45-6- 2278. 	Environmental inspections, audits	<p>Monthly inspections</p> <p>External audit to be undertaken within 6 months of commencement of works and then annually</p> <p>Internal audit to be undertaken within 3 months of commencing construction</p>	Implement the NAHMP	Project Managers Environment and Sustainability Manager
<p><u>Sustainability</u> The project reduces the NSW Government’s operating costs and ensures the effective and efficient use of resources. Conservation of natural resources is maximised.</p>	<ul style="list-style-type: none"> ▪ Achieve an Infrastructure Sustainability Council of Australia rating of ‘Excellent’. 	ISCA rating, compliance reports	Six monthly compliance reports	Implement the Sustainability Strategy and SMP	Environment and Sustainability Manager

Objective	Target	Measurement tool	Timeframe	Actions to be undertaken	Accountability
<p><u>Waste</u> All wastes generated during the construction and operation of the project are effectively stored, handled, treated, reused, recycled and/or disposed of lawfully and in a manner that protects environmental values.</p>	<ul style="list-style-type: none"> ▪ Recycle or reuse uncontaminated spoil either on site or off-site ▪ Manage off-site waste re-use in accordance with relevant NSW Environment Protection Authority resource recovery exemptions and requirements ▪ Dispose of waste at appropriately licensed facilities. 	<p>Audits, management review</p>	<p>External audit to be undertaken within 6 months of commencement of works and then annually</p> <p>Internal audit to be undertaken within 3 months of commencing construction</p> <p>Six monthly compliance reports</p> <p>Quarterly management reviews</p>	<p>Implement the WMP</p>	<p>Project Managers</p> <p>Environment and Sustainability Manager</p>
<p><u>Climate change risk</u> The project is designed, constructed and operated to be resilient to the future impacts of climate change.</p>	<ul style="list-style-type: none"> ▪ Incorporate climate change and sea level rise adaptation measures into the detailed design and construction planning for the project. 	<p>Audits</p>	<p>External audit to be undertaken within 6 months of commencement of works and then annually</p> <p>Internal audit to be undertaken within 3 months of commencing construction</p>	<p>Implement the SMP, Flood Mitigation Strategy and Risk Assessment</p>	<p>Environment and Sustainability Manager</p>

3.2.4. Environmental Work Method Statement and Sensitive Area Plans

Environmental work method statements (EWMS) are prepared to manage and control all high risk activities and others that have the potential to negatively impact on the environment. EWMS will be prepared for high-risk activities identified through the Environmental Risk Assessment Workshop (Section 3.2.1) as well as those identified through ongoing analysis during Project delivery. EWMS will be prepared prior to the commencement of relevant construction activities and will incorporate relevant mitigation measures and controls, including those from relevant management sub plans. They also identify key procedures to be used concurrently with the EWMS. EWMS are specifically designed to communicate requirements, actions, processes and controls to construction personnel using plans, diagrams and simply written instructions.

EWMS will be prepared progressively in the lead up to and throughout construction in consultation with relevant members from the Project team.

- The requirement for EWMS will be directed by Roads and Maritime Specification D&C G36 – Environmental Protection and by the Environment and Sustainability Manager for those activities deemed to carry an inherent level of environmental risk (e.g. site establishment, demolition of heritage items).

The EWMS will include at least the following elements:

- Description of the work activity, including any plant and equipment to be used,
- Outline of the sequence of tasks for the activity, including interfaces with other construction activities,
- Identification of any environmental and/or socially sensitive areas, sites or places,
- Identification of potential environmental risks/impacts due to the work activity,
- Mitigation measures to reduce the identified environmental risk, including assigned responsibilities to site management personnel, and
- Process for assessing the performance of the implemented mitigation measures.

All construction personnel and sub-contractors undertaking a task governed by an EWMS must participate in training on the EWMS and acknowledge that they have read and understood their obligations by signing an attendance record prior to commencing work.

Regular monitoring, inspections and auditing of compliance with the EWMS will be undertaken by Project management and environmental personnel to ensure that all controls are being followed and that any non-conformances are recorded, and corrective actions implemented.

Sensitive Area Plans provide a simple but effective tool to identify key risk areas, assist in the planning and management of specific areas and promote ongoing communication with construction personnel throughout the Project. They consist of a series of plans that clearly show the environmental and socially sensitive areas within and surrounding the Project footprint, including vegetation, heritage, sensitive receivers, waterways.

The Sensitive Area Plans for the Project are provided in Annexure F. If any new environmental constraints or sensitive areas are identified during construction, the Sensitive Area Plans will be updated, however they will be document controlled separately to this CEMP or other applicable sub-plans. Therefore, an update to the Plans will not require this CEMP or sub-plans to be updated. Annexure F will be updated during scheduled CEMP reviews.

3.3. Resources, responsibilities and authority

The key environmental management roles and responsibilities for the construction phase of the Project are described below. The structure of these key roles is shown in Figure 7.

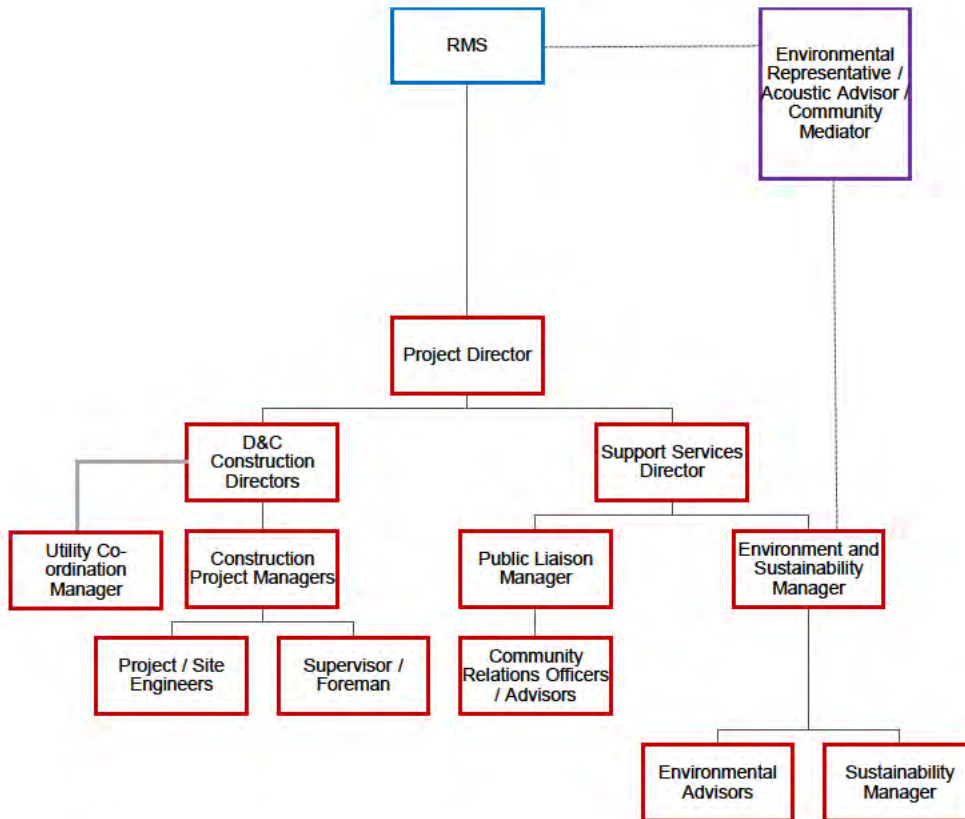


Figure 7 Key environmental management structure

Figure notes:

- Blue refers to project proponent.
- Purple refers to independent bodies.
- Red refers to contractor.
- Dashed line refers to independent roles.

3.3.1. Roles and responsibilities

A number of Project personnel will be required to liaise with the ER throughout the duration of the Project. In accordance with CoA C2 (j), Figure 8 summarises the relationship between relevant Project personnel and the ER.

Figure 8 Relationship between the ER and relevant key project personnel

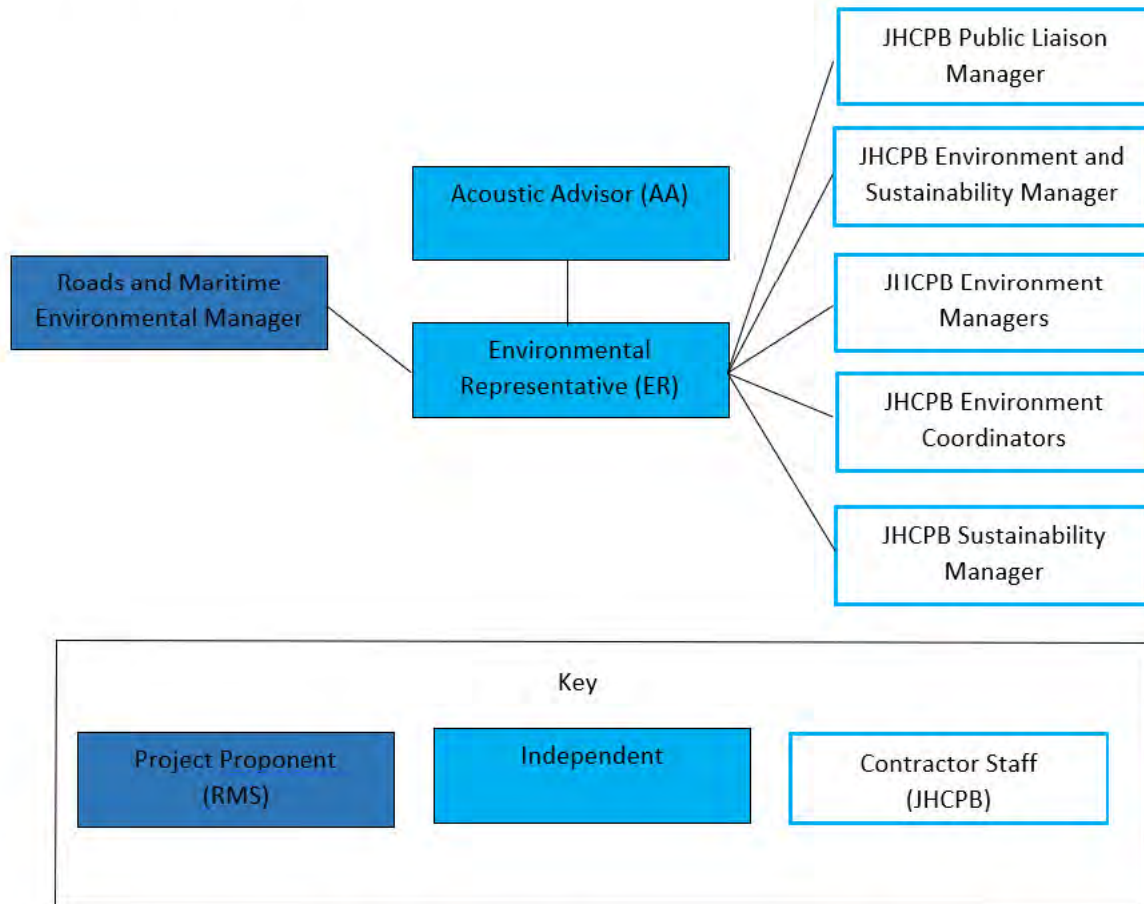


Table 10 provides a summary of all relevant roles and responsibilities for the construction of the Project. This includes roles outlined in Figure 8.

Table 10 Summary of roles and responsibilities for construction of the Project

Title	CoA / REMM	Roles, responsibilities and authorities relevant to this plan
Key roles		
JHCPB Project Director	N/A	<ul style="list-style-type: none"> Be an emergency contact and available to be contacted by EPA and RMS Representative on a 24 hour basis, Endorse and support the Project Environmental Policy attached at Annexure C Liaise with RMS, the Environmental Representative and other government authorities as required, and Provide adequate resources (personnel, financial and technological) to effectively development, implementation and maintenance of this CEMP.
JHCPB Support Services Director	N/A	<ul style="list-style-type: none"> Provide environmental oversight, direction and leadership regarding the environmental management of the project Provide high level strategic direction throughout the delivery of Project including on community and stakeholder relations
JHCPB Environment and Sustainability Manager	N/A	<ul style="list-style-type: none"> Be an emergency contact and available to be contacted by EPA and RMS Representative on a 24 hour basis Ensure development, implementation, monitoring, annual management reviews and updating of the CEMP and sub-plans in accordance with ISO14001

Title	CoA / REMM	Roles, responsibilities and authorities relevant to this plan
		<ul style="list-style-type: none"> ▪ Ensure environmental risks of the Project are identified and appropriate mitigation measures are implemented ▪ Notify RMS and relevant authorities in the event of an environmental incident ▪ Provide the Environmental Representative with all documentation requested including the complaints register (on a daily basis) and a copy of any assessment carried out by JHCPB of whether proposed work is consistent with the Approval ▪ Cooperate with the Acoustics Advisor by providing access to noise and vibration monitoring activities, allowing for reviews and considering any recommendations of the Acoustic Advisor
JHCPB Environmental Officers	N/A	<ul style="list-style-type: none"> ▪ Manage the day-to-day environmental elements of construction ▪ Undertake site inspections, carry out monitoring activities and complete site checklists to assist in identifying environmental risks ▪ Advise the JHCPB Environment and Sustainability Manager and JHCPB Construction Project Manager of the need to stop work immediately if an unacceptable impact on the environment is likely to occur or other major issues from the Project ▪ Assist all site staff with issues concerning Project environmental matters ▪ Assist in developing training programs regarding environmental requirements including delivery of the environmental component of toolbox talks, as required
JHCPB Public Liaison Manager	N/A	<ul style="list-style-type: none"> ▪ Provide high level strategic direction throughout the delivery of Project ▪ Responsible for implementation of the Communication Strategy and ensuring the Project meets all community engagement obligations. ▪ Manage the Public Liaison Officers ▪ Note: This role and responsibility is described in more detail in the Communication Strategy.
JHCPB Public Liaison Officer(s)	CoA B6, B2	<ul style="list-style-type: none"> ▪ Ensure that all community consultation activities are carried out ▪ Report any environmental issues raised by stakeholders or members of the community to the JHCPB Environment and Sustainability Manager ▪ Communicate general Project progress, performance and issues to stakeholders including the community ▪ Maintain the 24-hour complaints hotline and the Project complaints register ▪ Assist the public with questions and complaints they may have at any time during construction and be available at all times that works are occurring. ▪ Note: This role and responsibility is described in more detail in the Communication Strategy.
JHCPB Utility Coordination Manager	E140, E141	<ul style="list-style-type: none"> ▪ Manage and coordinate all utility works associated with the delivery of the CSSI and ensure respite is provided to the community ▪ Provide advice to the Public Liaison Officers, regarding upcoming utility works, including the scope of the works and responsibility for the works ▪ Investigate complaints received from the Enquiries and Complaints Officer or the Public Liaison Officers relating to utility works, and provide a response
JHCPB Project Managers	N/A	<ul style="list-style-type: none"> ▪ Plan construction works to minimise impacts to the environment and community ▪ Ensure construction personnel manage construction works in accordance with statutory and Approval requirements ▪ Support the JHCPB Environment and Sustainability Manager in achieving the Project environmental objectives and ensuring environmental management procedures and protection measures are implemented

Title	CoA / REMM	Roles, responsibilities and authorities relevant to this plan
JHCPB Project / Site Engineers	N/A	<ul style="list-style-type: none"> ▪ Ensure that the works are carried out in accordance with the requirements of the CEMP and supporting documentation, including the implementation of all environmental controls and identification of resource needs ▪ Ensure that instructions are issued and adequate information provided to employees that relate to environmental risks on-site ▪ Act in the event of an emergency, including report any environmental incidents, and allocate the required resources to minimise environmental impacts.
JHCPB construction Personnel (including Subcontractors)	N/A	<ul style="list-style-type: none"> ▪ Attend Project inductions and environmental awareness training relevant and understand and comply with environmental responsibilities ▪ Be aware of surrounding sensitive environmental and social constraints and act in a manner that minimises impacts to those sensitive areas ▪ Report any environmental incidents, near misses and hazards immediately.
Community Complaints Mediator	CoA B13	<ul style="list-style-type: none"> ▪ Fulfil the requirements of B14 and B15 and other CoA that require the CCM's involvement. ▪ Note: This role and responsibility is described in more detail in the Communication Strategy.
Acoustics Advisor	CoA A24, A25, A26, E77, E89, E94, REMM NV1	<ul style="list-style-type: none"> ▪ Receive and respond to communication from the Secretary and inform the Secretary in relation to the noise and vibration performance of the CSSI ▪ Recommend improvements to avoid or minimise noise and vibration impacts ▪ Review all noise and vibration documents required under the CoA and, if satisfactory, endorse them before submission to the Secretary or implementation ▪ Regularly monitor the implementation of all noise and vibration documents to ensure implementation is in accordance the document and the CoA ▪ Notify the Secretary within 24 hours of noise and vibration incidents ▪ Assist the Environmental Representative in relation to noise and vibration matters and performance including helping with audits and consider/endorse relevant minor amendments made to the CEMP, sub-plans and noise and vibration monitoring programs ▪ Prepare a Monthly Noise and Vibration Report detailing the Acoustics Advisor's actions and decisions on relevant matters and submit to the Secretary and other relevant regulatory agencies within seven days following the end of each month. ▪ Note: The Acoustics Advisor must be suitably qualified and experienced, independent of the design and construction personnel, engaged for the duration of works and for no less than six months following completion of construction of the CSSI.
Environmental Representative(s)	CoA A17, A18, A19, A20, A21, A28, C3, C6, C14, C24 (c), E77 (d)	<ul style="list-style-type: none"> ▪ Receive and respond to communication from the Secretary in relation to the environmental performance of the CSSI and inform the Secretary regarding matters specified in the CoA ▪ Consider and recommend to JHCPB any improvements that may be made to work practices to avoid or minimise adverse impacts to the environment or community ▪ Conduct a written review of the CEMP, sub-plans, construction monitoring programs and any other documents that are identified by the Secretary, to ensure they are consistent with the CoA prior to their submission to the Secretary or implementation ▪ Regularly monitor the implementation of the CEMP, sub-plans and construction monitoring programs to ensure they are being carried out in accordance with the document and the CoA

Title	CoA / REMM	Roles, responsibilities and authorities relevant to this plan
		<ul style="list-style-type: none"> Help plan, attend or undertake audits of the development (not independent environmental audits) and assist in the resolution of community complaints Assess the impacts of minor ancillary facilities comprising lunch sheds, office sheds and portable toilet facilities Consider any minor amendments to be made to the CEMP, CEMP sub-plans and monitoring programs and, approve the amendment if satisfied it is needed Prepare and submit to the Secretary and other relevant regulatory agencies, an Environmental Representative Monthly Report within seven calendar days following the end of each month. Note: The ER must be a suitably qualified and experienced person who was not involved in the preparation of the EIS or SPIR and is independent from the design and construction personnel for the CSSI. The ER must be engaged for the duration of works until the completion of construction.
RMS Environmental Manager	N/A	<ul style="list-style-type: none"> Review any environmental management plans and related documents prepared for the Project, including this CEMP and sub-plans and consistency assessments Review and consider minor Project refinements that are consistent with the Project environmental assessment in accordance with the RMS Division 5.2 Environmental Assessment Procedure Monitor the environmental performance of the Project in relation to RMS requirements and DPIE post approval document submission requirements.
RMS Representative	N/A	<ul style="list-style-type: none"> Evaluate and advise on compliance with RMS environmental requirements Review environmental management plans for the Project or related activities that are not required to be approved by the Minister of DPIE.
Support roles		
Excavation Director	CoA E168, E170, E171, REMM NAH05	<ul style="list-style-type: none"> Advise on the management of for excavations near potential archaeological sites and the duration and extent of oversight required Prepare a Historical Archaeological Research Design and Excavation Methodology and advise on unexpected finds. Note: Their experience must comply with the Heritage Council of NSW's Criteria for Assessment of Excavation Directors.
Ecologist	CoA E175	<ul style="list-style-type: none"> Provide guidance during pre-clearing surveys and surveys for the presence of microbat roosting
Heritage Specialist	CoA E157, E163, E85	<ul style="list-style-type: none"> Prepare an unexpected heritage finds procedure Undertake archival recording and help prepare a heritage archival recording and salvage report Advise on methods and locations for installing equipment for monitoring at heritage-listed structures Carry out a condition assessment of the southern and northern penstocks and identify conservation works required.
Contamination Specialist	N/A	<ul style="list-style-type: none"> Initially assess and provide management advice upon the discovery of any previously unidentified contaminated material (i.e. unexpected finds).
Soil Conservation Specialist	REMM SW04	<ul style="list-style-type: none"> Provide advice regarding erosion and sediment control, including the implementation of ESCPs.
Independent Property Assessment Panel	CoA E109, REMMs PL8, PL9, PL10, PL13, PL11	<ul style="list-style-type: none"> Review Condition Survey Reports Resolve property damage disputes Resolve ongoing settlement and vibration monitoring requirements. Note: Comprises geotechnical and engineering experts independent of the design and construction team and be engaged before the potential for property impacts.

3.4. Selection and management of subcontractors

The JHCPB Environment and Sustainability Manager, or delegate, will participate in the tender assessment and selection process for JHCPB subcontractors as necessary based on the associated environmental risks. All Subcontractors will be required to complete a subcontractor questionnaire or similar.

Environmental requirements and responsibilities are to be specified to subcontractors in the contract documentation. As part of the selection process, consideration will also be given to their past environmental performance.

All subcontractors are required to work in accordance with the approved CEMP. This includes participation in:

- Project and / or site inductions, where the requirements and obligations of the CEMP are communicated and toolbox talks. A record of all subcontractors inducted will be maintained as part of the Project induction and training register,
- Carrying out observations, inspections, audits and incident investigations (as required),
- Planning, implementing and monitoring environmental protection measures and keeping environmental records, and
- Development and / or review of EWMSs (as required).
- All environmental documentation submitted by contractors will be subject to review and approval (if required) by JHCPB staff to ensure compliance with RMS contract requirements and CoA, before works may begin.

If subcontractors are using or are permitted to use their own environmental management system, the subcontractor must demonstrate that their EMS is certified to ISO14001 and implemented to meet JHCPB's minimum environmental requirements. A standard form will be developed that will be used to assess:

- The Subcontractor's general work practices,
- The effectiveness of the subcontractor's environmental protection measures,
- The subcontractor's compliance with the requirements of this CEMP, and
- The maintenance of environmental measures.

3.5. Competence, training and awareness

To ensure that this CEMP is effectively implemented, each level of management is responsible for ensuring that personnel reporting to them are aware of the requirements of this CEMP. The JHCPB Environment and Sustainability Manager will coordinate the environmental training in conjunction with other training and development activities (e.g. safety).

3.5.1. Environmental induction

All personnel (including subcontractors) are required to attend a compulsory site induction that includes an environmental component prior to commencement of works on site. This is done to make all personnel involved in the Project aware of the requirements of the CEMP, the CoA and the REMMs. The JHCPB Environment and Sustainability Manager (or delegate) will prepare the environmental component of the site inductions.

Short-term visitors to site undertaking inspections / entering the site (such as regulators) will be required to undertake a visitor's induction and be accompanied by inducted personnel at all times. Temporary visitors to site, for purposes such as deliveries, will be required to be accompanied by inducted personnel at all times.

The environmental component of the induction must cover applicable elements of the CEMP and will include as a minimum:

- Relevant details of the CEMP including purpose and objectives,
- Requirements of due diligence and duty of care,

- Conditions of environmental licences, permits and approvals,
- Potential environmental emergencies on site and the emergency response procedures,
- Approved working hours, including out-of-hours work processes,
- Reporting and notification requirements for pollution and other environmental incidents,
- High-risk activities and associated environmental safeguards,
- Working in or near environmentally sensitive areas,
- Specific environmental management requirements and responsibilities,
- Mitigation measures for the control of environmental issues,
- Incident response and reporting requirements,
- The existence of EWMS for high-risk activities,
- Information relating to the location of environmental constraints, and
- Key environmental issues.

Inductions will also include information about the community we are working in, residents and key stakeholders and location-specific sensitivities, behavioural expectations, what to do when approached by a member of the public or media, and an outline of our responsibilities and Project obligations relating to the community.

A record of all environment inductions will be maintained and kept on site. The JHCPB Environment and Sustainability Manager may authorise amendments to the induction at any time. Possible reasons for changes to the induction may be Project modifications, legislative changes or amendments to this CEMP or related documentation.

An Induction Register is kept on the Project EMS.

3.5.2. Toolbox talks, training and awareness

Toolbox talks will be one method of raising awareness and educating personnel on issues related to construction including environmental issues. The toolbox talks are used to ensure environmental awareness continues throughout construction.

Toolbox talks will include details of EWMSs for relevant personnel and will be tailored to specific environmental issues relevant to upcoming works.

Relevant environmental issues include (but are not limited to):

- Aboriginal and non-Aboriginal heritage,
- Dust control,
- Emergency and spill response,
- Erosion and sedimentation control,
- Vibration,
- Noise and out-of-hours work,
- Parking and heavy vehicle traffic,
- Potential acid sulfate soils and / or asbestos management, and
- Spoil management.
- Toolbox talk attendance is mandatory and attendees of toolbox talks are required to sign an attendance form, with the records maintained.

As part of JHCPB's commitment to positive community outcomes and stakeholder engagement, Project-specific community awareness training will also be carried out for all construction personnel. Where appropriate, this training will include information to increase awareness of cultural sensitivities and outline approaches to working with people from culturally and linguistically diverse backgrounds. The training will also encourage the workforce to 'tread lightly' while working in the area, acknowledging that we are guests in the community.

Targeted environmental awareness training will be provided to individuals or groups of workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high risk of environmental impact. Topics covered may include those detailed above, or others deemed necessary in the lead up to or during construction.

Construction personnel will also be informed through the development and distribution of awareness notes. These will typically take the form of a poster, booklet or similar and will be distributed to engineers, leading hands, foreman and others with a responsibility for managing specific work locations or activities. This documentation will be used to inform the broader workforce through either daily pre-start meeting (see Section 3.5.3) or provision in worker crib sheds / break facilities.

3.5.3. Daily pre-start meetings

The pre-start meeting is a tool used to inform the workforce of the day's activities, safe work practices, environmental protection practices, work area restrictions, activities that may affect the works, coordination issues with other trades and teams, hazards and other information that may be relevant to the day's work.

The Foreman will conduct a daily pre-start meeting with the site workforce before the commencement of work each shift or where changes occur during a shift.

The environmental component of pre-starts will be determined by relevant foreman and environmental personnel and will include any environmental issues that are potentially relevant to the day's activities. All attendees will be required to sign on to the pre-start and acknowledge their understanding of the issues explained.

Pre-start topics, dates delivered, and a register of attendees will be recorded.

3.6. Working hours

In accordance with CoA E70, the following works are permitted to be carried out 24 hours a day, seven days a week:

- Tunnelling activities excluding cut and cover tunnelling,
- Haulage of spoil and delivery of material,
- Works within an acoustic shed,
- Tunnel fit out works.

Working hours for the Project are set by the CoA E68 to E78. Standard construction hours as approved in the CoA E68 are as follows:

- Monday to Friday: 7:00 am to 6:00 pm,
- Saturday: 8:00 am to 1:00 pm,
- At no times on Sundays and Public Holidays.

Notwithstanding the above, works may also be carried out between 1:00pm to 6:00pm on Saturdays, in accordance with CoA E69. In accordance with CoA E72, except as permitted by an EPL, highly noise intensive works that result in an exceedance of the applicable noise management level (NML) at the same receiver will only be undertaken:

- Between the hours of 8:00 am and 6:00 pm Monday to Friday,
Between the hours of 8:00 am and 1:00 pm Saturday.
- In continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block.

'Continuous' includes any period during which there is less than one hour respite between recommencing any of the work that are the subject of the CoA.

Construction activities which are defined as annoying under the ICNG are defined as 'highly noise intensive works'. These include:

- Using power saws (for cutting timber, masonry, road pavement or steel work),
- Grinding metal, concrete or masonry,
- Rock drilling,

- Line drilling,
- Vibratory rolling,
- Bitumen milling and profiling,
- Jackhammering,
- Rock-hammering or rock-breaking, and
- Impact piling.

Any other works outside of standard construction hours would be permitted providing they meet the requirements of CoA E73, the EPL or if they are undertaken as per the Out-of-Hours Work Protocol (OOHW) as per the CoA E77. The OOHW protocol is included as Annexure B of the NVMP.

Approvals for any changes will be included and attached as an annexure to the CEMP.

3.7. Communication

The internal and external communication during construction of the Project will be managed and conducted in accordance with the Project Communication Strategy (refer to CoA B2). The Communication Strategy is required to be approved by the Secretary and implemented for the duration of construction (refer to CoA B4 and B5). The Communication Strategy will be submitted to the Secretary for approval no later than one (1) month prior to the commencement of any work in accordance with CoA B3.

It identifies key stakeholder groups that will be consulted and engaged with during the Project and outlines the communication tools that will be used to consult and engage with these groups. Key stakeholders that will be consulted and engaged with include:

- Federal / State / Local Government elected members and agencies,
- Residents and commuters impacted by traffic changes, surface work or spoil haulage,
- Residents and businesses impacted by tunnel work,
- Directly affected residents and businesses in close proximity to construction areas,
- Chambers of Commerce,
- Sensitive receivers (including schools, educational institutions and places of worship),
- Aboriginal land councils,
- Road users, pedestrians and cyclists,
- Peak industry groups,
- Community organisations and special interest groups,
- Emergency services,
- Media organisations, and
- Utilities / service providers.

3.7.1. Internal communication

JHCPB place a strong focus on internal communications, recognising that clear lines of communication throughout all levels and functions (e.g. management, staff and subcontractors) are key to minimising environmental impacts and achieving continual improvements in environmental performance.

The Public Liaison Team will act as the main interface between the Project, community and stakeholders. As such, the Public Liaison Team will be proactive in keeping the wider-team informed and engaged with regards to the community they are working in.

The environmental team will meet regularly to discuss any issues with environmental management on site, any amendments to plans that might be required or any new/changes to construction activities.

Regular meetings may also be scheduled with the Environmental Representative and relevant RMS environmental staff. The purpose of these meetings will be to communicate ongoing environmental performance and to identify any issues to be addressed.

Further internal communications regarding environmental issues and aspects will be through toolbox talks, environmental inductions, awareness training and daily pre-start meetings as described in Section 3.5. These will provide an opportunity to communicate environmental performance, advise on any upcoming sensitive environmental matters for future work areas and to receive feedback from on-site personnel.

Contact names and telephone numbers for key personnel are provided in the 'List of emergency and key contacts' in this CEMP.

3.7.2. Liaison with EPA, government authorities or other relevant stakeholders

JHCPB recognises that WestConnex is a high-priority and highly-visible infrastructure project for the NSW Government. The project will work with government stakeholders as partners to facilitate mutually beneficial relationships. These relationships will be initiated and maintained by the Support Services Director, who has extensive experience and skills in managing high-level stakeholder engagement.

The JHCPB Environment and Sustainability Manager will report on the ongoing environmental performance of the Project, including through preparation of monthly reports to RMS (refer to Section 3.9.5). They are the authorised contact person for communications with DPIE, TfNSW, the Environmental Representative and the EPA on environmental matters.

The Project Director and the JHCPB Environment and Sustainability Manager are 24-hour contacts. They have the authority to halt the progress of the works if necessary. They are the key emergency response personnel during an environmental site emergency.

To assist with engaging government authorities and other relevant stakeholders regarding the project environmental management approach, JHCPB will schedule regular meetings via the phone or face-to-face with JHCPB's environmental and community teams, TfNSW, DPIE and the EPA.

Table 11 summarises the requirements for liaison with the EPA, other government authorities and relevant stakeholders during certain construction situations.

Table 11 Required liaison with EPA, other government authorities and relevant stakeholders

Situation	CoA	Details of communication required
Proposed out-of-hours works	CoA E76	The EPA and the Secretary will also be provided with the identified respite periods, the outcomes of community consultation and the scheduling of the likely out-of-hours works.
Positioning of aviation hazard lighting on any equipment or built form component	CoA E124	JHCPB will consult with the Civil Aviation Safety Authority, Department of Infrastructure and Regional Development and Sydney Airport operators to determine the need and potential positioning of aviation hazard lighting.
Need for emergency works identified	CoA E74	JHCPB will notify the Acoustics Advisor (AA), ER and the EPA of the need for the emergency works.
Preparation of documents or monitoring programs in consultation with stakeholders	CoA A6	Where the CoA requires a document or monitoring program to be prepared or a review to be undertaken in consultation with specific stakeholders (refer to Section 3.9.2 and Annexure E), JHCPB will submit evidence of the consultation to the Secretary. In accordance with CoA A6, this evidence will include: Documentation showing that the consultation occurred prior to submitting the document for approval; A log of the points of engagement or attempted engagement with the identified party(s) and a summary of the issues raised by them; documentation of the follow-up with the identified party(s) where feedback has not been provided to confirm that they have none or have failed to provide feedback after repeated requests;

Situation	CoA	Details of communication required
		<p>an outline of the issues raised by the identified party(s) and how they have been addressed;</p> <p>a description of the outstanding issues raised by the identified party(s) and the reasons why they have not been addressed.</p>
Upcoming major traffic changes, urban design and landscaping, changes or impacts to Council owned assets, local roads, pedestrian and cyclist routes	N/A	JHCPB will schedule regular meetings and/or presentations (monthly or agreed) involving the Project's construction and community teams with Council (Officer and Councillor level, where required) to provide regular updates.
Review of traffic management plans	N/A	JHCPB will submit traffic management plans to the Sydney Coordination Office and Traffic Management Centre for review and input.

In the event the Project team has attempted contact with a key stakeholder on more than two occasions, and the stakeholder has not responded, the issue will be raised to the RMS Environment and / Communications Team. All attempted contact will be recorded and reported on (refer to Section 3.9.5).

3.7.3. Community liaison and/or notification

JHCPB will establish a Public Liaison Team responsible for the implementation and coordination of public communication and engagement. The project will be supported by a team of Public Liaison Officers led by the Public Liaison Manager, who will manage community and stakeholder engagement activities across the Project in accordance with the Community Strategy.

3.7.3.1. Proactive community engagement

Extensive stakeholder consultation has already been undertaken throughout the development of the preliminary concept design and through exhibition of the EIS. Consultation included community information sessions, small group meetings and face-to-face meetings, where appropriate. Ongoing Project engagement with key stakeholders will be undertaken in accordance with the Communication Strategy.

A database of stakeholders and their interests / issues and contact details will be maintained throughout construction.

For activities that have the potential to significantly impact the community, or provide risk to the Project or RMS, JHCPB will develop specific communication plans and packages to support delivery and clearly identify and mitigate issues and risks.

These activities may include:

- Traffic switches, changes, delays, diversions, road closures or disruptions to public transport,
- Key project milestones,
- Major work such as 24-hour work, high-impact work or work that has the potential to impact the traffic network and nearby community,
- Work that may impact businesses, visual amenity, access or deliveries,
- Activities, changes or issues that have the potential to draw media attention or protest action.

The specific communication plans and packages will include notification and/or consultation (as required and in accordance with the Communication Strategy):

- With residential and commercial properties that adjoin or are adjacent to the ancillary facilities such as through door knocking impacted residents, letter box drops and community updates,
- To identify appropriate respite periods for out-of-hours works (in accordance with CoA E76),
- To notify owners and occupiers of properties at risk of cosmetic damage from vibration (in accordance with CoA E83).

To notify all noise and/or vibration affected sensitive receivers of the likely impact and duration of emergency works, if they are identified to be required (in accordance with CoA E74). Project contact cards will be issued to construction personnel to be used in the event a member of the public or media approaches them on-site. As discussed in Section 3.5.2, Project staff will attend Project-specific community awareness training to ensure they respond to the community in a sensitive and appropriate manner if approached.

3.7.3.2. Methods for the public to contact the Project

The following avenues will be available throughout construction for the public to communicate with the Project (refer to CoA B11):

- A 24-hour toll-free Community information line telephone number (1800 660 248) for the registration of complaints and enquires about the CSSI,
- A postal address to which written complaints and enquires may be sent,
- An email address to which electronic complaints and enquires may be transmitted,
- A mediation system for complaints unable to be resolved,
- A mechanism for community members to make enquires in common community languages of the area,
- A toll-free WestConnex Acquisition Assistance Line (1800 660 248) for six months following the final acquisition required for the CSSI (refer to CoA B7),
- The WestConnex Facebook page,
- Community Information Centre, and
- Community outreach activities such as information sessions and public displays (refer to Section 5.2 in the Communication Strategy).

The Project telephone number, and postal address and email address will be published in a newspaper circulating in the local area and on-site hoarding at each construction site before commencement of works. The WestConnex email address (info@westconnex.com.au) will be included on Project site hoarding and the Rozelle Interchange Project email address (info@rozelleinterchange.com.au) will be included on notifications and advertisements.

This information will be provided on the Project website (www.westconnex.com.au), as well as (excluding confidential, private and commercial information):

- Information on the current implementation status of the Project including new or changed construction activities and extended working hours, if applicable,
- A copy of the EIS, SPIR and CoA,
- A copy of each licence or permit required and obtained, and
- A copy of relevant environmental management documents required under the CoA, including this CEMP and sub-plans.

3.7.4. Complaints management

During construction, any comments, feedback or complaints relating to noise, air quality and other amenity issues will be addressed through the Complaints Management System (refer to Section 8 of the Consultation Strategy). The Complaints Management System will include a complaints register within the stakeholder database Consultation Manager. The complaints register will be developed in accordance with AS 4269: Complaints Handling and CoA B9. The complaints register will record the:

- Date, time and nature of the complaint
- Type of communication (telephone, letter, meeting etc)
- Name, address and contact number of complainants
- Action taken in response, including follow up contact with the complainant
- Details of whether resolution was reached
- Details of whether mediation was required or used
- Any monitoring to confirm that the complaint has been satisfactorily resolved.

The information contained within the Complaints Register will be made available to the Secretary on request and submitted daily to the ER in accordance with CoA A22.

Attempts will be made to resolve all complaints in accordance with the Communication Strategy. An initial response to complaints will be provided within 24 hours of a complaint being received. A written response will be drafted for complaints and enquiries that cannot be resolved by the initial or follow up verbal response. The response will be provided to the complainant within 10 days. All complaints will be closed off in the complaints register within Consultation Manager. Any unresolved disputes will be dealt with by the Community Complaints Mediator, in accordance with CoA B15 and B16.

Within one working day of receiving a complaint, a written report will be provided to RMS. This will outline the complaint and action taken to remedy the problem. A final report, which will include proposed measures to prevent reoccurrence, would be submitted to RMS within five working days.

Further details of the Complaints Management Procedure are outlined in the Communication Strategy.

3.8. Emergency and incident planning

In the event of an environmental incident, an Incident and Emergency Response Plan that has been prepared in accordance with the RMS' Environmental Incident Classification and Reporting Procedure will be implemented. The full RMS procedure is provided in Annexure G.

The Incident and Emergency Response Plan covers the management of events such as, but not limited to:

- Spills of fuels, oils, chemicals and other hazardous materials,
- Unauthorised discharge from sediment basins or other containment devices,
- Potential contamination of waterways or land,
- Accidental starting of a fire or a fire breaking out of containment,
- Any potential breach of legislation, including a potential breach of a condition of an EPL, CoA Approval or any agency permit condition, and
- Unauthorised dumping of waste.

The Incident and Emergency Response Plan includes:

- Site Emergency Plans and details regarding when the plans will be implemented,
- Emergency response and induction procedures,
- Incident definition, incident notification and reporting requirements, and
- List of key emergency personnel, a list of internal personnel & external agencies names, numbers & specific responsibilities for emergency planning and response.

The Incident and Emergency Response Plan will be kept on the Project EMS and at site offices.

All efforts will be undertaken immediately to avoid and reduce impacts of incidents. However, in the event of an incident, all required action will be taken to resolve it as quickly as possible in accordance with the Incident and Emergency Response Plan. Internal incident reports will be recorded in the EMS reporting system within three days of the incident in which JHCPB management will be notified containing lessons learnt and proposed measures to prevent the occurrence of a similar incident. JHCPB will provide records of all environmental incidents and regulatory action to RMS. Environmental Alerts for distribution within the Project may also be raised at the discretion of the JHCPB Environment and Sustainability Manager. The Project Director or delegate will notify the JHCPB parent companies as appropriate, in accordance with the severity and status of the incident.

The Compliance Tracking and Environmental Audit Program documents (refer to Section 3.9.4) procedures for rectifying any non-compliance identified during reviews of incident management.

The crisis communication procedure is detailed in the Crisis Communication Sub-Plan of the Communication Strategy.

Table 12 summarises the notification requirements following an incident.

Table 12 Incident notification requirements

Situation	Relevant CoA/guideline	Notification requirement
Identification of environmental incidents that would be or have the potential to be classified as Category 1/2 under the RMS Environmental Incident Classification and Reporting Procedure	RMS Environmental Incident Classification and Reporting Procedure	Immediately verbally notify then provide an incident report to the RMS Representative and RMS Environmental Manager in accordance with the procedure. An RMS environmental incident form 624 will be completed and submitted to the RMS Representative by email within three days of the incident. Environmental Alerts will be prepared for distribution within the Project or as appropriate.
Occurrence of any incident that is defined in the CoA as "an occurrence or set of circumstances that causes, or threatens to cause, material harm ¹ to the environment, community or any member of the community, being actual or potential harm to the health or safety of human beings or to threatened species, endangered ecological communities or ecosystems that is not trivial"	CoA A40 to A43	Notify the Secretary as soon as possible within 24 hours. The notification will include the time and date of the incident, incident details and any consequent non-compliance with the CoA. Any requirement from the Secretary or other public authority to address the cause or impact of an incident will be complied with.
Pollution incidents on or around the site that: Involve actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or Result in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations) Involve a potential impact to an Aboriginal site	Part 5.7 of the Protection of the Environment Operations Act 1997 CoA A43	Notify the EPA via the EPA Environment Line (telephone 131 555) Notify the Secretary within 24 hours If involving a potential impact to an Aboriginal site, notify the relevant the Office of Environment and Heritage, and Registered Aboriginal Parties and seek their input in closing out the incident.
<p>Note 1: material harm is defined in the CoA as harm that: Involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial; or Results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.</p>		

3.9. Monitoring, inspections and auditing

Regular compliance activities, such as inspections, observations and monitoring will be undertaken throughout construction of the Project. Subcontractors' works will be included in regular inspections, observations, monitoring and audits as appropriate.

Environmental controls are to be inspected regularly to ensure their ongoing suitability and effectiveness. Environmental monitoring is carried out to establish pre-construction benchmarks, confirm compliance with the Approvals, licences and laws and to provide early indication of potential adverse impacts to the environment or community.

3.9.1. Environmental inspections

Table 13 outlines an indicative program for site inspections. Copies of all environmental inspection reports will be kept with the Project records and closed out within the agreed timeframes.

Table 13 Site inspection program

Item	Frequency	Standards	Reporting	Responsibility
Regular inspections				
Environment site inspections including traffic and parking arrangements, air quality, erosion and sediment controls, new / modified hazards / risks	Weekly	Weekly Environmental Inspection Checklist	Completed inspection checklist	Environment personnel
Environmental Representative site inspections (DPIE, EPA and Transport for NSW will be invited to participate in these inspections)	Fortnightly, at minimum	CoA A21	Environmental Representative Inspection checklist / notes Monthly Environmental Representative Report to DPIE	Environmental Representative
Environmental Review Group inspections (offered to the ER, Transport for NSW, DPIE, EPA and other regulatory agencies upon request).	Quarterly	Environmental Inspection Checklist	Environmental Inspection checklist / notes	Environment personnel
Plant / equipment inspections including maintenance and emissions	Regularly or in accordance with manufacturer's specifications	POEO Act	Plant and vehicle inspection logs	Mechanical Foremen
Pre and post rainfall inspections	Prior to and following rainfall events >20mm	Pre and post Rainfall inspection checklist	Completed inspection checklist	Environment personnel
Management observations	Fortnightly	Project EMS	Observation records	Environment and Sustainability Manager Project Director(or delegate)
As required / specific inspections				
Acoustics Advisor site inspections	Regularly in accordance with CoA A26(e), or as requested by the Secretary or Community Complaints Mediator	CoA A26	As part of the Monthly Noise and Vibration Report	Acoustics Advisor
Asbestos survey	As required prior to demolition	Qualified asbestos surveyor	Reporting as per Asbestos Guideline	WHS Manager

Item	Frequency	Standards	Reporting	Responsibility
Pre-construction and post-construction dilapidation surveys	Inspections of buildings, services and utilities, which have been identified by the geotechnical model as at risk of settlement or vibration, to assess any damage to surface and sub-surface structures from construction	CoA E105 - E109 D&C G36 AS 4349.1	Condition Survey Reports	Environment and Sustainability Manager Independent Property Impact Assessment Panel
Pre-clearance inspection	Prior to any vegetation clearance / pruning or demolition of structures identified as potential roosting sites for microbats and threatened species	CoA E175 FFMP RMS Biodiversity Guidelines	Land Disturbance Permit	Environment and Sustainability Manager
Road dilapidation inspection	Prior to the use of the local road by heavy / oversized vehicles Subsequent report within four weeks of the completion of construction	CoA E61	Road Dilapidation Report to relevant road authorities	Surface Works Director
Visual surveillance	Continual during activities with high potential to produce dust and during prolonged dry or windy conditions	No visible dust emissions	Site Foremen's log book	Site Foremen
Unexpected potential heritage discovery	Upon discovery of potential heritage item	CoA E157 Manage Cultural Heritage Procedure; RMS Standard Management Procedure: Unexpected Heritage Items	As required by Unexpected Heritage Finds Procedure	Environment and Sustainability Manager / Excavation Director
Discovery of human remains	Upon discovery of human remains	CoA E157 RMS Standard Management Procedure: Unexpected Heritage Items	As required by Unexpected Heritage Finds Procedure and reported to NSW Police immediately	Environment and Sustainability Manager / Excavation Director
Heritage inspections	During works within a Historical Archaeological Management Unit or near heritage features where required by Historical Archaeological Research Design and Excavation Methodology	CoA E168-171	As required by Historical Archaeological Research Design and Excavation Methodology	Environment and Sustainability Manager / Excavation Director

3.9.2. Environmental monitoring

Monitoring will be undertaken to validate the impacts predicted for the Project, to measure the effectiveness of environmental controls and implementation of this CEMP, and to address Approval requirements. The monitoring requirements for required aspects are included in the relevant environmental management sub-plans and summarised in Table 14 below.

Table 14 Construction phase environmental monitoring required by project approval

CoA / REMM	Description	Sub-plan or CEMP chapter	Reporting requirements
C9, C10, C13-C18, SW02	Surface water quality monitoring program to compare actual performance of construction of the CSSI against predicted performance.	Soil and Surface Water Management Plan	<ul style="list-style-type: none"> Consult NRAR, Sydney Water and relevant council(s) including the Inner West Council, City of Sydney and Canada Bay Council during development of the program. The results must be submitted to the Secretary, and relevant regulatory authorities, in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program.
C9, C10, C12, C13-C18, E192, GW8, OGW9	Groundwater monitoring program to compare actual performance of construction of the CSSI against predicted performance. This includes measuring water discharge amounts, water quality testing, monitoring groundwater pore pressures, groundwater electrical conductivity and groundwater inflows (refer to CoA C12).	Groundwater Management Plan	<ul style="list-style-type: none"> Consult NRAR, NSW EPA, DPI Fisheries, Sydney Water and City of Sydney Council and Inner West Council during development of the program Provide the water quality testing results and daily measurement of the amount of water discharged from the water treatment plants to Sydney Water every three months in a Construction Monitoring Report Provide the groundwater monitoring data to NRAR every three months in a Construction Monitoring Report.
C9, C10, C11, C13-C18, NV6, NV7	Noise and Vibration monitoring program to compare actual performance of construction of the CSSI against predicted performance. This monitoring program includes the collection of real time noise and vibration monitoring data.	Noise and Vibration Management Plan	<ul style="list-style-type: none"> Consult relevant councils(s) and NSW Health during development of the program The real-time data must be readily available to the JHCPB construction team, Environmental Representative and Acoustics Advisor as well as DPIE and the EPA on request. The results must be submitted to the Secretary, and relevant regulatory authorities, in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program.
C9, C10, C13-C18	Blast monitoring program to compare actual performance of construction of the CSSI against predicted performance.	Noise and Vibration Management Plan	<ul style="list-style-type: none"> Consult EPA during development of the program. The results must be submitted to the Secretary, and relevant regulatory authorities, in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program.
E53, TT16, TT17	Real-time monitoring of the locations of all construction spoil haulage vehicles and Project related heavy vehicle movements.	Traffic and Transport and Access Management Plan	<ul style="list-style-type: none"> The records of monitoring must be made available electronically to the Secretary and the EPA upon request for a period of no less than one year following construction.

CoA / REMM	Description	Sub-plan or CEMP chapter	Reporting requirements
E104, PL7, PL8, PL9	A settlement monitoring program to measure settlement, distortion or strain and prevent damage of surface and sub-surface structures. Note: Only required if the criteria for surface and sub-surface structure and/or settlement criteria is exceeded in the geotechnical model.	Soil and Surface Water Management Plan	<ul style="list-style-type: none"> ▪ Consult Independent Property Impact Assessment Panel during development of program ▪ As per the monitoring procedure.
E54	Monitoring of on- and off-street parking changes during construction of the CSSI.	Traffic and Transport and Access Management Plan	<ul style="list-style-type: none"> ▪ Provide reporting of monitoring results to the Secretary and relevant council(s) at three monthly intervals.
TT07	Real time monitoring of traffic safety in the vicinity of the construction of the Project using CCTV and variable message signs.	Traffic and Transport and Access Management Plan	<ul style="list-style-type: none"> ▪ As per the monitoring procedure.
C9, E1	Dust Deposition Monitoring program will be undertaken with an additional focus on plant and equipment, meteorological monitoring and visual inspection.	Air Quality Management Plan	<ul style="list-style-type: none"> ▪ Consult EPA during development of the program. ▪ The results must be submitted to the Secretary, and relevant regulatory authorities, in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program.

Monitoring will be undertaken in accordance with the aspect specific monitoring program or plan. To meet CoA C10, the relevant monitoring program or plan will include:

- a. details of baseline data available;
- b. details of baseline data to be obtained and when;
- c. details of all monitoring of the project to be undertaken;
- d. the parameters of the project to be monitored;
- e. the frequency of monitoring to be undertaken;
- f. the location of monitoring;
- g. the reporting of monitoring and analysis results against relevant criteria;
- h. details of the methods that will be used to analyse the monitoring data;
- i. procedures to identify and implement additional mitigation measures where results of monitoring are unsatisfactory; and
- j. any consultation to be undertaken in relation to the monitoring programs.

The monitoring procedures for the surface water quality monitoring program, groundwater monitoring program, noise and vibration monitoring program and dust deposition monitoring program must be endorsed by the Environmental Representative (the noise and vibration monitoring program must also be endorsed by the Acoustics Advisor) and then submitted to the Secretary for approval at least one month prior to commencement of construction.

The Environmental Representative and RMS Representative will be advised of any construction phase non-conformances from monitoring. Where a non-conformance is detected or monitoring results are outside of the expected range and are directly attributable to the Project (i.e. are influenced by factors under the direct control of the Project, e.g. noise from construction

equipment), the process described in Section 3.10 will be implemented. Steps in the process will include:

- An analysis of the results by the JHCPB Environment and Sustainability Manager with a view of determining possible causes for the non-conformance,
- A site inspection by the JHCPB Environment and Sustainability Manager or delegate,
- Advising relevant personnel of the problem,
- Identifying and agreeing on actions to resolve or mitigate the non-conformance, and
- Implementing actions to rectify or mitigate the non-conformance.

A non-conformance Environmental Incident Report and/or Environmental Improvement Notice may be issued by the JHCPB Environment and Sustainability Manager if required by the specific monitoring program or plan.

The timing for any improvement will be agreed between the relevant Engineer/Superintendent and JHCPB Environment and Sustainability Manager based on the level of risk (e.g. a significant risk will require immediate action).

All environmental monitoring equipment shall be maintained and calibrated according to manufacturer's specifications and appropriate records kept.

3.9.3. Auditing

In accordance with CoA A36 and the CTEAP, environmental audits will be conducted according to the audit schedule located in the program, during construction of the Project. Audits will include works undertaken by subcontractors. Internal and external environmental audits will be undertaken in accordance with the CTEAP prepared in accordance with the terms of the project approval and the AS/NZS ISO 19011:2014.

The indicative schedule for key external and internal audits to be undertaken during Project construction is included in Table 15. For further details regarding the schedule and requirements for internal and external Project audits as well as audit reporting requirements, refer to the CTEAP.

Table 15 Indicative audit schedule

Audit	Details	Timing	Responsibility	Recipient of audit report
External audits				
Independent External audit	Environmental Compliance	Within 6 months of commencement of works and then annually after that	Independent audit in accordance with CoA A36	DPIE; TfNSW; JHCPB
External audit	Environmental Compliance	As requested by the Secretary	ER audit in accordance with CoA A21(f)	TfNSW; JHCPB; DPIE
External audit	Noise & Vibration Management	As requested by the Secretary or the Community Complaints Mediator	AA audit in accordance with CoA A26(g)(i)	TfNSW; JHCPB; DPIE
Internal audits				
JHCPB EMS Audit	JHCPB EMS	Within 12 months of works commencing and then annually after that	Audit from John Holland and / or CPB Contractors	JHCPB

Audit	Details	Timing	Responsibility	Recipient of audit report
Internal audit	Compliance to the Project specifications including G36, G38 and G40 and effectiveness of Environmental Work Method Statements and control measures	Risk based. Initial audit within 3 months of commencing construction	Environment and Sustainability Manager	JHCPB; TfNSW

The ER will ensure that environmental auditing is undertaken in accordance with this CEMP and the Project's EMS, in accordance with CoA A21, including audits that may be requested by DPIE in accordance with CoA A21(f).

3.9.4. Construction Phase compliance tracking

A Compliance Tracking and Environmental Audit Program has been developed for the Project in accordance with CoA A27, A28, A29, A36 and A37. It has been endorsed by the Environmental Representative and submitted to the Secretary at least one month prior to commencement of works. It will be implemented for the duration of works and for a minimum of one year following the start of operation.

The Compliance Tracking and Environmental Audit Program describes how the requirements of the CoA and REMMs will be met and sets out a program and frequency for compliance reporting and independent auditing (see Section 3). The compliance reporting required under the Compliance Tracking and Environmental Audit Program will record how the CoA and REMMS have been addressed. As required by CoA A33, the Construction Compliance Reports will be prepared and submitted to the Secretary every six months for the duration of construction.

They must include:

- a. A results summary and analysis of environmental monitoring,
- b. The number of any complaints received, including a summary of main areas of complaint, action taken, response given and proposed strategies for reducing the recurrence of such complaints,
- c. Details of any review of, and minor amendments made to, the CEMP as a result of construction carried out during the reporting periods,
- d. A register of any consistency assessments undertaken and their status,
- e. Results of any independent environmental audits and details of any actions taken in response to the recommendations of an audit,
- f. A summary of all incidents notified in accordance with CoA A40 and A42 of this Approval, and
- g. Any other matter relating to compliance with the terms of this Approval or as requested by the Secretary.

A summary of the required compliance reporting for the construction phase of the project, as required by CoA A30 to A39, and as tracked and monitored in the Compliance Tracking and Environmental Audit Program is provided in Table 16.

Table 16 Compliance reporting requirements

No.	Report	Requirement	Timing	Responsibility	Recipient
1	Pre-Construction Compliance Report	Description of compliance status of the Project prior to the commencement of construction.	At least one month prior to commencement of construction	JHCPB Environment and Sustainability Manager	DPIE; TfNSW; ER
2	During Construction Compliance Report	Report on compliance and performance (including KPIs) against approval requirements. The compliance reporting required under the CTEAP will record how the CoA and REMMs have been addressed.	Ongoing six-monthly compliance reports. First report will be issued 6 months following the commencement date of construction.	JHCPB Environment and Sustainability Manager	DPIE; TfNSW; ER
3	Pre-Operation Compliance Report	Description of compliance status of the Project after the completion of construction.	No later than one month prior to the commencement of operation	JHCPB Environment and Sustainability Manager	DPIE; TfNSW; ER
4	Environmental Audit Report	Ongoing environmental audit reports on the environmental performance of the CSSI, compliance with the terms of approval and actions to improve environmental performance.	Within six weeks of audit completion	JHCPB Environment and Sustainability Manager	DPIE; ER; TfNSW

3.9.5. Other reporting

Prior to, during and following construction, various reports will be prepared to fulfil RMS' and other reporting needs, and requirements under the Project Approval. Table 17 sets out the reporting requirements applicable to the Project, timing of the reporting, who is responsible for managing preparation of the reports and the intended recipient(s). These reports are also outlined in the document register (refer to Annexure E).

Additional reporting may be necessary as the works progress. In such a circumstance, Table 17 will be amended to reflect these changes.

Table 17 Reporting requirements

No.	Report	Requirement	Timing	Responsibility	Recipient
1	Monthly environmental report	For incorporation in Project monthly reports including environmental statistics (i.e. incidents, regulatory action, complaints on environmental issues), regulatory and authority considerations, monitoring program performance and key environmental issues	Within 10 working days of the end of each calendar month	JHCPB Environment and Sustainability Manager	RMS
2	EPL annual returns	Report on compliance with EPL	Within 60 days of the anniversary of the EPL	JHCPB Environment and Sustainability Manager	EPA

No.	Report	Requirement	Timing	Responsibility	Recipient
3	ER monthly reports	CoA A21 Report of site environmental performance following routine inspections	Within seven days following the end of each month	Environmental Representative	RMS / Secretary
4	AA Monthly Noise and Vibration Report	CoA A26(g)(v) Report detailing Acoustics Advisor's actions and decisions on noise and vibration matters in the last month	Within seven days following the end of each month	Acoustics Advisor	Secretary and other relevant regulatory agencies
5	ER Environmental Inspection Reports	ER site inspections	Fortnightly ER / Roads and Maritime site inspection reports	JHCPB Environment and Sustainability Manager and Environmental Officers	RMS
6	Waste Avoidance and Resource Recovery Report	Information relating to wastes generated or recycled in accordance with Annexure G36/F	Annual within one month from 1 July and at actual completion date	JHCPB Environment and Sustainability Manager and Environmental Officers	RMS
7	Construction Monitoring Report	CoA C17 Report on monitoring data recorded and potential exceedances against criteria	As specified in Construction Monitoring Program	JHCPB Environment and Sustainability Manager and Environmental Officers	RMS and as specified in Construction Monitoring Programs

3.10. Environmental non-conformances

A non-conformance is a failure to comply with a requirement, standard or procedure such as this CEMP or associated documents. Environmental non-conformances may be identified through improvement opportunities, regular environmental inspections or monitoring, internal or external audits, complaints, community consultation, observations or through incident management. The Environmental Representative, RMS Representative and/or a public authority may also raise a non-conformance or improvement notice. Any member of the Project team may raise a non-conformance or improvement opportunity.

Non-conforming activities may be stopped, if necessary, by the JHCPB Environment and Sustainability Manager, Environmental Officers or other project personnel. The works will not commence until a corrective / preventative action has been closed out. The Environmental Representative may also stop works in these circumstances.

Where non-conformances are identified during a review of compliance, they will be communicated to the Environment and Sustainability Manager. This will then be recorded on an environmental action list by the Environment and Sustainability Manager that will be issued to the relevant supervisor for action. Actions will be assigned an implementation priority in a collaborative way by the inspection team based on environmental risk. Timeframes will be set to ensure any damage incurred is rectified and any chance of recurrence is eliminated as soon as practicable. Following corrective action, the JHCPB Environment and Sustainability Manager will close out the non-compliance as per Section 3.13 of the CTEAP. DPIE will be notified of any non-compliances relating to the Planning Approval. This notification will take place within three business days.

Procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management are also documented in the CTEAP (see section 3.9.4). The

Quality Plan also describes the process for managing non-conforming work practices and initiating corrective/preventative actions or system improvements.

3.11. Records of environmental activities

3.11.1. Environmental records

The JHCPB Environment and Sustainability Manager is responsible for maintaining all environmental management documents and records as current at the point of use. Types of documents and records include (refer to Annexure E):

- All monitoring, inspection and compliance reports/records,
- Correspondence with public authorities,
- Induction and training records,
- Reports on environmental incidents, other environmental non-conformances and follow-up action,
- Minutes of CEMP and construction environmental management system review meetings and evidence of any action taken,
- CEMP and sub-plans,
- EWMS,
- Environmental audit reports,
- All environmental procedures, plans, strategies, protocols and programs, and
- Records of the locations of all construction spoil haulage vehicles (CoA E53).

All environmental management documents are subject to ongoing review and continual improvement. This includes times of change to scheduled activities or to legislative or licensing requirements.

Only the JHCPB Environment and Sustainability Manager, or delegate, has the authority to change any of the environmental management documentation.

3.11.2. Document control

JHCPB, or RMS where relevant, will coordinate the preparation, review and distribution, as appropriate, of the environmental documents and records listed above. During the Project, the environmental documents and records will be stored electronically on the project document control system.

JHCPB will implement a document control procedure to control the flow of documents within and between RMS, stakeholders and subcontractors.

The procedure will also ensure that documentation is:

- Developed, reviewed and approved prior to issue,
- Issued for use,
- Controlled and stored for the legally required timeframe,
- Removed from use when superseded or obsolete, and
- Archived.

The Document Register is maintained in Annexure E.

3.12. Management review

Quarterly management reviews will be undertaken with RMS and the Environment and Sustainability Manager. These reviews will:

- Identify and analyse new and previously identified key environmental risks arising from construction,
- Identify areas of opportunity for improved environmental performance,

- Analyse the causes of nonconformities and deficiencies, including those identified in environment inspections and audits,
- Verify the effectiveness of corrective and preventative actions, and
- Highlight any changes in procedures resulting from process improvement.

Minutes of the review will be tabled at Project Senior Leadership Team meetings.

Where the management review identifies aspects of the CEMP that should be amended, this will be undertaken before the next quarterly management review. Where the change identified is necessary to avoid compliance or key environmental risks, the amendments to the CEMP will be prioritised to be undertaken as soon as possible. These amendments could include updates to this CEMP and related documentation, revision to the Project's EMS, risk assessment review (refer to Annexure B), re-evaluation of the Project Objectives and targets as well as changes to other Project documents.

3.13. CEMP/sub-plan revision and changes to the Project

3.13.1. CEMP revision

Continual improvement is achieved through constant measurement and evaluation, and audit and review of the effectiveness of this CEMP. Monthly reports undertaken by the Environmental Representative and JHCPB Environment and Sustainability Manager (refer to Table 17), and quarterly management reviews (refer to Section 3.12) provide specific opportunities to identify improvements in the EMS and/or this CEMP.

The CEMP will be updated as required:

- To take into account changes to the environment or generally accepted environmental management practices, new risks to the environment, any hazardous substances, contamination or changes in law,
- Where reasonably requested or required by DPIE or any other Authority,
- In response to an environmental incident,
- In response to internal or external audits or quarterly management reviews and a continuous improvement process,
- In response to Project changes that occur in accordance with Section 3.13.2,
- Within three months of any of the above occurrences, and
- As part of a continuous improvement process.

Should the document review process identify any issues or items within the documents that are either redundant or in need of updating, it is the responsibility of the JHCPB Environment and Sustainability Manager (or delegate) to prepare the revised documents. The revised document will then be issued to the Project Director for internal approval, and to the Environmental Representative for endorsement of the changes. The Environmental Representative can approve minor changes to the CEMP and sub-plans.

Minor changes to the CEMP and sub-plans would typically include those that:

- Are editorial in nature, e.g. staff and agency/authority name changes,
- Do not increase the magnitude of impacts on the environment when considered individually or cumulatively,
- Do not compromise the ability of the Project to meet Approval or legislative requirements, and
- Involve additional minor ancillary facilities that have been approved by the Environmental Representative (refer to Annexure D).

Following endorsement by the Environmental Representative, revised versions of the CEMP will be made available through the processes outlined in Section 3.7. Where the Environmental

Representative deems it necessary, the amended CEMP will be provided to the Secretary of DPIE for approval.

3.13.2. Changes to the Project

Refinements to the Project may result from detailed design refinements or changed circumstances throughout construction. TfNSW is required to seek formal approval from the Minister for any Project modifications to the approved Project.

Any design changes or changes in scope of works must be communicated to the JHCPB Environment and Sustainability Manager. The JHCPB Environment and Sustainability Manager or Environmental Officers will then undertake an additional environmental assessment and consistency assessment in consultation with the TfNSW Environmental Manager to determine if a Project modification may be required.

Should the consistency assessment determine that a Project modification may be required, i.e. the impacts are of a nature and scale that it is not considered consistent with the Project Approval, the Environmental Representative will be informed and modification application under Section 5.25 of the EP&A Act 1979 prepared and lodged by TfNSW to the Secretary for determination.

In line with the TfNSW Division 5.2 Assessment procedure, the TfNSW Project Director for WestConnex and Director of Environment Motorways will approve all refinements that are deemed consistent with the Project Approval, where appropriate. The Minister's approval for a modification is not required if the infrastructure as modified will be consistent with the existing approval under Division 5.2 of the EP&A Act 1979.

4. Construction control

This section outlines the controls that will be implemented to manage environmental aspects during the construction of the Project.

For the key potential environmental issues, CEMP Sub-plans (provided in Annexure I i)-ix) of this CEMP), Strategies and Monitoring Programs have been prepared to support the Project's CEMP and environmental management. These documents have been prepared in accordance with the requirements of the CoA, REMM, Roads and Maritime Specifications G36, G38, G40, other measures identified in Section 1.2 and environment assessment documentation. These environmental management documents that will be used to support the CEMP provide further detail regarding the management of environmental aspects during construction of the Project. The relevant environmental management documents for each environmental aspect is outlined in the sections below.

4.1. Traffic and transport

A Traffic and Transport and Access Management Sub Plan (TTAMP) (Annexure I i)) has been developed to manage the traffic, transport and access risks on this Project. This document is developed in accordance with CoA C4(a) and REMMs TT01, TT02, TT04, TT015 and TT016 and is located in *Traffic and Transport and Access Management Plan*. The TTAMP also contains a Truck Management Strategy.

4.2. Soil and water quality management

A Soil and Surface Water Management Sub Plan (SSWMP) (Annexure I v)) has been developed to manage the soil and surface water risks on this Project. This document is developed in accordance with CoA C4(e) and REMMs SW01 and CM07 and is located in *Construction Soil and Surface Water Management Plan*. This SSWMP requires the preparation of erosion and sediment control plans (ESCP), which will be prepared in accordance with the 'Blue Book', as well as a Surface Water Quality Monitoring Program in accordance with CoA C9 and C14.

Works in waterways will be conducted in accordance with the RMS Biodiversity Guide 10 – Aquatic Habitats and Riparian Zones.

4.3. Spill prevention and response

A Pollution Incident Response Management Plan (PIRMP) has been developed to manage spill prevention and response on the Project, as required by Part 5.7 of the *Protection of the Environment Operations Act 1997* (NSW) (POEO Act). This document has been developed in accordance with relevant requirements referenced in the PIRMP.

4.4. Air quality

An Air Quality Management Plan (AQMP) (Annexure I iv)) has been developed to manage the air quality risks on this project. This document is developed in accordance with CoA C4(d) and E1 and REMM AQ1 and located in *Air Quality Management Plan*. This AQMP also contains the Dust Deposition Monitoring Program prepared in accordance with CoA C9(e).

4.5. Fire safety and burning off

The fire-fighting equipment, including fire extinguishers, will be provided on site and in vehicles to ensure the safety of public and property in compliance with the *Rural Fires Act 1997* and the *Local Government Act 1993*.

Total fire ban declarations and resultant work restrictions will be communicated to staff during the daily pre-start meetings. During total fire bans, work prohibited by the ban can only proceed if a permit is issued by NSW Rural Fire Service and the work can be performed in accordance with the issued permit.

All personnel involved in welding, grinding, thermal or oxygen cutting, heating or other fire or spark-producing operations will be trained in fire prevention, safety and basic fire-fighting skills.

4.6. Contaminated land

There are three ancillary facilities where contamination risk has been identified as moderate or high, specifically:

- Rozelle civil and tunnel site (C5),
- The Crescent civil site (C6), and
- Iron Cove Link civil site (C8).

Where indicated by Phase 1 Environmental Site Assessments, Phase 2 Environmental Site Assessments will be undertaken within these areas prior to site establishment. The findings of Phase 2 investigations will be provided in progressive Site Contamination Reports, which will be prepared in accordance with CoA E181. Where the Soil Contamination Reports identify areas that require remediation for the intended final land use, remediation strategies will be prepared and implemented for these sites.

In accordance with CoA E184 and E185, an Unexpected Contaminated Land and Asbestos Finds Procedure will be prepared and followed in the case that contaminated land or asbestos is excavated or discovered during construction. This plan will be implemented for the duration of construction.

4.7. Noise control

A Noise and Vibration Management Plan (NVMP) (Annexure I ii)) has been developed to manage the risks associated with noise generation on this Project. This document is developed in accordance with CoA C4(b) and REMM NV2 and located in *Noise and Vibration Management Plan*. This NVMP also contains:

- A Noise and Vibration Monitoring Program (refer to CoA C9 and C14),
- A Noise Insulation Program (refer to CoA E89), and
- An Out of Hours Work Protocol (refer to CoA E77 and REMM NV5).

4.8. Ground vibration and air blast

A NVMP has been developed to manage the risks associated with vibration on this Project. This document is developed in accordance with CoA C4(b) and REMM NV2 and located in *Noise and Vibration Management Plan*. This NVMP also contains a Noise and Vibration Monitoring Program.

A separate Blast Management Strategy and Blast Monitoring Program will also be prepared for the Project in accordance with CoA C9, C14, E96, E97, E99 and REMM NV8, should blasting be planned.

4.9. Biodiversity

A Fauna and Flora Management Plan (FFMP) (Annexure I iii)) has been developed to manage the risks to biodiversity on this Project. This document is developed in accordance with CoA C4(c) and REMM B1 and located in *Fauna and Flora Management Plan*. This FFMP also contains a Microbat Management Strategy in accordance with CoA E176.

4.10. Aboriginal heritage

An Aboriginal and Cultural Heritage Management Plan (ACHMP) (Annexure I viii)) has been developed to manage the risks to Aboriginal cultural heritage on this Project. This document is developed in accordance with CoA C4(h) and REMM NAH01 and located in *Aboriginal and Cultural Heritage Management Plan*. The ACHMP also contains an Unexpected Heritage Finds Procedure in accordance with CoA 157.

4.11. Non-Aboriginal heritage

A Non-Aboriginal Heritage Management Sub Plan (NAHMP) (Annexure I vii) has been developed to manage the risks to Non-Aboriginal heritage on this Project. This document is developed in accordance with CoA C4(g) and REMM NAH01 and located in *Non-Aboriginal Heritage Management Plan*. The NAHMP also contains an Unexpected Heritage Finds Procedure in accordance with CoA 157.

4.12. Waste management and resource recovery

A Waste Management Plan (WMP) (Annexure I ix) has been developed to manage the risks associated with waste generation on this Project. This document is developed in accordance with CoA C4(i) and REMM CM04 and RW3 and located in *Waste Management Plan*.

A separate Waste Avoidance and Resource Recovery Report and Sustainability Strategy (refer to CoA E199 and E200) will also be prepared to minimise impacts associated with waste generation and resource use.

4.13. Use of pesticides

In accordance with the relevant Specification G36 Clause 4.12 and best practice, the use of pesticides must be in accordance with the Pesticides Act 1999, other relevant legislation, label directions and any relevant industry codes of practice.

Pesticide use is to be in accordance with, as a minimum, the Roads and Maritime Pesticide Notification Plan and will be avoided in the following conditions:

- On hot days when plants are stressed,
- After the seed has set,
- Within 24 hours of rain or when rain is imminent, and
- When winds will cause drift of pesticides into non-target areas.

For detailed information regarding pesticide use on the Project refer to the Weed Management Protocol located in the FFMP.

4.14. Landscape and visual

In accordance with CoA E116, E122 and E123, construction will progress in a manner that minimises visual impacts including by:

- Providing temporary landscaping and vegetative screening of the construction sites,
- Minimising light spill to residential properties in accordance with the requirements of *Australian Standard 4282-1997 Control of the obtrusive effects of outdoor lighting* and relevant Australian Standards in the series *AS/NZ 1158 – Lighting for Roads and Public Spaces*,
- Avoiding adverse or distracting lighting configuration, spillage or intensity to aircraft operations,
- Providing mitigation measures to manage residual night lighting impacts to properties next to construction in consultation with landowners and to protect aircraft operations in consultation with CASA and DIRD,
- Incorporating architectural treatment and finishes within key elements of temporary structures that reflect the context within which the construction sites are located,
- Implementing the Urban Design and Landscape Plan(s), and
- Regular maintenance of site hoarding and perimeter site areas, including the prompt removal of graffiti and litter.

4.15. Work in environmentally sensitive areas

Clause 4.13 of G36 is addressed in Section 3.2.4 of this CEMP.

4.16. Environmental incident notification and reporting

Clause 4.14 of G36 is addressed in Section 3.8 of this CEMP. The response to environmental emergencies and incidents is to be consistent with the Incident and Emergency Response Plan prepared in accordance with the RMS Environmental Incident Classification and Reporting Procedure (see *Annexure G*).

4.17. Ancillary facilities

Prior to the approval of this CEMP, the works associated with the establishment of ancillary facilities will be managed in accordance with the SEMP. The completion of any establishment activities not yet completed by the time this CEMP is approved or for those ancillary facilities established after the approval of this CEMP, these activities will be managed in accordance with this CEMP.

Controls outlined in Section 4 of the CEMP and the CEMP sub-plans will be implemented to reduce environmental impacts associated with the establishment and use of the ancillary facilities.

In particular, the following management and mitigation measures that are specific to the management of ancillary facilities will be implemented:

- Provision of signage on hoardings surrounding the construction ancillary facilities, including the CSSI name and application number (CoA A45),
- Maintenance of boundary fencing to screen adjacent sensitive receivers and minimise visual, noise and air quality impacts for the duration of construction (CoA C25 and C26),
- Provision of wheel washing systems and rumble grids at all site exits to prevent deposition of loose material on sealed surfaces outside Project sites and reduce potential dust generation (REMM AQ25),
- Ongoing maintenance of site hoarding and perimeter site areas, including prompt removal of graffiti and litter (REMM LV3),
- Storage of dangerous goods and hazardous substances in bunds (refer to Section 4.3), and
- Erection of acoustic sheds as soon as possible following the completion of site establishment works (CoA E86).

Additional information on the operation of ancillary facilities during construction is provided in:

- Section 3.6, which outlines the approved working hours for construction activities at ancillary facilities,
- Annexure D, which contains a description of the four main construction ancillary facilities, outlines the assessment and approval processes for any additional or minor ancillary facilities for the construction of the Project,
- *Traffic and Transport and Access Management Plan*, which contains a car parking strategy for construction staff at the ancillary facilities, and
- *Soil and Surface Water Management Plan*, which contains ESCPs for all ancillary facilities.

4.18. Restoration of site

On completion of the works, all areas disturbed by construction activities (including the temporary ancillary facility sites, materials storage, access and haul roads) will be reinstated and restored to a condition similar to that existing before disturbance and in accordance with the Urban Design and Landscape Plan and Residual Land Management Plan. This will include:

- Site compound and stockpile site clean-up,
- Fuel and chemical/contaminated areas restoration, including spill clean-up as required,
- Weed control and seeding, planting, watering and maintenance,
- Access and haul road restoration,
- Compacted/disturbed ground restoration, including soil remediation, ripping and topsoiling of the area where applicable.

Following restoration, a post-construction land condition assessment will be arranged for each area used for construction. The land condition assessment will be undertaken by an independent environmental consultant who is approved by the TfNSW Representative. This report will then be submitted to the TfNSW Representative.

Annexure A Legal Requirements and Compliance Tracking

Legal register

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
General					
<i>Environmental Planning and Assessment Act, 1979</i>	All	The Project has been declared critical State Significant Infrastructure (CSSI) by virtue of Schedule 5, clause 4 of <i>State Environmental Planning Policy (State and Regional Development) 2011</i> . Comply with the terms Minister for Planning's approval for the project. Obtain the Minister's approval for any project modifications that are not consistent with the planning approval.	S5.13 S5.14	Yes	Section 1.1
		Environmental assessment and public consultation, including a preferred infrastructure report that outlines any proposed changes to the SSI	S5.147		EIS SPIR
		<ul style="list-style-type: none"> Application of other provisions of the EP&A Act Approvals and legislation that does not apply Approvals and legislation that must be applied consistently 	S5.22 S5.23 S5.24		This table
<i>Protection of the Environment Operations Act 1997</i>	Environmental protection	Do not risk harming the environment by wilfully or negligently: <ul style="list-style-type: none"> Disposing of waste unlawfully Causing any substance to leak, spill or otherwise escape (whether or not from a container) or Emitting an ozone depleting substance. 	S115 S116 S117	Yes	WMP SSWMP GWMP SMP
<i>Protection of the Environment Operations Act 1997</i>	Site licensing	An Environment Protection Licence (EPL) under Chapter 3 of the POEO Act would be required for the construction of the project.	cl. 35 of Schedule 1	Yes	Section 3.2.2

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
		Do not carry out or allow an activity listed in Schedule 1, or carry out work to enable such an activity, unless the premises are licensed by the EPA. This applies to: road construction: meaning the construction, widening or re-routing of roads if it results in the existence of 4 or more traffic lanes (other than bicycle lanes or lanes used for entry or exit) for 1 kilometres of their length in the metropolitan area, or 5 kilometres in length in any other area, where the road is classified, or proposed to be classified, as a freeway or tollway under the Roads Act 1993.	S47 S48 EPL	Yes	Section 3.2.2 Section 3.7.2 Section 3.9.5
<i>Crown Lands Act 1989</i>	Crown land	Ministerial approval required to grant a 'relevant interest' over a Crown Reserve. Any works on Crown land are likely to occur pursuant to a relevant interest (i.e. licence, permit, easement or right of way) to be granted for works on this land.	34A	Yes	The <i>Crown Lands Act 1989</i> applies to the crown land at Rozelle; however, the land acquisition would be managed by RMS.
<i>Roads Act 1993</i>	Road work	Requires the consent of the appropriate road authority for carrying out work on, or disturbing, the surface of a public road. Where the proponent is a public authority, the roads authority must consult with the applicant before making a decision.	S138	Yes	TTAMP
<i>Airports (Protection of Airspace) Regulations 1996 and Airports Act 1996</i>	Ventilation facility development	Requires the consent of the Department of Infrastructure and Regional Development in order to permit the intrusion of plume rises at Rozelle into the prescribed airspace for Sydney Airport.	S10	Yes	Approval dated 23 November 2017
<i>National Greenhouse and Energy Reporting Act 2007 and Regulations 2008</i>	Greenhouse gas emissions	Accounting and reporting of greenhouse gases produced and energy consumed during construction. Applicability dependent on thresholds.	-	Yes	SMP

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
Water					
<i>Water Management Act 2000</i>	Water access and use.	Access licence required to take water from a water source (a lake, river or estuary or place where water occurs naturally on or below the surface of the ground and includes coastal waters). This also applies to unregulated river access licences. Do not use of water on land (unless supplied by a water utility, irrigation corporation etc or in accordance with basic landholder rights) without a water use approval.	S56 S60A S89 S90 S91A	No	Under the EP&A Act, the Project is exempt from this requirement.
With the exception of controlled activity approvals, the <i>Water Management Act 2000</i> (WM Act) only applies in relation to those water sources covered by operational water sharing plans – these areas cover most of the State's major regulated river systems.	Water management works	Do not construct/use a water supply work, drainage work or flood work without the appropriate approval.	S90 S91B S91C S91D	No	Under the EP&A Act, the Project is exempt from this requirement.
	Waterfront land.	Do not deposit material, excavate, or remove material within a watercourse bank, shore or bed, or on land 40 metres inland, or interfere with the likely flow of water to such a body, without a controlled activity approval.	S91	No	Under the Water Management (General) Regulation 2018 (cl.41), public authorities are exempt from the need to obtain a controlled activity approval.
	Activity approvals	An aquifer interference approval confers a right on its holder to carry out one or more specified aquifer interference activities at a specified location, or in a specified area, in the course of carrying out specified activities.	S91(3)	No	Under the EP&A Act the Project is exempt from this requirement.
<i>Water Act 1912</i> With the exception of controlled activity approvals, the WM Act only applies in relation to those water sources covered by operational water	Surface water	Obtain a licence or permit for construction or use of 'work' for purposes including the taking and using of water	S21B	Yes	Note that this Act is being progressively repealed by the Water Management Act 2000 and does not apply to areas of the state where water sharing plans are in place. Groundwater and surface water within and near the Project are covered

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
		sharing plans – these areas cover most of the State's major regulated river systems.			by the following Water Sharing Plans: Water Sharing Plan, Greater Metropolitan Region Groundwater Sources (NoW 2011).
<i>Sydney Water Act 1994</i>	Wastewater	Approval to discharge wastewater to sewer and Trade Waste Agreement.	S49	Yes	GWMP SSWMP
<i>Sydney Water Regulation 1994</i>	Plumbing and drainage	Permit required to do plumbing or drainage work, which includes connection to a stormwater drain	S18	Yes	GWMP SSWMP
<i>Protection of the Environment Operations Act 1997</i>	Water pollution	Do not cause water pollution (other than to a sewer), except in accordance with the conditions of an Environment Protection Licence.	S120 S122	Yes	GWMP SSWMP
Noise					
<i>Protection of the Environment Operations Act 1997</i>	Plant maintenance and operation	Do not operate plant if it emits noise caused by poor maintenance or operation.	S139	Yes	NVMP
	Materials management	Do not cause noise by failing to properly and efficiently deal with materials.	S140	Yes	NVMP
Contaminated material					
<i>Protection of the Environment Operations Act 1997</i>	Land pollution	Do not cause or permit land pollution other than under authority of a licence or regulation. (However, it is not a land pollution offence to place virgin excavated natural material or lawful pesticides and fertilisers on land, or by placing matter on land that has been notified to the EPA as an unlicensed landfill and which is operated in accordance with the regulations.)	S142A – S142E	Yes	Project EPL Contaminated Land Management Plan SSWMP
<i>Contaminated Land Management Act 1997</i>	Reporting contamination	Notify the EPA if; <ul style="list-style-type: none"> Contaminants exceed thresholds contained in guidelines or the regulations where contamination 	S60	Yes	Contaminated Land Management Plan

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
		<p>has entered or will foreseeably enter neighbouring land, the atmosphere, groundwater or surface water.</p> <ul style="list-style-type: none"> Contaminants in soil are equal to or exceed guideline levels with respect to the current or approved use of the land. Contamination meets other criteria that may be prescribed by the regulations. 			
Biodiversity					
<i>Biodiversity Conservation Act 2016</i>	Fauna	Do not harm any animal that is; of a threatened species, that is part of a threatened ecological community or is a protected animal, unless authorised under other legislation (e.g. planning approval).	S2.1 S2.8	Yes	FFMP
	Habitat	Do not damage habitat of a threatened species or ecological community unless authorised under other legislation (e.g. planning approval).	S2.4 S2.8	Yes	FFMP
<i>Biodiversity Conservation Act 2016</i>	Biodiversity	Do not damage declared areas of outstanding biodiversity value unless authorised under other legislation (e.g. planning approval).	S2.3 S2.8	Yes	FFMP
	Flora	Do not pick a plant that is; of a threatened species, that is part of a threatened ecological community or is a protected plant, unless authorised under other legislation (e.g. planning approval).	S2.2 S2.8	Yes	FFMP
<i>Biosecurity Act 2015</i>	Biosecurity matters including pests, disease and weeds	The duty to prevent, eliminate and minimise biosecurity risks posed by biosecurity matters as defined by the Act.	S22	Yes	FFMP Section 4.18
Biosecurity Regulation 2017	Pests and Diseases	Notify the presence any pest or disease listed in Schedule 1 of the Biosecurity Regulation 2014, within 1	Regulation cl.7	Yes	FFMP

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
		working day after suspecting or becoming aware of the pest or disease.	Schedule 1		
<i>Fisheries Management Act 1994</i>	Dredging or reclamation	Provide the Minister for Primary Industries 28 days notice of planned dredging or reclamation work.	S199	No	Under the EP&A Act the Project is exempt from this requirement
	Mangroves, seagrasses, marine vegetation	Do not harm any mangroves, seagrasses or other marine vegetation on public water land protected by the regulations without a permit.	S205	No	
	Fish passage	Do not block fish passage without a permit	S219	No	
<i>Environment Protection Biodiversity Conservation Act, 1999 (Cwlth)</i>	Flora and fauna conservation	Do not kill, injure or take a member of a listed threatened species without a permit.	Part 13	Yes	FFMP
		Comply with the terms of any EPBC Act approval for the project.	NA	NA	N/A
Air Quality					
<i>Protection of the Environment Operations Act 1997</i>	Air quality	Do not operate plant which emits air pollution caused by poor maintenance or operation	S124	Yes	AQMP
		Do not cause or neglect to prevent air pollution (eg dust exceeding reasonable levels without active management measures in place)	S126	Yes	AQMP
		Do not cause or permit the emission of an offensive odour	S129	Yes	AQMP
<i>Protection of the Environment Operations (Clean Air) Regulation 2002</i>	Air quality	Excessive impurities are visible for a continuous period of more than 10 seconds	S15	Yes	AQMP
		Air emission concentrations for scheduled premises	Schedule 4	Yes	AQMP
Waste					
<i>Protection of the Environment Operations Act 1997</i>	Littering	Do not litter in a public place or an open private place. Do not litter from a vehicle.	Part 5.6A	Yes	Section 4.14 Community Communication Strategy

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
		Only deposit advertising material in receptacles provided for mail or newspapers or under the door of the premises. Do not deposit advertising material on or in vehicles.			
<i>Protection of the Environment Operations Act 1997</i>	Waste and transportation	Do not undertake a scheduled waste activity unless in accordance with an environmental protection licence. A licence must be obtained when construction and demolition wastes are applied to land under certain circumstances. This includes the reincorporation of crushed road base material back into roads and the placing of excess fill material onto properties. A licence is not required if the material: <ul style="list-style-type: none"> • Is VENM. • Does not exceed 200 tonnes in the Sydney, Newcastle and Wollongong areas, or 20,000 tonnes outside these areas. • Is covered by a “general exemption”. Current exempted materials are ENM, recycled aggregates and raw mulch. These exemptions are conditional and require some chemical testing of materials before they are placed onto land. • A licence must be obtained if more than 2,500 tonnes (or cubic metres) is stored on a stockpile site at any one time, or more than 30,000 tonnes of waste is received per year from off site. 	Part 3.2 Schedule 1	Yes	WMP
		Only transport waste to a facility that can lawfully accept the waste.	S143	Yes	WMP Need Section 143 notice of POEO Act
		Do not dispose of waste in a manner that harms or is likely to harm the environment.	S115	Yes	WMP

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
Protection of the Environment Operations (Waste) Regulation 2005	Waste and transportation	Comply with general requirements for the transport of waste. For example, any vehicle used by the person to transport waste must be kept in a clean condition and be maintained so as to prevent spillage of waste. For some wastes only licensed transporters can be used.	Regulation cl.49	Yes	WMP
		Comply with record keeping requirements in relation to the transport of certain types of waste.	Regulation Part 3	Yes	WMP
Waste Avoidance and Resource Recovery Act 2001		Establish the waste hierarchy. Promotes waste avoidance and resources recovery by developing waste avoidance and resource recovery strategies.	-	Yes	WMP
Heritage					
<i>Heritage Act 1977</i>	Heritage	Do not undertake an activity that will affect a place, building, work, relic, moveable object or precinct which is subject to an Interim Heritage Order or is listed on the State Heritage Register without approval from the Heritage Council.	S56-57	No	Under the EP&A Act the Project is exempt from this requirement
		Do not disturb or excavate land with knowledge or reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed; or Do not disturb or excavate land on where a relic has been discovered or exposed.	S139	No	Under the EP&A Act the Project is exempt from this requirement
<i>Heritage Act 1977</i>	Heritage	Notify the heritage Council on discovery of a relic	S146	Yes	NAHMP
<i>National Parks and Wildlife Act 1974</i>	Aboriginal places and objects	Do not harm or desecrate an Aboriginal object or Aboriginal place without consent.	S86	N/A	ACHMP
		Notify the NPWS within reasonable time of becoming aware of the location or discovery of certain Aboriginal objects.	S89A	Yes	ACHMP
		An Aboriginal heritage impact permit may be issued.	S90	No	Under the EP&A Act, the Project is exempt from this licence

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)</i>	Protection of areas and objects	Report any discovery of Aboriginal remains to the Federal Minister for the Environment and Heritage.	S20	Yes	ACHMP
		Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	S22	Yes	ACHMP
Traffic					
<i>Transport Administration Act 1988</i>	Traffic management	Comply with the functions of Roads and Maritime relating to traffic management and safety	S52A	Yes	TTAMP
<i>Road Rules 2014</i>	Use of roads	Establish the road rules that are applicable to vehicles and road users on roads in NSW	-	Yes	TTAMP
		Provisions of Road Rules 2014 not applicable to a person at the site of, and engaged in, roadworks	310	Yes	TTAMP
<i>Roads Act 1993</i>		Obtain a Road Occupancy Licence prior to commencement of traffic related works that require access to roads	S138	Yes	TTAMP
Hazard and risk					
<i>Environmentally Hazardous Chemicals Act, 1985</i>	Hazards and risks	Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes.	S28	Yes	Section 4.3 Incident Response and Emergency Plan
<i>Dangerous Goods (Road and Rail Transport) Act 2008</i>	Hazards and risks	Ensure that dangerous goods are transported in a safe manner.	S9	Yes	Section 4.3 Incident Response and Emergency Plan
<i>Pesticides Act 1999</i>	Hazards and risks	Use pesticides in an environmentally sensitive manner.	S12	Yes	FFMP
		Do not use an unregistered pesticide without a permit.	S13		
		Read the label or permit for the pesticide.	S14		
		Use registered pesticides in accordance with instructions on the label.	S15		
		Do not use any restricted pesticide unless authorised by a certificate of competency or a pesticide control order under the Act.	S17		

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant section of CEMP or supporting documentation
Compliance with pesticide codes of practice is required.					
Incident response					
<i>Protection of the Environment Operations Act 1997</i>	Notification of pollution incidents	Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	S148	Yes	Section 3.8
	Incident response	Requires the holder of an EPL to prepare a pollution incident response management plan (PIRMP)	S153A-F	Yes	Section 3.8
	Control equipment	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices)	S167	Yes	AQMP
<i>Local Government Act 1993</i>	Fire related incident	In the event of a fire related incident, the Project will comply with the requirements of the Act	N/A	Yes	Section 4.5
<i>Rural Fires Act 1997</i>			N/A	Yes	

RMS specification G36 requirements (Ed 2, Rev 5)

G36 Reference	Requirement	Relevant section of CEMP or supporting documentation
Section 2	Develop, implement and maintain for the duration of the deed, a Contractor's Environmental Management System (CEMS) that meets the requirements of the NSW Government Environmental Management System Guidelines.	Section 1.5
3.1	Prepare a Contractor's Environmental Management Plan (CEMP) for the Work Under the deed. include an Environmental Policy that contains a commitment to the principles of Ecologically Sustainable Development as detailed in the <i>Protection of the Environment Administration Act 1991 (NSW)</i> ; describe all relevant elements of, and include references to, the CEMS documentation and how these will apply to the Work Under the deed; address all aspects and stages of the Work Under the deed.	This CEMP; Annexure C Section 1.5 Section 1.3
3.1	Include any Sub-Plans specified in Annexure G36/A2 that are required to address specific issues.	Chapter 4 and relevant sub-plans
3.2.1	Prior to commencement of any work on Site, carry out an environmental risk assessment workshop to identify all the environmental constraints associated with the Work Under the deed and address the environmental risks associated with the constraints and activities you propose to undertake. Use the environmental risk assessment workshop to develop risk mitigation and management strategies to eliminate or reduce the risk exposure.	Section 3.2.1 Annexure B All associated sub-plans and procedures
3.2.2	The CEMP must identify your obligations under environmental legislation that are relevant to the Work Under the deed, including those listed in Annexure G36/M.	Annexure A
3.2.2	Obtain each necessary approval, license and permit not obtained by the RMS Representative prior to the commencement of any work which relates to that approval, license, notification or permit. Include copies of such approvals, licenses and permits in the CEMP.	Annexure A
3.2.2	Include in your CEMS a compliance tracking program and keep the program up to date.	CTEAP
3.2.3	Include in the CEMP environmental objectives and target for the Work Under the deed which must be consistent with RMS Environment Policy Statement.	Section 3.2.3
3.2.4	Prepare and implement Environmental Work Method Statements (EWMS) specified in D&C G36, D&C 38 and/or D&C G40 and others as required. Develop the EWMS in consultation with the relevant site management personnel to ensure that all issues are addressed, methods and activities are practical and all personnel are aware of their commitments and responsibilities. Review the EWMS periodically to ensure its effectiveness and proper implementation and incorporate any improvements or changes identified into subsequent revisions.	Section 3.2.4 EWMS

G36 Reference	Requirement	Relevant section of CEMP or supporting documentation
3.3	Provide sufficient resources, including site personnel, for the effective implementation of the CEMP for the duration of the Work Under the deed. The CEMP must indicate the names, responsibilities and authority of your site management personnel who have primary responsibility for developing, implementing and maintaining the CEMS and the CEMP for the Work Under the deed, and rectifying any environmental nonconformities identified by you or the RMS Representative.	Section 3.3
3.3	Nominate in the CEMP a full-time Environmental Site Representative (ESR) who will be the authorised contact person for communications with the RMS Representative and the EPA on all environmental matters.	Section 3.3
3.4	Include environmental management requirements in the planning, selection and management of subcontractors. Include a requirement to comply with the CEMP in all contractual arrangements with your subcontractors.	Section 3.4 Procurement Management Plan; Subcontractor agreements
3.5	The CEMP must include a site-specific environmental induction and training plan that describes the minimum level of training, experience and/or qualifications required for staff and subcontractors working on Site, the names of the persons to be trained, the proposed frequency of training and the procedures for training. Establish and maintain a register of environmental training carried out, including dates, names of persons trained and trainer details.	Section 3.5 Training schedule; Training records / register
3.6	Normal working hours are from Monday to Friday between 7.00 am to 6.00 pm and Saturday between 8.00 am to 1.00 pm inclusive, but excluding public holidays. The CEMP must include a procedure for notifying the RMS Representative, all relevant Authorities and the community, in advance of any proposal to work outside of these working hours. Such changes in working hours must comply with all licences, permits, approvals, consents, notification, statutory requirements, etc and have been appropriately justified and assessed.	Out-of-hours works protocol
3.7	Describe in the CEMP the processes for external and internal communication in relation to the environmental aspects of the Work Under the deed.	Section 3.7
3.7.1	The CEMP must identify at least two persons (together with their contact telephone numbers) who will be available to be contacted by the EPA on a 24 hour basis and who have authority to take immediate action to shut down any activity, or to effect any pollution control measure, as directed by an authorised officer of the EPA.	List of emergency and key contacts Section 3.3
3.7.2.1	Notify local residents about any new or changed construction activities which will affect access to their properties or otherwise disrupt the residents' use of their premises, at least five (5) working days before commencing work affecting residents.	Communication Strategy
3.7.2.3	Inform the RMS Representative, and the residents of the proposed work outside normal working hours in accordance with the Environment Protection Licence held by you.	Section 3.7 NVMP Communication Strategy
3.7.3	Within one (1) working day of receiving a complaint about any environmental issue, including any pollution incidents, arising from the Work Under the deed, submit a written report to the RMS Representative detailing the complaint and the action taken to remedy the problem. A final report together with your proposed measures to prevent the recurrence of such incidents must be submitted to the RMS Representative within five (5) working days.	Section 3.7.4 Communication Strategy
3.8	The CEMP must include details of:	Section 3.8

G36 Reference	Requirement	Relevant section of CEMP or supporting documentation
	<p>a) your key emergency response personnel, their respective responsibilities and contact details including all-hours contact telephone numbers;</p> <p>b) emergency services (e.g. ambulance, fire brigade, spill clean-up services);</p> <p>c) your communication strategy, both internal and external (refer to Clause 3.7), during emergencies;</p> <p>d) any identified potential environmental emergencies that may occur on Site, and the response procedures for these emergencies;</p> <p>e) frequency of tests of the emergency response procedures.</p> <p>Induct all staff and subcontractors working on the Site about the potential environmental emergencies and provide training in implementing the relevant environmental safeguards and risk mitigation measures.</p>	<p>List of emergency and key contacts Incident Response and Emergency Plan Communication Strategy</p>
3.9	<p>Include in the CEMP procedure(s) to monitor and measure, on a regular basis, your environmental management performance and to evaluate compliance with this Specification.</p>	Section 3.9
3.9	<p>Undertake regular site environmental inspections to assess the adequacy and effectiveness of your environmental controls. The site environmental inspections must cover the following:</p> <p>high risk activities and processes;</p> <p>work in environmentally sensitive areas; and</p> <p>site preparedness for adverse weather conditions, including adequacy of environmental controls and availability of emergency equipment.</p>	Section 3.9.1
3.9	<p>Include in the CEMP a risk-based auditing program to verify that the Work Under the deed meets the requirements of this Specification.</p>	Section 3.9.3
3.9	<p>Conduct all internal and external environmental audits for the Work Under the deed in accordance with AS/NZS ISO 19011.</p>	Section 3.9.3
3.11	<p>Maintain, as part of the project records in accordance with RMS D&C Q6 Annexure Q/E, legible environmental records of all environmental activities associated with Work Under the deed to demonstrate compliance with the CEMS and CEMP.</p>	Section 3.11
3.12	<p>Develop a documented process to periodically review the effectiveness and proper implementation of the CEMP. The management review process must identify opportunities for continual improvement of your environmental management processes and practices and ensure that the CEMS and CEMP remain relevant to the Work Under the deed.</p>	Section 3.13
4.1	<p>Comply with the requirements of Specification RMS G38 for soil and water management.</p>	SSWMP
4.2.2	<p>Include in your CEMP a Contaminated Land Management Sub-Plan.</p>	SSWMP
4.2.3	<p>Promptly notify the RMS Representative of any suspected or potential contamination exposed during construction activities and cease all work activities within the vicinity of actual or suspected contaminated land.</p>	Section 3.7.2 SSWMP
4.2.4	<p>Prepare a Remediation Action Plan for remediating the known areas of contamination, and areas of potential contamination in the immediate vicinity.</p>	SSWMP Remediation Action Plan

G36 Reference	Requirement	Relevant section of CEMP or supporting documentation
4.2.5	Implement relevant control measures to divert any surface runoff away from the contaminated land, and capture and treat any surface runoff contaminated by exposure to the contaminated land.	SSWMP
4.3	Plan and execute the Work Under the deed so as to minimise the possibility of pollution of the Site and adjoining areas by chemicals, dangerous goods and other potential contaminants.	SSWMP
4.3	<p>Prepare a procedure for the following activities, as a minimum, to minimise the possibility of pollution of the Site:</p> <ul style="list-style-type: none"> a) refuelling or maintenance and cleaning of plant and equipment including concrete agitators, bitumen spray bars and asphalt pavers; b) on-site batching of concrete and asphalt; c) mixing of bitumen with cutting oil and additives; d) application of liquid membranes, including paint and thermoplastic, resin, emulsion, precoat agent and curing compound; e) bulk fuel or chemical deliveries; f) removal and disposal of excess chemicals and water used for washing down of equipment; g) pumping out of oil and grease collection pits; and h) decanting operations such as for fuel, chemicals and bitumen. 	SSWMP
4.4	Prepare and implement an Air Quality Management Sub-Plan as part of the CEMP, or include mitigation strategies within the CEMP, to minimise the impact of dust, offensive odour, and other air pollutants on the surrounding environment, including adjacent properties and sensitive places.	AQMP
4.5	<p>Comply with the requirements of the Rural Fires Act 1997 (NSW), and the Local Government Act 1993 (NSW) and be guided by the NSW Rural Fire Service publication "Equipment and Machinery Use in Bush Fire Prone Areas". Provide firefighting equipment as required for the safety of persons and property.</p> <p>All items of plant used during proclaimed high fire danger periods that could discharge sparks must be fitted with spark arresters. Do not undertake cutting, welding, grinding or other activities likely to generate fires in the open on days when a total fire ban is proclaimed.</p>	Section 4.5 Work Health and Safety Plan
4.6	<p>Prepare and implement a Noise Management Sub-Plan as part of the CEMP, or include mitigation strategies within the CEMP, to minimise the impact of noise from your operations on adjacent properties. The Noise Management Sub-Plan or mitigation strategies must include proposed environmental control measures for all significant noise generating activities.</p> <p>Where works are proposed to be undertaken outside of normal working hours, comply with the requirements of Clause 3.7.2.</p>	AQMP
4.7	<p>Implement all measures to prevent damage to adjacent public utilities, structures and buildings resulting from construction vibration and air blast.</p> <p>Prepare, as part of the CEMP, a Vibration and Air Blast Management Sub-Plan as part of the CEMP, or include mitigation strategies within the CEMP, that describes the environmental controls to be implemented during construction to minimise the impact of vibration and air blast on adjacent properties and residents.</p>	AQMP

G36 Reference	Requirement	Relevant section of CEMP or supporting documentation
4.8	Prepare and implement a Flora and Fauna Management Sub-Plan as part of the CEMP, or include mitigation strategies within the CEMP, to provide effective environmental controls to protect all native flora, fauna, and fish from the impact of your construction activities.	FFMP
4.9	Prepare an Aboriginal Heritage Management Sub-Plan as part of the CEMP or include mitigation strategies within the CEMP to manage any areas of the Site where known Aboriginal objects, places and/or culturally sensitive areas have been identified on Site.	ACHMP
4.10	Prepare a Non-Aboriginal Heritage Management Plan as part of the CEMP or include mitigation strategies within the CEMP to manage any areas of the Site where any known heritage items/s and/or archaeological sites have been identified.	NAHMP
4.11.1	Prepare a Waste Management Sub-Plan as part of the CEMP.	WMP
4.11.2	Maintain a Waste Management Register until the Construction Completion Date, to record the type, amount and location of waste reused, recycled, stockpiled and disposed of.	WMP Waste Management Register
4.12	Use of pesticides must be in accordance with the <i>Pesticides Act 1999</i> , other relevant legislation, label directions and any relevant industry codes of practice.	FFMP; Pesticide application records
4.13	Clearly show all identified environmentally sensitive areas and sensitive places on Sensitive Area Maps, submitted as part of the CEMP.	Annexure F
4.13	Prepare and include in the CEMP an EWMS for working in or near the environmentally sensitive areas.	Section 3.2.4 EWMS
4.14	Prepare and include in the CEMP an environmental incident reporting and investigation procedure, including Pollution Incident Response Management Plan.	Section 3.8 Incident Response and Emergency Plan
4.15.1	Locate and manage your site facilities to minimise impacts on the environment and the community.	Annexure D
4.15.2	Prior to taking possession of any area of land nominated by the RMS Representative as available for use by you for locating your site facilities, including areas for construction materials storage and stockpiling, arrange for a pre-construction land condition assessment of each area you intend to occupy.	SEMP
4.15.3	When the areas of the RMS Representative's land used for the Contractor's site facilities are no longer required, and after restoration of the areas in accordance with Clause 4.16, arrange for a post-construction land condition assessment for each area that has been used.	Section 4.18
4.16	Prior to Construction Completion, restore areas disturbed by you (such as areas for site compounds, material storage, access and haul roads and the provision of RMS Site Facilities) to a condition similar to that existing before disturbance.	Section 4.18 Site Rehabilitation Plans

RMS G38 requirements (Ed 2/Rev 2)

G38 Reference	Requirement	Relevant section of CEMP or supporting documentation
Section 2.1.1	Prepare and implement a Soil Water Management Plan	Section 4.2 SSWMP
Section 2.1.2	<p>The SWMP must include details of the following, where relevant:</p> <ul style="list-style-type: none"> (a) Purpose and objectives of SWMP. (b) Approvals, licence requirements and relevant legislation. (c) Site investigation and assessment of the following: <ul style="list-style-type: none"> (i) soil properties (including dispersion properties and presence of acid sulphate soils); (ii) rainfall records and design parameters; (iii) waterways and other water related sensitive environments; (iv) groundwater; (v) possibilities of, and limitations on, water extraction. (d) Environmental control measures, including: <ul style="list-style-type: none"> (i) responsibility for its implementation, including the names and contact details of the person(s) responsible; (ii) resources required for its construction, monitoring, maintenance and removal; (iii) implementation schedule for the measures, related to construction activities; (iv) monitoring and maintenance of the environmental controls. (e) Other associated plans, Environmental Work Method Statements (EWMS) and procedures. (f) Construction sediment retention basins, including details of the following: <ul style="list-style-type: none"> (i) design of the construction sediment retention basins, including any temporary modifications to the operational basins, providing details of the approach, standards, criteria and references used in the design of the basins; (ii) management of the basins; (iii) procedures for testing, treatment and discharge of water from the basins; (iv) procedures for the periodic removal and disposal of the sediment collected within the basins. (g) Training, including: <ul style="list-style-type: none"> (i) site induction; (ii) environmental training; (iii) toolbox training. (h) Inspection and auditing. 	Section 4.2 SSWMP
Section 2.1.1	Prepare an Erosion and Sediment Control Plan (ESCP) for the Work Under the Contract	ESCPs in SSWMP

G38 Reference	Requirement	Relevant section of CEMP or supporting documentation
Section 2.2.2	<p>The ESCP must identify all erosion and sediment control risks and describe how these will be addressed during construction.</p> <p>The ESCP must include details of the following where relevant:</p> <ul style="list-style-type: none"> (a) erosion and sediment control measures required: <ul style="list-style-type: none"> (i) before clearing and grubbing of the Site; (ii) before removal of topsoil and commencement of earthworks within the catchment area; (b) how upstream water will be managed so it is not polluted by the construction activities; (c) method of tree removal in intermittent watercourses, leaving grasses and small understorey species undisturbed wherever possible; (d) scour protection measures for haul roads and access tracks when these are an erosion hazard due to either their steepness, soil erodibility or potential for concentrating runoff flow; (e) measures for stabilising temporary drains; (f) measures to minimise erosion during construction of embankments; (g) measures to minimise erosion and control sedimentation from stockpiles; (h) methods of constructing batters to assist the retention of topsoil on the batter slopes; (i) measures to temporarily trap sediment in median areas at regular intervals; (j) controls in runoff flow paths to reduce flow velocities and minimise the potential for erosion; (k) measures for controlling waste water discharge on or around the Site from dewatering (refer to Clause 3.5), surface washing, grit blasting, saw cutting, drilling, washing vehicles and plant and any other activities which add pollutants to water; (l) measures to be put in place during an extended shut-down of the Site or when rainfall above a certain trigger level is predicted; (m) maintenance of erosion and sediment control structures including measures to restore their capacity; (n) inspection and auditing program for all erosion and sediment controls to ensure that no disturbed area is left without adequate erosion and sediment controls. 	SSWMP
Section 2.3	Prepare and implement a Water Quality Monitoring Program	Section 3.9.2 SSWMP
Section 3.5	Establish erosion control and sediment capture measures, and maintain them regularly, to divert offsite stormwater, manage onsite stormwater runoff and stabilise stockpiles in accordance with RMS Technical Guideline EMS-TG-010: Stockpile Site Management and the BLUE BOOK guidelines.	SSWMP
Section 3.4.1	Conduct any dewatering activities in a manner that does not cause erosion and/or pollute the environment.	SSWMP

G38 Reference	Requirement	Relevant section of CEMP or supporting documentation
Section 3.4.2	Prepare a procedure for all identified dewatering activities as part of the SWMP or ESCP.	SSWMP
Section 3.4.5	Keep records of the following: (i) dewatering procedure; (ii) date and time for each discharge at each location; (iii) water quality test results for each discharge; (iv) personnel approving the dewatering activities; (v) evidence of discharge monitoring, or risk assessment and mitigation measures used to eliminate the risks of pollution or erosion; (vi) any other EPA licence requirements where issued.	SSWMP
Section 3.7.1	Where work is required within waterways, prepare an Environmental Work Method Statement (EWMS) for the work(s).	Section 3.2.4 EWMS
Section 3.2.1	Construct operational basins in accordance with the Design Documentation Drawings or as required.	SSWMP
Section 3.2.2	Design the construction sediment retention basins in accordance with the BLUE BOOK guidelines.	SSWMP
Section 3.2.4	Clean out sediment basins, at minimum, whenever the accumulated sediment exceeds 60% of the sediment storage zone.	SSWMP

RMS G40 requirements

G40 Reference	Requirement	Relevant section of CEMP or supporting documentation
Section 2.4	Before clearing commences, identify the limits of clearing by clearly visible markers placed at 25m intervals on each side of the road formation and bridges as shown on the Drawings. Also provide a report which: (a) includes a statement from an Ecologist that identifies the species and location of any weeds growing anywhere in the road reserve over the length to be cleared and grubbed; (b) identifies all locations of threatened flora species and trees which have been marked or otherwise identified for preservation; and (c) lists any trees outside the limits of clearing which are unsound and likely to fall upon the roadway or onto private property.	FFMP
Section 2.4	Plan and carry out all operations to ensure that there is no damage to any trees outside the limits of clearing specified.	FFMP
Section 2.4	Trees nominated in (c) above must be marked and identified in the clearing and grubbing plan in a manner which allows them to be identified as one of the listed trees and whether pruning or removal is recommended. Areas of weed infestation identified in the ecologist report (Clause 2.4 (a) must be marked).	FFMP
Section 2.4	Weeds must be removed and disposed of in accordance with the requirements of the local Council.	FFMP
Section 2.4	Take protective measures during the operations of clearing and road construction to avoid damaging or destroying threatened flora species and trees which have been marked or otherwise identified for preservation. These measures must include but not be limited to: (i) fencing around trees clear of the canopy line; (ii) ensuring no materials are stockpiled and no vehicles are parked under the canopy; (iii) avoiding excavation or the placing of fill near any tree without advice from an ecologist; and (iv) routing haul roads and access tracks clear of the canopy.	FFMP
Section 4.1	Native trees removed during clearing and grubbing may be used in conjunction with soil erosion and sediment control measures. All other native trees removed must be converted to mulch and stockpiled for use during landscape planting under the Contract. This requirement is subject to the following constraints: (a) Where the native vegetation on Site is insufficient to provide the quantities of mulch needed during landscape planting, all native trees removed during clearing and grubbing must be mulched and stockpiled. Under no circumstances must the extent of clearing and grubbing be extended or weeds or exotic species used to make up any shortfall of mulch; (b) Where the quantity of mulch produced exceeds the quantity required under the Contract, the excess mulch will become your property and must be removed from the Site.	FFMP WMP

G40 Reference	Requirement	Relevant section of CEMP or supporting documentation
Section 5	Unless otherwise specified, all materials cleared, pruned and grubbed in accordance with this Specification shall become your property and must be removed from the site for recycling or disposal. Disposal must be in accordance with your Waste Management Plan.	FFMP WMP

RMS G36, G38 and G40 specification hold and witness points

Specification	Clause	Type	Description
G36	3.1	Hold	Submission of CEMP and selected CEMS documents
G36	3.2.2	Hold	Evidence of approvals, licences and permits obtained
G36	3.10	Hold	Verification that environmental nonconformities has been rectified
G36	4.2	Hold	Submission of Remediation Action Plan for contaminated land
G36	4.7	Hold	Building Condition Inspection Reports and Vibration and Air Blast Management Sub-Plan
G36	4.11	Hold	Copy of "s.143 Notice"
G36	4.13	Hold	Working in or near environmentally sensitive areas
G36	4.15.2	Hold	Submission of pre-construction land condition assessment report for each area you intend to occupy for your site facilities
G38	3.1	Hold	Submission of an ESCP(s) and, where required, WQMP for a section of the Works.
G38	3.1	Witness	Submission of written notice that measures set out in the ESCP for a section of the work have been installed.
G40	2.4	Hold	Written notification of intention to clear any area.

Guidelines for the preparation of Environmental Management Plans (DIPNR, 2004)

EMP guideline section	Reference (in this CEMP)
Background	
Introduction, location, construction activities, and timing and scheduling	Section 1
Project description	Section 1.3
EMP context	Section 1.2
EMP objectives	Section 1.2
Environmental Policy	Annexure C: Environment Policy
Environmental management	
Environmental management structure and responsibility	Section 3.3.1
Approval and licensing requirements	Section 3.2.2
Reporting	Section 3.9
Environmental training	Section 3.5
Emergency contacts and responses	List of emergency and key contacts
Implementation	
Risk assessment	Section 3.2.1, Annexure B: Environmental Aspects and Impacts
Environmental management activities and controls	CEMP sub-plans
Environmental control plans or maps	Annexure F: Sensitive Area Plans
Environmental schedules	Environmental schedules (e.g. site inspection checklists, environmental incident reports, waste register) will be included in CEMP sub-plans, where appropriate, or will be retained on the Project's document management system.
Monitor and review	
Environmental monitoring	Section 3.9.2
Environmental auditing	Section 3.9.3
Corrective actions	Section 3.10

EMP guideline section	Reference (in this CEMP)
EMP review	Section 3.12 and Section 3.13

Annexure B Environmental Aspects and Impacts

This Environmental Aspects and Impacts Register has been prepared by JHCPB, to supplement the Environmental Risk Analysis conducted as part of the Environment Impact Statement risk assessment (Chapter 8). An additional risk workshop will be completed prior to the commencement of construction to review this planning phase risk assessment; it will be attended by representatives from the JHCPB and TfNSW teams.

The identification of significant construction activities and associated impacts that could eventuate during construction of the Project is central to the selection of appropriate environmental safeguards. The activity specific site controls outlined in the environmental management plans have been developed to comply with the requirements from the Roads and Maritime Services (RMS) Environmental Specifications, Minister's Conditions of Approval (CoA) and Revised Environmental Management Measures (REMMs). Management measures may include physical controls, procedures, forms, checklists, monitoring requirements, permits, etc.

The risk management process involved an assessment of all specific project activities/aspects in or near environmentally sensitive areas and resulted in the development of a list of environmental risks (effects and impacts) and a corresponding risk mitigation strategy and risk ranking. Each environmental risk was categorised, based on the following:

- The environmental aspect
- Relative scale of the potential impact
- Type of potential impact
- Likelihood of occurrence.

The identification of risks included a review of the proposed works, the CoA, REMMs, and review of the environmental risks identified by the EA and subsequent Submissions Report.

A revised risk rating, assuming the controls nominated within the environmental management plans are implemented, is also included in the table. The risk rating is based on the likelihood and the consequence of the event occurring (refer to Tables 1 to 3).

Table 1: Likelihood criteria

Likelihood Rating	Probability or Chance	Qualitative Assessment	Recurrence Timeframe
Almost Certain (5)	≥ 90%	Almost certain to occur during the project / contract life	Less than "Monthly"
Likely (4)	51% to 89%	Considered likely to occur during the project / contract life	"Monthly" to "Yearly"
Possible (3)	30% to 50%	Considered a possible occurrence during the project / contract life	Between 2 and 5 years
Unlikely (2)	5% to 29%	Considered unlikely to occur during the project / contract life	Between 5 and 20 years
Rare / Remote (1)	< 5%	Considered a rare occurrence to happen during the project / contract life	Greater than every 20 years

Table 2: Consequence criteria

Consequence - Risk					
RATING	1	2	3	4	5
Environment & Natural Resources	* Low severity environmental impact(s) or impact on natural resources availability that are promptly reversible and affected area is within the site boundary	* Nuisance or low severity environmental impact(s) or impact on natural resources availability that are promptly reversible and affected area is outside the site boundary	* Moderate severity environmental impact(s) or impact on natural resources availability where the affected area is within the site boundary	*Moderate severity environmental impact(s) or impact on natural resources availability where the affected area is outside the site boundary	*High severity environmental impact(s) or impact on natural resources availability at local scale significance
Reputation / Community / Media	* Public concern restricted to local complaints * Lack of contribution to the community	* Minor, adverse local public or media attention and complaints * Employees warned only * Minor change in community amenity values	* Attention from media and/ or heightened concern by local community * Stakeholder action will disrupt planned project activities * Disciplinary action may be taken * Temporary reduced community access to services or employment	* Significant adverse national media / public / NGO attention * Considerable and prolonged adverse community impact and dissatisfaction publicity expressed * Stakeholder action will delay achievement of major elements of the Project * Permanently reduced community access to services or employment	* Serious public or media outcry with international coverage * Significant adverse community impact & condemnation * Stakeholder action will prevent achievement of the project objectives * Reduced cohesion of community
Governance / Legal / Regulatory	* Very minor technical breach of regulation or policy or code of ethics. No fine / penalty	* Minor legal issues, non-compliances and breaches of regulation, policy or code of ethics * Enforceable Undertaking	* Moderate breach of regulation, policy or code with investigation or report to authority * Moderate legal proceedings initiated * Several Improvement Notices	* Significant breach of regulation, policy or code with fine or other regulatory action. Significant litigation / legal action * Shut down of part of a project due to regulatory breach * Prohibition Notice	* Major breach of regulation, policy or code with fine * Major litigation * Major investigation by regulatory body * Prosecution / Accreditation loss

Table 3: Overall risk rating

		Consequence				
		1	2	3	4	5
Likelihood	Almost certain (5)	D	C	B	A	A
	Likely (4)	D	D	C	B	A
	Possible (3)	E	D	C	C	B
	Unlikely (2)	E	E	D	C	B
	Rare (1)	E	E	D	D	C

Table 4: Aspect and impact register

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
Air quality	<ul style="list-style-type: none"> Earthworks and excavation General construction activities (piling, concrete works, M&E, buildings, landscaping) Vegetation clearance 	Generation of dust as a nuisance to the community	L = 5, C = 2 Risk = C	<ul style="list-style-type: none"> AQ2: Regular communication to be carried out with other WestConnex projects under construction in close proximity to ensure that measures are in place to manage cumulative dust impacts. AQ3: Regular site inspections will be conducted to monitor potential dust issues. The site inspections, required actions and ongoing issues will be recorded and actioned appropriately within agreed timeframes by relevant project personnel. AQ4: Construction activities with the potential to generate dust will be modified or ceased during unfavourable weather conditions to reduce the potential for dust generation. AQ5: Measures to reduce potential dust generation, such as the use of water carts, sprinklers, dust screens and surface treatments, will be implemented within project sites as required. AQ6: Access roads within project sites will be maintained and managed to reduce dust generation. AQ7: Where reasonable and feasible, appropriate control methods will be implemented to minimise dust emissions from the project site. AQ8: Storage of materials that have the potential to result in dust generation will be minimised within project sites at all times. AQ12: Haul roads will be treated with water carts and monitored during earthworks operations, ceasing works if necessary during high winds where dust controls are not effective. AQ13: Suitable dust suppression and/or collection techniques will be used during cutting, grinding or sawing activities likely to generate dust in close proximity to sensitive receivers. AQ14: The potential for dust generation will be considered during the handling of loose materials. Equipment will be selected and handling protocols developed to minimise the potential for dust generation. AQ15: All loaded spoil haulage trucks and other project-related heavy vehicles carrying materials with the potential to result in dust generation will be covered to prevent dust emissions during transport in accordance with relevant road regulations. AQ16: Demolition activities will be planned and carried out to minimise the potential for dust generation. AQ17: Adequate dust suppression will be applied during all demolition works required to facilitate the project. AQ19: Areas of soil exposed during construction will be minimised at all times to reduce the potential for dust generation. AQ20: Exposed soils will be temporarily stabilised during weather conditions conducive to dust generation and prior to extended periods of inactivity to minimise dust generation. AQ21: Exposed soils will be permanently stabilised as soon as practicable following disturbance to minimise the potential for ongoing dust generation. AQ22: Ensure that stockpiles of materials with the potential to result in dust emissions are adequately protected and managed to reduce potential dust generation. AQ23: Ensure fine materials are stored and handled to minimise dust. AQ24: All sealed surfaces within sites and site accesses will be managed to reduce dust generation and sediment tracking onto roads AQ25: At the commencement of establishment of project ancillary facilities, controls such as wheel washing systems and rumble grids will be installed at all site exits to prevent deposition of loose material on sealed surfaces outside project sites to reduce potential dust generation. CoA E1: All reasonably practicable measures must be implemented to minimise the emission of dust and other air pollutants during the construction and operation of the CSSI. 	L = 4, C = 2 Risk = D	AQMP (REMM AQ1)
		Impacts on ambient air quality and human health from plant emissions.	L = 3, C = 2 Risk = D	<ul style="list-style-type: none"> AQ9: All construction vehicles and plant will be inspected regularly and maintained to ensure that they comply with relevant emission standards. AQ10: Engine idling will be minimised when plant is stationary, and plant will be switched off when not in use to reduce emissions. 	L = 2, C = 2 Risk = E	AQMP

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
				<ul style="list-style-type: none"> AQ11: The use of mains electricity will be favoured over diesel or petrol-powered generators where practicable to reduce site emissions. CoA E1: All reasonably practicable measures must be implemented to minimise the emission of dust and other air pollutants during the construction and operation of the CSSI. 		
Biodiversity	<ul style="list-style-type: none"> Earthworks and excavation General construction activities (piling, concrete works, M&E, buildings, landscaping) Tunnel excavation Vegetation clearance Operation of ancillary facilities 	Ecological impacts due to disturbance of actual or potential acid sulfate soils and/or acid drainage discharge.	L= 3, C = 4 Risk = C	<ul style="list-style-type: none"> SW11: Procedures, prepared in accordance with the requirements of the Acid Sulfate Soil Manual (Acid Sulfate Soil Management Advisory Committee 1998), will be included in the SWMP and implemented in the event that acid sulfate soils, rocks or monosulfidic black oozes are encountered during construction of the project. 	L= 2, C = 3 Risk = D	SSWMP (REMM SW01, SW02)
		Impacts to aquatic habitat in Whites Creek and Rozelle Bay.	L= 3, C = 4 Risk = C	<ul style="list-style-type: none"> SW08: The proposed bridge crossing over and widening of Whites Creek, including all associated temporary and permanent infrastructure, will be designed and constructed in a manner consistent with: <ul style="list-style-type: none"> Controlled Activities on Waterfront Land, Guidelines for watercourse crossings on waterfront land (NSW Department of Primary Industries (DPI) 2012) Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (Fairfull and Witheridge 2003) Policy and Guidelines for Fish Friendly Waterway Crossings (NSW Fisheries February 2004) Policy and Guidelines for Fish Habitat Conservation and Management Update 2013 (DPI-Fisheries 2013). Appropriate fish passage will be provided for crossings of fish habitat streams. SW09: Consultation will be undertaken with Sydney Water regarding the timing of the works at Whites Creek and compatibility of the proposed design and Sydney Water's naturalisation works. B3: The proposed road bridge at Whites Creek will be designed with consideration of <i>Policy and Guidelines for Fish Habitat Conservation Update 2013</i> (DPI-Fisheries 2013) and <i>Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings</i> (NSW-Fisheries 2003). 	L= 3, C = 2 Risk = D	SSWMP (REMM SW01), FFMP (REMM B1), ESCPs (REMM B4)
	<ul style="list-style-type: none"> 	Loss of foraging habitat for the grey-headed flying-fox and loss of habitat for microbats.	L= 3, C = 1 Risk = E	<ul style="list-style-type: none"> B2: Prior to the commencement of any works associated with the modification of the Victoria Road bridge, an inspection will be carried out by a suitably qualified and experienced ecologist to confirm the presence of roosting microbats. If roosting microbats are identified, measures to manage potential impacts will be developed in consultation with an appropriate microbat expert and included in the FFMP prior to the commencement of any work with the potential to disturb the roosting locations (as confirmed by the microbat expert). CoA E174: The clearing of native vegetation must be minimised with the objective of reducing impacts to any threatened species, populations and ecological communities to the greatest extent practicable. Impacted vegetation must be rehabilitated with endemic species (in the first instance) and locally native species to the greatest extent practicable. CoA E175: Prior to removing/clearing any vegetation, or demolition of structures identified as potential roosting sites for microbats, pre-clearing/demolition inspections for microbats and threatened species must be undertaken. The inspections, and any subsequent relocation of species and associated management/offset measures, must be undertaken under the guidance of a suitably qualified and experienced ecologist. Surveys for the presence of microbat roosting must be undertaken to cover the period of roosting, under guidance of a suitably qualified and experienced. Survey methodologies must be incorporated into the Construction Flora and Fauna Management Sub-plan required under Condition C4 and Site Establishment Management Plan required under Condition C22, as relevant. 	L= 2, C= 1 Risk = E	FFMP (REMM B1, CoA C4), SEMP (CoA C22), Microbat Management Strategy (CoA E176)
	<ul style="list-style-type: none"> 	Loss of trees during construction.	L= 4, C = 2 Risk = D	<ul style="list-style-type: none"> B5: The FFMP will include measures to manage potential impacts on trees. Measures will include: <ul style="list-style-type: none"> The establishment of tree protection zones Ground protection measures for trees to be retained. B6: As many trees as possible will be retained during construction. In the event that tree removal cannot be avoided, a tree replacement strategy will be prepared. Replacement trees will be included in the relevant UDLP. Opportunities for the provision of replacement trees outside the project boundary will be investigated in consultation with local councils. B7: The FFMP will include tree management protocols and provision for the development of tree management plans (in accordance with the requirements of AS 4970-2009) where required for specific trees. Protection of trees on development sites will be carried out in consultation with an arborist with a minimum Australian Qualifications 	L= 4, C= 1 Risk = D	FFMP (REMM B1), UDLP, Tree management protocols and tree management plans, SEMP (CoA C22)

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
				<p>Framework (AQF) Level 5 qualification in arboriculture for each tree proposed for retention where works associated with the project have the potential to impact on the tree root zone.</p> <ul style="list-style-type: none"> B8: Tree removal, pruning and maintenance work will be carried out by an arborist with a minimum AQF Level 3 qualification in accordance with AS 4373-2007 Pruning of Amenity Trees and the NSW WorkCover Code of Practice for the Amenity Tree Industry (1998) and advice provided by an arborist with a minimum AQF Level 5 qualification in arboriculture (or equivalent). CoA E174: The clearing of native vegetation must be minimised with the objective of reducing impacts to any threatened species, populations and ecological communities to the greatest extent practicable. Impacted vegetation must be rehabilitated with endemic species (in the first instance) and locally native species to the greatest extent practicable. 		
Climate change	<ul style="list-style-type: none"> General construction activities (piling, concrete works, M&E, buildings, landscaping) Operation of ancillary facilities 	Impacts on workers and construction associated with higher frequency and risk of extreme heat due to climate change.	L= 3, C = 2 Risk = D	<ul style="list-style-type: none"> CC1: In the refinement of construction Work Health and Safety Management Plans, consider the increased potential for heat stress among construction personnel and implement measures for greater awareness and education of personnel around health and wellbeing during periods of extreme heat. 	L = 2, C = 2 Risk = E	CEMP, Work Health and Safety Management Plans
Contamination	<ul style="list-style-type: none"> General construction activities (piling, concrete works, M&E, buildings, landscaping) Operation of ancillary facilities Spoil transport, deliveries, general plant operation on public roads Earthworks and excavation Vegetation clearance 	Impacts associated with the incorrect storage of dangerous goods leading to spills and leaks.	L=4, C = 3 Risk = C	<ul style="list-style-type: none"> HR1: Storage of dangerous goods and hazardous materials will occur in accordance with suppliers' instructions and relevant Australian Standards and legislation including the: <ul style="list-style-type: none"> Work Health and Safety Act 2011 (NSW) Storage and Handling of Dangerous Goods Code of Practice (WorkCover NSW 2005) Environment Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin (NSW EPA 1997). <p>Storage methods may include bulk storage tanks, chemical storage cabinets/ containers or impervious bunds.</p> HR2: Secure, bunded areas will be provided around storage areas for oils, fuels and other hazardous liquids. Impervious bunds will be of sufficient capacity to contain at least 110 per cent of the volume of the largest stored container. HR3: Management measures to reduce the potential for spills, reduce potential spill volumes and prevent any contamination will be developed and implemented for activities such as vehicle refuelling, servicing, maintenance and washdown, where there is a potential for spills and contamination. HR4: Safety Data Sheets for dangerous goods and hazardous substances will be stored on site prior to their arrival. 	L=3, C = 1 Risk = D	SSWMP, Remediation Action Plan, WMP, Stockpile management procedures
		Impacts associated with the incorrect transportation of dangerous goods or potentially contaminated substances, leading to spills and leaks.	L=4, C = 4 Risk = B	<ul style="list-style-type: none"> CM04: The Construction Waste Management Plan for the project, prepared as described in Chapter 23 (Resource use and waste minimisation) of the EIS, will include procedures for handling and storing potentially contaminated substances. HR5: Transport of dangerous goods and hazardous substances will be conducted in accordance with relevant legislation and codes, including the Dangerous Goods (Road and Rail Transport) Regulation 2014 (NSW) and the Australian Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission 2008). CoA A44: All construction spoil haulage vehicles must be clearly marked as being for WestConnex M4-M5 Link (including CSSI application number) in such a manner to enable immediate identification within at least 50 metres of the vehicles. CoA E53: The locations of all construction spoil haulage vehicles must be able to be monitored in real time and the records of monitoring be made available electronically to the Secretary and the EPA upon request for a period of no less than one year following construction. 	L=3, C= 2 Risk = D	WMP, Remediation Action Plan
	Impacts on human health associated with disturbance of asbestos.	L=3, C = 5 Risk = B	<ul style="list-style-type: none"> CM01: Potentially contaminated areas directly affected by the project will be investigated and managed in accordance with the requirements of guidance endorsed under section 105 of the Contaminated Land Management Act 1997 (NSW) (CLM Act). This includes further investigations in areas of potential contamination identified in the project footprint. If contamination posing a risk to human or ecological receptors is identified, a Remediation Action Plan will be prepared. 	L=1, C= 5 Risk = C	SSWMP, Asbestos management plan, Work Health Safety Plan, Unexpected Contaminated Land and Asbestos Finds Procedure (CoA E184-185)	

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
				<ul style="list-style-type: none"> CM02: Asbestos handling and management will be undertaken in accordance with an Asbestos Management Plan (or similar) prepared in accordance with relevant legislation, regulations and codes of practice) as described in Chapter 23 (Resource use and waste minimisation) of the EIS. RW13: An asbestos survey will be undertaken of buildings to be demolished as part of the project in accordance with an Asbestos Management Plan as part of the Work Health and Safety Plan. The survey will be conducted by a suitably qualified person. RW14: Asbestos handling and management will be undertaken in accordance with an Asbestos Management Plan (or similar) prepared in accordance with relevant legislation, regulations and codes of practice as described in Chapter 23 (Resource use and waste minimisation) of the EIS. Adjacent communities will be provided with advance notification about potential hazards. CoA E184: An Unexpected Contaminated Land and Asbestos Finds Procedure must be prepared and must be followed should unexpected contaminated land or asbestos be excavated or otherwise discovered during construction. 		
		Impacts to site workers and local community through direct contact, inhalation and/or ingestion of dust from contaminated soil or hazardous building materials exposed through demolition and ground disturbance.	L=3, C = 3 Risk = C	<ul style="list-style-type: none"> CM01: Potentially contaminated areas directly affected by the project will be investigated and managed in accordance with the requirements of guidance endorsed under section 105 of the Contaminated Land Management Act 1997 (NSW) (CLM Act). This includes further investigations in areas of potential contamination identified in the project footprint. If contamination posing a risk to human or ecological receptors is identified, a Remediation Action Plan will be prepared. CM03: A hazardous materials assessment will be carried out prior to and during the demolition of buildings. Demolition works will be undertaken in accordance with the relevant Australian Standards and relevant NSW WorkCover Codes of Practice, including the Work Health and Safety Regulation 2011 (NSW). CM04: The Construction Waste Management Plan for the project, prepared as described in Chapter 23 (Resource use and waste minimisation) of the EIS, will include procedures for handling and storing potentially contaminated substances. CM06: The discovery of previously unidentified contaminated material will be managed in accordance with an unexpected contaminated lands discovery procedure, as outlined in the <i>Guideline for the Management of Contamination (Roads and Maritime 2013)</i> and detailed in the CEMP. The procedure will include: <ul style="list-style-type: none"> o Cease work in the vicinity o Initial assessment by an appropriately qualified environmental consultant o Further assessment and management of contamination, if confirmed, in accordance with section 105 of the CLM Act. 	L = 1, C = 2 Risk = E	WMP, CEMP, Unexpected contaminated lands discovery procedure
		Increased contamination in areas through cross contamination associated with the incorrect handling or disposal of spoil/unexpected finds and/or potential leaks and spills from construction equipment and plant.	L=4, C = 3 Risk = C	<ul style="list-style-type: none"> CM04: The Construction Waste Management Plan for the project, prepared as described in Chapter 23 (Resource use and waste minimisation) of the EIS, will include procedures for handling and storing potentially contaminated substances. CM05: Stockpile management procedures will be implemented to control dust, odour and cross contamination. CM06: The discovery of previously unidentified contaminated material will be managed in accordance with an unexpected contaminated lands discovery procedure, as outlined in the <i>Guideline for the Management of Contamination (Roads and Maritime 2013)</i> and detailed in the CEMP. The procedure will include: <ul style="list-style-type: none"> o Cease work in the vicinity o Initial assessment by an appropriately qualified environmental consultant o Further assessment and management of contamination, if confirmed, in accordance with section 105 of the CLM Act. 	L=3, C = 1 Risk = E	WMP, CEMP, Unexpected contaminated lands discovery procedure
Greenhouse gas	<ul style="list-style-type: none"> General construction activities (piling, concrete works, M&E, buildings, landscaping) Spoil transport, deliveries, general 	Emissions of greenhouse gases during construction.	L= 4, C = 2 Risk = D	<ul style="list-style-type: none"> GHG2: Undertake an updated greenhouse gas (GHG) assessment based on detailed design for ongoing monitoring and review of emissions during construction. GHG3: Opportunities to use low emission construction materials, such as recycled aggregates in road pavement and surfacing, and cement replacement materials will be investigated and incorporated where feasible and cost-effective. GHG4: Construction plant and equipment will be operated and maintained to maximise efficiency and reduce emissions, with construction planning used to minimise vehicle wait times and idling onsite and machinery turned off when not in use. 	L = 4, C = 1 Risk = D	Energy Efficiency and Greenhouse Gas Emissions Strategy and Management Plan (GHG1), SMP

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
	plant operation on public roads			<ul style="list-style-type: none"> GHG5: Locally produced goods and services will be procured where feasible and cost effective to reduce transport fuel emissions. GHG6: At least 20 per cent of construction energy (electricity) required for the project will be sourced from renewable energy generated onsite and/or an accredited GreenPower energy supplier, where possible. Six per cent of construction energy (electricity) requirements will be offset, with any offset undertaken in accordance with the Australian Government National Carbon Offset Standard. 		
Groundwater	<ul style="list-style-type: none"> Earthworks and excavation General construction activities (piling, concrete works, M&E, buildings, landscaping) Tunnel excavation 	Corrosion of building materials by sulfate reducing bacteria.	L= 2, C = 4 Risk = C	<ul style="list-style-type: none"> GW4: Further assessment of the risk posed by the presence of sulfate reducing bacteria and groundwater aggressivity will be undertaken prior to construction. A corrosion assessment will be undertaken by the construction contractor to assess the impact on building materials that may be used in the tunnel infrastructure such as concrete, steel, aluminium, stainless steel, galvanised steel and polyester resin anchors. The outcomes of the corrosion assessment will be considered when selecting building materials likely to encounter groundwater. 	L = 2, C = 1 Risk = E	GWMP
		Groundwater drawdown altering groundwater flows and levels, including a water supply well water level.	L= 3, C = 4 Risk = C	<ul style="list-style-type: none"> GW5: In accordance with the Aquifer Interference Policy (DPI-Water 2012), measures will be taken to 'make good' the impact on an impacted water supply bore by restoring the water supply to pre-development levels. The measures taken will be dependent upon the location of the impacted bore but could include, for example, deepening the bore, providing a new bore or providing an alternative water supply. GW6: Potential impacts associated with subsurface components of the project intercepting and altering groundwater flows and levels will be considered during detailed design. Measures to reduce potential impacts will be identified and included in the detailed construction methodology and the detailed design as relevant. CoA E191: The Proponent must identify and commit to the implementation of 'make good' provisions for groundwater users in the event of a decline in water supply levels, quality and quantity from registered existing bores associated with groundwater changes from either construction and/or ongoing operational dewatering caused by the CSSI. 	L = 2, C = 2 Risk = E	GWMP, Groundwater Monitoring Program (CoA C12, OGW9)
		High groundwater inflows (in excess of the one litre per second per kilometre design criterion) which could result in increased groundwater drawdown.	L= 3, C = 4 Risk = C	<ul style="list-style-type: none"> GW7: A detailed groundwater model will be developed by the construction contractor during detailed design. The model will be used to predict groundwater inflow rates and volumes within the tunnels and groundwater levels (including drawdown) in adjacent areas during construction and operation of the project. GW8: Groundwater inflow within and groundwater levels in the vicinity of the tunnels will be monitored during construction and compared to model predictions and groundwater performance criteria applied to the project. The groundwater model will be updated based on the results of the monitoring as required and proposed management measures to minimise potential groundwater impacts adjusted accordingly to ensure that groundwater inflow performance criteria are met. OGW9: A groundwater monitoring program will be prepared and implemented to monitor groundwater inflows in the tunnels and groundwater levels as well as groundwater quality in the three main aquifers and inflows during construction. The program will identify groundwater monitoring locations, performance criteria in relation to groundwater inflow and levels and potential remedial actions that will be considered to address any non-compliances with performance criteria. As a minimum, the program will include manual groundwater level and quality monitoring monthly and inflow volumes and quality weekly. The monitoring program will be developed in consultation with the NSW EPA, DPI-Fisheries, DPI- Water, City of Sydney Council and Inner West Council. 	L= 2, C = 2 Risk = E	GWMP, Groundwater Monitoring Program (CoA C12, OGW9)
Hazard	<ul style="list-style-type: none"> Operation of ancillary facilities 	Impacts on aviation safety due to construction lighting.	L= 2, C= 5 Risk = B	<ul style="list-style-type: none"> HR6: Construction lighting will be designed and installed in accordance with the design requirements of the Civil Aviation and Safety Authority (CASA) and the <i>Sydney Airport Master Plan 2033</i> CoA E123: The Proponent must construct and operate the CSSI with the objective of avoiding adverse or distracting lighting configuration, spillage or intensity to aircraft operations. All lighting associated with the construction and operation of the CSSI must adhere to the <i>Lighting in the Vicinity of Aerodromes: Advice to Lighting Designer</i> (CASA, 1999) and <i>National Airports Safeguarding Framework Guideline E: Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports</i> (DIRD, 2012). Notwithstanding, the Proponent must provide mitigation measures to manage any residual night lighting impacts to protect aircraft operations, in consultation with CASA and DIRD. CoA E124: The Proponent must consult with CASA, DIRD and Sydney Airport Operators prior to the commencement of construction to determine the need and potential positioning of aviation hazard lighting on any equipment or built form component associated with the CSSI where such consultation deems it necessary. 	L= 1, C = 4 Risk = D	CEMP

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
Heritage	<ul style="list-style-type: none"> Earthworks and excavation General construction activities (piling, concrete works, M&E, buildings, landscaping) Tunnel excavation Vegetation clearance 	Full or partial loss, or damage to historical heritage items due to demolition and/or vibration, including sandstone kerbing in the vicinity of 32 and 34 Victoria Road, Rozelle.	L= 3, C = 3 Risk = C	<ul style="list-style-type: none"> NAH06: Potential vibration impacts to features of heritage significance will be managed in accordance with the NVMP prepared for the project. NAH07: Potential heritage impacts due to settlement and ground movement caused by the project will be managed in accordance with the relevant measures identified in the land use and property section of this table and monitored in accordance with the Settlement Monitoring Program. NAH10: Sandstone kerbing in the vicinity of 32 and 34 Victoria Road, Rozelle that will be removed to facilitate the project will be salvaged and provided to Inner West Council. CoA E85: The Proponent must seek the advice of a heritage specialist on methods and locations for installing equipment used for vibration, movement and noise monitoring at heritage-listed structures. CoA E154: The Proponent must not destroy, modify or otherwise physically affect any heritage items, including human remains, outside of the CSSI boundary. CoA E156: Identified impacts to heritage items and heritage conservation areas must be minimised through both detailed design and construction. The measures for ensuring this are to be detailed in the Construction Non-Aboriginal Heritage Management Sub-Plan and Aboriginal Cultural Heritage Management Sub-Plan required by Conditions C4(g) and (h), respectively. 	L= 2, C = 2 Risk = E	NAHMP (NAH01), Heritage Salvage Strategy (NAH09)
		Impacts to Aboriginal Heritage Information Management System (AHIMS) site #45-6-2278.	L= 2, C = 3 Risk = D	<ul style="list-style-type: none"> AH2: Subject to gaining access from the relevant landholder, a suitably qualified archaeologist will visit AHIMS site #45-6-2278 prior to the commencement of any vibration intensive construction activities in the vicinity of the site to verify the site to confirm and record its current condition. AH3: If the AHIMS site #45-6-2278 is verified, an assessment will be completed by a suitably qualified and experienced person prior to the commencement of any vibration intensive construction activities in the vicinity. The assessment will consider all vibration intensive activities that will occur in the vicinity, the likely vibration levels and relevant vibration criteria and identify the management measures, including monitoring, that will be implemented to prevent and reduce potential impacts. A final condition assessment will be carried out at the completion of construction detailing recommendations for remediation measures if required. CoA E173: The Proponent must take all reasonable steps so as not to harm, modify or otherwise impact any Aboriginal object associated with the CSSI except as authorised by this approval. 	L=1, C= 3 Risk = D	ACHMP (NAH01),
		Potential impact on features of heritage significance associated with the White Bay Power Station or Whites Creek Stormwater Channel.	L= 3, C = 3 Risk = C	<ul style="list-style-type: none"> NAH03: Photographic archival recording will be undertaken of: <ul style="list-style-type: none"> Infrastructure associated with the White Bay Power Station site that could be affected by the project. Whites Creek Stormwater Channel (in the area to be impacted) It will be undertaken in accordance with the NSW Heritage Office guidelines <i>Photographic Recording of Heritage Items Using Film or Digital Capture</i> (2006). The photographic archival recording will occur prior to any works that have the potential to impact upon the items and will include the identification of appropriate stakeholders to receive copies of the documentation. NAH05: Before excavation of archaeological management sites, a suitably qualified Excavation Director who complies with Criteria for Assessment of Excavation Directors (Heritage Council of NSW 2011) will be engaged to advise on matters associated with historic archaeology. Where archaeological excavation is required, the Excavation Director will oversee excavation and advise on archaeological matters. NAH06: Potential vibration impacts to features of heritage significance will be managed in accordance with the NVMP prepared for the project. NAH07: Potential heritage impacts due to settlement and ground movement caused by the project will be managed in accordance with the relevant measures identified in the land use and property section of this table and monitored in accordance with the Settlement Monitoring Program. NAH11: The potential for impacts to the railway cutting on the eastern side of Victoria Road, associated with the White Bay Power Station, will be considered during the development of the detailed design for the realigned Victoria Road and associated bridge. The final design will seek to avoid impact to the railway cutting and maintain the visual relationship between the cutting and the White Bay Power Station site. Landscaping sympathetic to the relationship, developed in consultation with a heritage specialist, will be included in the UDLP for the project. NAH12: A condition assessment of the southern penstock (and its associated water channels) will be carried out by a heritage specialist and a structural engineer prior to any works in the vicinity with the potential impact upon the item. If 	L= 2, C = 3 Risk = D	NAHMP (NAH01), UDLP

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
				<p>required any conservation works required to limit potential impacts on deteriorated fabric (loose bricks, corroded steel) will be identified and implemented prior to construction.</p> <ul style="list-style-type: none"> • NAH13: The southern penstock and its associated water channels (location and extent unknown) will be protected during works associated with the reconstruction of the Victoria Road bridge. • NAH14: The new bridge over the Whites Creek Stormwater Channel must not impact the extant significant heritage fabric of the channel and should be a solely independent structure. • NAH16: A condition assessment of the northern penstock will also be carried out by a heritage specialist and a structural engineer prior to any vibratory works in the vicinity that have the potential to impact on the item. The condition assessment will inform additional management measures to protect the northern penstock, if required. Any conservation works required to limit potential impacts on deteriorated fabric (loose bricks, corroded steel) will be identified and implemented prior to commencement of the relevant vibratory works in the vicinity. • CoA E158: The Proponent must not destroy, modify or otherwise cause direct damage to the Southern Penstock associated with White Bay Power station • CoA E159: The Proponent must undertake a condition survey of the Southern Penstock and establish and maintain a suitable exclusion zone around the penstock for the duration of construction. The extent of the exclusion zone must be determined in consultation with the Heritage Division of OEH. • CoA E161: Works on Whites Creek Stormwater Channel No. 95 must be undertaken in consultation with Sydney Water and a suitably qualified and experienced heritage consultant. The consultation process must include consultation on the final design and location of the works. All reasonable steps must be undertaken to ensure that the lateral extent and degree of impact to the canal fabric is minimised. • CoA E170: Where excavation works are required in the vicinity of potential archaeological sites, the Excavation Director must be consulted to advise on how the works are to be managed and any archaeological impact minimised. The Excavation Director must be given the authority to advise on the duration and extent of oversight required during excavation. 		
		Potential impact on previously unidentified Aboriginal or non-Aboriginal heritage items (unexpected finds).	L = 2, C = 3 Risk = D	<ul style="list-style-type: none"> • NAH08: Any items of potential heritage conservation significance or human remains discovered during construction will be managed in accordance with an Unexpected Heritage Finds and Humans Remains Procedure developed for the project in accordance with relevant guidance provided by the Heritage Council of NSW, the NSW Heritage Division of OEH and the <i>Standard Management Procedure Unexpected Archaeological Finds</i> (Roads and Maritime 2015a). The procedure will detail requirements regarding notification of relevant agencies and the NSW Police and will be implemented for the duration of construction. • AH1: Any items of potential Aboriginal archaeological or cultural heritage conservation significance or human remains discovered during construction will be managed in accordance with the Unexpected Heritage Finds and Humans Remains Procedure developed for the project. • CoA E171: Works within the vicinity of the find must not recommence until the relevant requirements of the Historical Archaeological Research Design and Excavation Methodology or advice on unexpected finds from the Excavation Director have been met. • CoA E173: The Proponent must take all reasonable steps so as not to harm, modify or otherwise impact any Aboriginal object associated with the CSSI except as authorised by this approval. 	L = 1, C = 3 Risk = D	NAHMP (NAH01), Unexpected Heritage Finds and Human Remains Procedure (CoA E157)
Noise and vibration	<ul style="list-style-type: none"> • Earthworks and excavation • General construction activities (piling, concrete works, M&E, buildings, landscaping) • Operation of ancillary facilities • Spoil transport, deliveries, general 	Construction noise and vibration impacts upon sensitive receivers around all construction sites including outside of standard construction working hours.	L = 5, C = 3 Risk = A	<ul style="list-style-type: none"> • NV3: Detailed noise assessments will be carried out for all ancillary facilities required for construction of the project. The assessment will consider the proposed site layouts and noise generating activities that will occur at the facilities and assess predicted noise levels against the relevant noise management levels determined in accordance with the requirements of the Interim Construction Noise Guideline (ICNG) (NSW Department of Environment and Climate Change NSW (DECC) 2009). The assessments will be used to determine the appropriate heights and configurations of noise barriers, and other appropriate noise management measures, consistent with the requirements of the ICNG and the CNVG. Noise barriers, as confirmed through the noise assessments, will be installed as early as possible during site establishment and as a minimum prior to the commencement of excavation associated with tunnel access. • NV4: Location and activity specific noise and vibration impact assessments will be carried out prior to (as a minimum) activities: <ul style="list-style-type: none"> ○ With the potential to result in noise levels above 75 dBA at any receiver 	L = 5, C = 2 Risk = C	NVMP (REMM NV2), Out-of-hours works protocol (NV5), Noise Insulation Program (CoA E89), Noise and Vibration Monitoring Program (CoA C11)

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
	<ul style="list-style-type: none"> plant operation on public roads Tunnel excavation 			<ul style="list-style-type: none"> Required outside standard construction hours likely to result in noise levels greater than the relevant noise management levels The assessments will clarify predicted impacts at relevant receivers in the vicinity of the activities to assist with the selection of appropriate management measures, consistent with the requirements of ICNG and CNVG that will be implemented during the works. NV6: Monitoring will be carried out at the commencement of activities for which a location and activity specific noise and vibration impact assessment has been prepared to confirm that actual noise and vibration levels are consistent with noise and vibration impact predictions and that the management measures that have been implemented are appropriate. NV7: Acoustic sheds will be designed with consideration of the activities that will occur within them and the relevant noise management levels in adjacent areas. Monitoring will be carried out to confirm that the actual acoustic performance of each shed is consistent with predicted acoustic performance. NV9: Receivers that qualify for assessment for at receiver treatment in relation to operational noise that are also predicted to experience significant exceedances of noise management levels due to construction will be given priority preference for assessment for treatment based on the severity and timing of impact. Where the building owner accepts the at receiver treatment proposal, the treatments will be installed as soon as possible. CoA A25: Any activities generating noise in excess of the 'Noise affected' Noise Management Levels derived from the <i>Interim Construction Noise Guideline</i> must not commence until an AA, nominated under Condition A24 of this approval, has been approved by the Secretary. CoA E80: Noise generating works in the vicinity of potentially-affected community, religious, educational institutions and noise and vibration-sensitive businesses and critical working areas (such as theatres, laboratories and operating theatres) resulting in noise levels above the NMLs must not be timetabled within sensitive periods, unless other reasonable arrangements with the affected institutions are made at no cost to the affected institution. CoA E87: For out-of-hours work undertaken in accordance with Condition E75, at-receiver noise mitigation in the form of at-property treatment must be offered to the land owner for habitable living spaces, or other mitigation or management measures as agreed by the occupier, to properties identified in Appendix D. Mitigation must be offered prior to out-of-hours work commencing. This requirement does not apply if the sensitive receiver has been provided with noise mitigation under the RMS Noise Abatement Program or the State Environment Planning Policy (Infrastructure) 2007 (clause 102(3)). The adequacy of at-property treatments will be reviewed where previous treatments have been installed as part of other SSI or CSSI projects CoA E90: Receivers which are eligible for receiving treatment under the Noise Insulation Program required under Condition E89 must have treatment implemented within six (6) months following the commencement of construction which would affect the receiver. The implementation of the Noise Insulation Program must be prioritised based on the degree and duration of exceedance with high priority exceedances undertaken within three (3) months of the commencement of construction. TT17: Monitor and manage project-related heavy vehicle movements to and from sites with the aim of limiting any associated increases in road traffic noise levels during the night-time period to no more than 2 dBA. Any increases in road traffic noise of more than 2 dBA due to project-related vehicle movements will be managed in accordance with the <i>Construction Noise and Vibration Guideline</i> (Roads and Maritime 2016). 		
Property	<ul style="list-style-type: none"> General construction activities (piling, concrete works, M&E, buildings, landscaping) Operation of ancillary facilities Earthworks and excavation Tunnel excavation 	Impacts on property as a result of acquisition required for the Project.	L = 5, C= 2 Risk = C	<ul style="list-style-type: none"> PL1: Land acquisition for the project will be undertaken in accordance with the Land Acquisition (Just Terms Compensation) Act 1991 (NSW) and the Roads and Maritime Services Land Acquisition Information Guide (Roads and Maritime 2014) and the land acquisition reforms announced by the NSW Government in 2016. 	L = 5, C= 1 Risk = D	CEMP, Residual Land Management Plan (PL3)
		Ground settlement or vibration resulting in damage to buildings, structures or utility infrastructure.	L = 4, C = 4 Risk = B	<ul style="list-style-type: none"> PL6: Ground settlement will be managed to comply with the following criteria where possible (refer to REMM for criteria) PL9: Settlement monitoring will be carried out for the period in accordance with the program starting prior to commencement of tunnel construction through to until all settlement has stabilised following completion of tunnel construction. The results of settlement monitoring will be compared to predicted settlement. The implementation and adequacy of the Settlement Monitoring Program will be monitored by the Independent Property Impact Assessment Panel PL10: Building condition surveys will be offered to property owners within the zone of influence of tunnel settlement (50 metres from the outer edge of the tunnels and within 50 metres of surface works) or as otherwise directed by the Independent Property Impact Assessment Panel (see PL11). Building condition surveys of properties will be carried out 	L = 3, C = 2 Risk = D	CEMP, Settlement Monitoring Program (PL8), Utilities Management Strategy (PL14), NVMP

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
	<ul style="list-style-type: none"> Spoil transport, deliveries, general plant operation on public roads 			<p>prior to the commencement of any project works in the vicinity that have the potential to result in damage to the properties, as identified by the contractor and confirmed by the Independent Property Impact Assessment Panel. Building condition surveys will be carried out by a structural engineer</p> <ul style="list-style-type: none"> PL12: Interface agreements will be entered into with the owners of infrastructure and utility services likely to be impacted by construction of the project. The agreements will likely identify: <ul style="list-style-type: none"> Minimum separation distances and appropriate settlement criteria for utility infrastructure Settlement monitoring requirements during construction Contingency actions in the event that settlement limits are exceeded. PL13: In the event that damage occurs to a property as a result of the construction of the project, the damage will be appropriately rectified. Any disputes between a property or infrastructure owners regarding damage and rectification will be referred to the Independent Property Impact Assessment Panel (see PL11) for resolution CoA E83: Owners and occupiers of properties at risk of exceeding the screening criteria for cosmetic damage must be notified before works that generate vibration commences in the vicinity of those properties. If the potential exceedance is to occur more than once or extend over a period of 24 hours, owner and occupiers are to be provided a schedule of potential exceedances on a monthly basis for the duration of the potential exceedances, unless otherwise agreed by the owner and occupier. These properties must be identified and considered in the Construction Noise and Vibration Management Sub-plan. CoA E105: The Proponent must offer pre-dilapidation surveys and must undertake and prepare pre-dilapidation reports where the offer is accepted, on the current condition of surface and sub-surface structures identified as at risk from settlement or vibration by the geotechnical model described in Condition E101. The pre-dilapidation surveys and reports must be prepared by a suitably qualified and experienced person(s) and must be provided to the owners of the surface and sub-surface structures for review prior to the commencement of potentially impacting works. CoA E106: Where pre-dilapidation surveys have been undertaken in accordance with Condition E105, subsequent post-dilapidation surveys must be undertaken to assess damage to the surface and sub-surface structures that may have resulted from the construction of the CSSI within three (3) months of the completion of construction. CoA E107: The results of the surveys must be documented in a Condition Survey Report for each surface and sub-surface structure surveyed. Copies of the Condition Survey Reports must be provided to the owner(s) of the structures surveyed within three (3) weeks of completing the surveys and no later than four (4) months following the completion of construction. CoA E108: Where damage has been determined to occur as a result of the project, the Proponent must carry out rectification at its expense and to the reasonable requirements of the surface and sub-surface structure owner(s) within three (3) months of completion of the post-dilapidation surveys unless another timeframe is agreed with the owner of the affected surface or sub-surface structure. 		
		Temporary impacts to property access during construction.	L= 4, C= 2 Risk = D	<ul style="list-style-type: none"> PL2: Access to all properties will be maintained during construction, where feasible and reasonable, unless otherwise agreed by the relevant property owner or occupier. Any access physically affected by the project will be reinstated to at least an equivalent standard, unless agreed with by the property owner TT14: Manage local road closures and property access. This will be undertaken in consultation with Roads and Maritime, local councils and property owners likely to be impacted. 	L= 4, C= 1 Risk = D	CEMP
Social	<ul style="list-style-type: none"> Operation of ancillary facilities General construction activities (piling, concrete works, M&E, buildings, landscaping) 	Antisocial behaviour around construction ancillary facilities.	L= 4, C= 2 Risk = D	<ul style="list-style-type: none"> SE6: A community relations support toll-free telephone line will be operated to respond to any community concerns or requests for translation services. 	L=3, C= 1 Risk = E	Communication Strategy, CEMP
		Impacts to businesses as a result of changes in traffic, access, parking and amenity.	L= 4, C= 2 Risk = D	<ul style="list-style-type: none"> SE6: A community relations support toll-free telephone line will be operated to respond to any community concerns or requests for translation services. TT11: Develop and adopt robust community and stakeholder communication protocols regarding altered traffic conditions. 	L= 4, C= 1 Risk = D	Communication Strategy, CEMP, Business Management Plan
		Impacts to households affected by property acquisition and the need to relocate.	L= 5, C= 2 Risk = C	<ul style="list-style-type: none"> SE3: Property acquisition will continue to be undertaken in accordance with the <i>Roads and Maritime Services Land Acquisition Information Guide</i> (Roads and Maritime 2014), the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> (NSW) and the land acquisition reforms announced by the NSW Government in 2016 (NSW Government 2016). A property acquisition factsheet that outlines the process and provides further information for concerned residents will continue to be made available online and in hard copy at project information centres. 	L= 5, C= 1 Risk = D	Communication Strategy, CEMP

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
				<ul style="list-style-type: none"> SE4: Affected households will continue to have access to a counselling service that assists people through the property acquisition process. SE5: An independent service will continue to be provided to vulnerable households (eg elderly, those suffering an illness) to assist with relocation. Assistance could include finding a suitable house for relocation, arranging removalists, disconnecting services and attending appointments with solicitors or other representatives. 		
Soil and water	<ul style="list-style-type: none"> General construction activities (piling, concrete works, M&E, buildings, landscaping) Operation of ancillary facilities Tunnel excavation Earthworks and excavation Vegetation clearance Earthworks and excavation Spoil transport, deliveries, general plant operation on public roads 	Disturbance to stormwater drainage system during upgrade or replacement.	L=3, C=3 Risk = C	<ul style="list-style-type: none"> FD12: Where drainage systems are to be upgraded or replaced during the project, existing systems will be left in place and remain operational during the process wherever possible. FD13: Runoff generated from project construction and operational facilities and discharges from water treatment facilities will be managed to mitigate risk of overloading the receiving drainage system. FD14: Entry points to the stormwater used by or immediately downgradient from the project sites will be inspected regularly for blockages and cleaned as required to maintain performance 	L=2, C=2 Risk = E	SSWMP (SW01),
		Impacts on flood behaviour and surrounding properties due to the potential alterations of flood levels and behaviour due to construction ancillary facilities.	L=3, C=4 Risk = C	<ul style="list-style-type: none"> FD02: Hydrologic and hydraulic assessments will be carried out for all temporary project components (including ancillary facilities) and permanent design features that have the potential to affect flood levels in the vicinity of the project. The results of the assessment will inform the preparation of the Flood Mitigation Strategy (FD01) as well as the design development of temporary and permanent works. FD03: Measures developed to manage potential flood impacts, as identified in the Flood Mitigation Strategy, will be incorporated into the design of temporary and permanent project components and construction and operational management systems as relevant. FD06: The need to maintain flood conveyance will be factored into construction planning associated with the new bridge structure over Whites Creek. FD10: Flood contingency measures will be prepared and implemented where construction ancillary facilities and vulnerable temporary facilities (including fuel storages, water treatment plants and substations) are located in the 20 year ARI design flood extent. 	L=3, C=1 Risk = E	SSWMP (SW01), Flood Mitigation Strategy (FD01)
		Impacts on flood behaviour due to tunnel dive shafts, portals and cut and cover sections.	L=3, C=2 Risk = D	<ul style="list-style-type: none"> FD07: Parts of the site that will be adversely affected by floodwaters, such as tunnel dive shafts, portals and cut and cover sections, will be protected from floodwater ingress during construction. The flood level adopted for design of temporary protection will be informed by consideration of both mainstream and local overland flows, the potential risk to the environment, safety and the potential disruption and damage to project works. 	L=2, C=1 Risk = E	SSWMP (SW01), Flood Mitigation Strategy (FD01)
		Impacts on local soil and water quality due to disturbance of actual or potential acid sulfate soils and/or acid drainage discharge.	L=3, C=3 Risk = C	<ul style="list-style-type: none"> SW11: Procedures, prepared in accordance with the requirements of the Acid Sulfate Soil Manual (Acid Sulfate Soil Management Advisory Committee 1998), will be included in the SWMP and implemented in the event that acid sulfate soils, rocks or monosulfidic black oozes are encountered during construction of the project. 	L=3, C=2 Risk = D	SSWMP (SW01),
		Impacts on soil and water quality through incorrect handling of hazardous or contaminated material.	L=4, C=2 Risk = D	<ul style="list-style-type: none"> CM05: Stockpile management procedures will be implemented to control dust, odour and cross contamination CM08: Measures identified in Chapter 25 (Hazard and risk) of the EIS will be implemented to appropriately store contaminated materials and materials with the potential to cause contamination and reduce the potential for environmental contamination due to spills and leaks. 	L=3, C=2 Risk = D	SSWMP (SW01, CM07),
		Impacts on water quality and stormwater drainage systems in project catchments due to the water discharge, including discharge of treated surface and groundwater.	L=4, C=4 Risk = B	<ul style="list-style-type: none"> SW02: A program to monitor potential surface water quality impacts due to the project will be developed and included in the SWMP. The program will include the water quality monitoring parameters and the monitoring locations identified in Annexure E of Appendix Q (Technical working paper: Surface water and flooding) to the EIS where appropriate. The monitoring program will commence prior to any ground disturbance to establish appropriate baseline conditions and continue for the duration of construction and until the affected waterways are rehabilitated to an acceptable condition as certified by a suitably qualified and experienced independent expert (or as otherwise required by any project conditions of approval). Further details to be included in the program are outlined in Appendix Q (Technical working paper: Surface water and flooding) of the EIS. SW10: Temporary construction water treatment plants will be designed and managed so that treated water will be of suitable quality for discharge to the receiving environment. An ANZECC (2000) species protection level of 90 per cent is considered appropriate for adoption as discharge criteria for toxicants where practical and feasible. The discharge criteria for the treatment facilities will be included in the SWMP. 	L=2, C=3 Risk = D	SSWMP (SW01),

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
				<ul style="list-style-type: none"> FD13: Runoff generated from project construction and operational facilities and discharges from water treatment facilities will be managed to mitigate risk of overloading the receiving drainage system. FD14: Entry points to the stormwater used by or immediately downgradient from the project sites will be inspected regularly for blockages and cleaned as required to maintain performance. CoA E186: The CSSI construction water treatment plant discharge criteria must comply with the ANZECC (2000) 90 per cent species protection level unless an EPL is in force in respect to the CSSI. Discharge criteria for iron during construction must comply with the ANZECC (2000) recreational water quality criteria. 		
		Sedimentation of waterways from erosion and runoff.	L = 4, C = 3 Risk = C	<ul style="list-style-type: none"> SW04: A soil conservation specialist will be engaged for the duration of construction to provide advice regarding erosion and sediment control. SW05: The extent of ground disturbance and exposed soil will be minimised to the greatest extent practicable to minimise the potential for erosion. SW06: Disturbed ground and exposed soils will be temporarily stabilised prior to extended periods of site inactivity to minimise the potential for erosion. SW07: Disturbed ground and exposed soils will be permanently stabilised and proposed landscaped areas will be suitably profiled and vegetated as soon as possible following disturbance to minimise the potential erosion. CoA E180: All reasonably practicable erosion and sediment controls must be installed and appropriately maintained to minimise any water pollution. When implementing such controls, any relevant guidance in the <i>Managing Urban Stormwater</i> series must be considered. 	L = 2, C = 2 Risk = E	SSWMP (SW01), ESCPs (SW03)
Traffic	<ul style="list-style-type: none"> Operation of ancillary facilities Spoil transport, deliveries, general plant operation on public roads 	Construction impacts on road network performance including public transport and active transport. Delays and disruptions to the road network during construction.	L = 5, C = 4 Risk = A	<ul style="list-style-type: none"> TT02: Identify potential road user delays during the planning and consultation phases and include strategies within the TTAMP to reduce identified delays. TT06: Develop and implement work methods to minimise delays and road user impacts, for example utilising more efficient plant and equipment, and applying different design solutions. TT07: Provide temporary closed-circuit television (CCTV) and Variable Message Signs (VMS) in consultation with the Traffic Management Centre (TMC) to link with the existing TMC network to facilitate real time monitoring and management of impacts and traffic safety in the vicinity of the project. TT08: During construction, work with the TMC to improve traffic conditions around work sites wherever practicable. TT09: Provide a mechanism for the community to report incidents and delays, for example a project phone number. Advertise details along the construction site's interface with the road network. TT10: Schedule construction-related transport movements to avoid peak traffic periods and minimise project-related congestion, where possible. TT11: Develop and adopt robust community and stakeholder communication protocols regarding altered traffic conditions. TT12: Minimise impacts on the pedestrian paths and cycle lanes, and provide timely alternatives during construction where practical and safe to do so. TT13: Identify impacts on bus stops and provide alternative locations and access in consultation with Transport for NSW. TT15: Identify spoil haulage routes and designated routes for other project-related heavy vehicles and communicate, along with site access requirements and restrictions, to all relevant drivers. Designated heavy vehicle routes will be identified with consideration of potentially affected stakeholders, such as schools, day care centres, nursing homes and places of worship, around project sites that might be adversely affected by project-related heavy vehicle movements. Routes and associated restrictions of use of the routes will be developed to minimise identified potential impacts. Project-related heavy vehicle routes and any associated restrictions of use will be documented in the TTAMP. CoA E43: During construction, where bus stops are required to be temporarily closed or relocated, such closure must not occur until relocated bus stops are functioning, have similar capacity and are relocated within a 400 metre walking distance of the existing bus stop. Closures and relocation of bus stops during construction must be undertaken in consultation with Transport for NSW and relevant council(s). Wayfinding signage must be provided directing commuters to adjacent or relocated bus stops. Footpaths must be provided to any relocated bus stops such that accessibility standards are met. 	L = 5, C = 2 Risk = C	TTAMP (TT01), truck management strategy (TT16), Active Transport Network Implementation Strategy (TT20)

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
				<ul style="list-style-type: none"> CoA E44: Prior to the commencement of operation of the CSSI, all bus stops temporarily closed or relocated must be reinstated in a manner that provides equal or improved capacity and accessibility (including footpaths) in consultation with Transport for NSW and relevant council(s). CoA E45: Access to Light Rail stops must be maintained at all times. CoA E49: Spoil haulage movements associated with the construction of the CSSI are not permitted to use local roads within one (1) kilometre of construction works and construction ancillary facilities, unless approved by the Secretary. CoA E52: Construction vehicles (including staff vehicles) associated with the CSSI must be managed to: <ul style="list-style-type: none"> minimise parking on public roads; minimise idling and queuing on public roads; and ensure spoil haulage vehicles must adhere to the nominated haulage routes identified in the Traffic and Transport CEMP. 		
		Damage or impacts to road infrastructure resulting from construction works.	L= 3, C= 2 Risk = D	<ul style="list-style-type: none"> TT18: Prepare a road dilapidation report, in consultation with relevant councils and road owners, identifying existing conditions of local roads and mechanisms to repair damage to the road network caused by heavy vehicle movements associated with the project CoA E61: A Road Dilapidation Report must be prepared by a suitably qualified person, for local roads (and associated infrastructure within the road reserve) proposed to be used by heavy vehicles for works associated with the CSSI, before the commencement of use by such vehicles. Copies of the Road Dilapidation Report must be provided to the relevant road authorities within three (3) weeks of completing the surveys and no later than one (1) month before the use of local roads by such vehicles. CoA E62: If damage to roads occurs as a result of the construction of CSSI, the Proponent must either: <ul style="list-style-type: none"> 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 rectify the damage so as to restore the road to at least the condition it was in pre- construction. 	L=3, C= 1 Risk = E	TTAMP (TT01)
		Impacts to community access and connectivity.	L= 4, C= 2 Risk = D	<ul style="list-style-type: none"> TT14: Manage local road closures and property access. This will be undertaken in consultation with Roads and Maritime, local councils and property owners likely to be impacted. CoA E46: Access to all utilities and properties must be maintained during construction, where practicable, unless otherwise agreed with the relevant utility owner, landowner or occupier. CoA E47: Any property access physically affected by the CSSI must be reinstated to at least an equivalent standard, unless otherwise agreed by the landowner or occupier. CoA E57: Safe pedestrian and cyclist access must be maintained around work sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, an alternate route which complies with the relevant standards must be provided and signposted. 	L= 4, C= 1 Risk = D	TTAMP (TT01)
		Parking on local streets around construction sites.	L= 5, C= 4 Risk = B	<ul style="list-style-type: none"> CoA E52: Construction vehicles (including staff vehicles) associated with the CSSI must be managed to: <ul style="list-style-type: none"> minimise parking on public roads; minimise idling and queuing on public roads; and ensure spoil haulage vehicles must adhere to the nominated haulage routes identified in the Traffic and Transport CEMP. CoA E47: Any property access physically affected by the CSSI must be reinstated to at least an equivalent standard, unless otherwise agreed by the landowner or occupier. 	L=4, C= 3 Risk = C	TTAMP (TT01), car parking strategy (TT04), Construction Parking and Access Strategy (E54)
		Traffic-related safety incidents (involving both workers and road users) during construction.	L= 2, C= 5 Risk= B	<ul style="list-style-type: none"> TT03: Develop construction staging and temporary works that minimises conflicts with the existing road network and maximises spatial separation between work areas and travel lanes. TT05: Isolate work areas from general traffic through the implementation of appropriate traffic and access controls. 	L= 1, C= 4 Risk = C	TTAMP (TT01)

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
Visual	<ul style="list-style-type: none"> Operation of ancillary facilities 	Impacts to visual amenity from construction ancillary facilities including from light spill, visible structures, graffiti and litter.	L= 5, C = 2 Risk = C	<ul style="list-style-type: none"> LV1: Ancillary facilities, including the locations of visible structures and plant and perimeter fencing and treatments, will be developed to minimise visual impacts for adjacent receivers where feasible and reasonable. Measures to minimise visual impacts for adjacent receivers will be implemented progressively during the site establishment phase. LV2: Site lighting will be designed to minimise glare issues and light spillage in adjoining properties and will be generally consistent with the requirements of Australian Standard 4282-1997 Control of the obtrusive effects of outdoor lighting. LV3: Regular maintenance of site hoarding and perimeter site areas should be undertaken, including the prompt removal of graffiti and litter. LV4: Construction worksites and construction ancillary facilities will be established in such a manner as to minimise the need to remove screening vegetation wherever practicable. LV5: Hoardings and temporary noise walls will be erected as early as possible within the site establishment phase to provide visual screening. LV6: Acoustic sheds will be designed to be visually recessive and minimise potential overshadowing impacts where possible. LV10: Where construction ancillary facilities are located in close proximity to sensitive residential receivers such as residents and users of recreational space, high quality fencing suitable for parks and public spaces should be considered. CoA E122: The Proponent must construct and operate the CSSI with the objective of minimising light spillage to residential properties. All lighting associated with the construction and operation of the CSSI must be consistent with the requirements of Australian Standard 4282-1997 Control of the obtrusive effects of outdoor lighting and relevant Australian Standards in the series AS/NZ 1158 – Lighting for Roads and Public Spaces. Notwithstanding, the Proponent must provide mitigation measures to manage any residual night lighting impacts to protect properties adjoining or adjacent to the CSSI, in consultation with affected landowners. 	L= 5, C = 1 Risk = D	CEMP, UDLP (UD1)
Waste	<ul style="list-style-type: none"> General construction activities (piling, concrete works, M&E, buildings, landscaping) Operation of ancillary facilities Earthworks and excavation Tunnel excavation 	Excessive consumption of resources during construction.	L= 3, C = 2 Risk = D	<ul style="list-style-type: none"> RW1: Construction material will be sourced in accordance with the relevant aims of the WestConnex Sustainability Strategy (Sydney Motorway Corporation 2015) and a Sustainability Management Plan (that will be developed during detailed design), including to optimise resource efficiency and waste management, and select locally sourced materials and prefabricated assets where possible, to reduce greenhouse gas emissions. Unnecessary resource consumption will be avoided through the detailed design of the project and by making realistic predictions about the required quantities of resources, such as construction materials. RW5: Resource recovery will be applied to the management of construction waste and will include: <ul style="list-style-type: none"> Recovery of resources for reuse - reusable materials generated by the project will be segregated for reuse on site, or off site where possible, including the reuse of the major waste streams (VENM) Recovery of resources for recycling - recyclable resources (such as metals, plastics and other recyclable materials) generated during construction and demolition Resources will be segregated for recycling and sent to an appropriate recycling facility for processing Recovery of resources for reprocessing - cleared vegetation will be mulched or chipped on-site and used for landscaping, in the absence of a higher beneficial use being identified. RW8: The project will reuse or recycle around 95 per cent of uncontaminated spoil generated for beneficial purposes, either within the project or at other locations in accordance with the project spoil management hierarchy. 	L= 2, C = 1 Risk = E	WMP, SMP
		Impacts associated with poor waste management during construction.	L= 4, C = 2 Risk = D	<ul style="list-style-type: none"> RW2: Wastes will be managed and disposed of in accordance with relevant NSW legislation and government policies. RW4: Wastes will be managed using the waste hierarchy principles of: <ul style="list-style-type: none"> Avoidance of unnecessary resource consumption to reduce the quantity of waste being generated Recovery of resources for reuse on-site or off-site for the same or similar use, without reprocessing Recovery of resources through recycling and reprocessing so that waste can be processed into a similar non-waste product and reused Disposal of residual waste. 	L=3, C = 2 Risk = D	WMP (RW3, RW7)

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures	Risk level following mitigation	Management Documents / Training Required
				<ul style="list-style-type: none"> RW6: Options identified for the off-site reuse of waste will comply with relevant NSW EPA resource recovery exemptions and requirements. RW11: Spoil stockpiles will be provided with appropriate environmental controls and managed to reduce potential impacts associated with dust generation, erosion and sedimentation. RW12: General wastes from site offices such as putrescibles, paper, cardboard, plastics, glass and printer cartridges will be separated and collected for recycling off-site wherever practicable. CoA E202: Waste generated during delivery of the CSSI is to be dealt with in accordance with the following priorities: <ul style="list-style-type: none"> waste generation is to be avoided and where avoidance is not reasonably practicable, waste generation is to be reduced; where avoiding or reducing waste is not possible, waste is to be re-used, recycled, or recovered; and where re-using, recycling or recovering waste is not possible, waste is to be treated or disposed of at a waste management facility or premise lawfully permitted to accept the materials or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, or to any other place that can lawfully accept such waste. CoA E203: Waste generated outside the site must not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence or waste exemption under the <i>Protection of the Environment Operations Act 1997</i>, if such a licence is required in relation to that waste. CoA E204: All waste generated during construction and operation must be classified in accordance with the EPA's <i>Waste Classification Guidelines</i>, with appropriate records and disposal dockets retained for audit purposes. 		
		Impacts associated with unexpected waste volume or types during construction.	L=4, C = 2 Risk = D	<ul style="list-style-type: none"> RW9: Suitable areas will be identified to allow for contingency management of unexpected waste materials, including contaminated materials. Suitable areas will be required to be hardstand or lined areas that are appropriately stabilised and bunded, with sufficient area for stockpile storage. RW10: The discovery of previously unidentified contaminated material will be managed in accordance with an unexpected contaminated lands discovery procedure, as outlined in the Guideline for the Management of Contamination (Roads and Maritime 2013) and detailed in the CEMP. 	L= 3, C = 2 Risk = D	WMP (RW3, RW7)

Annexure C Environmental Policy

Environment & Heritage

Our commitment

JHCPB values the natural environment and cultural heritage, and is committed to minimising adverse impacts and enhancing outcomes.

Our approach

JHCPB addresses its commitment to environmental sustainability and heritage conservation through the consistent implementation of an effective Environmental Management System.

Environment & Heritage Policy in practice

- Comply with relevant legal obligations, standards, customer requirements, and any obligations that JHCPB has adopted voluntarily
- Integrate environment and heritage considerations into business planning, strategy development and operational delivery
- Continually improve the Environmental Management System to enhance performance.
- Maintain third party certification of the Environmental Management System to ISO 14001 as independent verification of implementation and effectiveness
- Establish environment and heritage objectives and targets, and communicate performance regularly to engage our employees and other stakeholders
- Continually improve operational resource use efficiency and take all reasonable and practicable steps to prevent adverse environmental impacts, including pollution
- Promote a culture of shared responsibility for environment and heritage outcomes.
- Enhance the awareness, knowledge and skills of employees, contractors and suppliers in relation to environment and heritage requirements and practices
- Drive organisational learning by investigating significant environment and heritage incidents, and communicating action taken or required to prevent recurrence
- Work with business partners, the local community, regulators and other stakeholders to understand their perspective and achieve improved environment and heritage outcomes



Jim Salmon
Project Director
Rozelle Interchange Project

Annexure D Ancillary Facilities Assessment

Ancillary facilities overview

Four ancillary facilities were identified and described in the Environmental Impact Statement (EIS) and Submissions and Preferred Infrastructure Report (SPIR) as being required for the Project.

An ancillary facility is defined as: “A temporary facility for construction of the Project including an office and amenities compound, construction compound, material crushing and screening plant, materials storage compound, maintenance workshop, testing laboratory, material stockpile area, car parking compound and truck marshalling facility.”

Table 1 describes the ancillary facilities identified in the EIS and SPIR and their proposed uses. Due to the timing of the construction program and availability of site access, the project ancillary facilities will be established at different times during the Project.

Table 1: Ancillary facilities identified in the EIS and SPIR

Ref	Ancillary facility	Primary use during construction	Primary use during operation
C5	Rozelle civil and tunnel site	Spoil handling Construction of permanent ventilation facilities and motorway operation complexes Roadheader launch site Tunnelling and spoil management	Motorway operation complex (east and west) Ventilation facility
C6	The Crescent civil site	Support for general surface works, e.g. road realignment, bridge construction, works along Whites Creek	None
C7	Victoria Road civil site	Support for general surface works, e.g. road reconstruction, bridge construction	Operational road infrastructure and landscaping
C8	Iron Cove Link civil site	Support construction of the Iron Cove Link surface works Excavation of the initial sections of the Iron Cove Link tunnels Construction of a bioretention facility	Ventilation facility

Approval and amendment of ancillary facilities

Overview of approval for ancillary facilities

The approval process for ancillary facilities is depicted in Figure 1 below.

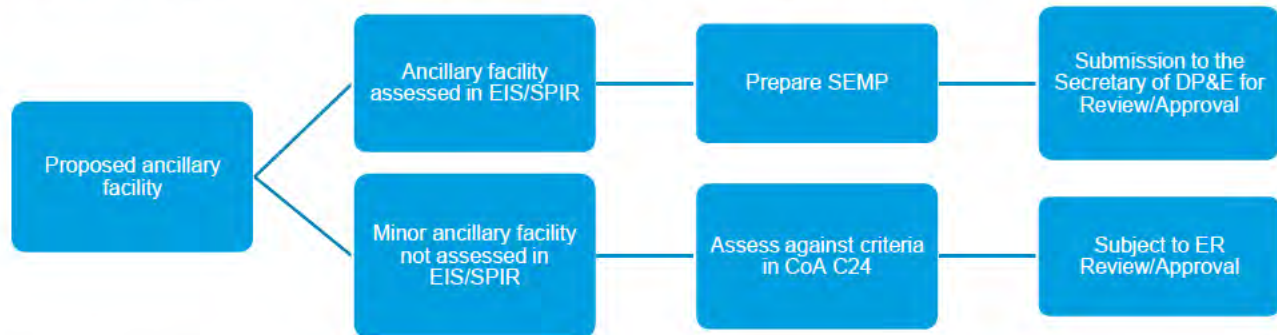


Figure 1: Approval process for ancillary facilities

Ancillary facilities identified in the EIS and SPIR

The Project Conditions of Approval (CoA) approve the use of the four ancillary facilities described in the EIS and SPIR for the construction of the Project:

- Ancillary facilities established prior to the approval of the Construction Environmental Management Plan (CEMP) are subject to a site establishment management plan (SEMP), which will be prepared and approved by the Secretary, and then implemented during the establishment of the ancillary facilities (refer to CoA C22). Ancillary facilities established following CEMP will be managed during the establishment phase by the CEMP and sub-plans, and
- All ancillary facilities will be operated in accordance with the CEMP and the required CEMP sub-plans, which will be prepared and approved by the Secretary, and then implemented during the operation of the ancillary facilities (refer to CoA C23).

Minor changes to the use or layout of the ancillary facilities may be required to facilitate constructability, amenity or traffic staging. This may include:

- Interchangeable use of laydown/storage and car parking areas,
- Relocation of internal access roads to allow for efficiencies in heavy vehicle/light vehicle movements,
- Alteration to car parking/container and laydown areas for safe working distances,
- Movement of portable site accommodation, workshops and containers for construction staging,
- Management of environmental constraints and/or in response to community and agency feedback, and
- Demobilisation of the facilities as construction works progress and near completion.

Key structures are less likely to change unless their use to support specific site establishment works is no longer required.

Any changes to these ancillary facilities will be assessed against the CoA to determine compliance, and appropriate approval will be sought where required. Where the proposed change is considered to be minor, the Environmental Representative would grant approval of these refinements.

Minor construction ancillary facilities

Additional minor construction ancillary facilities (e.g. lunch sheds, office sheds and portable toilet facilities) can be established during construction so long as they (refer to CoA C24):

“(a) have no greater environmental and amenity impacts than those that can be managed through the implementation of environmental measures detailed in the SEMP required under Condition C22 of this approval; and
(b) are located within the project boundary; and
(c) have been assessed by the Environmental Representative to have -
(i) minimal amenity impacts to surrounding residences and businesses, after consideration of matters such as compliance with the Interim Construction Noise Guideline (DECC, 2009), traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts,
(ii) minimal environmental impact with respect to waste management and flooding, and
(iii) no impacts on biodiversity, soil and water, and heritage items beyond those already approved under other terms of this approval.”

The Environmental Representative will review the proposed minor construction ancillary facilities against the above criteria and make an approval determination.

Annexure E Document Register

Table 1: Environmental document register

Environmental management document	Document no.	Approval requirement	Agency Correspondence
JHCPB Environmental Policy	RIC-JHC-PRC-00-PM-000-001	JHCPB Project Director	N/A
John Holland's Environmental Management System (EMS)	N/A	JHCPB Project Director	N/A
Rozelle Interchange Construction Environmental Management Plan (CEMP)	RIC-JHC-MPL-00-PL-250-001	Endorsed by the Environmental Representative then submitted to Secretary for approval one month prior to commencement of construction (CoA C3) Roads and Maritime Services (RMS)	N/A – see sub plan consultation requirements
Traffic and Transport and Access Management Plan (TTAMP)	RIC-JHC-MPL-00-PL-250-002	Endorsed by the Environmental Representative then submitted to Secretary one month prior to commencement of construction (CoA C6)	Port Authority of NSW (CoA C4) Sydney Coordination Office (CoA C4) Relevant council(s) (CoA C4)
Noise and Vibration Management Plan (NVMP)	RIC-JHC-MPL-00-PL-290-001	Endorsed by the Environmental Representative, reviewed and endorsed by Acoustic Advisor (CoA A26) then submitted to Secretary for approval one month prior to commencement of construction (CoA C6)	EPA (CoA C4) Relevant council(s) (CoA C4)
Flora and Fauna Management Plan (FFMP)	RIC-ARC-MPL-00-PL-280-001	Endorsed by the Environmental Representative then submitted to Secretary for approval one month prior to commencement of construction (CoA C6)	OEH (CoA C4) Relevant council(s) (CoA C4)
Air Quality Management Plan (AQMP)	RIC-JHC-MPL-00-PL-410-001	Endorsed by the Environmental Representative then submitted to Secretary for approval one month prior to commencement of construction (CoA C6)	EPA (CoA C4) Relevant council(s) (CoA C4)

Environmental management document	Document no.	Approval requirement	Agency Correspondence
Soil and Surface Water Management Plan (SSWMP)	RIC-JHC-MPL-00-PL-270-001	Endorsed by the Environmental Representative then submitted to Secretary for approval one month prior to commencement of construction (CoA C6)	DPI Water (CoA C4) OEH (CoA C4) EPA (CoA C4) Sydney Water (CoA C4) Relevant council(s) (CoA C4)
Groundwater Management Plan (GWMP)	RIC-JHC-MPL-00-PL-300-001	Endorsed by the Environmental Representative then submitted to Secretary for approval one month prior to commencement of construction (CoA C6)	DPI Water (CoA C4)
Non-Aboriginal Heritage Management Plan (NAHMP)	RIC-JHC-MPL-00-PL-260-001	Endorsed by the Environmental Representative then submitted to Secretary for approval one month prior to commencement of construction (CoA C6)	Heritage Council of NSW (CoA C4) Heritage Division (CoA C4) Relevant council(s) (CoA C4)
Aboriginal Cultural Heritage Management Plan (ACHMP)	RIC-JHC-MPL-00-PL-261-001	Endorsed by the Environmental Representative then submitted to Secretary for approval one month prior to commencement of construction (CoA C6)	OEH (CoA C4)
Waste Management Plan (WMP)	RIC-JHC-MPL-00-PL-250-003	Endorsed by the Environmental Representative then submitted to Secretary for approval one month prior to commencement of construction (CoA C6)	N/A
Compliance tracking and environmental audit program	RIC-JHC-PRG-00-PL-250-001	Endorsed by the Environmental Representative (CoA A28)	Submitted to Secretary one month prior to commencement of construction for information (CoA A28)
Blast Management Strategy	Will be provided once developed if required	Must be endorsed by a suitable qualified and experienced person and reviewed by an independent specialist (CoA E97) Must be reviewed and endorsed by the Acoustic Advisor before submission to the Secretary (CoA A26)	EPA (CoA E98) Submitted to Secretary one month prior to commencement of blasting for information (CoA E99)

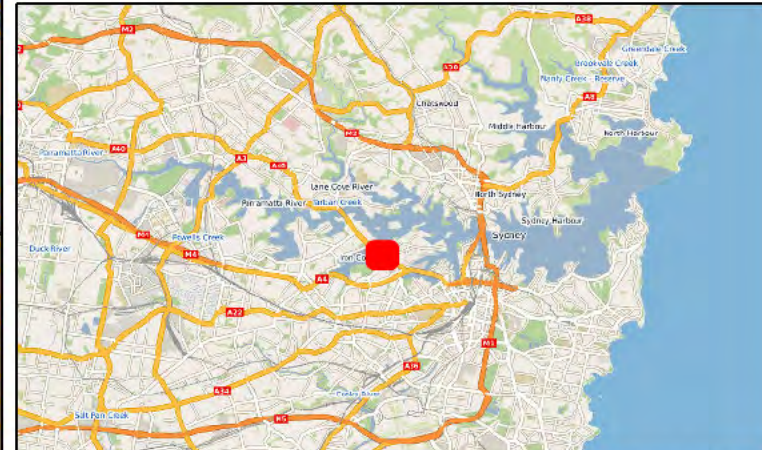
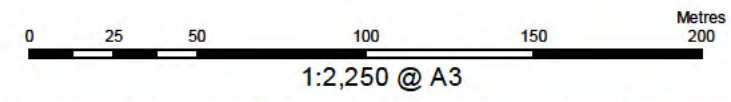
Environmental management document	Document no.	Approval requirement	Agency Correspondence
Blast Monitoring Program	Will be provided once developed if required	Endorsed by the Environmental Representative then submitted to Secretary for approval one month prior to commencement of construction (CoA C14)	EPA (CoA C9 and C13)
Communication Strategy	RIC-JHC-PRG-00-PL-090-001	Submitted to Secretary for approval one month prior to commencement of pre-construction (CoA B3)	N/A
Construction Parking and Access Strategy	To be provided	Submitted to Secretary for approval one month prior to any works that impact on parking (CoA E54)	M4 East and New M5 contractors (REMM TT04)
Dust Deposition Monitoring Program	RIC-JHC-MPL-00-PL-410-002	Endorsed by the Environmental Representative, then submitted to the Secretary for approval one month prior to the commencement of construction (CoA C14)	EPA (CoA C9)
Groundwater Monitoring Program	RIC-JHC-MPL-00-PL-300-002	Endorsed by the Environmental Representative, then submitted to the Secretary for approval one month prior to the commencement of construction (CoA C14)	DoI Water (CoA C9) Sydney Water (CoA C9) Relevant council(s) (CoA C9)
Noise and Vibration Monitoring Program	RIC-JHC-MPL-00-PL-290-002	Endorsed by the Environmental Representative, reviewed and endorsed by Acoustic Advisor (CoA A26), then submitted to Secretary for approval one month prior to commencement of construction (CoA C14)	NSW Health (CoA C9) Relevant council(s) (CoA C9)
Noise Insulation Program	RIC-JHC-PRG-00-NV-070-001	Reviewed and endorsed by the Acoustic Advisor (CoA A26 and E89) then submitted to Secretary for approval one month prior to the commencement of works – as part of NVMP	N/A
Out-of-Hours Work Protocol	RIC-JHC-PLN-00-PL-290-001	Reviewed and endorsed by Acoustic Advisor (CoA A26) then submitted to Secretary for approval prior to the commencement of out-of-hours works (CoA E77)	EPA (CoA E77) Acoustic Advisor (CoA E77)

Environmental management document	Document no.	Approval requirement	Agency Correspondence
Pedestrian and Cycle Implementation Strategy (Active transport strategy)	Will be provided once developed	Must be reviewed by the Design Review Panel (CoA E60) Submitted to Secretary for approval one month prior to the construction of the permanent built surface works in the Urban Design and Landscaping Plan or earthworks for the final landscaping of the Rozelle Rail Yards open space (CoA E60)	Relevant council(s) (CoA E60) Bicycle NSW (CoA E60)
Site Establishment Management Plan	RIC-JHC-MPL-00-PL-310-001	Submitted to Secretary for approval one month prior to the establishment of construction ancillary facilities (CoA C22)	Relevant council(s) and government authorities (CoA C22)
Surface Water Quality Monitoring Program	RIC-JHC-MPL-00-PL-270-002	Endorsed by the Environmental Representative then submitted to Secretary for approval one month prior to commencement of construction (CoA C14)	DPI Water (CoA C9) Sydney Water (CoA C9) Relevant council(s) (CoA C9)
Sustainability Strategy	RIC-PER-PLN-00-PL-350-001	N/A	Submitted to Secretary prior to commencement of works for information (CoA E200)
Unexpected Contaminated Land and Asbestos Finds Procedure	RIC-JHC-PRC-00-PM-000-001	N/A	N/A
Unexpected Heritage Finds Procedure	RIC-JHC-PRC-00-PM-000-002	Endorsed by the Environmental Representative then submitted to Secretary for approval as part of the CAHMP and ACHMP one month prior to commencement of construction (CoA C6)	N/A
Utilities Management Strategy	RIC-JHC-PRC-00-PM-000-003	Submitted to Secretary for approval one month prior to commencement of low impact utility works (CoA E140)	N/A
Water Reuse Strategy	RIC-JHC-PRC-00-PM-000-004	Submitted to Secretary for approval prior to commencing tunnelling works (CoA E198)	N/A

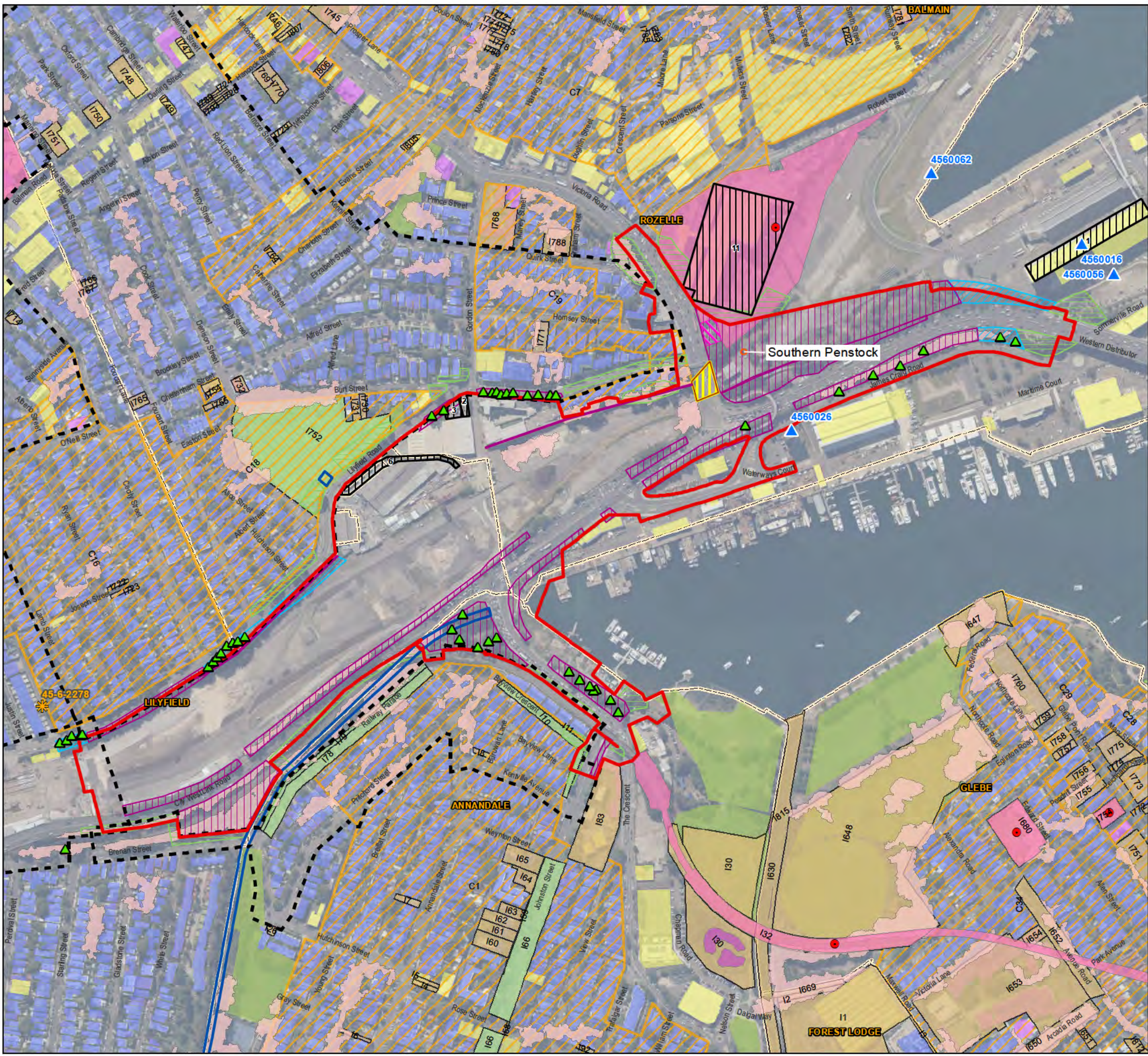
Annexure F Sensitive Area Plans



- Legend**
- Project boundary
 - EIS 'Areas of Interest' Boundary
 - State Heritage Item
 - SREP 26 Heritage Register - Item (DPE, 1997/09/23)
 - S170 RTA Item (RMS, 2016/01/27)
 - S170 RTA Item (RMS, 2016/01/27)
 - Heritage (LEP)
 - Conservation Area - General
 - Item - General
 - Potential Heritage Item
 - Item
 - Sensitive receivers
 - Residential
 - Commercial
 - Other sensitive
 - Outdoor area
 - ▲ High Retention Value Trees
 - Areas of trees to retain
 - Areas of trees to be removed
 - Sydney Metro Native Vegetation (OEH)
 - Urban Native and Exotic Cover



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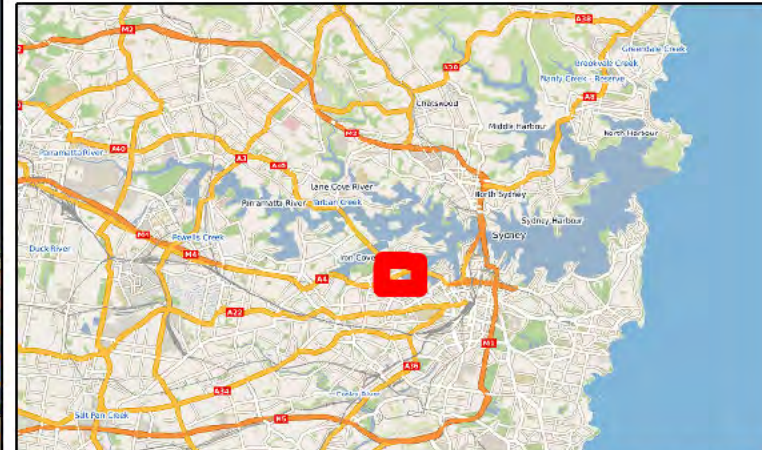


Legend

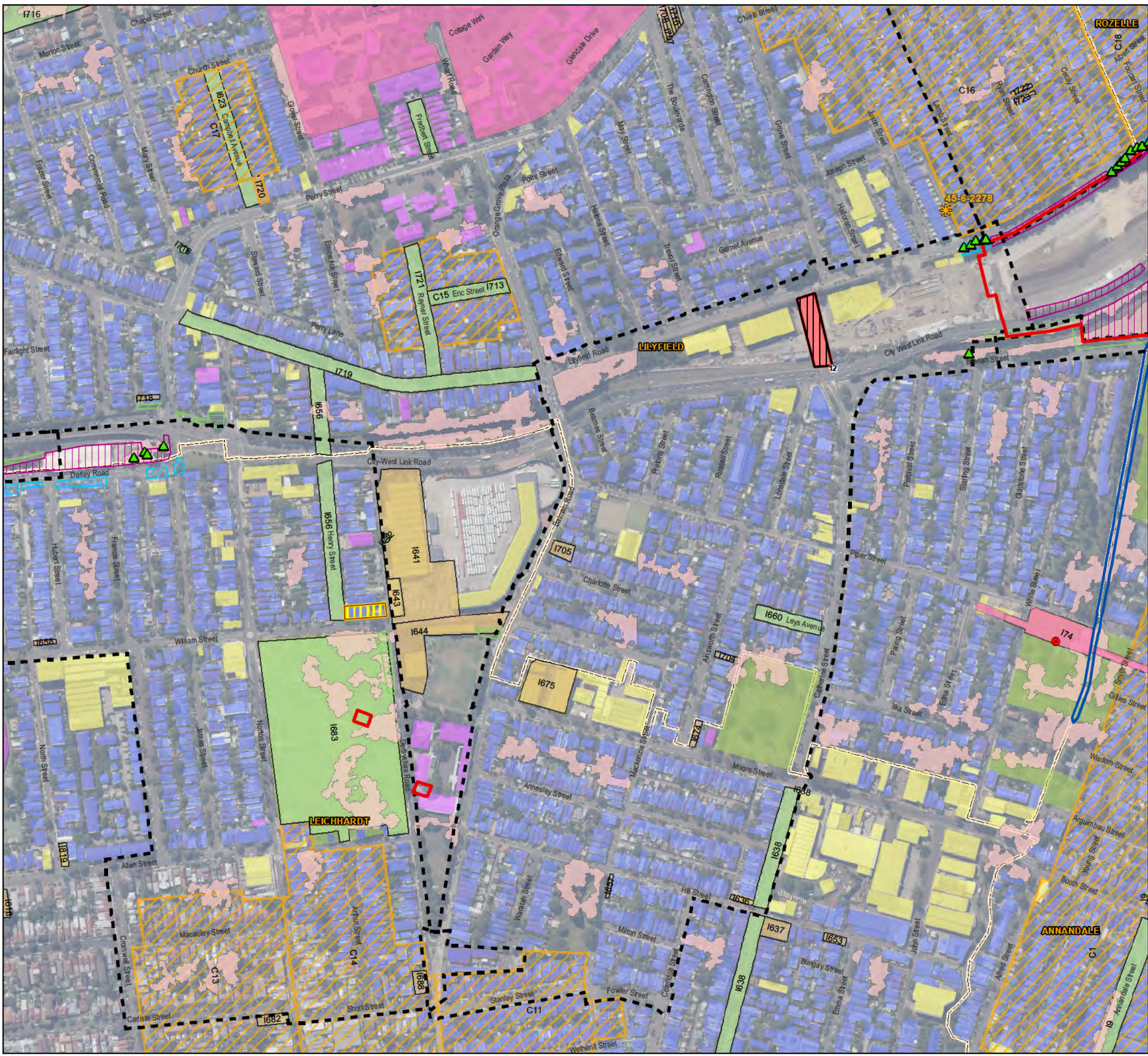
- Project boundary
- EIS 'Areas of Interest' Boundary
- Aboriginal Heritage Site (AHIMS)
- S170 Port Authority Item
- State Heritage Item - centroid
- State Heritage Item
- SREP 26 Heritage Register - Item (DPE, 1997/09/23)
- S170 Sydney Water (SW, 2016/06/30)
- Heritage (LEP)**
- Conservation Area - General
- Item - General
- Item - Landscape
- Potential Heritage Item**
- Item
- Sandstone cutting
- Southern Penstock
- Former White Bay Hotel site foundations (plinth and archaeology)
- Sensitive receivers**
- Residential
- Commercial
- Other sensitive
- Outdoor area
- High Retention Value Trees
- Areas of trees to retain
- Areas of trees to be removed
- Areas of trees to investigate for retention
- Sydney Metro Native Vegetation (OEH)**
- Estuarine Mangrove Forest
- Estuarine Saltmarsh
- Urban Native and Exotic Cover

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Metres

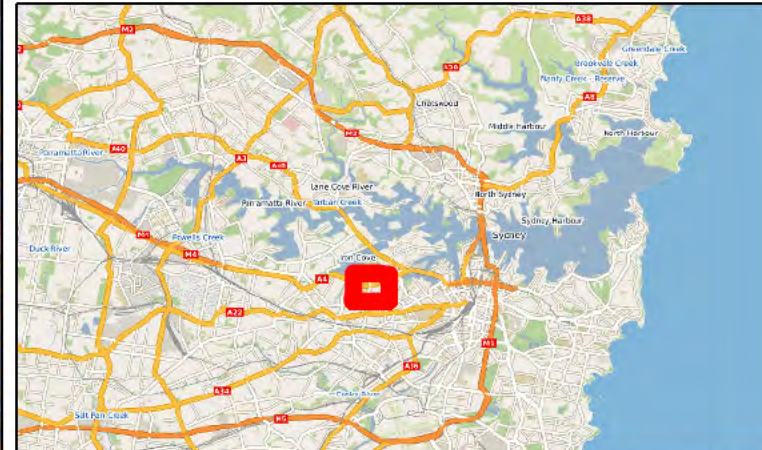
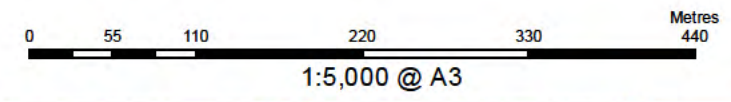
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- ### Legend
- Project boundary
 - EIS 'Areas of Interest' Boundary
 - Aboriginal Heritage Site (AHIMS)
 - State Heritage Item - centroid
 - State Heritage Item
 - SREP 26 Heritage Register - Item (DPE, 1997/09/23)
 - S170 RailCorp item (TfNSW, 2016/04/07)
 - S170 Sydney Water (SW, 2016/06/30)
 - Heritage (LEP)**
 - Conservation Area - General
 - Item - General
 - Item - Landscape
 - Potential Heritage Item**
 - Item
 - Sandstone cutting
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Annexure G Environmental Incident Classification and Reporting



Transport
Roads & Maritime
Services

Environmental Incident Classification and Reporting Procedure

September 2017

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About this release

Title	Environmental Incident Classification and Reporting Procedure
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Approval		
Prepared by	Environment Manager Performance Improvement	Scott Machar
Reviewed by	Director Environment Operations	Sally Durham
Approved by	Director Environment	Michael Crowley

Document Control			
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Acronyms and definitions

Acronym	Definition
DE	(Roads and Maritime Services) Director Environment
DEO	(Roads and Maritime Services) Director Environment Operations
DPE	Department of Planning and Environment
Environmental harm	Any act that degrades or pollutes the environment
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1997</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPL	Environment Protection Licence
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
REF	Review of Environmental Factors
Roads and Maritime	NSW Roads and Maritime Services
SEQC	(Roads and Maritime Services) Safety Environment and Quality Co-ordinator
SEQO	(Roads and Maritime Services) Safety Environment and Quality Officer

1. Introduction

1.1 Aim

The Environmental Incident Classification and Reporting Procedure (the Procedure) aims to ensure Roads and Maritime Services workers and contractors understand how to classify, respond to and report environmental incidents that occur as a result of Roads and Maritime managed activities.

1.2 Objectives

The objectives of the Procedure are to:

- Ensure all relevant Roads and Maritime workers, managers and contractors are made aware of environmental incidents promptly and can respond accordingly
- Ensure site workers understand the immediate environmental incident reporting requirements
- Ensure all workers understand reporting timeframes, including statutory requirements
- Ensure incidents are reported to enable monitoring, sharing of lessons learnt and response to emerging environmental incident trends
- Comply with statutory obligations to report certain environmental incidents to regulators and other relevant government agencies (see [section 5.1](#)).

1.3 Scope and coverage

This Procedure is applicable to all Roads and Maritime activities where environmental incidents may occur. This includes (but is not limited to):

- Temporary activities, such as preliminary investigations (e.g. geotechnical and environmental surveys) and the construction and maintenance of Roads and Maritime assets
- Activities at Roads and Maritime properties and facilities
- Vessels operated by Maritime division
- Activities undertaken by contractors on behalf of Roads and Maritime.

The requirements of this Procedure must be communicated to all Roads and Maritime workers and contractors (e.g. during inductions) who are undertaking activities where incidents may occur.

The Procedure is for internal reporting processes, except where incidents are identified that need to be notified to regulators, and other relevant authorities (see [section 5.1](#)).

The procedure does NOT cover environmental incidents caused by:

- Operational road and traffic activities of the general public (e.g. vehicle accidents, fires caused by discarded cigarette butts)
- Boating accidents (except those involving Roads and Maritime vessels)
- Dumping of materials by members of the public on Roads and Maritime roadsides or land (except where hazardous materials are unexpectedly found during road construction or maintenance activities). Illegal dumping should be reported to the [NSW Environment Protection Authority](#) (EPA)
- Marine oil and chemical spills covered by the [National Plan for Maritime Environmental Emergencies](#) (Australian Maritime Safety Authority, 2014).

2. Environmental incident classification

There are three categories of environmental incidents, as detailed in Table 2.

Table 2: Environmental incident classification

Category	Description	Examples	
Category 1	<p>Potential breaches of legislation or failures of process that result in actual off-site environmental harm, or residual on-site environmental harm</p> <p>or</p> <p>Works undertaken outside approved areas, without required approval or without environmental assessment</p> <p>or</p> <p>Any Material Harm pollution incident as defined by Part 5.7 of the Protection of the Environment Operations Act 1997 (POEO Act).</p>	Pollution Incidents	Discharge of waters from site not in accordance with any approval requirements (e.g. discharge criteria in an Review of Environmental Factors (REF) safeguard or Environment Protection Licence (EPL) condition)
			Pollution, or potential pollution, of waters
			Unmanaged vehicle tracking of materials or emissions of dust, offensive odours or noise beyond the site boundary that are not managed in accordance with approval requirements and/or might impact on nearby land users
			Pollution incidents that threaten harm to the health or safety of people (e.g. odours)
			Unauthorised or illegal disposal or transport of waste
			A spill or other incident that causes pollution to land
		Conservation Breaches	Unauthorised harm or damage to native flora and fauna (terrestrial or aquatic/marine)
			Unauthorised dredging or reclamation works within a watercourse
			A fire caused by Roads and Maritime activities that travels beyond the boundary causing or potentially causing harm to the environment or community
		Heritage Breaches	Unauthorised harm to Aboriginal objects and Aboriginal places
			Unauthorised damage to any State or locally significant relic or Heritage item, or item listed on the Roads and Maritime Section 170 register

Table 2: Environmental incident classification

Category	Description	Examples
		<p>Failure to comply with the requirements of:</p> <ul style="list-style-type: none"> • The <i>Environmental Planning and Assessment Act 1997</i> (EP&A Act), including exempt activities, Part 5 determinations and Part 5.1 approvals • An <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) approval • An EPL • A CEMP or environmental work method statement • A permit from a regulator (e.g. under the <i>Fisheries Management Act 1994</i>) <p>Planning and compliance breaches</p>
<p>Category 2</p>	<p>Failures of process or events that do not result in off-site environmental harm, or residual on-site environmental harm. These incidents may result in temporary on-site environmental harm that can be rectified to pre-existing conditions.</p>	<p>A procedural, administrative or technical breach of environmental requirements, including:</p> <ul style="list-style-type: none"> • Failure to prepare or submit required documents, reports or other correspondence • Failure to comply with the requirements of: <ul style="list-style-type: none"> ○ The <i>Environmental Planning and Assessment Act 1997</i> (EP&A Act), including exempt activities, Part 5 determinations and Part 5.1 approvals ○ An <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) approval ○ An EPL ○ A CEMP or environmental work method statement ○ A permit from a regulator (e.g. under the <i>Fisheries Management Act 1994</i>). <p>Spills and discharges that do not leave a site boundary and are cleaned up without residual on-site environmental harm, and the area of temporary impact can be restored to pre-existing conditions</p> <p>A fire that is contained on site and does not cause or potentially cause adverse impact to the environment or community</p>
<p>Reportable Event</p>	<p>An event or unexpected find that occurs outside the scope of reasonable environmental controls and mitigation measures</p>	<p>Sediment or site water travelling beyond a site boundary, and where it can be demonstrated that:</p> <ul style="list-style-type: none"> • Erosion and sediment controls were installed and maintained in accordance with an erosion and sediment control plan, and • The cause of the incident was reasonably unforeseen or the weather (rain, wind etc) event exceeded the design capacity of controls. <p>Note these events are considered to have occurred (and the response should commence in accordance with Section 3) when sediment or site water first travels beyond the site boundary (e.g. when an appropriately sized and maintained sediment basin commences overtopping)</p> <p>An unexpected archaeological find that is being managed in accordance with the "Roads and Maritime</p>

Table 2: Environmental incident classification

Category	Description	Examples
		<p>Standard Management Procedure - Unexpected Archaeological Finds”</p> <p>An unexpected threatened species find that is being managed in accordance with the “Roads and Maritime Biodiversity Guidelines – unexpected threatened species finds procedure”</p> <p>An unexpected find of contaminated soils, asbestos or other potentially hazardous substances during construction or maintenance works. Note that once a particular contaminant is identified or found for the first time (either during project planning or construction phases) it is then reasonably expected to be found, so additional finds need not be reported in this category.</p>
Regulatory Action	Formal regulatory action from an environmental regulator (that has not already been reported in conjunction with another incident)	<p>Formal regulatory action from an environmental regulator includes, but is not limited to:</p> <ul style="list-style-type: none"> • Penalty infringement notices (PINs) • Clean up notices • Prevention notices • Official cautions / warnings • EPA show cause notifications.

Note: For any incident where there is associated formal regulatory action from an environmental regulator, copies of this correspondence must be forwarded to envops@rms.nsw.gov.au in addition to the Environmental Incident Report (see [section 4](#)).

3. Environmental incident response

3.1 Considerations and steps for environmental incident response

The step-by-step response for Category 1 incidents, Category 2 incidents and Reportable Events is detailed in Table 3.1a (activities undertaken by contractors) and Table 3.1b (activities undertaken by Roads and Maritime Regional Maintenance). However, some key points apply throughout all stages of the response to any environmental incident:

- If in doubt, treat all incidents as Category 1 to ensure reporting timeframes can be met
- Strong consideration should be given to notifying:
 - Roads and Maritime Corporate Communications for any incidents that have potential for community or media attention (see [section 4.4](#))
 - Roads and Maritime Work Health and Safety Branch for any incidents that involve actual or potential risks to worker health and safety (see [section 4.4](#)).
- The person responsible for operational management of the site/activity shall assume responsibility for the response to the incident and direct actions as necessary and in accordance with this Procedure
- A Roads and Maritime Environment Manager can consult with the Director Environment Operations (DEO) to reclassify the category of an incident where appropriate.

Any Regulatory Action received (that has not already been reported in conjunction with another incident) should be immediately forwarded to the envops@rms.nsw.gov.au mailbox, and followed by an immediate phone call to the relevant Roads and Maritime Environment Manager, who will immediately advise the DEO. Consideration should then be given as to whether an environmental incident has occurred (see [section 2](#)) that should be reported in accordance with this section.

Table 3.1a: Environmental incident response activities undertaken by contractors

Step	Action	Responsibility for completing action	Timeframe	
			Category 1 Incidents	Category 2 Incidents / Reportable Events
1	Stop work in relevant area (if necessary) and take actions to prevent adverse impact to human health or the environment. Note human health and safety is the primary concern, and no action should be taken if it is not safe to do so.	Person who identifies incident	Immediate	Immediate
2	Advise the contractor site management team.	Person who identifies incident	Immediate	Immediate
3	Advise the Roads and Maritime project management team and the relevant Roads and Maritime Environment Manager.	Contractor	Immediate	Day of the incident
4	Consider if the incident is a pollution incident that constitutes Material Harm in accordance with Part 5.7 of the POEO Act. For Material Harm pollution incidents, notify relevant agencies (see section 5.2). Sites with an EPL should implement their Pollution Incident Response Management Plan.	Contractor	Immediate	Immediate
5	Advise DEO by phone. The DEO may request photographs and a brief summary of known information via email. The following Roads and Maritime managers should also be notified by phone as relevant: <ul style="list-style-type: none"> • Director Environment (Major Projects) • Director Environment (Motorways). 	Roads and Maritime Environment Manager	Immediately following advice of the incident	N/A
6	Where relevant, notify incident to appropriate regulatory agency (see section 5.1). Note this does not refer to the requirement to notify Material Harm pollutions incidents (see Step 4).	Contractor	As required by legislation	As required by legislation
7	Complete the incident report form (see section 4.2), including sign-off from Roads and Maritime Project Manager, and submit to Roads and Maritime Environment Manager* (see sections 4.3 and 4.4).	Contractor	Within 3 business days of the incident	Within 3 business days of the incident
8	Sign and submit incident report form to envops@rms.nsw.gov.au .	Roads and Maritime Environment Manager	On the day of receipt of the form	On the day of receipt of the form
9	For Material Harm pollution incidents, provide a written report to each relevant authority (see section 5.2).	Contractor	Within 7 days of the incident	N/A
10	Undertake incident investigation (level of investigation to be appropriate to the severity of the incident) to determine root cause and any necessary corrective actions. Summarise findings in 'Incident Lessons Learnt' template and submit to Environment Manager for review.	Contractor	Within 1 month of incident	N/A
11	Submit final Incident Lessons Learnt to envops@rms.nsw.gov.au .	Roads and Maritime Environment Manager	Within 1 week of receipt	N/A
12	Consider the need for any required corrective actions to be addressed through a management system (e.g. corrective action request).	Roads and Maritime Environment Manager and project team	As appropriate	As appropriate

*Alternate workflow / signatory arrangements may be required for projects where a third party is involved (e.g. a delivery authority). These arrangements can be confirmed with the relevant Roads and Maritime Environment Manager.

Table 3.1b: Environmental incident response activities undertaken by Regional Maintenance (including contractors or RMCC on behalf of Regional Maintenance)

Step	Action	Responsibility for completing action	Timeframe	
			Category 1 Incidents	Category 2 Incidents / Reportable Events
1	Stop work in relevant area (if necessary) and take actions to prevent adverse impact to human health or the environment. Note human health and safety is the primary concern, and no action should be taken if it is not safe to do so.	Person who identifies incident	Immediate	Immediate
2	Advise the Roads and Maritime site management team and the relevant Roads and Maritime Environment Manager and Safety Environment Quality Officer (SEQO) / Safety Environment Quality Co-ordinator (SEQC).	Person who identifies incident	Immediate	Immediate
3	Advise DEO by phone. The DEO may request photographs and a brief summary of known information via email. The relevant Regional Maintenance Manager must also be notified.	Environment Manager	Immediate	N/A
4	Consider if the incident is a pollution incident that constitutes Material Harm in accordance with Part 5.7 of the POEO Act. For Material Harm pollution incidents, notify relevant agencies (see section 5.2). Sites with an EPL should implement their Pollution Incident Response Management Plan.	DEO	Immediately following advice of the incident	N/A
5	Where relevant, notify incident to appropriate regulatory agency (see section 5.1). Note this does not refer to the requirement to notify Material Harm pollutions incidents (see Step 4).	Environment Manager	As required by legislation	As required by legislation
6	Complete the incident report form (see section 4.2), including sign-off from Roads and Maritime Project Manager, and submit to SEQC (see section 4.3).	Relevant Roads and Maritime site representative	Within 3 business days of the incident	Within 3 business days of the incident
7	SEQC to sign and submit incident report form to relevant Environment Manager (see section 4.4).	SEQC	On the day of receipt of the form	On the day of receipt of the form
8	Sign and submit incident report form to envops@rms.nsw.gov.au .	Environment Manager	On the day of receipt of the form	On the day of receipt of the form
9	For Material Harm pollution incidents, provide a written report to each relevant authority (see section 5.2).	DEO	Within 7 days of the incident	N/A
10	Undertake incident investigation (level of investigation to be appropriate to the severity of the incident) to determine root cause and any necessary corrective actions. Summarise findings in 'Incident Lessons Learnt' template and submit both to Environment Manager for review. Consider the need for any required corrective actions to be addressed through a management system (e.g. corrective action request).	SEQC	Within 1 month of incident	N/A
11	Submit final Incident Lessons Learnt to envops@rms.nsw.gov.au .	Roads and Maritime Environment Manager	Within 1 week of receipt	N/A

Copies of formal regulatory action from an environmental regulator (that has not already been reported in conjunction with another incident) must be forwarded to the relevant Roads and Maritime Environment Manager (and SEQC/SEQO for Regional Maintenance projects) and envops@rms.nsw.gov.au immediately upon receipt.

3.2 Critical incidents

Some Category 1 incidents require escalation so relevant members of the Roads and Maritime Executive are aware of the incident and ready to respond as necessary. Category 1 incidents will be deemed 'Critical Incidents' for escalation to the Executive when they have the potential for:

- Regulatory action (e.g. EPA Penalty Infringement Notice) and/or
- Reputational damage (e.g. media coverage) and/or
- Significant environmental harm.

Guiding factors that will be considered when determining whether there has been 'significant' environmental harm include:

- When there has been actual or potential harm to the health or safety of people or to the environment that is not trivial
- Actions required to prevent, mitigate or make good the actual or potential environmental harm are likely to exceed \$10,000

When a potential 'Critical Incident' is reported, the DEO will immediately brief the Director Environment (DE) who will make a determination on whether it will be considered a 'Critical Incident'. The DE will then brief the Roads and Maritime Chief Executive and relevant Executive Director, as well as any other members of the Executive as appropriate. When the DE cannot be contacted, the DEO will make the determination and make the relevant Executive briefings.

4. Environmental incident reporting

4.1 Environmental incident report form

The Environmental Incident Report Form should be completed for Category 1 incidents, Category 2 incidents and Reportable Events, and is available on the [Roads and Maritime website](#).

4.2 Completing the incident report form

All parts of the Incident Report Form must be completed in accordance with this procedure and following the instructions within the form. The Form (and any subsequent reports) must only include factual information. Speculation about the causes and outcomes of incidents are not to be included.

The Form must be signed by the following:

Signatory	Reason
The person making the report	The person witnessed the incident or has the most knowledge of the incident, and can provide sufficient factual information.
The Roads and Maritime Project Manager	To ensure all relevant Roads and Maritime parties can be made aware of the incident, and appropriate resources can be allocated and/or approved to respond to the incident. This also ensures the project management team are aware of any environmental performance trends if multiple incidents occur.
Safety Environment and Quality Co-ordinator (Roads and Maritime Regional Maintenance only)	To ensure Regional Maintenance management system staff are aware of the incident, and any necessary management system changes can be made once corrective actions and lessons learnt are finalised.
The relevant Roads and Maritime Environment Manager	Concurrence that the incident is adequately described, and the immediate actions and corrective actions are appropriate.

As noted in [Table 3.1a](#), alternate signatory arrangements may be required for projects where a third party is involved (e.g. a delivery authority). These arrangements can be confirmed with the relevant Roads and Maritime Environment Manager.

4.3 Submitting the incident report form

All Incident Report Forms must be populated, signed and submitted electronically (never printed / signed / scanned etc.) to enable Roads and Maritime to electronically capture the information entered in the form.

Completed Incident Report Forms should be submitted by the Roads and Maritime Environment Manager to the Environment Operations mailbox:

- envops@rms.nsw.gov.au

It is essential that a clear and consistent subject line convention is used to allow tracking of correspondence about each incident. All emails about an incident between all parties should structure the subject line as follows:

- Category X - project name / incident location - date
- For example, Category 1 – Main Road Upgrade – dd/mm/yy.

Where information cannot be gathered within the timeframes set out in this Procedure, the incident form should be submitted to the mailbox as a 'draft', whether or not the information contained is fully completed.

- For example, Category 1 – Main Road Upgrade – dd/mm/yy (DRAFT).

The Environment Manager should then request further information from the person making the report, and the final report should be submitted within the next 24 hours.

4.4 Roads and Maritime contacts

The relevant Environment Manager for each region and Project Office is the first point of contact for enquiries relating to environmental incidents. Current contacts for all Roads and Maritime Environment Managers can be found on the [Roads and Maritime website](#).

Environment Managers can also provide contact details for other relevant contacts during an incident, such as Communications or Work, Health and Safety.

The DEO oversees the application of this Procedure, and can be contacted in the absence of the relevant Environment Manager for Category 1 incidents:

- Phone - (02) 8843 3048

5. Regulatory agency notification

5.1 Notification of Material Harm pollution incidents

5.1.1 Definition of Material Harm pollution incidents

Under Part 5.7 of the POEO Act, there is a duty to immediately notify (i.e. promptly and without delay) each relevant authority (see [section 5.1.3](#)) of a pollution incident where material harm to the environment is caused or threatened.

The POEO Act states that a pollution incident should be considered Material Harm if:

- “(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*
- (ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000”*

Material Harm only relates to pollution incidents. Other environmental incidents, such as conservation, heritage and planning breaches, are not included in the definition of a pollution incident.

5.1.2 Determining if an incident should be considered Material Harm

As soon as a person becomes aware of a pollution incident that has the potential to cause Material Harm, the Category 1 incident response should be followed (see [Table 3.1a](#) and [Table 3.1b](#) above). The determination on whether a pollution incident should be considered Material Harm should be made in accordance with Table 5.1.2.

Table 5.1.2: Determination of Material Harm pollution incidents

Project delivery	Material Harm determination
Activities undertaken by Regional Maintenance	<p>The DEO should make the determination (and any associated notifications) on whether a pollution incident should be considered Material Harm.</p> <p>If the DEO is not available, the relevant Environment Manager should seek advice from other Roads and Maritime Environment Branch Directors, or make the material harm determination themselves.</p> <p>If no assistance can be obtained and it is suspected that a pollution incident should be considered Material Harm, the project should notify the relevant authorities in accordance with Table 5.1.3a or Table 5.1.3b (as relevant).</p>
Activities undertaken by contractors	<p>The contractor project team should make the determination (and any associated notifications) on whether a pollution incident should be considered Material Harm.</p> <p>The relevant Roads and Maritime Environment Manager or Environment Branch Director may contact the DEO to assist in making an assessment of the incident, to aid the contractor in determining if the pollution incident should be considered Material Harm.</p> <p>Where Roads and Maritime believes a pollution incident should be considered Material Harm but the contractor disagrees, Roads and Maritime is required by law to notify EPA and other relevant authorities. In this instance the DEO or DE would make a determination on whether the incident should be notified by Roads and Maritime as Material Harm. Roads and Maritime would provide details of any notifications made to the contractor.</p>

Even if only limited information is available for a pollution incident being considered Material Harm, each relevant authority must be immediately notified with the information available and updates provided as soon as further relevant information becomes available.

In circumstances where there is doubt about the need to notify a pollution incident as Material Harm, Roads and Maritime and its contractors should always err on the side of notification.

When in doubt, communicate!

Note: Roads and Maritime is not responsible for notifying a Material Harm pollution incident caused by a traffic or vehicle accident where notification has already occurred by someone at the scene. However, if it is believed notification has not been undertaken, Roads and Maritime should undertake notification in accordance with [section 5.1.3](#). Environment Branch can provide advice in this instance (see [section 4.4](#)).

5.1.3 Relevant authorities to notify

The relevant authorities that must be notified for a Material Harm pollution incident are listed in tables [5.1.3a](#) and [5.1.3b](#) below. It is important to note the order of notification and phone numbers to use can vary depending on the nature of the pollution incident, as detailed in the two tables.

All of the authorities listed (whether considered relevant or not) must be contacted for each Material Harm pollution incident to satisfy POEO Act requirements. Serious penalties apply to both individuals and corporations for failing to notify Material Harm pollution incidents:

- Maximum penalty for individuals - \$500,000
- Maximum penalty for corporations - \$2,000,000.

Table 5.1.3a: Authorities to notify for Material Harm pollution incidents that present an immediate threat to human health or property

Order	Authority	Contact Number
1	Fire and Rescue NSW	000
2	NSW EPA environment line	131 555
3	Ministry of Health (via the local Public Health Unit)*	Contact 1300 066 055 to be directed to the local Public Health Unit, or visit the NSW Health Website
4	SafeWork NSW	131 050
5	The Appropriate Regulatory Authority*, being either: <ul style="list-style-type: none"> • Local council • Western Lands Commissioner for the Western Division (except any part of the Western Division within the area of a local council). 	Local council - contact Office of Local Government on 4428 4100, or visit the Office of Local Government website Western Lands Commissioner – phone 6883 5400

Table 5.1.3b: Authorities to notify for Material Harm pollution incidents that do NOT present an immediate threat to human health or property

Order	Authority	Contact Number
1	NSW EPA environment line	131 555
2	The Appropriate Regulatory Authority*, being either: <ul style="list-style-type: none"> • Local council • Western Lands Commissioner for the Western Division (except any part of the Western Division within the area of a local council). 	Local council - contact Office of Local Government on 4428 4100, or visit the Office of Local Government website Western Lands Commissioner – phone 6883 5400
3	Ministry of Health (via the local Public Health Unit)*	Contact 1300 066 055 to be directed to the local Public Health Unit, or visit the NSW Health Website

4	SafeWork NSW	131 050
5	Fire and Rescue NSW	1300 729 579

* The appropriate contact for the Appropriate Regulatory Authority and Public Health Unit will vary according to the geographic location of the activity. These contact numbers should be found in advance and stored for immediate access (e.g. in a project's Construction Environmental Management Plan and/or on site notice boards) should a pollution incident need to be notified.

5.1.4 The relevant information to provide

It is important to avoid speculation on origin, causes or outcomes of a pollution incident in discussions with the authorities. Section 150 of the POEO Act provides the information that needs to be notified, being:

- a) The time, date, nature, duration and location of the incident
- b) The location of the place where pollution is occurring or is likely to occur, the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known
- c) The circumstances in which the incident occurred (including the cause of the incident, if known)
- d) The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known
- e) Other information prescribed by the regulations.

Only known information should be provided when notifying of a Material Harm pollution incident. If further information becomes known after the initial notification, that information must immediately be notified to all authorities in accordance with Section 150 (see above). The immediate verbal notification is to be followed by written notification to each relevant authority within seven days of the date on which the incident occurred.

Complying with these notification requirements does not remove the need to comply with any other legislative requirements for incident notification (e.g. requirements under EPL conditions or the Work Health and Safety Act 2011).

5.2 Summary of other regulatory agency notification requirements

Specific statutory requirements relating to the notification of environmental incidents to relevant regulatory agencies are summarised in Table 5.2. Additional requirements adopted by Roads and Maritime are indicated in *italics*. Any notification to regulatory agencies should be indicated in the Environmental Incident Report Form to confirm that any required notifications have been initiated.

Table 5.2: Regulatory agency notification requirements

Legislation / issue	Regulating authority	Section / requirement
<i>Commonwealth Aboriginal and Torres Strait Islanders Heritage Protection Act 1984</i>	Department of the Environment and Energy	Section 20 – requirement to notify the Minister of the discovery of Aboriginal remains.
<i>Contaminated Land Management Act 1997</i>	EPA	Section 60 – requirement to notify if Roads and Maritime activities have contaminated land or if Roads and Maritime owns land that has been contaminated.
<i>Heritage Act 1977</i>	Office of Environment and Heritage	Section 146 – requirement to notify the Heritage Council of the location of the relic once a relic has been discovered or located.
<i>National Parks and Wildlife Act 1974</i>	Office of Environment and Heritage	Section 89A – requirement to notify the location of an Aboriginal object that is the property of the Crown.
<i>Protection of the Environment Operations Act 1997</i>	EPA and other relevant authorities	Section 148 – requirement to immediately notify pollution incidents that cause or threaten Material Harm to the environment (see Section 5.1)

	EPA	<i>Pro-active reporting to the local EPA officer of offsite pollution incidents that occur as a result of Roads and Maritime activities is encouraged as soon as practicable after the pollution incident occurs.</i>
<i>Rural Fires Act 1997</i>	NSW Rural Fire Service	Section 64 – requirement to notify an appropriate fire officer of the inability to extinguish any fire burning during a bush fire danger period applicable to the land.
Breach of Conditions of Approval (projects approved under Part 5.1 of the EP&A Act)	Department of Planning and Environment (DPE)	DPE should be notified by the project proponent when there has been a breach of a Condition of Approval (CoA). There may also be other notification requirements included in the CoA.
<i>Water supply catchment areas</i>	<i>Local water supply authority</i>	<i>If an environmental incident has the potential for unapproved impacts on a drinking water supply, the relevant water supply authority must be advised.</i>

5.3 Requests for written reports from regulatory authorities (activities delivered internally by Roads and Maritime)

Should Roads and Maritime directly receive a request from a regulatory authority for a written report regarding an environmental incident, Environment Branch and Legal Branch must be immediately contacted for advice. No further correspondence (including email) about the incident should be distributed either internally or externally until advice is received. Environment Branch will coordinate with Legal Branch to:

- Assist in the investigation of the incident
- Provide legal advice to the project
- Co-ordinate the preparation of the written response to the regulatory authority.

Annexure H Other Conditions of Approval relevant to this Plan

CoA No.	Requirement	Reference
A17	Works must not commence until an Environmental Representative (ER) has been approved by the Secretary and engaged by the Proponent.	Section 3.3.1
A21	<p>For the duration of the works until the completion of construction, the approved ER must:</p> <p>(a) receive and respond to communication from the Secretary in relation to the environmental performance of the CSSI</p> <p>(b) consider and inform the Secretary on matters specified in the terms of this approval</p> <p>(c) consider and recommend to the Proponent any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community</p> <p>(d) review documents identified in Conditions C1, C4 and C9 and any other documents that are identified by the Secretary, to ensure they are consistent with requirements in or under this approval and if so:</p> <ul style="list-style-type: none"> (i) make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary), or (ii) make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Secretary / Department for information or are not required to be submitted to the Secretary / Department) <p>(e) regularly monitor the implementation of the documents listed in Conditions C1, C4 and C9 to ensure implementation is being carried out in accordance with the document and the terms of this approval</p> <p>(f) as may be requested by the Secretary, help plan, attend or undertake audits of the development commissioned by the Department including scoping audits, programming audits, briefings and site visits, but not independent environmental audits required under Condition A36 of this approval</p> <p>(g) as may be requested by the Secretary, assist the Department in the resolution of community complaints.</p> <p>(h) assess the impacts of minor ancillary facilities comprising lunch sheds, office sheds and portable toilet facilities as required by Condition C24 of this approval</p> <p>(i) consider any minor amendments to be made to the CEMP, CEMP Sub-plans, Site Establishment Management Plan(s) and monitoring programs that comprise updating or are of an administrative nature, and are consistent with the terms of this approval and the CEMP, CEMP Sub-plans and monitoring programs approved by the Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of this approval; and</p>	Section 3.3.1

CoA No.	Requirement	Reference
	<p>(j) prepare and submit to the Secretary and other relevant regulatory agencies, for information, an Environmental Representative Monthly Report providing the information set out in the Environmental Representative Protocol under the heading "Environmental Representative Monthly Reports." The Environmental Representative Monthly Report must be submitted within seven (7) calendar days following the end of each month for the duration of the ER's engagement for the CSSI, or as otherwise agreed with the Secretary.</p>	
A24	<p>A suitably qualified and experienced Acoustics Advisor (AA), who is independent of the design and construction personnel, must be nominated by the Proponent and engaged for the duration of works and for no less than six (6) months following completion of construction of the CSSI.</p> <p>The details of the nominated AA must be submitted to the Secretary for approval no later than one (1) month before commencement of works.</p> <p>The Proponent must cooperate with the AA by:</p> <ul style="list-style-type: none"> (b) providing access to noise and vibration monitoring activities as they take place (c) providing for review of noise and vibration plans, assessments, monitoring reports, data and analyses undertaken and (d) considering any recommendations to improve practices and demonstrating, to the satisfaction of the AA, why any recommendation is not adopted. 	Section 3.3.1
A26	<p>The approved AA must:</p> <ul style="list-style-type: none"> (a) receive and respond to communication from the Secretary in relation to the performance of the CSSI in relation to noise and vibration (b) consider and inform the Secretary on matters specified in the terms of this approval relating to noise and vibration (c) consider and recommend, to the Proponent, improvements that may be made to avoid or minimise adverse noise and vibration impacts (d) review all noise and vibration documents required to be prepared under the terms of this approval and, should they be consistent with the terms of this approval, endorse them before submission to the Secretary (if required to be submitted to the Secretary) or before implementation (if not required to be submitted to the Secretary) (e) regularly monitor the implementation of all noise and vibration documents required to be prepared under the terms of this approval to ensure implementation is in accordance with what is stated in the document and the terms of this approval 	Section 3.3.1

CoA No.	Requirement	Reference
	<p>(f) notify the Secretary of noise and vibration incidents in accordance with Condition A40 of this approval</p> <p>(g) in conjunction with the ER, the AA must:</p> <ul style="list-style-type: none"> (i) as may be requested by the Secretary or Community Complaints Mediator (required by Condition B13), help plan, attend or undertake audits of noise and vibration management of the CSSI including briefings, and site visits (ii) in the event that conflict arises between the Proponent and the community in relation to the noise and vibration performance of the CSSI, follow the procedure in the Communication Strategy approved under Condition B2 to attempt to resolve the conflict, and if it cannot be resolved, notify the Secretary (iii) consider relevant minor amendments made to the CEMP, relevant sub-plans and noise and vibration monitoring programs that require updating or are of an administrative nature, and are consistent with the terms of this approval and the management plans and monitoring programs approved by the Secretary and, if satisfied such amendment is necessary, endorse the amendment. This does not include any modifications to the terms of this approval (iv) review the noise impacts of minor construction ancillary facilities (v) prepare and submit to the Secretary and other relevant regulatory agencies, for information, a Monthly Noise and Vibration Report detailing the AAs actions and decisions on matters for which the AA was responsible in the preceding month. The Monthly Noise and Vibration Report must be submitted within seven (7) days following the end of each month for the duration of the AA's engagement for the CSSI, or as otherwise agreed by the Secretary. 	
A40	The Secretary must be notified as soon as possible and in any event within 24 hours of any incident.	Sections 3.7.4 & 3.8
A41	Notification of an incident under Condition A40 of this approval must include the time and date of the incident, details of the incident and must identify any consequent non-compliance with this approval.	Section 3.8
A42	All written requirements of the Secretary or relevant public authority, which may be given at any point in time, to address the cause or impact of an incident must be complied with, within any timeframe specified by the Secretary or relevant public authority.	Section 3.8
A43	If statutory notification is given to the NSW Environment Protection Authority (EPA) as required under the POEO Act in relation to the CSSI, such notification must also be provided to the Secretary within 24 hours after the notification was given to the EPA.	Section 3.8
A45	Signage and hoardings surrounding construction ancillary facilities must include the CSSI name and application number.	Section 4.17

CoA No.	Requirement	Reference
C3	The CEMP must be endorsed by the ER and then submitted to the Secretary for approval no later than one (1) month prior to the commencement of construction, or where construction is staged no later than one (1) month prior to the commencement of that stage.	Section 2
C4	The following CEMP Sub-plans must be prepared in consultation with the relevant authorities identified for each CEMP Sub-plan and be consistent with the CEMP referred to in the EIS.	(a) TTAMP– Annexure I i)
	(a) Traffic and Transport and access: Port Authority of NSW, Sydney Coordination Office and relevant council(s) *Port Authority of NSW to be consulted when considering impacts on port land.	
	(b) Noise and vibration: EPA and relevant council(s)	(b) NVMP – Annexure I ii)
	(c) Noise and vibration: EPA and relevant council(s)	(c) FFMP – Annexure I iii)
	(d) Air quality: EPA and relevant council(s)	(d) AQMP – Annexure I iv)
	(e) Soil and surface water: DPI Water; OEH; EPA; Sydney Water; and relevant council(s)	(e) SSWMP – Annexure I v)
	(f) Groundwater: DPI Water	(f) GMP – Annexure I vi)
	(g) Non-Aboriginal Heritage: Heritage Council of NSW; Heritage Division; and relevant council(s)	(g) NAHMP – Annexure I vii)
	(h) Aboriginal Heritage: OEH	(h) ACHMP – Annexure I viii)
	(i) Waste Management: N/A	i) WMP – Annexure I ix)
C5	The CEMP Sub-plans must state how:	Annexure Ii) to ix)
	(a) the environmental performance outcomes identified in the documents listed in Condition A1 as modified by these conditions will be achieved;	
	(b) the mitigation measures identified in the documents listed in Condition A1 as modified by these conditions will be implemented;	
	(c) the relevant terms of this approval will be complied with; and	
	(d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed.	
C6	The CEMP Sub-plans must be endorsed by the ER and then submitted to the Secretary for approval no later than one (1) month prior to the commencement of the construction activities to which they apply.	Section 2
C7	Any of the CEMP Sub-plans may be submitted to the Secretary along with, or subsequent to, the submission of the CEMP.	Section 2

CoA No.	Requirement	Reference
C23	The operation of a construction ancillary facility must not commence until the CEMP required by Condition C1, relevant CEMP Sub-plans required by Condition C4 and relevant Construction Monitoring Programs required by Condition C9 have been approved by the Secretary.	Surface Water Monitoring Program Groundwater Monitoring Program Noise and Vibration Monitoring Program Section 3.9.2
C25	Boundary fencing that incorporates screening must be erected around all construction ancillary facilities that are adjacent to sensitive receivers for the duration of site establishment and construction unless otherwise agreed with relevant council(s), and affected residents, business operators or landowners.	Section 3.17
C26	Boundary fencing required under Condition C25 of this approval must minimise visual, noise and air quality impacts on adjacent sensitive receivers.	Section 3.17

Annexure I Ancillary facility site layout drawings

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B	14/02/20	GENERAL UPDATE	-	-	-	-	-	-	-	CBS	DESIGN CHECK	-	-	JPEPS STATUS	NOT FOR CONSTRUCTION	
C	11/02/20	GENERAL UPDATE	-	-	-	-	-	-	-	-	DESIGN CHECK	-	-	ISSUE NO.	TEK-S121	
D	07/02/20	GENERAL UPDATE	-	-	-	-	-	-	-	-	DESIGN CHECK	-	-	SHEET NO.	5	
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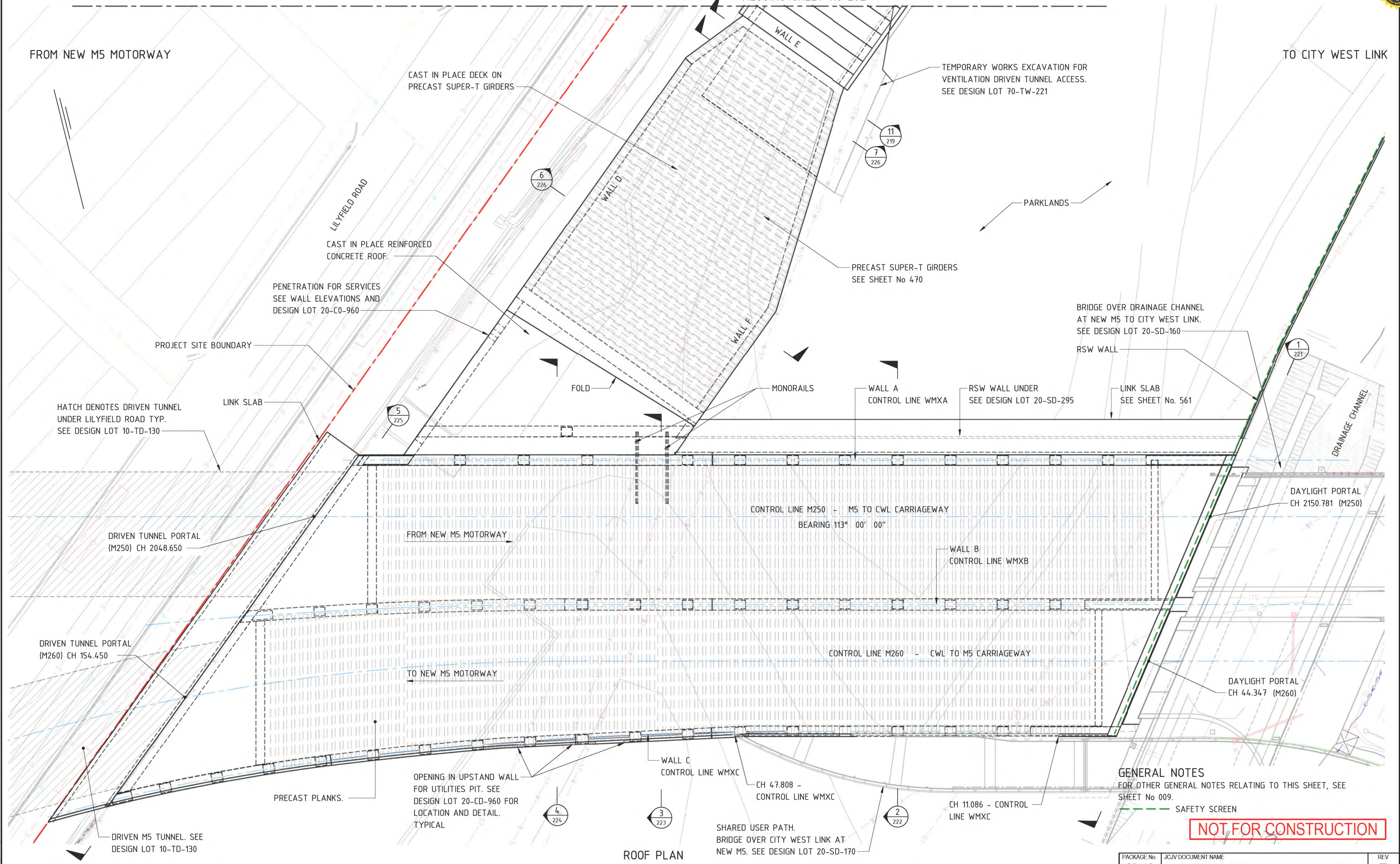
© Roads and Maritime Services



ADJOINS SHEET No 202

FROM NEW M5 MOTORWAY

TO CITY WEST LINK



ROOF PLAN

GENERAL NOTES
 FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 009.

--- SAFETY SCREEN

NOT FOR CONSTRUCTION

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A	05/06/2019	EXTERNAL SUBMISSION (RMS/IC)	JN
B1	14/02/2020	ISSUED FOR SDD CDR	JN
B	20/03/2020	EXTERNAL SUBMISSION (RMS/IC)	JN
C1	08/05/2020	ISSUED FOR FDD CDR	JN
C	22/05/2020	EXTERNAL SUBMISSION (RMS/IC)	JN
D	13/07/2020	EXTERNAL SUBMISSION (RMS/IC)	JN
E	20/08/2020	EXTERNAL SUBMISSION (RMS/IC)	ST

CO-ORDINATE SYSTEM	MGA ZONE 56
HEIGHT DATUM	AHD
DESIGN PHASE	FDD
FINAL DESIGN DOCUMENTATION	

TITLE	NAME	DATE
DRAWN	D. Gollan	20/08/2020
DRG CHECK	M. Hatton	20/08/2020
DESIGN	B. Monaghan	20/08/2020
DESIGN CHECK	K. Guttridge	20/08/2020
DESIGN MNGR	S. Tsui	20/08/2020
PROJECT MNGR	G. Riordan	20/08/2020

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PLOT BY	D. Gollan

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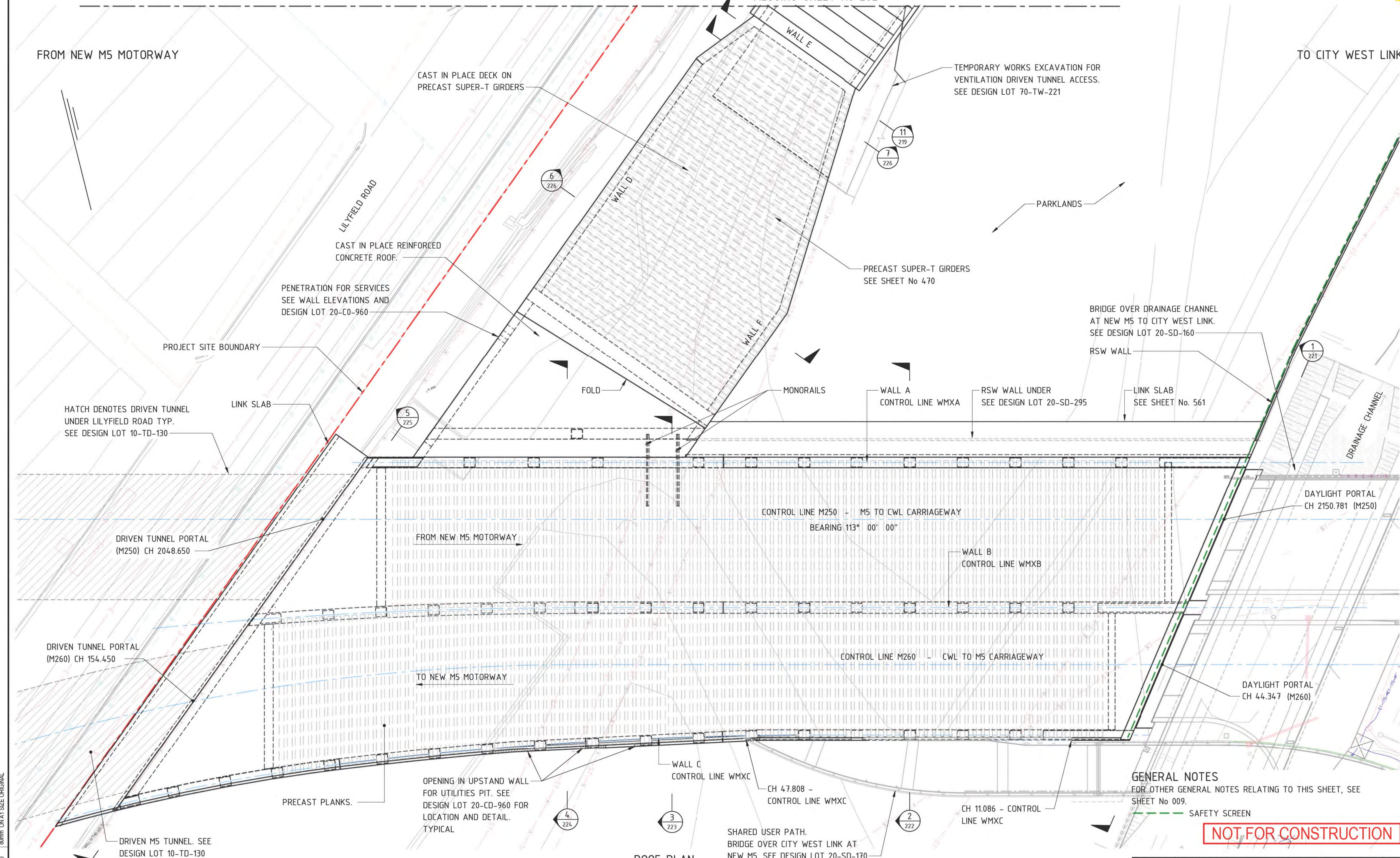
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AT 5.0km WEST OF SYDNEY					
ROZELLE INTERCHANGE AND WESTERN HARBOUR TUNNEL					
GENERAL ARRANGEMENT ROOF PLAN - SHEET A					
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ADJOINS SHEET No 202

FROM NEW M5 MOTORWAY

TO CITY WEST LINK



ROOF PLAN

GENERAL NOTES
 FOR OTHER GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 009.

SAFETY SCREEN
NOT FOR CONSTRUCTION

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D	13/07/2020	EXTERNAL SUBMISSION (RMS/IC)	JN
E	20/08/2020	EXTERNAL SUBMISSION (RMS/IC)	ST

CO-ORDINATE SYSTEM	MGA ZONE 56
HEIGHT DATUM	AHD
DESIGN PHASE	FDD
FINAL DESIGN DOCUMENTATION	

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DESIGN	B. Monaghan	20/08/2020
DESIGN CHECK	K. Guttridge	20/08/2020
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PROJECT MNGR	G. Riordan	20/08/2020

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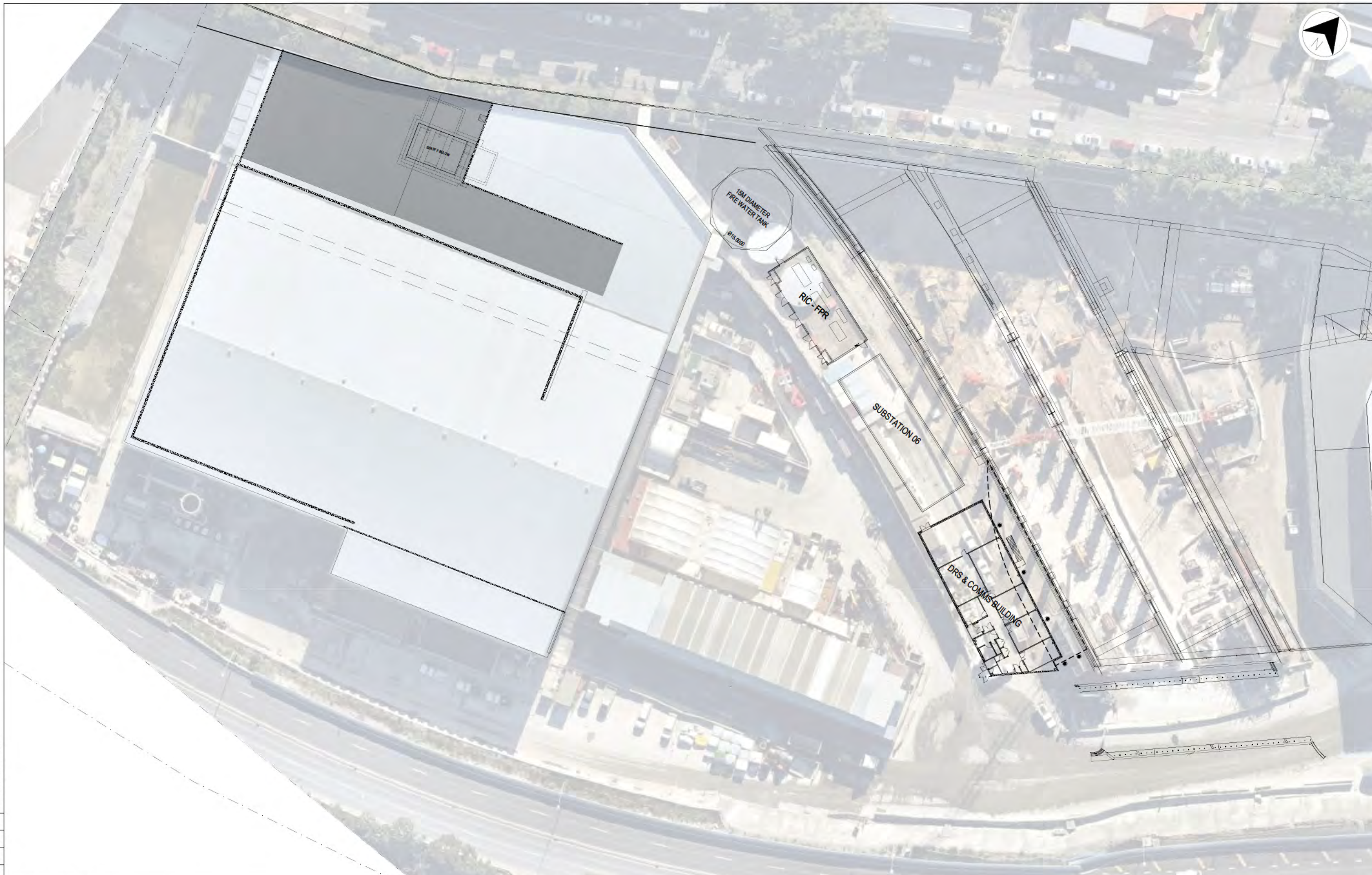
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PLOT BY
D. Gollan




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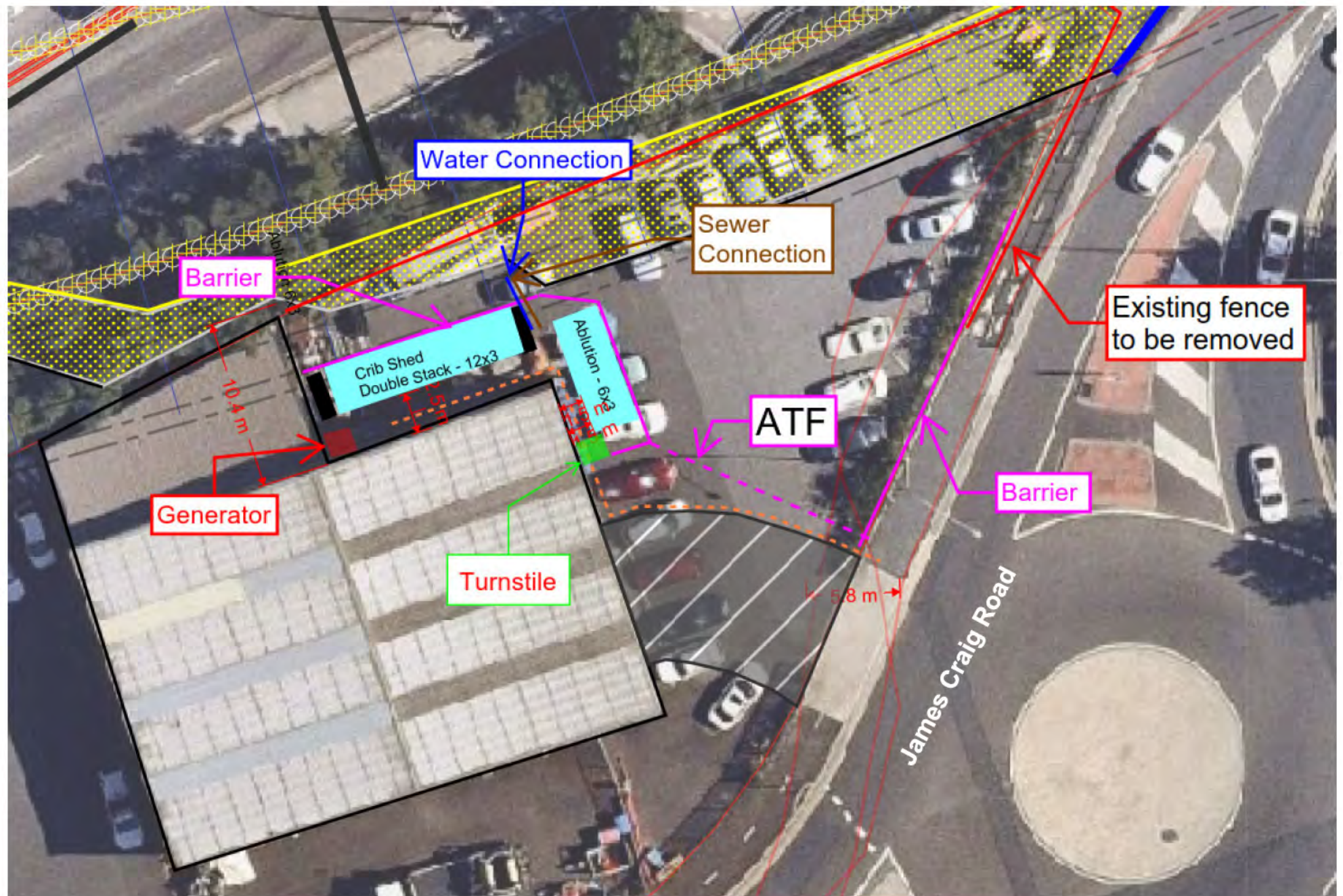
Transport Roads & Maritime Services

PACKAGE No.	JCJV DOCUMENT NAME	REV
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AT 5.0km WEST OF SYDNEY		
ROZELLE INTERCHANGE AND WESTERN HARBOUR TUNNEL		
GENERAL ARRANGEMENT ROOF PLAN - SHEET A		
DRAWING SET No.	BRIDGE No.	SHEET No.
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THIS MAP IS NOT TO BE USED FOR CONSTRUCTION



Legend

- Project Boundary
- Heavy and light vehicle movements
- Construction site facilities



The Crescent (C6)

57.3 0 28.66 57.3 Meters

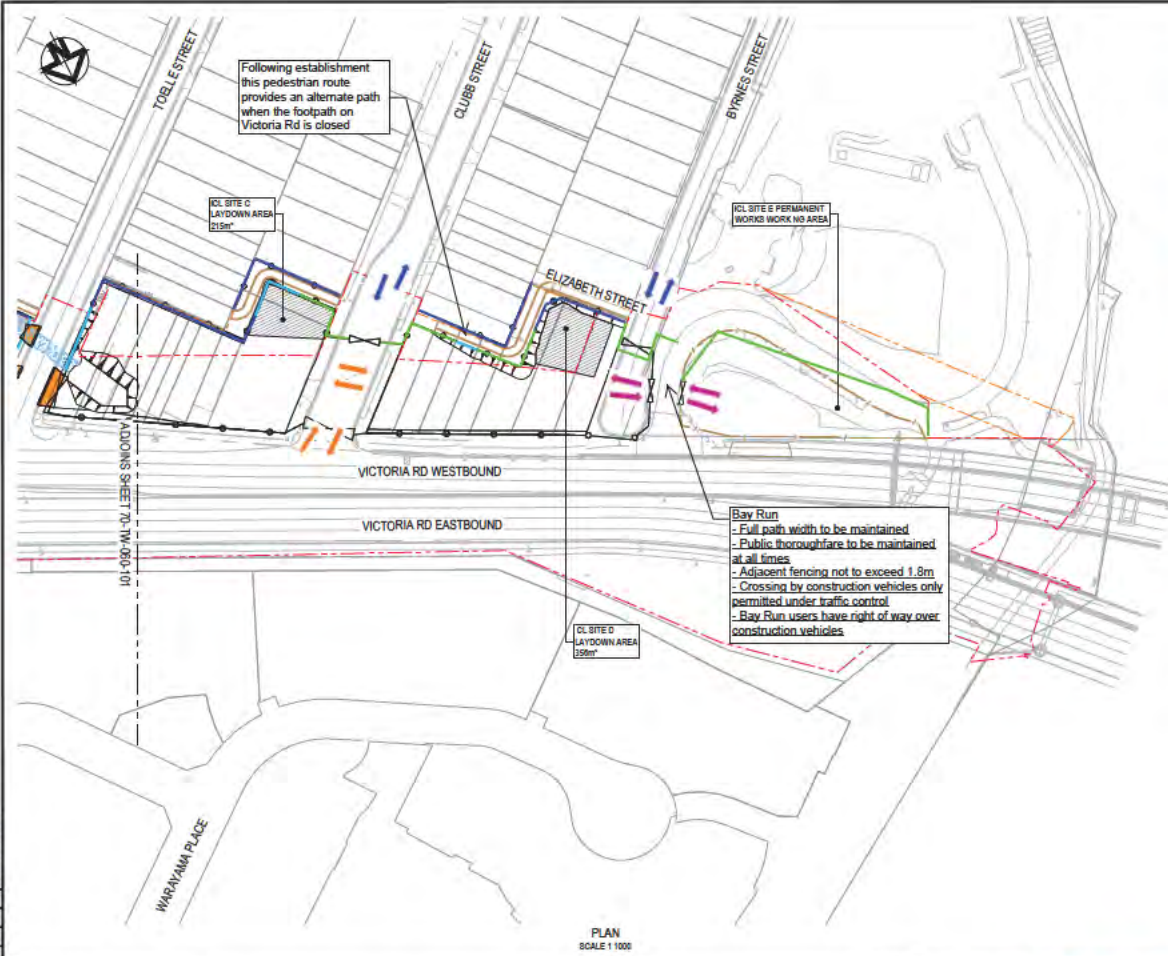
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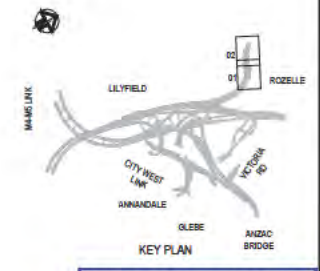
WestConnex
Rozelle Interchange

JOHN HOLLAND CPB CONTRACTORS

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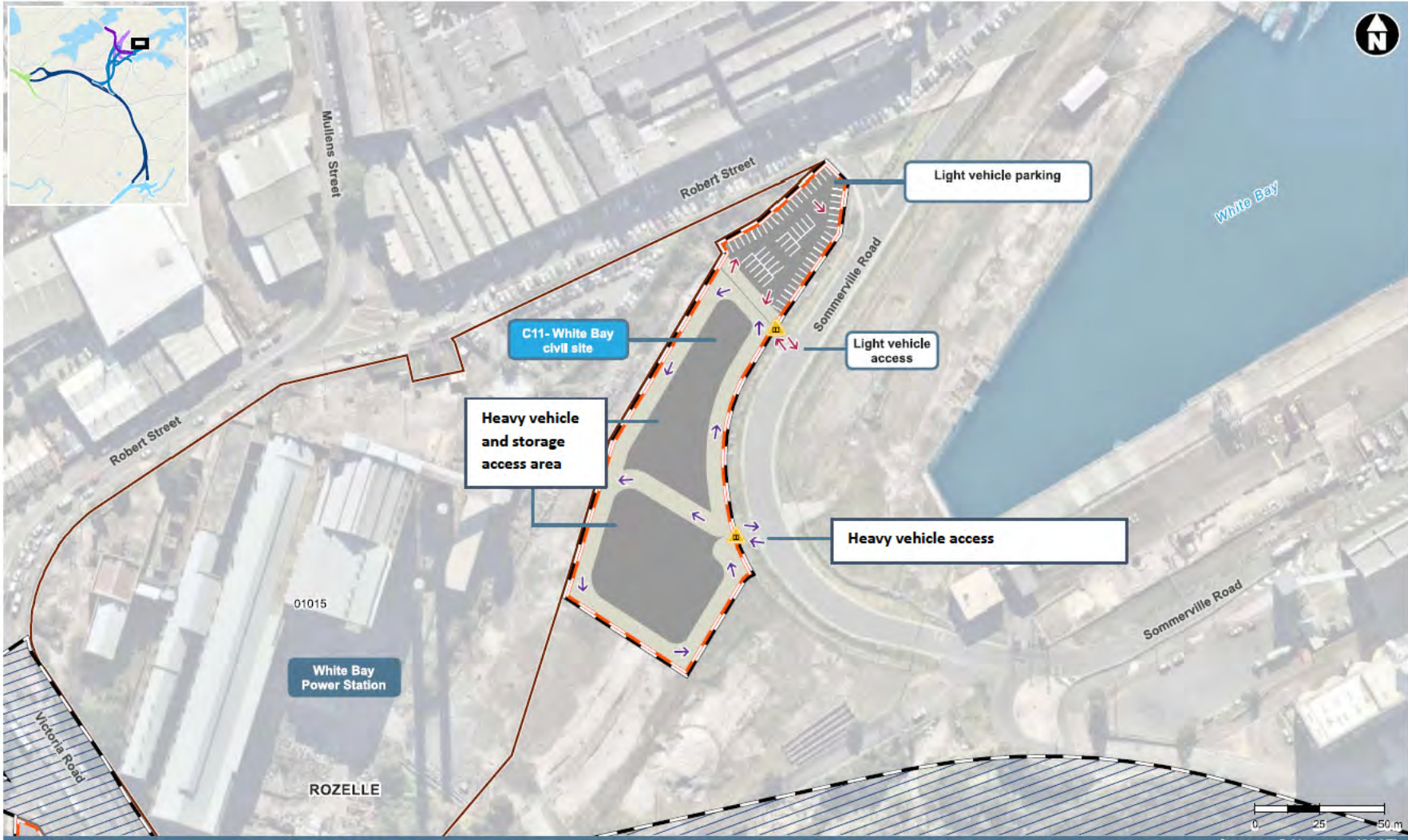
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- TEMPORARY WORKS**
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 - LAYDOWN AREA
 - SITE FAC LIT ES
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 - NOISE HOARDING - 3.8m
 - TEMP FENCING & SHADECLOTH
 - TEMP FENCING & ACOUSTIC BLANKETS OR PLYWOOD - 1.8m
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 - HEAVY VEHICLE MOVEMENTS
 - HEAVY AND LIGHT VEHICLE MOVEMENTS



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						PROJECT MGR	M. BAO	28/07/2016	R/C-80E-DRG-70-TW-060-102			







LEGEND

M4-M5 Link

- Project footprint
- Ancillary facility
- Surface works

Vehicle movements

- Light vehicle
- Heavy vehicle

Access and egress

- Site gate

State Heritage Register

- White Bay Power Station heritage curtilage

Imagery © Neormap (2017)



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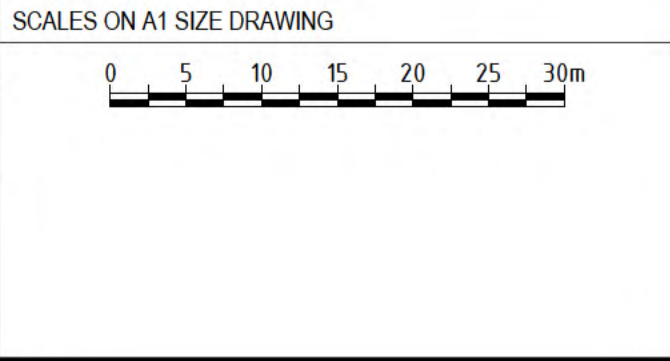
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CO-ORDINATE SYSTEM
MGA ZONE 56
HEIGHT DATUM
AHD
DESIGN PHASE
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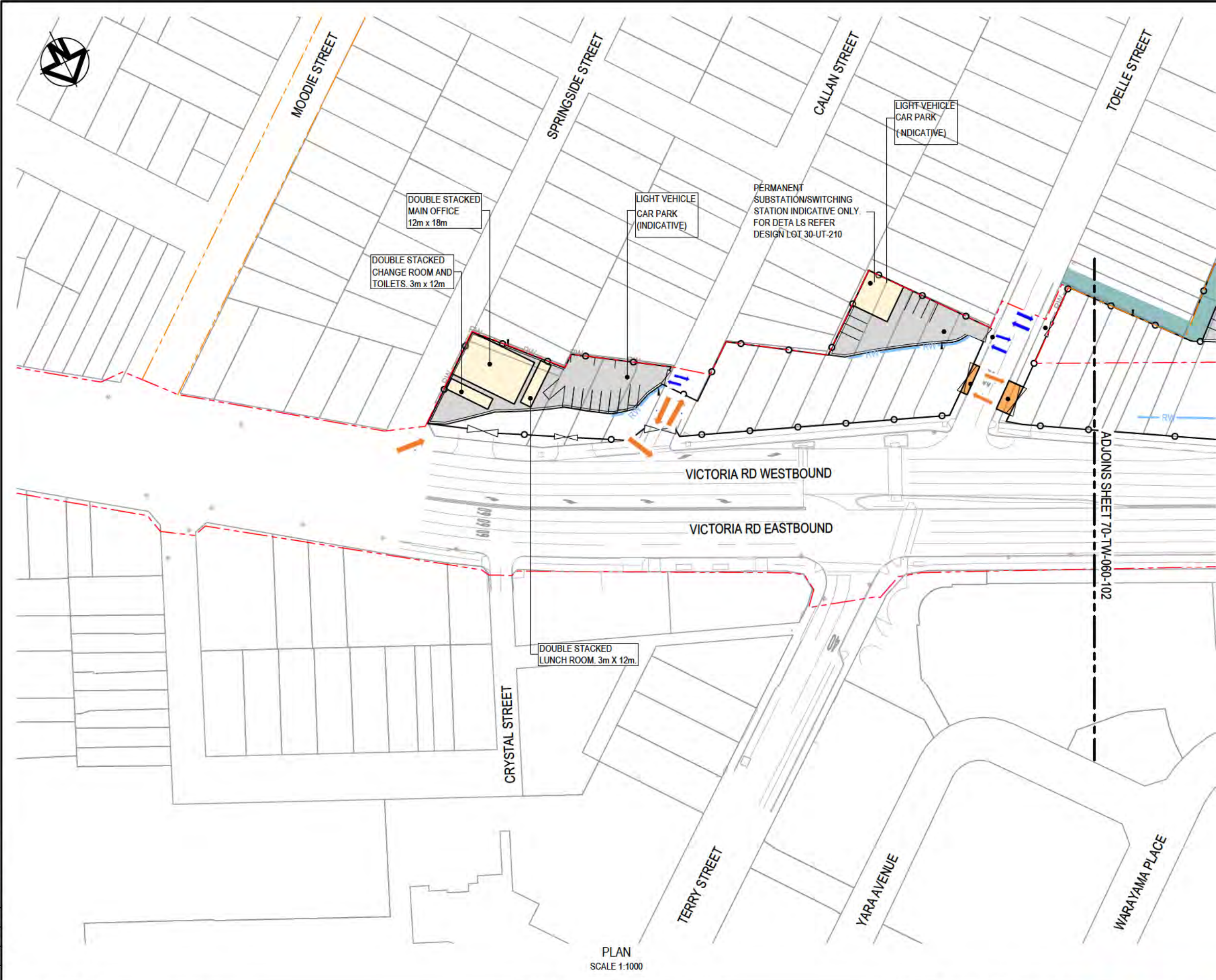
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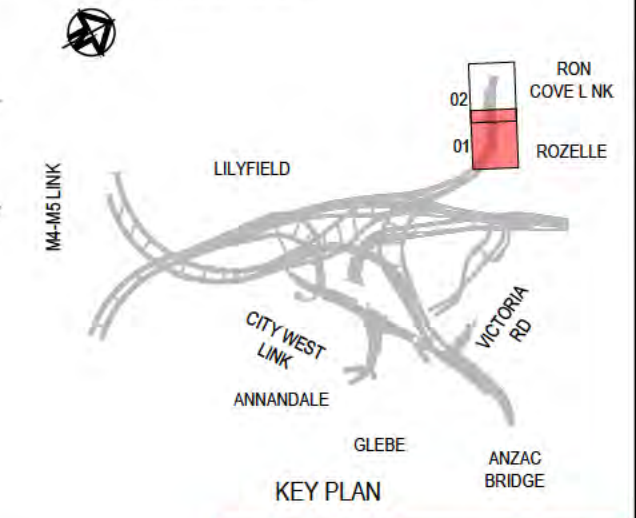


EDMS No	BRIDGE No	SHEET No
		-
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PACKAGE No 20_00	JHC DOCUMENT NAME	REV A1



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	TEMPORARY AREAS BOUNDARY
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TEMPORARY WORKS	
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	EXIST NG BRICK RETAIN NG WALL
	TEMPORARY BARRIER
	LAYDOWN AREA
	SITE FACILITIES
	SITE ACCESS PAVEMENT. FOR DETAILS REFER TO DRAW NGS 70-TW-060-910 TO 920
	PROPOSED VEHICLE CROSSING
	4.5m DIVERTED FOOTPATH
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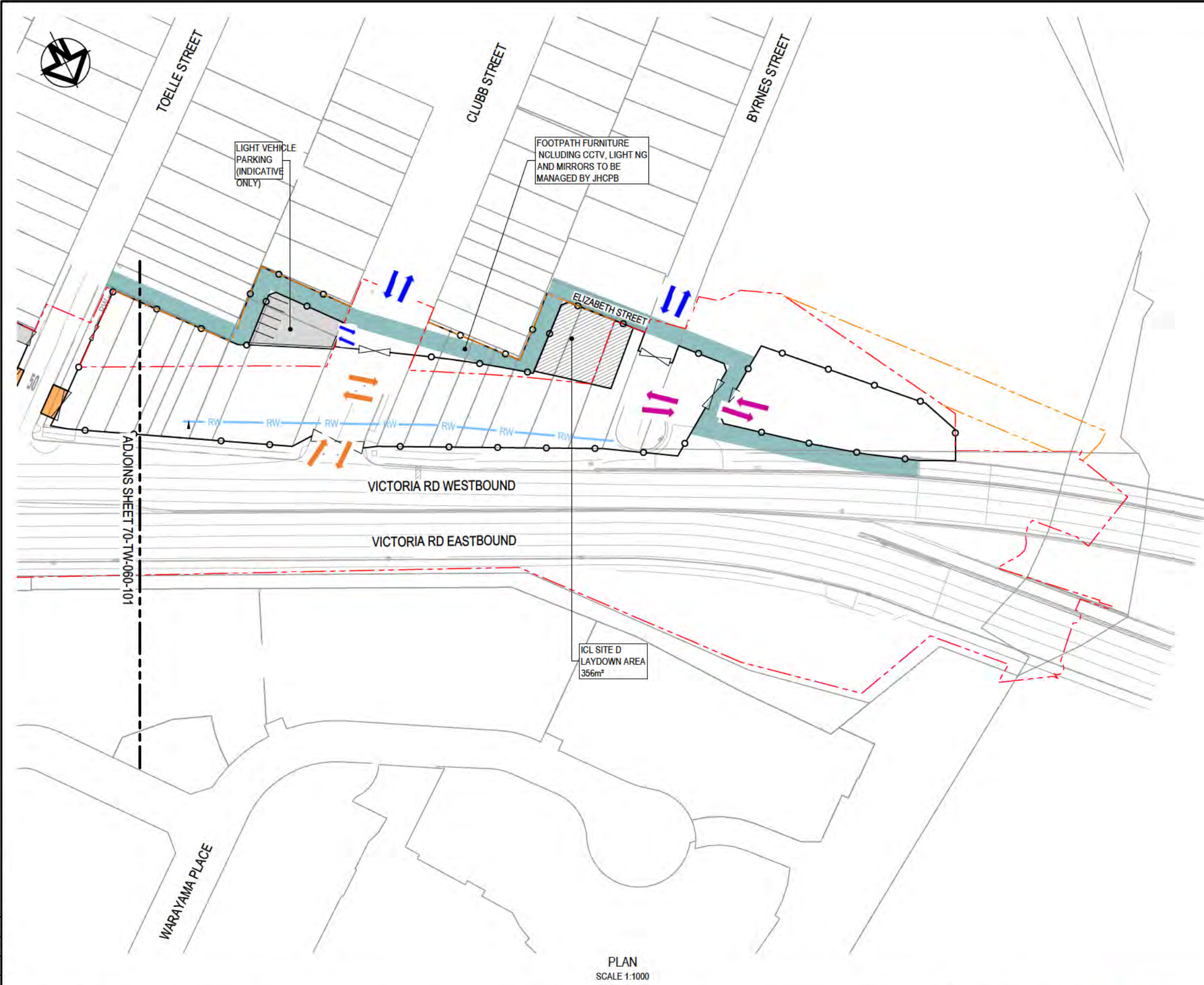
- LIGHT VEHICLE MOVEMENTS
 - HEAVY VEHICLE MOVEMENTS
 - HEAVY AND LIGHT VEHICLE MOVEMENTS
1. WHERE POSSIBLE, VINES TO BE PLACED ON SITE FENCE WHERE FOOTPATH W DTH IS SUFFICIENT
 2. FOOTPATH IS TO BE PROV DED WITH CCTV, LIGHTING AND CONVEX M RRORS ONSITE.



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LEGEND

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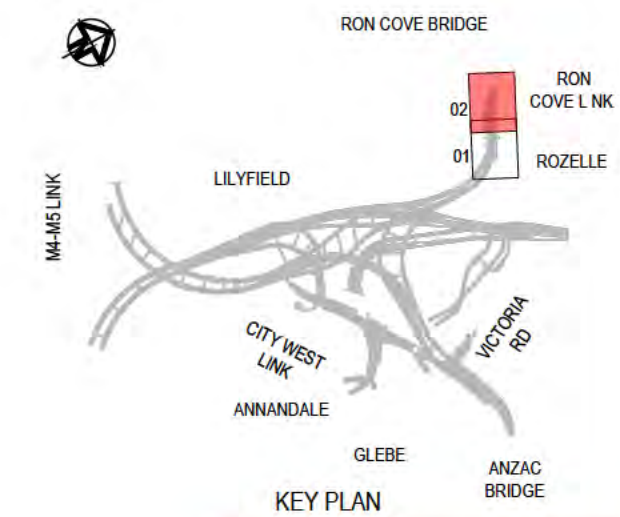
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- TEMPORARY AREAS BOUNDARY
- EXISTING UTILITIES

TEMPORARY WORKS

- RETAINING WALL. FOR DETAILS REFER TO DESIGN LOT 70-TW-121
- EXISTING BRICK RETAINING WALL
- TEMPORARY BARRIER
- LAYDOWN AREA
- SITE FACILITIES
- SITE ACCESS PAVEMENT. FOR DETAILS REFER TO DRAWINGS 70-TW-060-910 TO 920
- PROPOSED VEHICLE CROSSING
- 4.5m DIVERTED FOOTPATH
- PROPOSED GATE. FOR DETAILS REFER TO DESIGN LOT 70-TW-150
- SITE FENCING AND HOARDING. FOR DETAILS REFER TO DRAWINGS 70-TW-060-601 TO 604

- ← LIGHT VEHICLE MOVEMENTS
- ← HEAVY VEHICLE MOVEMENTS
- ← HEAVY AND LIGHT VEHICLE MOVEMENTS

- WHERE POSSIBLE, VINES TO BE PLACED ON SITE FENCE WHERE FOOTPATH WIDTH IS SUFFICIENT
- FOOTPATH IS TO BE PROVIDED WITH CCTV, LIGHTING AND CONVEX MIRRORS ONSITE.



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DRAWING FILE LOCATION / NAME C:\JHG_P\WGARY.VALLANCE\DRG\26924\RIC-BGE-DRG-70-TW-060-102.DWG		DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING		PLOT DATE / TIME 6/05/2019 3:34:02 PM		PLOT BY Gary Vallance			WESTCONNEX M4 / M5 LINK, CITY WEST LINK & VICTORIA ROAD ROZELLE INTERCHANGE & WESTERN HARBOUR TUNNEL TEMPORARY WORKS SITE ESTABLISHMENT - IRON COVE LINK WORK USE GENERAL ARRANGEMENT PLAN SHEET 2	A3
REV	DATE	REVISION DESCRIPTION	APPROVAL	CO-ORDINATE SYSTEM MGA ZONE 56	SCALES ON A3 SIZE DRAWING	CLIENT	TITLE			
A	06/05/2019	ISSUED FOR FINAL DESIGN DOCUMENTATION	MB	HEIGHT DATUM AHD	0 10 20 30 40 SCALE 1:1000m	Transport Roads & Maritime Services	DRAWN	G. VALLANCE	06/05/2019	
				DESIGN PHASE FDD			DRG CHECK	F. BATHAN	06/05/2019	
				FINAL DESIGN DOCUMENTATION			DESIGN	D. TALEVSKI	06/05/2019	
							DESIGN CHECK	R. VO	06/05/2019	
							DESIGN MNGR	J. KLEINHANS	06/05/2019	
							PROJECT MNGR	M. BAO	06/05/2019	
									PACKAGE No. 70_54 JCV DOCUMENT NAME RIC-BGE-DRG-70-TW-060-102	REV A

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Legend
Site Access Schedule Boundar



0.1 0 0.03 0.1 Kilometers

1:1,128 @A3

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Iron Cove Link site - ancillary facilities



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- Legend
- CSSI project boundary
 - Proposed construction ancillary facility

0.1 0 0.06 0.1 Kilometers

1: 2,257 @A3

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JOHN HOLLAND **CPB**
CONTRACTORS

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- Legend
- EIS PIR Project Boundary
 - Additional ancillary area
 - Ancillary facility area



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Annexure J CEMP Sub Plans

- i) Traffic, Transport and Access Management Plan**
- ii) Noise and Vibration Management Plan**
- iii) Flora and Fauna Management Plan**
- iv) Air Quality Management Plan**
- v) Soil and Surface Water Management Plan**
- vi) Ground Water Management Plan**
- vii) Non-Aboriginal Heritage Management Plan**
- viii) Aboriginal Heritage Management Plan**
- ix) Waste Management Plan**