

Construction Environmental Management Plan

Infrastructure Works (Package 4)

Parramatta Light Rail – Stage 1

February 2020

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Construction Environment Management Plan

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Amendments

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

Revision	Details
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Rev B	Incorporation of CPBJV review comments
Rev 0	First draft submitted to TfNSW and ER. Revision issued for external stakeholder consultation.
Rev 1	Second draft submitted to TfNSW and ER for consultation.
Rev 2	Incorporation of external stakeholder consultation comments. Issued to ER for endorsement.
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Rev 4	Incorporation of ER comments and issued to ER for endorsement.
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Rev 7	Revision of incident reporting procedure to align with the requirements of the Planning Approval.
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Revision	Details
Rev 13	Minor amendments following issue of Environmental Protection Licence 21347

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Glossary/Abbreviations

Abbreviation	Expanded text
AA	The Acoustics Advisor for the CSSI
CEP	Communication and Engagement Management Plan
CEMP	Construction Environmental Management Plan
CoA	Conditions of Approval
CSSI	Critical State Significant Infrastructure
DPIE	NSW Department of Planning, Industry and Environment (the responsibilities of the former Department of Planning and Environment are now administered by the Department of Planning, Industry and Environment)
ECM	Environmental Control Maps
EPA	NSW Environment Protection Authority
EIS	Environmental Impact Statement
EMS	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 occurrence or set of circumstances that causes, or threatens to cause, material harm.
Environmental policy	Statement by an organisation of its intention and principles for 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 to achieve those objectives
ER	Environmental Representative. A suitably qualified and experienced person independent of the Contractor and Proponent, and project design and construction personnel, employed for the duration of construction. The Environmental Representative sits under the Independent Certifier.
EMS	Environmental Management System
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
EPL	Environment Protection Licence
ESCP	Erosion and Sediment Control Plan
Hold point	Is a verification point that prevents work from commencing prior to approval from the nominated approver.
IC	Independent Certifier

Abbreviation	Expanded text
ISCA	Infrastructure Sustainability Council of Australia
JV, the	CPB Contractors and Downer EDI Works Joint Venture
Material harm	Is harm that: a) Involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or b) 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).
Minister, the	Minister of the NSW Department of Planning and Public Spaces (or delegate). Formerly the Minister for Planning.
Non-compliance	Failure to comply with the requirements of the Planning Approval or any applicable licence, permit or legal requirements
NVMP	Noise and Vibration Management Sub-plan
OEH	Office of Environment and Heritage
Planning Approval	The Planning Approval includes the Conditions of Approval, the EIS and the Submissions and Preferred Infrastructure Report
PIC	Person in Charge. 24-hour incident notification number.
Principal, the	Transport for NSW
POEO Act	<i>Protection of the Environment Operations Act 1997</i> (NSW)
Infrastructure Works	Parramatta Light Rail, Package 4 – Infrastructure Works
RAP	Registered Aboriginal Party
REMMM	Revised Environmental Mitigation and Management Measure as outlined in the Project EIS documentation.
ROL	Road occupancy licence
SaM	Stabling and Maintenance Facility
SEARs	Secretary's Environmental Assessment Requirements
Stage 1	Parramatta Light Rail – Stage 1 (Westmead to Carlingford)
SOM	Supply Operate and Maintain
SPIR	Submission and Preferred Infrastructure Report
TfNSW	Transport for NSW

1 Introduction

1.1 Context

This Construction Environmental Management Plan (CEMP or Plan) has been prepared for the Parramatta Light Rail Package 4 – Infrastructure Works (Infrastructure Works). The purpose of the CEMP and associated Sub-plans is to address the requirements of the Minister's Conditions of Approval (CoA) SSI-8285, the revised environmental mitigation and management measures (REMMMs) and Environmental Performance Outcomes (EPO's) listed in *Parramatta Light Rail Stage 1 Westmead to Carlingford via Parramatta CBD and Camellia Environmental Impact Statement* (the EIS), as amended by the *Parramatta Light Rail (Stage 1) Westmead to Carlingford via Parramatta CBD and Camellia Submissions Report (incorporating Preferred Infrastructure Report)* (February 2018) (the SPIR). In addition, the CEMP addresses all applicable legislation and contractual requirements, including the PLR Stage 1 Infrastructure Contract Project Deed (ISD-17-6721).

1.2 Background

1.2.1 Parramatta Light Rail – Stage 1 Description

Parramatta Light Rail is one of the NSW Government's major infrastructure projects being delivered to serve a growing Sydney.

Parramatta Light Rail Stage 1 ('Stage 1') will connect Westmead to Carlingford via Parramatta Central Business District (CBD) and Camellia. Stage 1 is expected to be operational in 2023.

Stage 1 will create new communities, connect great places and help both local residents and visitors move around and explore what the region has to offer. The route will link Parramatta's CBD and train station to a number of key locations, including the Westmead Precinct, the Parramatta North Growth Centre, the new Western Sydney Stadium, the Camellia Town Centre, the new Powerhouse Museum and Riverside Theatre arts and cultural precinct, the private and social housing redevelopment at Telopea, the Rosehill Gardens Racecourse and the three Western Sydney University campuses.

In summary, the key features of Stage 1 include:

- A new dual track light rail network of approximately twelve (12) kilometres in length, including approximately seven (7) kilometres within the existing road corridor and approximately five (5) kilometres within the existing Carlingford Line and Sandown Line, replacing current heavy rail services
- Sixteen (16) stops that are fully accessible and integrated into the urban environment including a terminus stop at each end of Westmead and Carlingford
- High frequency 'turn-up-and-go' services operating seven days a week from 5am to 1am. Weekday services will operate approximately every 7.5 minutes in the peak period between 7am and 7pm
- Modern and comfortable air-conditioned light rail vehicles, nominally 45 metres long and driver-operated, each carrying up to 300 passengers.
- Intermodal interchanges with existing public transport services at Westmead terminus, Parramatta CBD and the Carlingford terminus
- Creation of two light rail and pedestrian zones (no general vehicle access) within the Parramatta CBD along Church Street (generally between Market Street and Macquarie Street) and along Macquarie Street (generally between Horwood Place and Smith Street)

- A Stabling and Maintenance (SaM) Facility located in Camellia for light rail vehicles to be stabled, cleaned and maintained
- New bridge structures along the alignment including over James Ruse Drive and Clay Cliff Creek, Parramatta River (near the Cumberland Hospital), Kissing Point Road and Vineyard Creek, Rydalmere
- Alterations to the existing road network including line marking, additional traffic lanes and turning lanes, new traffic signals, and changes to traffic flows
- Relocation and protection of existing utilities
- Public domain and urban design works along the corridor and at Stop precincts
- Closure of the heavy rail line between Carlingford and Clyde
- Active transport corridors and additional urban design features along sections of the alignment and within Stop precincts
- Integration with the Opal Electronic Ticketing System (ETS)
- Real time information in light rail vehicles and at Stops via visual displays and audio.

An overview of Parramatta Light Rail Stage 1 route is shown in **Figure 1-1**.

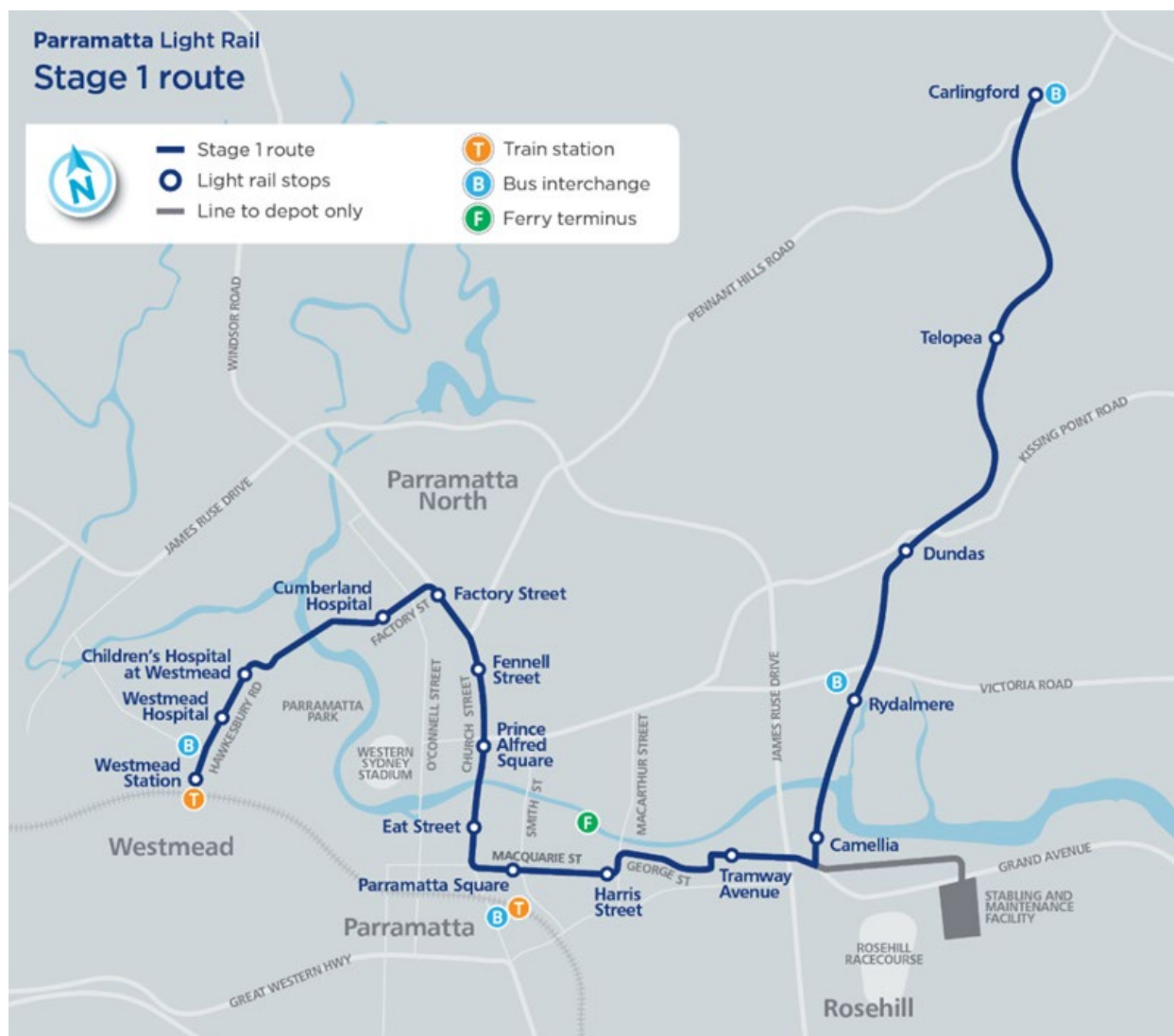


Figure 1-1: Parramatta Light Rail Stage 1 Route

1.2.2 Statutory Context

The Parramatta Light Rail is subject to environmental impact assessment under the *Environmental Planning and Assessment Act 1979* (EP&A Act). It is classified as Critical State Significant Infrastructure (CSSI). The EIS assessed impacts for Parramatta Light Rail Stage 1 (Westmead to Carlingford). This covered the light rail and associated works including road enabling work.

Stage 1 received Infrastructure Approval from the Minister for Planning under Section 5.19 of the EP&A Act on 29 May 2018 (Critical State Significant Infrastructure Application SSI-8285), subject to the conditions provided in the Instrument of Approval, specifically Schedule B – Ministerial Conditions of Approval.

The Infrastructure Approval was subsequently modified under Section 5.25 of the EP&A Act on 21 December 2018 and 25 January 2019.

The planning approval, modifications and related environmental assessment documents are located at: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8285.

1.2.3 Stage 1 Delivery Strategy

Delivery of Stage 1 is achieved through the following five packages of work:

- **Enabling Works** (Package 1) – Local road network improvements including O’Connell Street and George Street (off-alignment)
- **Westmead Precinct Works** (Package 2) – Hawkesbury Road widening and demolition at Cumberland Hospital (east and west Campus)
- **Early Works** (Package 3) – Remediation of the Stabling and Maintenance (SaM) Facility
- **Infrastructure Works** (Package 4) (the subject of this Plan) – Design and construction of civil works, public domain and light rail infrastructure up to road level/top of rail and to the top of the concrete slab at stops, including provision of utility services (excluding high-voltage power supply and cabling for rail systems), and decommissioning of the T6 Carlingford Line)
- **Supply, Operate and Maintain Works** (Package 5) – Design and construction of the light rail systems, high-voltage power supply and stops above slab level, the supply of light rail vehicles, and the design and construction of the SaM Facility, including all light rail operations, customer service and asset management.

Each package of work is to be delivered under separate contracts on behalf of the proponent Transport for NSW (TfNSW). While the packages will commence at different times under separate construction approvals, there will be periods during which the package works will overlap. The interactions between the packages are shown in **Figure 1-2**.

Details on the management of cumulative impacts, including between the other PLR packages is provided in Section 5.

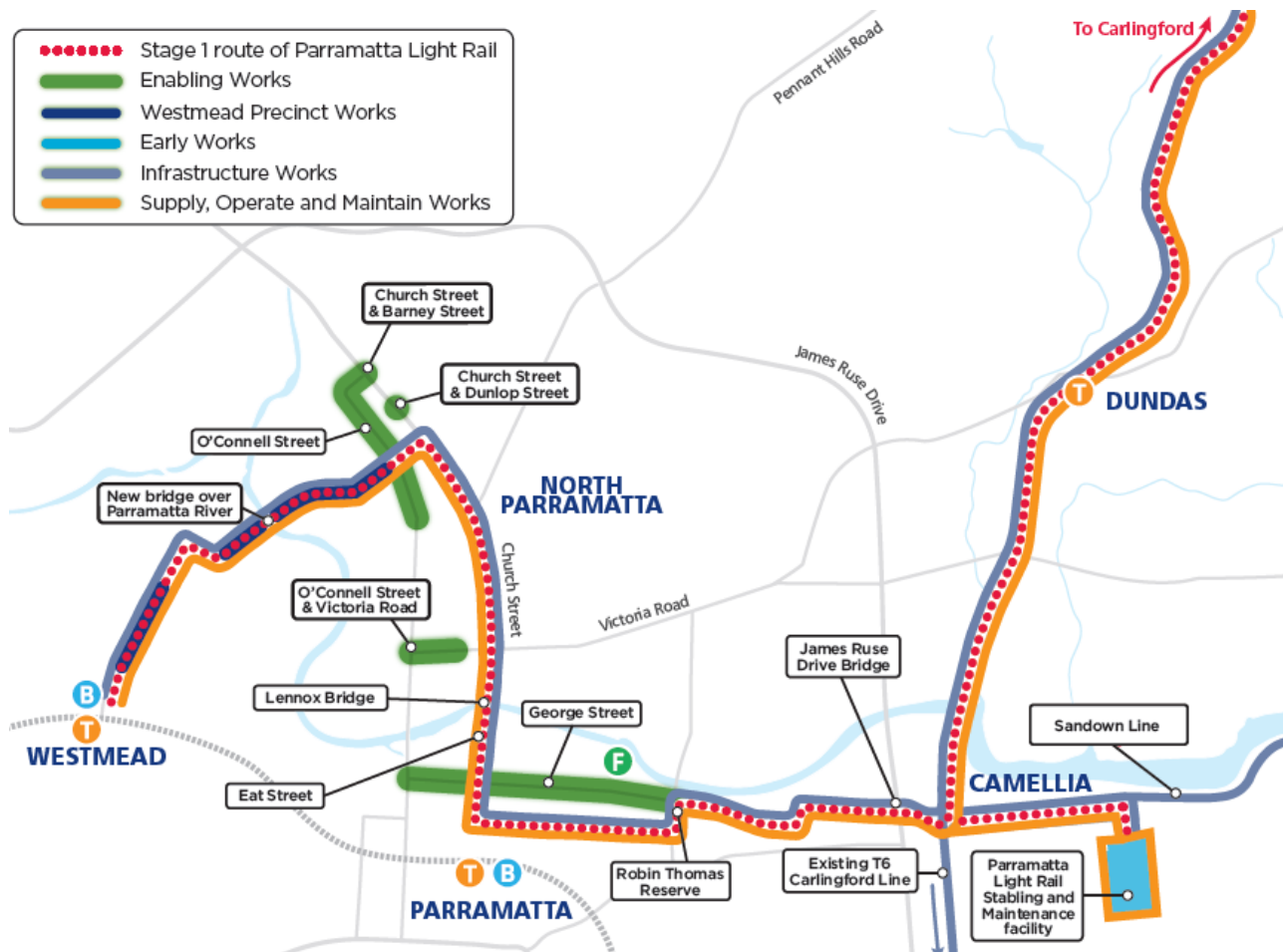


Figure 1-2: Parramatta Light Rail Stage 1 Delivery Strategy

1.2.4 Infrastructure Works

The CPB Contractors and Downer EDI Works Joint Venture (JV) has been engaged to deliver the Infrastructure Works. For construction, the Infrastructure Works are divided into portions and sub-portions, each of which is described in **Table 1-1** together with significant environmental issues. The portions, light rail stops and precincts are depicted in **Figure 1-3**.

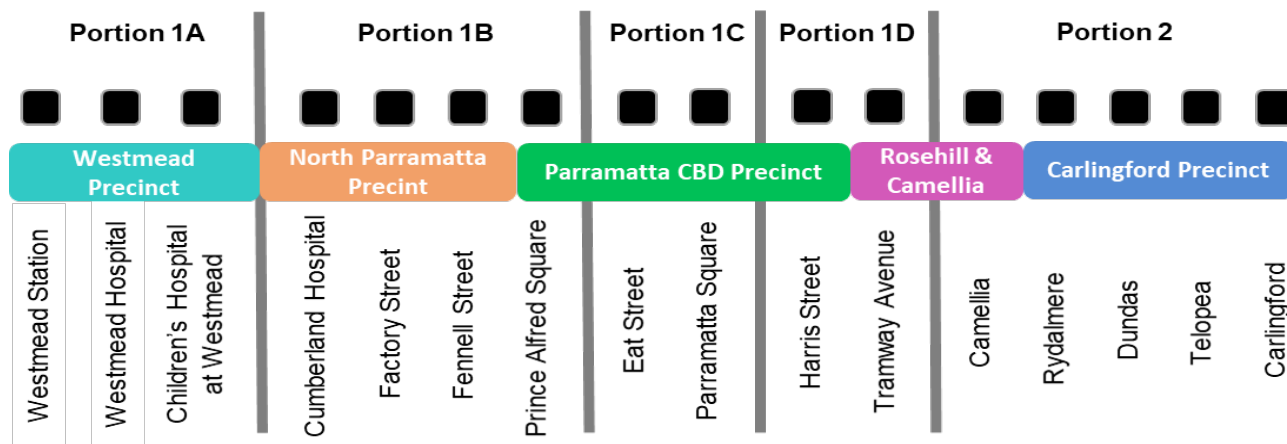


Figure 1-3: Infrastructure Works Portions, Precincts and Stations

Table 1-1 Infrastructure Works Portion Descriptions

Portion	Summary of Works	Significant Environmental Issues
Portion 1A – Westmead 2019 Q4 – 2021 Q4	<ul style="list-style-type: none"> • 1.14km long dual light rail embedded track form and stop slabs • Two new sets of traffic signals at the intersections of Hawkesbury Road/Caroline Street and Hainsworth Street/Bridge Road • Signal modifications at Darcy Street/Hawkesbury Road intersection and Railway Parade/Hawkesbury Road intersection • New 2-span bridge over Paramatta River • Property demolition to make space for the light rail tracks and ancillary facilities • Urban and architectural design and finishes of the corridor and public domain • Footpath and kerb realignment including intersection works and road upgrades to accommodate light rail and other traffic (both temporary and permanent) • Utility Services adjustment/relocations and drainage works. 	<ul style="list-style-type: none"> • Sensitive noise and vibration receivers, including the potential for electromagnetic interference for Western Sydney University, Westmead Hospital, Children’s Hospital at Westmead and Cumberland Hospital • Parramatta River and established vegetation.
Portion 1B – Parramatta North 2020 Q1 – 2022 Q1	<ul style="list-style-type: none"> • 2.2km long dual light rail embedded track form, civil infrastructure and stop slabs • New track slab along the existing bridge deck of Lennox Bridge • Green track from approximately Warrinya Avenue to the Cumberland Stop • Roadworks at the Warrinya Avenue crossing and Greepup Drive • Property demolition to make space for the light rail tracks and ancillary facilities • Urban and architectural design and finishes of the corridor and public domain • Footpath and kerb realignment including intersection works and road upgrades to accommodate light rail and other traffic (both temporary and permanent) • Removal of 17 bus stops on Church Street; nine prior to commencement of construction and seven after the commencement of construction • Utility Services adjustment/relocations and drainage works. 	<ul style="list-style-type: none"> • Multiple identified Aboriginal archaeological sites including Cumberland Hospital East and PADs • State significant heritage and archaeological sites such as Cumberland District Hospital and precinct, Parramatta Female Factory, St Patricks Roman Catholic Cemetery and the Royal Oak Hotel and Stables • Overland flow flooding • Parramatta River and Endangered Ecological Communities • Grey-Headed Flying Fox colony • Sensitive noise and vibration receivers (residential).

Portion	Summary of Works	Significant Environmental Issues
Portion 1C – Parramatta CBD 2020 Q1 – 2021 Q4	<ul style="list-style-type: none"> • 1km long dual light rail embedded track form, civil infrastructure and stop slabs • Urban and architectural design and finishes of the corridor and public domain • Footpath and kerb realignment including intersection works and road upgrades to accommodate light rail and other traffic (both temporary and permanent) • Utility Services adjustment/relocations and drainage works. 	<ul style="list-style-type: none"> • State significant heritage and archaeological sites including Prince Alfred Square and Lennox bridge • Flooding impacts and overland flow flooding due to insufficient capacity within stormwater drainage • Significant concentration of businesses and restaurants (e.g. 'Eat Street') • Areas of Environmental Interest (contamination).
Portion 1D – Parramatta South 2020 Q1 – 2022 Q2	<ul style="list-style-type: none"> • 1.5km long dual light rail embedded track form, civil infrastructure and stop slabs • New single span bridge over Clay Cliff Creek and new 3-span bridge over James Ruse Drive • Green track on Harris Street, George Street (Harris Street to Purchase Street), Alfred Street and Tramway Avenue • Active Transport Link between Tramway Avenue stop and Camellia Station onwards • Upgrade of bus stop at Mercure Hotel in Hassall Street • Urban and architectural design and finishes of the corridor and public domain • Footpath and kerb realignment including intersection works and road upgrades to accommodate light rail and other traffic (both temporary and permanent) • Utility Services adjustment/relocations and drainage works. 	<ul style="list-style-type: none"> • Multiple identified Aboriginal archaeological sites including Harris Street Footpath/Robin Thomas Reserve and PADs • State significant heritage and archaeological sites • Flooding impacts and overland flow flooding due to insufficient capacity within stormwater drainage • Areas of Environmental Interest (contamination).

Portion	Summary of Works	Significant Environmental Issues
Portion 2 – Carlingford Line 2019 Q – 2022 Q1	<ul style="list-style-type: none"> • Rail construction through existing high-rail alignment including stripping existing rail structure and installing new rail, ballast, sleepers, civil infrastructure and stop slabs • Light rail vehicle platforms at Camellia, Rydalmere, Dundas, Telopea and Carlingford • Active Transport Link continues from Camellia Station up to Carlingford Station • Upgrades to existing James Hardie underpass culvert structure and bridge structures over Parramatta River at Camellia, Vineyard Creek Bridge, Victoria Road Bridge, Kissing Point Road Bridge, Leamington Road Bridge, Adderton Road Bridge and Pennant Hills Rd Bridge • Urban and architectural design and finishes of the corridor and public domain • Utility Services adjustment/relocations and drainage works. 	<ul style="list-style-type: none"> • Multiple identified Aboriginal Archaeological sites including Sydney Turf Club car park and known PADs • State significant Non-Aboriginal archaeology and locally significant heritage including Dundas Station. • Areas of Environmental Interest (contamination), including numerous high-risk sites and acid sulfate soils • Flooding impacts, including frequent inundation • Endangered Ecological Communities.

1.3 Relationship with SOM

The Infrastructure Works is closely aligned to the Package 5, Supply, Operate and Maintain (SOM) Works which is being delivered by the Great River City Light Rail consortium. A graphical representation of the split in scope between the two packages is depicted in **Figure 1-4**.

The reasoning for dividing this work into two stages is to ensure that suitably qualified and experienced sub-contractors are in place for each specialised component; civil infrastructure, and operational systems. The Infrastructure Works will deliver the civil infrastructure components of Stage 1 and will not trigger the operational conditions with the exception of those that relate to detailed design.

An interface between the two Joint Ventures has been established to monitor cumulative impacts (Section 5) and the coordination of environmental complaints management, site management controls, and the delineation of incident reporting and non-compliance management.

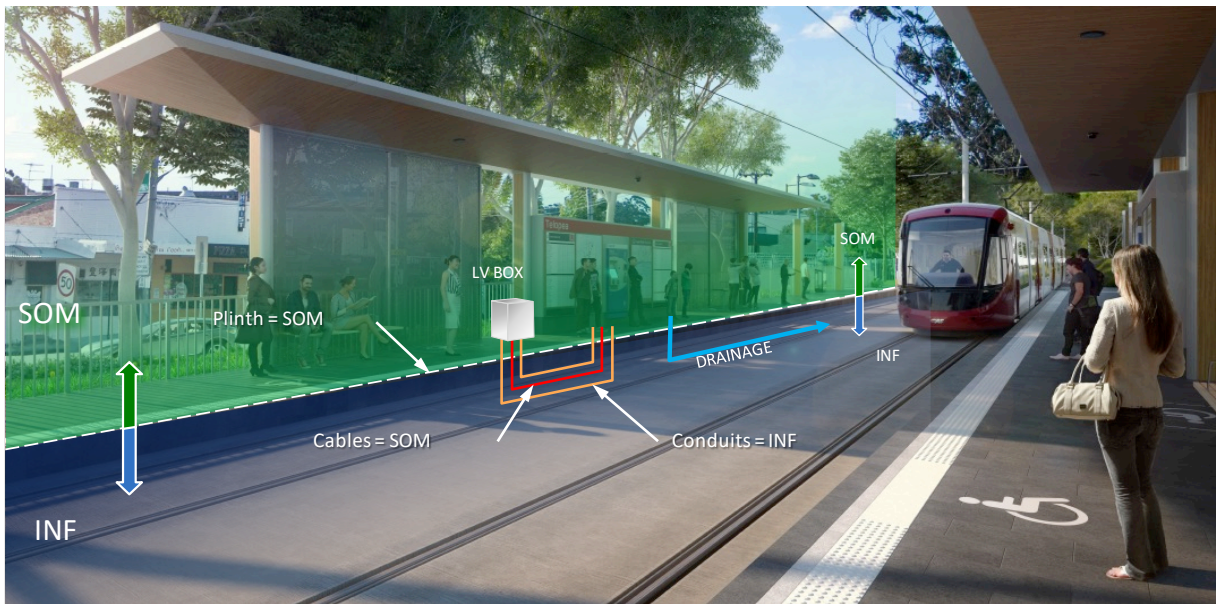


Figure 1-4: Relationship between Infrastructure Works and Supply, Operate and Maintain Works

1.4 Scope of the CEMP

The CEMP is applicable to all activities during construction of the Infrastructure Works, including all areas where physical works will occur or areas that may be otherwise impacted by the construction works, and under the control of the JV. All the JV staff and sub-contractors are required to operate fully under the requirements of this plan and related environmental management plans, over the full duration of the construction program.

1.5 Environmental Management System overview

To achieve the intended environmental performance outcomes, CPB have established, implemented, maintained and continually improved an EMS in accordance with the requirements of ISO14001:2015. The CPB EMS will be adopted as the guiding environmental management framework for the Infrastructure Works.

The EMS consists of governance documentation, including this Plan, Sub Plans, procedures and tools as set out below and illustrated in **Figure 1-4**.

- **The JV Environment and Sustainability Policy.** Outlines the commitments and intentions established by the JV to ensure environmental performance and sustainability objectives and targets are achieved (**Appendix A3**).

- **This CEMP.** This document details the processes and procedures to be implemented during the Infrastructure Works to comply with applicable CoA, REMMMs, EPOs, legislative obligations and contractual requirements. The relevant compliance obligations are detailed in **Appendix A1**, with a cross reference to where they are met in this Plan.
- **Environmental Management Sub-plans.** These documents describe procedures and controls for specific environmental aspects requiring more rigorous management strategies.
- **Geographic Information System (GIS).** The GIS incorporates key features of the alignment and relevant environmental constraints. Features include waterways, heritage, biodiversity contamination and sensitive receivers amongst other site relevant features. The GIS forms the basis of Environmental Control Maps (ECMs).
- **Erosion and Sedimentation Control Plans.** Site specific plans illustrating erosion and sediment controls. These plans are designed and will be implemented in accordance with the 'Blue Book' Managing Urban Stormwater: Soils and Construction (Landcom 2004), and other specifications, as required.

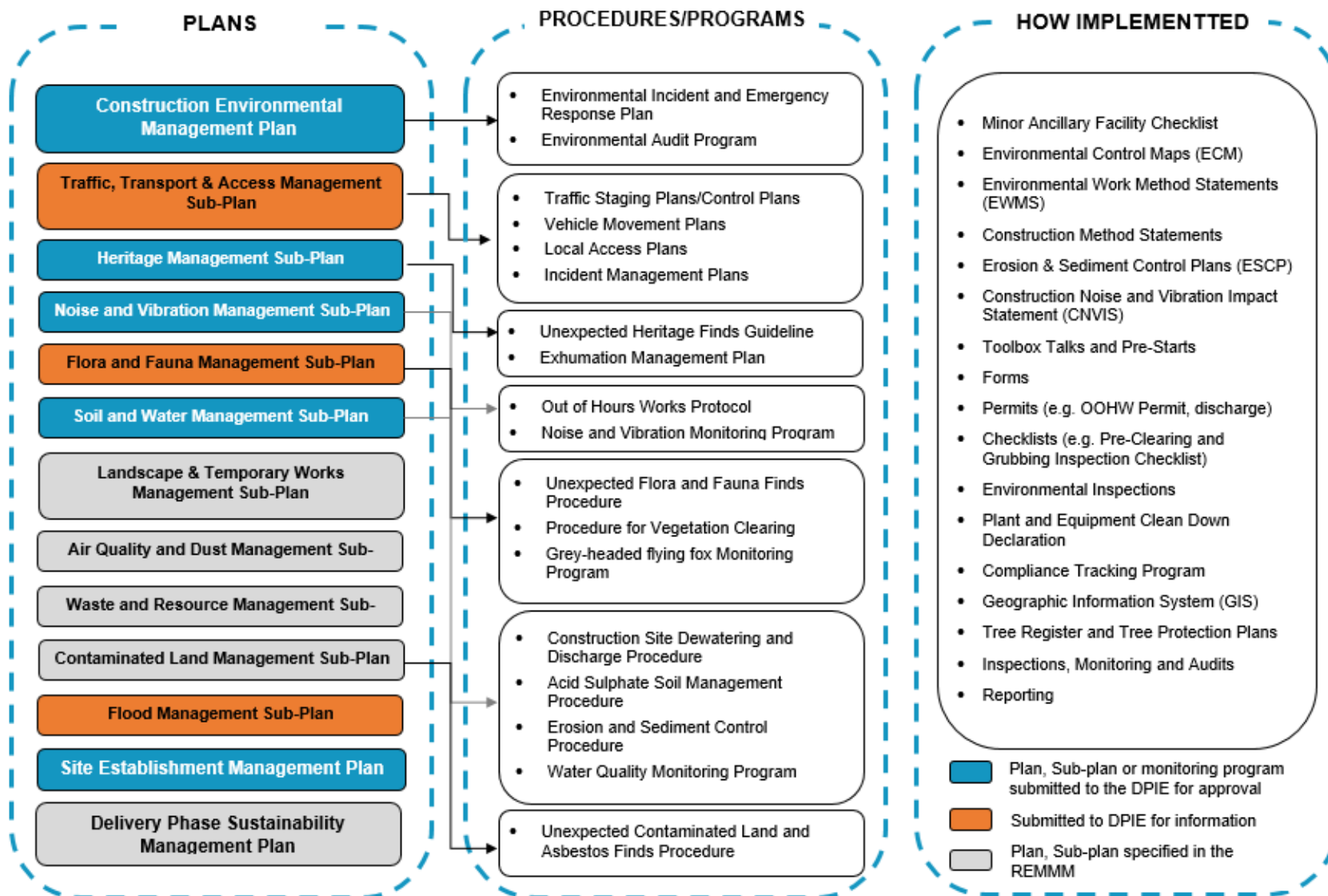


Figure 1-5: Environmental Management System

1.5.1 Environmental risk identification and management

Risk identification and management processes are critical tools in development of EMS documentation and demonstrating continual improvement. The objective of these processes is to confirm that the works are designed and constructed within acceptable limits of risk to personnel and the environment.

Environmental risks and opportunities are considered during all stages of the works, including:

- Principal Risk Assessment – High level risk assessment for the Infrastructure Works designed to inform management plans and systems
- Environmental Design Review – assessment of the development of the detailed design in accordance with the requirements of the Deed and Planning Approval
- Work Area Plan (WAP) risk assessments – Site-specific risk assessments
- Safe Work Method Statements (SWMS) – Task-specific assessments prepared for high-risk construction activities. SWMS are focussed on activities with significant safety risks, but typically include environmental hazards of relevance to the activity
- Environmental Work Method Statements (EWMS) – Task-specific risk assessment prepared for high-risk construction activities. EWMS are focussed on activities with significant environmental risks
- Environmental Control Maps (ECMs) – Reflecting the outcomes of risk assessments, ECMs depict environmental risks and controls on site-specific maps
- Erosion and Sedimentation Control Plans (ESCPs) – Prepared for sites with high potential for erosion, the ESCP details site-specific erosion and sediment controls
- Construction Noise and Vibration Impact Statements (CNVIS) – prepared to assess the likely noise and vibration impacts to surrounding receivers resulting from construction works
- Prestart meetings and toolboxes – On-site meetings with construction personnel which provide an opportunity to discuss environmental risks and controls of relevance to the task.

1.5.2 Environmental Management Sub-plans, procedures and programs

This CEMP is supported by Sub-plans, procedures and programs as detailed in **Figure 1-5**. A complete document register is available in **Appendix A4**.

Environment procedures detail key environmental management processes for the construction workforce, including hold points and control measures. They provide a comprehensive, informative method for communicating environmental management requirements to site personnel.

In accordance with continuous improvement processes, procedures will be revised and updated as construction progresses. Additional environment procedures may also be developed as required, during the delivery of the Infrastructure Works.

1.5.3 Environmental Design Review

The Environmental Design Review process has been established by the JV to ensure design documentation complies with the Planning Approval, REMMMs, EPOs and contractual requirements (outlined in the Deed). The key output of the process, the Environmental Design Review Report, includes the following details:

- Process used to complete the environmental review of the design documentation
- Verify designer's response to, and evidence of, requirements allocated to each design packaged in the Requirements Verification Traceability Matrix (RVTM)
- Evidence to how environmental constraints were considered and opportunities to avoid or reduce impacts were realised (e.g. St. Patrick's Roman Catholic Cemetery, Prince Alfred Square, Robin Thomas Reserve and Lennox Bridge)

- Justification for proposed design where it has not been possible to avoid or further reduce identified impacts
- Demonstration of compliance against the Planning Approval and contractual requirements
- Consideration of feasible and reasonable opportunities for Aboriginal and non-Aboriginal heritage interpretation and promotion of significant environmental features/sites (e.g. Dundas stop)
- Recommendations of the Design Review Panel
- Include an up to date copy of the Tree register.

The RVTM is an assurance framework that has been developed to allocate requirements to appropriate design packages, nominates the design stage for design verification for each requirement and nominates the verification method for each requirement. Requirements are derived from the Infrastructure Contract Exhibit B - Scope and Performance Requirements, Management Requirements and Third-Party Agreements. Derived requirements including the Planning Approval Conditions and REMMMs that need to be addressed during detailed design have also been included.

It is noted that the RVTM assurance framework is separate to the Compliance Tracking Program which is detailed in **Section 3.8.5**.

2 Endorsement and approval

2.1 Internal approval and external endorsement

The following process has been established to guide the preparation, review, and where required, external consultation or approval of the CEMP and Sub-plans:

1. Requirements identification: Relevant technical and process requirements are identified and categorised from the CoA, REMMMs, EPOs and Deed.
2. Document preparation: Draft documents are prepared, reflecting relevant requirements. Technical consultants are engaged as required to provide specialist input.
3. Internal review and approval: Draft documents are reviewed and approved by relevant JV personnel.
4. TfNSW review and agency consultation: Draft documents are provided to TfNSW, the ER, the Independent Certifier (IC), the Acoustics Advisor (AA) and other relevant external stakeholders for comment (**Table 2-1**). Upon receipt of any comments, the JV will either amend the document to reflect the comments or document the justification as to why no change is required; evidence of consultation will be retained.
5. External endorsement and approval: The CEMP and nominated Sub-plans (**Table 2-1**), are required to be endorsed by the ER/AA and submitted to the DPIE for approval one month prior to commencement of construction. The approval for the CEMP and Sub Plans documents must be received by DPIE prior to construction commencement.

It is noted that where a document or notification to the Planning Secretary is required by the CoA to be submitted within a specified time period, the JV may make a written request to TfNSW for the Planning Secretary to consider approval of an alternative timeframe. Any request must be adequately justified and submitted at least one (1) month before the timeframe stipulated in the condition of approval relating to the variation request.

2.1.1 Environmental Representative Endorsement Letter

Reflecting the requirements of the CoA, this Plan was submitted to the ER for review and endorsement. The Endorsement Letter is provided in **Appendix A6**.

Table 2-1 Agency Consultation and Approval Schedule

EMP Document	DPIE	ER	AA	Dept. of Primary Industries	OEHL	EPA	Aboriginal Stakeholders	Roads and Maritime Services	CoPC	Cumberland Council	Emergency Services	NSW Health	Biodiversity Conservation Trust	Sydney Water
Construction Environment Management Plan	A	E												
Traffic, Transport and Access Management Sub-plan	I	E						C	C	C	C			
Flora and Fauna Management Sub-plan	I	E		C	C				C	C			C	
Noise and Vibration Management Sub-plan	A	E	E			C			C	C		C		
Soil and Water Management Sub-plan	I	E		C		C			C	C				
Heritage Management Sub-plan	A	E			C		C		C	C				
Air Quality and Dust Management Sub-plan		E												
Flood Management Sub-plan	I	E			C				C	C				C
Landscape and Temporary Works Management Sub-plan		E												
Contamination Management Sub-plan		E												

EMP Document	DPIE	ER	AA	Dept. of Primary Industries	OEH	EPA	Aboriginal Stakeholders	Roads and Maritime Services	CoPC	Cumberland Council	Emergency Services	NSW Health	Biodiversity Conservation Trust	Sydney Water
Waste and Resource Management Sub-plan		E												
Environmental Incident and Emergency Response Plan		E												
Site Establishment Management Plan	A	E						C	C	C				
Delivery Phase Sustainability Management Plan		E												

Key C: Consultation **A:** Approval Required **E:** Endorsement **I:** For Information only

2.2 Consultation during Stage 1 development

In December 2015, the NSW government announced the preferred network for PLR Stage 1. A comprehensive stakeholder engagement process commenced at that time to inform alignment options.

During preparation of the EIS, a Community and Stakeholder Engagement Plan was prepared by TfNSW to provide a framework for the proactive engagement of community, stakeholders and key partners within the alignment.

Between August and November 2016, TfNSW conducted a stakeholder engagement program to inform people about the works, gain insight into how the public might use light rail, and identify issues that might influence design. The TfNSW Team developed a range of information material that explained the vision and objectives of the PLR, identified the preferred network and described the expected level of service. A website was developed that included this information, as well as providing opportunities for online feedback.

Following receipt of Planning Approval, community engagement for Stage 1 has been guided by the TfNSW Community Communication Strategy. Leveraging the outcomes of the Stakeholder Engagement Plan, the Strategy provides a high-level engagement framework that:

- Identifies accountabilities for delivering community and stakeholder engagement
- Outlines the engagement objectives and principles
- Outlines the engagement approach, methodology, tools and timeframes
- Sets the framework for engaging with communities and key stakeholder across the alignment
- Incorporates complaints management and resolution procedures.

Implementation of the TfNSW Community Communication Strategy within the Infrastructure Works is achieved through the CPBDJV Communication and Engagement Management Plan (CEP). The CEP, described in **Section 3.6.4**, provides the detailed actions that will be undertaken by the JV to deliver the TfNSW Community Communication Strategy.

2.2.1 Industry engagement

The PLR Industry Engagement Program commenced in March 2016 with an industry briefing at Rosehill Gardens Racecourse. Over 450 people attended the briefing including landowners, developers, technical service providers and infrastructure specialists. The briefing communicated the PLR vision and objectives and determined what professional services would be required.

The PLR team subsequently conducted a structured industry consultation process. Sectors consulted included:

- Civil contractors
- Rolling stock and systems suppliers
- Operators and maintainers of rolling stock
- Industry bodies
- Property developers
- Finance organisations.

The purpose of this consultation was to encourage industry participation in the design of the PLR, and test key elements of the delivery strategy. The outcomes of the consultation informed the development of the REMMMs, as reflected in the CEMP and Sub-plans.

3 Environmental Management Plan

3.1 Planning

3.1.1 Environmental Risk Assessment Workshop

An environmental risk assessment workshop was held on 2 May 2018, involving personnel from both CPB Contractors, Downer EDI Works and nominated consultants. The workshop included an assessment of the following activities to identify the relevant steps in the activity and the associated environmental hazards, initial risk levels, mitigation measures and residual risks:

- Enabling works, demolition and temporary works
- General and bulk earthworks
- Vegetation clearing and topsoil stripping
- Open excavation works
- Material handling and stockpiling including the treatment of contaminated materials or acid sulphate soil/rock
- Slope or embankment creation/stabilisation processes
- Vehicular movements on unsealed ground
- Quarrying
- Vehicle emissions
- Refuelling and handling of chemicals, waste and hazardous goods
- Site access including temporary waterway crossings
- Utility realignment works
- Bridge construction and piling
- Compound operation
- Paving activities
- Culvert and drainage works
- Out of Hours Works and works during standard hours
- Dewatering activities and construction phase water use/extraction.

The outcomes of the risk assessment workshop are reflected in the environmental risk register (**Appendix A2**).

A review of the environmental risk assessment was undertaken in March 2019 to ensure the requirements of the Deed, CoA and REMMMs were adequately reflected. Refinements to the risk assessment were reflected in the CEMP and Sub-plans.

Prior to commencement of construction, the risk assessment will be reviewed in conjunction with construction personnel and the ER. The purpose of the assessment, undertaken as a site walk-through, is to test assumptions with construction personnel and incorporate feedback from the ER.

During construction, the environmental risk register will be reviewed annually, at minimum, and in response to significant issues, incidents and non-compliances. Subject to amendments, the outcomes would be reflected in this Plan, Sub-plans and site-specific ECMs.

Hold Points

Reflecting the outcomes of the environmental risk assessment process, the following hold points have been identified which require additional approvals prior to commencement of works:

- Out of hours work (Out of Hours Works Permit)
- Excavation or ground disturbance (Permit to Excavate or Penetrate)
- Unexpected heritage finds (Unexpected Heritage Finds Procedure)
- Works within 300 metres of the Grey Headed Flying-Fox colony in Parramatta Park (Grey Headed Flying-fox Monitoring Program)
- Removal of vegetation (Pre-Clearing and Grubbing Inspection Checklist)

- Prior to removal or damage of trees (IA Tree Register)
- Movement of plant and equipment to/from site (Plant and Equipment Clean Down Declaration)
- Disturbance of land or soil in Areas of Environmental Interest (AEI) identified as having a high risk of contamination, or identified as medium risk subject to further desktop assessment (Site Contamination Report)
- Unexpected contamination (Unexpected Contaminated Land and Asbestos Finds Procedure)
- Construction of any hazardous works or works adjacent to hazardous infrastructure (CoA E132)
- Site dewatering and discharge (Construction Site Dewatering and Discharge Procedure)
- Establishment of minor ancillary facilities (Minor Ancillary Facility Checklist)
- Establishment of ancillary facilities (Site Establishment Management Plan)
- Waste transfer/disposal (Waste/Material Tracking Form)
- Works outside the approved project boundary (Section 3.12 of the CEMP).

Approval processes relating to the above hold points are details within the respective Sub-plan. It is noted that the Infrastructure Approval CSSI-8285 does not provide approval to harm, modify or otherwise impact human remains. Refer to the Heritage Management Sub-Plan for more details.

3.1.2 Regulatory requirements and compliance

Legislation

A register of applicable legal and other requirements is provided in **Appendix A1**. This register will be reviewed at regular intervals, such as during management reviews, and updated with any applicable changes. Changes 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 3.4** of this CEMP.

Approvals, permits and licences

The primary approvals required for the Infrastructure Works are outlined below in **Table 3-1**. A complete list of approvals and legislative requirements is outlined in **Appendix A1**.

Guidelines, specifications and principles

The following guidelines, specifications and principles are of relevance to this CEMP and will be followed during construction:

- AS/NZS 3100:2009, Risk Management Principles and Guidelines (ISO 31000 – Risk Management)
- AS/NZS 4360:2004 Risk Management Standards
- AS/NZS ISO 19011:2014 - Guidelines for Auditing Management Systems.
- Guideline for the preparation of Environmental Management Plans (DIPNR, 2004).
- ISO14001: 2004, 'Environmental Management Systems - requirements with guidance for use'
- TfNSW Environmental Risk Assessment Procedure 3TP-PR-206/3.0 TfNSW Environmental Incident Classification and Reporting 9TP-PR-105
- TfNSW Guide to Environmental Control Map (3TP-SD-015/8.0)
- TfNSW Guide to Environmental Incident and Non-compliance Reporting using the INX System 9TP-SD-005

In addition to the above, each Sub-plan details legislation, guidelines, standards and specifications that are of relevance to the specific environmental aspect or impact.

Table 3-1 Primary Approvals

Approval	Legislation	Applicable Component(s)	Approval Holder	Regulatory Authority	Status
Planning Approval	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>	All components	TfNSW	DPIE	The Planning Approval was issued by the DPIE on 29/05/18 and modified on 21/12/18 and 25/01/19.
Planning Approval Modifications	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>	Nominated components	TfNSW	DPIE	A modification would be sought if variations are proposed which result in impacts that are inconsistent with the Planning Approval.
Environment Protection Licence (EPL)	<i>Protection of the Environment Operations Act, 1997 (POEO Act)</i>	All components	CPBDJV	EPA	The EPA issued EPL Number 21347 on the 3 January 2020 for Railway activities - railway infrastructure construction in accordance with the POEO Act. The CEMP and Sub-plans have been revised as required to address the licence conditions.
Road Occupancy Licence (ROL)	<i>Roads Act 1993 (NSW)</i>	Works impacting classified roads	CPBDJV	Roads and Maritime Services (RMS)	ROLs are requested as necessary in response to programmed works.
Out of Hours Works (OOHW) Approval	N/A	Nominated components	CPBDJV	DPIE, ER, AA and/or TfNSW	An OOHW Approval will be sought as necessary in accordance with the Out of Hours Works Protocol.
Total Fire Ban Exemption	<i>Rural Fires Act 1997 (NSW)</i>	Nominated components	CPBDJV	Rural Fire Service	Applications to be submitted progressively as required.

3.1.3 Environmental objectives and targets

Reflecting the commitments of the JV Environment and Sustainability Policy, environmental objectives and targets have been established for the Infrastructure Works (**Table 3-2**). Performance against objectives and targets will be assessed as part of the management review and reflected in the construction compliance reports (CoA A37).

Additional aspect-specific environmental objectives and targets are provided in each Sub-plan.

Table 3-2 Environmental objectives and targets

Objective	Target	Measurement tool
Compliance with Planning Approval	<ul style="list-style-type: none">• No non-compliance identified through the compliance tracking program• Close out ER inspection findings within defined timeframes	<ul style="list-style-type: none">• Audits• Environmental inspections• Compliance tracking program• Management review
Compliance with all legal requirements	<ul style="list-style-type: none">• No breaches or regulatory infringements (PINs or prosecutions)	<ul style="list-style-type: none">• Audits• Compliance tracking program
Compliance with the requirements of AS/NZS ISO14001	<ul style="list-style-type: none">• Address non-compliance and corrective actions within specific timeframes• Implement improvement opportunities	<ul style="list-style-type: none">• Audits• Management reviews
Engage with the community, minimise complaints and respond to complaints within defined timeframes	<ul style="list-style-type: none">• Provide timely and relevant information through the PLR website and other tools identified in the Community and Engagement Management Plan.• Record and respond to complaints within the timeframe specified in the Community and Engagement Management Plan.	<ul style="list-style-type: none">• Audits• Complaints register
Continuously improve environmental performance	<ul style="list-style-type: none">• Develop and maintain a program of ongoing environmental training• Capture lessons learnt from environmental incidents• Encourage and reward innovation and effort among workers.	<ul style="list-style-type: none">• Audits• Management review• Training Register• Incident Reports• Complaints Register

3.1.4 Environmental Control Maps

ECMs provide a practical translation of environmental risks and controls for workers. The documents are specific to a site or activity and incorporate mitigation measures and controls as derived from relevant Sub-plans, EWMSs or as appropriate.

In accordance with the requirements of the Guide to Environmental Control Map (3TP-SD-015/8.0), ECMs must include details of:

- Where environmental controls are located and how they are used
- Where and when environmental monitoring is to occur
- How environmental control measures are communicated to JV personnel.

ECMs will be prepared progressively in the lead up to and throughout construction in consultation with relevant members of the JV team and the TfNSW Environment and Planning Manager. ECMs will be provided to the ER for review at least one week prior to the commencement of any activities in the area covered by the document. All comments received from the ER will be addressed and endorsement obtained prior to commencement of works.

All construction personnel and Subcontractors undertaking a task governed by an ECM must participate in training on the ECMs 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 will be undertaken by Project management and environmental personnel to ensure that ECMs are adequately implemented. Matters of non-compliance will be managed in accordance with **Section 3.7**.

A register of ECMs will be maintained as part of the document register detailed in **Appendix A4**.

3.2 Resources, responsibilities and authority

This section details the roles and responsibilities of environmental personnel, including JV team members, TfNSW and the Independent Certifier.

3.2.1 Internal Environmental Personnel

The primary environmental roles within the JV team are detailed in **Figure 3-1** and listed as follows:

- Environment and Sustainability Manager
- Approvals Manager
- Sustainability Lead
- Heritage Advisor
- Environmental Coordinator (2)
- Environmental Graduate (2).

The above roles are supported by the following internal stakeholders:

- Construction Director (direct reports including General Superintendent, Traffic Manager, Utilities Manager)
- Communications Manager
- Safety Manager
- Engineering Manager.

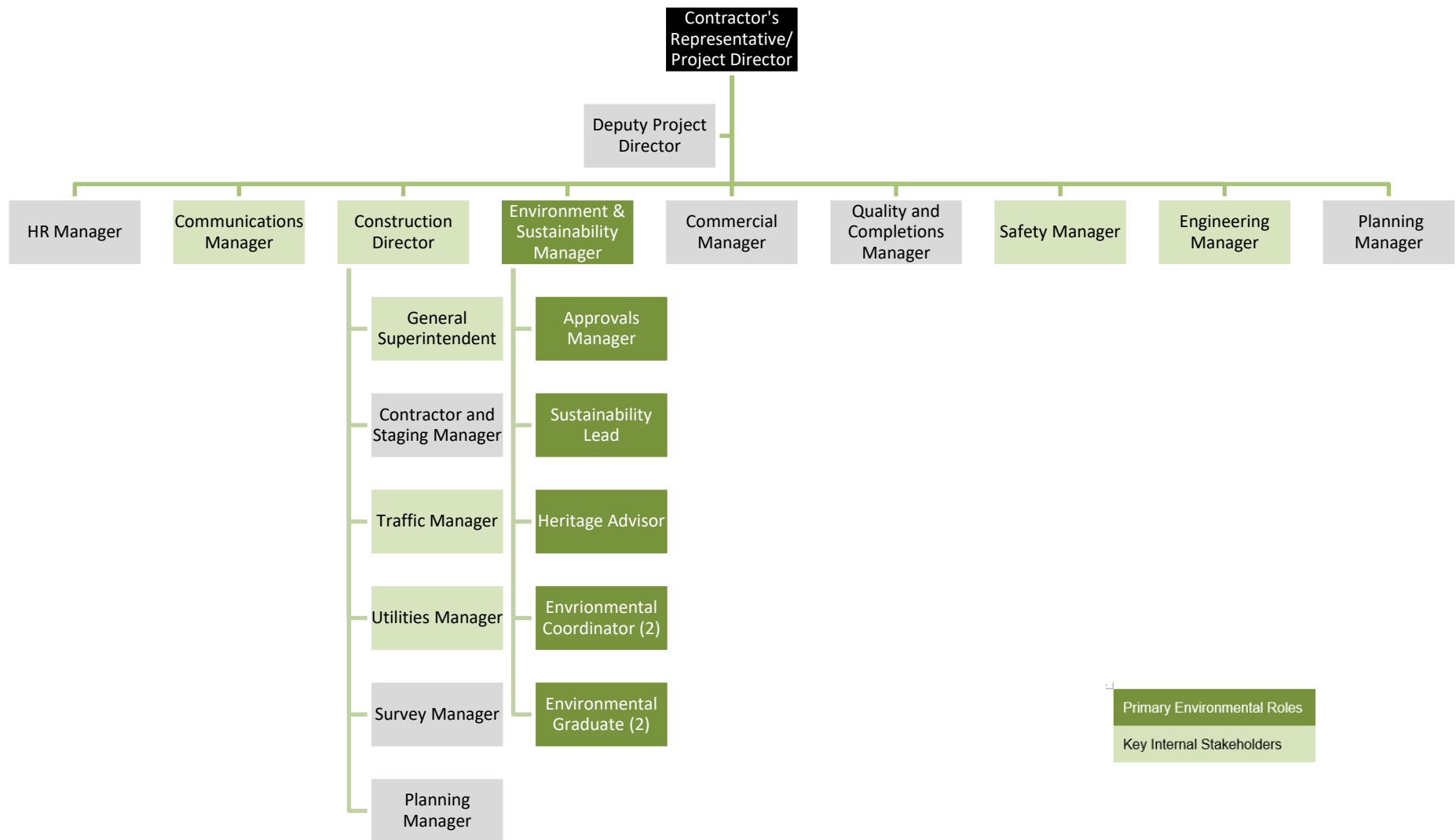


Figure 3-1: JV Management Structure

CPBD JV Environment and Sustainability Manager

The Environment and Sustainability Manager is a member of the JV Senior Management Team and is accountable for the environmental and sustainability performance of the Infrastructure Works. The key authorities, responsibilities and lines of communication associated with the role are detailed in **Table 3-3**.

Table 3-3 Environmental and Sustainability Manager

Environmental and Sustainability Manager	
Authority	<ul style="list-style-type: none">• Appointed by the JV Contractors' Representative and works closely with the design and construction functions• Authorised to collaborate and develop documentation necessary for approvals and environmental and sustainability management• All correspondence and documentation that has legal, commercial or contractual impact shall be viewed and agreed upon, by the Project Director.
Responsibility	<ul style="list-style-type: none">• Lead the creation of a consultative and proactive culture that ensures environmental compliance and 'No Harm' as a driver of work behaviours• Develop and manage a team of planning, environmental and sustainability personnel capable of leading contemporary and innovative practices• Effectively lead and manage development and implementation of the EMS• Liaise with the ER, AA and IA and attend inspections• Report all incidents to TfNSW, ER and authorities (as required)• Attend monthly Environmental Reference Group meetings and the Management Review Group meetings• Manage all environmental and planning approvals and licences• Provide specialist environment, planning and sustainability advice to the Project Director and other functional managers to facilitate design and construction• Oversee the development, implementation, assessment and verification of sustainability measures for all works• Oversee the establishment of performance expectations, goals and standards for managing all potential adverse impacts• Oversee the environmental management and sustainability induction and training program• Oversee the preparation of environmental assessments on design changes and obtain any necessary planning approvals• Oversee environmental monitoring, inspections and audits• Oversee investigation and close out of any environmental complaints• Oversee compliance tracking and reporting• Oversee the keeping of all environmental records• In consultation with the Project Director and Senior Construction Manager, oversee the investigation and reporting of environmental incidents• Regularly engage with the Great River City Light Rail consortium and other interface contractors to achieve environmental alignment (e.g. out of hours works, heritage impacts and tree impacts) in accordance with the Interface Management Plan.

Environmental and Sustainability Manager	
Lines of communication	<ul style="list-style-type: none"> • Reports to the Project Director • Primary contact on environmental and sustainability matters to Principal's Representative, Environmental Representative and Independent Certifier • Primary government agency contact for planning approvals, environmental management and sustainability.

CPBD JV Environmental Coordinator

The responsibilities of the Environmental Coordinator are detailed in **Table 3-4**.

Table 3-4 Environmental Coordinator

Environmental Co-ordinators	
Authority	<ul style="list-style-type: none"> • Appointed by the Environment and Sustainability Manager.
Responsibility	<ul style="list-style-type: none"> • Assist the Environment and Sustainability Manager in the day-to-day environmental management of the works • Ensure compliance with this Plan, Sub-plans and procedures • Work in partnership with construction staff to build environmental capabilities, drive cultural change, and achieve performance improvements • Assist the Environment and Sustainability Manager in implementing the environmental induction program • Assist JV staff with environmental inquiries • Assist in the implementation of site environmental controls • Conduct environmental monitoring and inspections • Assist the Environment and Sustainability Manager in audits • Assist the Environment and Sustainability Manager in the investigation and close out of any environmental complaints.
Lines of communication	<ul style="list-style-type: none"> • Functional Reporting to the Environment and Sustainability Manager • Line Reporting to Area Project Manager(s).
Minimum Skill Levels	<ul style="list-style-type: none"> • Possess a relevant recognised qualification • At least two years relevant experience • Familiarity with current and emerging environmental issues.

CPBD JV – Key Personnel

Other key JV personnel with environmental responsibilities are detailed in **Table 3-5**.

Table 3-5 Other Key JV Personnel

JV Role	Authority and Responsibility
Project Director/Deputy Project Director	<ul style="list-style-type: none">• Manage the delivery of the works in accordance with the Planning Approval and environmental compliance obligations• Authority to direct personnel and/or subcontractors to carry out actions to avoid or minimise unintended environmental impacts• Review and approve key environmental management documents relevant to the Infrastructure Works• Ensure sufficient resources are allocated to environmental and sustainability management• Contractor's Representative.
Construction Director	<ul style="list-style-type: none">• Manage construction works in accordance with the Planning Approval and obligations• Ensure compliance with this Plan, Sub-plans and procedures.
Engineering Manager	<ul style="list-style-type: none">• Ensure relevant environmental and planning requirements are addressed in design development• Provide input to and review of consistency assessments on design changes.
Safety Manager	<ul style="list-style-type: none">• Ensure environmental and planning requirements are addressed in relevant safety documents• Work collaboratively on incident management and reporting in the event of safety incidents with a potential to cause environmental impact.
Communications Manager	<ul style="list-style-type: none">• Communicate sustainability initiatives and potential environmental impacts to the surrounding community• Work collaboratively with the Environment and Sustainability Manager to resolve environmental complaints• Support ISCA rating initiatives and tracking.
General Superintendent	<ul style="list-style-type: none">• Deliver the construction program in accordance with the Planning Approval and obligations <p>Authorise personnel and/or subcontractors to carry out actions to avoid or minimise unintended environmental impacts.</p>
Approvals Manager	<ul style="list-style-type: none">• Manage and mitigate the risk of adverse time and scope impacts resulting from the administration of the Planning Approval conditions.
Area Project Managers/ Project Engineers / Site Engineers/ Supervisors	<ul style="list-style-type: none">• Implement and monitor environmental management and compliance measures across all sites in conjunction with Environmental Co-ordinators• Daily site inspections.

JV Role	Authority and Responsibility
Heritage Advisor	<ul style="list-style-type: none"> Coordinate the inspection, monitoring and reporting requirements of the Heritage Management Sub-Plan.
Sustainability Lead	<ul style="list-style-type: none"> Prepare and implement the Delivery Phase Sustainability Management Plan Coordinate the ISCA Ratings Submission.
JV Arborist	<ul style="list-style-type: none"> Maintain the JV's tree register Prepare and review Tree Management Plans Additional responsibilities of the JV Arborist are contained in the Flora and Fauna Management Sub-plan

The contractor's representative, the Environment and Sustainability Manager and other relevant personnel must attend any training provided by the Principal's Representative.

Wider JV team (including Subcontractors)

The entire JV team will attend the project induction and be made aware of the environmental requirements. They will adhere to this Plan, and all relevant Sub-plans.

Environmental Specialists/ Consultants

The JV has engaged a number of specialist environmental consultants to provide expert advice and assistance in developing and delivering the CEMP and Sub-plans, including heritage, contamination, acoustics, arborist and flora/fauna. If required, the JV will seek expert advice from additional expert consultants during the delivery of the works.

3.2.2 External Environmental Personnel

Environmental Representative

The Environmental Representative (ER) was approved by the Planning Secretary prior to commencement of works. The primary role of the ER is to independently oversee compliance with the Planning Approval and act as the principle point of advice in relation to environmental performance. Engaged by the Independent Certifier, the role of the ER is specified in Schedule 2, Part A of the Planning Approval, specifically CoA A19 to A25.

In accordance with CoA A23 (a-i) and CoA C7, the responsibilities of the approved ER are outlined in **Table 3-6**.

Table 3-6 ER Responsibilities

CoA	Authority/Responsibility
A23 (a)	Receive and respond to communication from the Secretary in relation to the environmental performance of the CSSI.
A23 (b)	Consider and inform the Secretary on matters specified in the terms of this approval.
A23 (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 the community.

CoA	Authority/Responsibility
A23 (d) A23 (d)(i) A23 (d)(ii)	<p>Review documents identified in Table 2 [of the Planning Approval] and any other documents that are identified by the Secretary, for consistency, in the opinion of the ER, with requirements in or under this approval and if so:</p> <p>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</p> <p>Make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Secretary for information or are not required to be submitted to the Secretary).</p>
A23 (e)	Regularly monitor the implementation of the documents listed in Table 2 [of the Planning Approval] to ensure implementation is being carried out in accordance with the document and the terms of this approval.
A23 (f)	As may be requested by the Secretary, help plan, attend or undertake audits of the CSSI commissioned by the Department including scoping audits, programming audits, briefings and site visits, but not independent environmental audits required under Condition A41 of this approval.
A23 (g)	As may be requested by the Secretary, assist the Department in the resolution of community complaints.
A23 (h)	Assess and, if acceptable, approve the impacts of minor ancillary facilities comprising lunch sheds, office sheds and portable toilet facilities or other ancillary facilities determined by the ER to have a minor environmental impact.
A23 (i)	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) days following the end of each month for the duration of the ER's engagement for the CSSI.
C7	The CEMP must be endorsed by the ER and then submitted to the Secretary for approval no later than one month before the commencement of construction.
C8	Construction must not commence until the CEMP and any CEMP Sub-plan specified in Condition C3 have been submitted to or approved by the Secretary. The CEMP and CEMP Sub-plans submitted to or approved by the Secretary, including any minor amendments approved by the ER, must be implemented for the duration of construction. Where construction of the CSSI is staged, construction of a stage must not commence until the CEMP and Sub-plans for that stage have been submitted to or approved by the Secretary.
E26	On becoming aware of the need for emergency construction works, the Proponent must notify the ER of the need for those activities or works. The Proponent must also use best endeavours to notify all affected sensitive receivers of the likely impact and duration of those works.
E28	<p>Out of Hours Works</p> <p>(c) identify an approval process that considers the risk level of activities (in accordance with AS/NZS ISO 31000:2009 "Risk Management"), proposed mitigation, management, and coordination, including where:</p>

CoA	Authority/Responsibility
	i) low and moderate risk activities can be approved by the ER in consultation with the AA, and ii) high risk activities that are approved by the Secretary.
Appendix A Flexibility Provisions	Determine whether utility and lighting works proposed under the Flexibility Provisions have a minor environmental impact.

The ER shall report concurrently to the JV and TfNSW.

With regards to the ER, the JV will:

- Facilitate ER Inspections
- Immediately notify the ER of all environmental incidents and non-compliances
- Provide relevant information and documents as requested by the ER to perform their functions as specified in CoA A23 (Table 3-6) (CoA A24)
- Provide the complaints register daily (CoA A24)
- Provide a copy of any assessment carried out by the Proponent of whether proposed work is consistent with the project approval (which must be provided to the ER before the commencement of the subject work) (CoA A24).
- Provide access to the premises as reasonably required to allow the ER to perform its functions under the Planning Approval
- Update this Plan to address any relevant requirements and recommendations of the ER
- Review and analyse the cause of any non-compliances raised by the ER and develop a plan of corrective action to minimise the likelihood of recurrence
- Comply with the lawful requirements of the ER, to allow the ER to discharge any functions under the Planning Approval
- Facilitate and assist the Planning Secretary in any such audit of the functions of the ER as defined in CoA A23 (CoA A25).

Acoustics Advisor

The Acoustics Advisor (AA) was engaged by the IC and approved by the Planning Secretary before works commenced. The engagement will occur for the duration of construction and continue for no less than six months following completion of construction of the CSSI. The AA is focused on monitoring compliance and providing independent noise and vibration advice in accordance with the Planning Approval. The AA must provide a statutory declaration to the Planning Secretary that they are independent of the design and construction personnel.

Specific responsibilities of the AA, as defined in CoA A29 include:

- Receive and respond to communication from the Planning Secretary about the performance of the Infrastructure Works in relation to noise and vibration
- Consider and inform the Planning Secretary on matters specified in Planning Approval relating to noise and vibration
- Consider and recommend, to the JV, improvements that may be made to work practices to avoid or minimise adverse noise and vibration impacts
- Consider consultation outcomes with affected receivers to determine the adequacy of noise mitigation and management measures including work hours and respite periods

- Review all noise and vibration documents prepared under the Planning Approval and, where consistent with the Planning Approval, should then be consistent with the terms of the Planning Approval, endorse them before submission to the Planning Secretary (if required to be submitted to the Planning Secretary), or before implementation
- Regularly monitor the implementation of all noise and vibration documents prepared under the Planning Approval to ensure implementation is in accordance with what is stated in the document and the terms of the Planning Approval
- In conjunction with the ER,
 - Plan, attend or undertake audits of the noise and vibration management of the Infrastructure Works including briefings, and site visits
 - In accordance with the Community Communication Strategy, attempt to resolve conflict between the JV and the community in relation to noise and vibration performance
 - Consider minor amendments to the CEMP and Sub-plans in relation to noise and vibration and, where consistent with the Planning Approval and management plans and monitoring programs approved by the Planning Secretary, provide endorsement
 - Assess the noise impacts of minor construction ancillary facilities
- Prepare and submit to the Planning Secretary and other relevant regulatory agencies, for information, a monthly Noise and Vibration Report detailing actions and decisions on matters for which the AA was responsible in the preceding month. The Noise and Vibration Report must be submitted within seven days following the end of each month for the duration of the Infrastructure works or as otherwise agreed with the Planning Secretary.

With regards to the AA, the JV will:

- Provide access to noise and vibration monitoring activities as they take place
- Submit noise and vibration plans, assessments, monitoring reports and data analyses undertaken for review
- Consider any recommendations to improve practices and demonstrate, to the satisfaction of the AA, why any recommendation is not adopted.

Independent Arborist

The Independent Arborist (IA), as engaged by the IC, was approved by the Planning Secretary prior to commencement of works and holds a minimum AQF Level 5 qualification in Arboriculture. Reflecting the requirements of CoA E103, the IA is the principal point of advice in relation to the assessment and management of impacts on trees. Specific roles of the IA, as defined in CoA E103, are to:

- Prepare a Tree Register of all trees within the Stage 1 footprint before any removals
- Identify trees within the footprint that must be removed for construction or operation
- Identify trees where their fate is uncertain and may be retained, removed or pruned.

The Tree Register must be prepared in accordance with the Planning Approval (CoA E104 and E105) and submitted to the Planning Secretary before removal or damage of a tree.

The Independent Arborist will review the design review for impacts on trees and patches of vegetation, and endorse the proposed level of impact and mitigation measures prior to the impact occurring.

The JV must provide all necessary information and assistance to enable the IA to:

- Verify and certify that opportunities to avoid, minimise and manage impacts on trees arising from the Delivery Activities have been undertaken in accordance with the requirements of the Planning Approval and the Principal's Vegetation Offset Guide
- Verify and certify the Contractor's Tree Planting Register

- Verify and certify the elements of the Contractor's Environmental Design Review Report relating to tree impacts and offsetting.

TfNSW Environment and Planning Manager and TfNSW Senior Manager Environment

TfNSW is the Proponent under the EP&A Act with ultimate responsibility to the DPIE for compliance with the Planning Approval. The TfNSW Environment and Planning Manager and TfNSW Senior Manager Environment will:

- Engage an experienced IC who is independent of the design and construction personnel
- Liaise with the JV on environmental and sustainability matters
- Provide required documents to the DPIE
- Establish a Design Review Panel (DRP) to review and improve the architecture, landscape architecture, structures, public domain, and heritage aspects of the Stage 1 design as per CoA E90.

3.3 Selection and management of Subcontractors

Subcontractors will be provided with detailed contracts and information packages before works commence that define environmental and sustainability obligations. Contracts will also clarify duties that the JV will retain for environmental protection of the subcontracted work. Compliance obligations will be reinforced through training programs (e.g. induction) and role specific training (refer to Section 3.2).

When engaging subcontractors, the JV will:

- Reflect environmental management requirements and conditions consistent with the Deed in the planning, selection and management of Subcontractors
- Ensure Subcontractors are advised in writing of the environmental requirements and the Planning Approval conditions and any other applicable Authority requirements, prior to commencing any work
- Undertake a review of Subcontractors' documentation to verify compliance with the CEMP
- Undertake appropriate monitoring of each Subcontractors environmental protection measures to ensure that the specified environmental protection requirements are effectively implemented and maintained
- Require delivery drivers/companies to read and sign a Drivers Code of Conduct to ensure they are aware informed of the environmental and compliance obligations under the terms of this approval and how their compliance with these requirements will be monitored.

These obligations are monitored by the Environment and Sustainability team through inspections, audits and reporting requirements (refer to **Section 3.8**).

3.4 Competence, training and awareness

The Environment and Sustainability Manager will establish an annual environmental training and awareness program to support implementation of the CEMP and Sub-plans and maintain a high level of awareness among all workers, including subcontractors. The program, developed in coordination with other training and development activities (e.g. safety), will detail the minimum environmental training requirements, experience and qualification requirements, scheduled training dates and delivery procedures.

The environmental training and awareness program will be reviewed annually for effectiveness. In addition, regular reporting against the following metrics will be undertaken to assess compliance with program objectives:

- Training programs delivered (number and topic)

- Awareness initiatives delivered
- Number of attending workers.

In addition to role-specific training, the program will consist of an environmental induction, toolbox talks, daily pre-start meetings and awareness initiatives, each of which are detailed in the sections that follow.

An environmental training register will also be established and maintained, including delivery dates, attendee names and details of the trainer.

3.4.1 Environmental induction

All personnel (including Subcontractors) are required to attend a compulsory site induction that includes an environmental component prior to commencement on-site. The purpose of the induction is to ensure all personnel involved in the Infrastructure Works are aware of the requirements of the CEMP, CoA and REMMMs.

Short-term visitors to site will be required to attend 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 Environment and Sustainability Manager (or delegate) will conduct the environmental component of the site inductions. The environmental component of the induction must cover relevant requirements of the CEMP and Sub-plans, including:

- CEMP purpose and objectives
- Environmental and Sustainability Policy
- Due diligence requirements and duty of care
- Conditions of environmental licences (including the EPL), permits and approvals
- Working in or near environmentally sensitive areas
- Management of emissions from plant and vehicles
- ECMs, including purpose, scope and use
- Specific environmental management requirements and responsibilities
- Significant environmental risks and mitigation measures
- Incident response and reporting requirements.

A record of all environment inductions will be maintained on-site. The 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 maintained within the Project Safety Records.

3.4.2 Toolbox talks

Toolbox talks provide a mechanism for communicating environmental risks and controls to workers. Regular and site-specific toolbox talks promote awareness of environmental issues and build partnerships with environmental personnel. Relevant issues addressed in toolbox talks include:

- Erosion and sedimentation controls
- Hours of work, out of hours work permits and restrictions on high noise intensive works
- Emergency and spill response and incident reporting

- Management of emissions from plant and vehicles
- Threatened species, no-go areas, and site-specific flora and fauna sensitivities
- Aboriginal and non-Aboriginal heritage, including Unexpected Heritage Finds Guideline
- Dust control and stop work procedure
- Wet weather shutdown procedure and responsibilities
- Community awareness
- Recent incidents, near misses, and potential issues relating to upcoming works

Records of toolbox attendance will be maintained by the Site Supervisor.

3.4.3 Daily Pre-Start Meetings

The pre-start meeting is a tool for informing the workforce of the day's activities, safe work practices, environmental protection practices, work area restrictions, activities that may affect the works, coordination issues, hazards and other relevant information.

The Foreman will conduct a daily pre-start meeting with the site workforce before the commencement of work each day, or shift.

The environmental component of pre-starts will be determined by the Foreman and environmental personnel and will include any environmental issues that could potentially be impacted by, or impact on, 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 and maintained within the Safety Management Document archive.

3.4.4 Activity Specific Training

Activity specific training will be developed that cover relevant environmental issues including but not limited to:

- Direction on the proper implementation and maintenance of erosion and sedimentation controls
- Site dewatering and discharge procedure and permits
- Out-of-hours works and sensitive receivers
- Contaminated land requirements for works in Areas of Environmental Interest
- Aboriginal and historic heritage awareness and unexpected finds
- Tree management requirements
- Works within or over waterways.

3.4.5 Awareness Initiatives

Environmental training programs will be supported by awareness initiatives, including posters, environmental alerts, or similar. This documentation will be communicated to workers through daily pre-start meetings (see Section 3.4.3) and / or displayed in worker crib sheds / break facilities.

3.5 Working hours

3.5.1 Approved Working Hours

As per CoA E21, approved working hours are:

- 7:00am to 6:00pm Mondays to Fridays, inclusive
- 8:00am to 12:00pm Saturdays
- At no time on Sundays or public holidays.

Extended working hours are permitted under CoA E22, with the exception of 'Eat Street' during the following hours:

- 6:00pm to 7:00pm Mondays to Fridays, inclusive
- 12:00pm to 6:00pm Saturdays.

Notwithstanding CoA E21 and E22, CoA E23 permits works to be undertaken in the Camellia and Rosehill precincts (east of James Ruse Drive) and the Carlingford Precinct (from Parramatta River to Victoria Road), 24 hours a day, seven days a week. The extended hours are permitted where sensitive receivers are not affected by noise levels of greater than 5 dBA above the rating background level at any residence in accordance with the Interim Construction Noise Guideline (DECC, 2009), between 10.00pm and 7.00am.

As per E27, highly noise intensive works are restricted from:

- 8:00am to 5:00pm Mondays to Fridays, inclusive
- 8:00am to 12:00pm Saturdays
- Must have a minimum respite of not less than a one-hour block between each continuous three-hour block of work.

The restrictions on conducting works outside of standard hours and the approvals process are detailed in the Out of Hours Works Protocol (Noise and Vibration Management Sub-plan).

3.5.2 Out of Hours Works

Reflecting the requirements of CoA E25, works may be undertaken outside of the approved working hours (Section 3.5) if one or more of the following applies:

- (a) for the delivery of materials required by the NSW Police Force or other authority for safety reasons
- (b) where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm
- (c) where different hours of works are permitted or required under an EPL in force in respect of the CSSI
- (d) works approved under an Out-of-Hours Work Protocol for works not subject to EPL
- (e) construction that causes LAeq (15 minute) noise levels:
 - i) no more than 5 dB(A) above the rating background level at any residence in accordance with the Interim Construction Noise Guideline (DECC, 2009), and
 - ii) no more than the 'Noise affected' noise management levels specified in Table 3 of the Interim Construction Noise Guideline (DECC, 2009) at other sensitive land uses, and
 - iii) no more than 15dBA above the night-time rating background level at any residence during the night time period, when measured using the LA1(1 minute) noise descriptor, and

- iv) continuous or impulsive vibration values, measured at the most affected residence are no more than the maximum values for human exposure to vibration, specified in Table 2.2 of Assessing Vibration: a technical guideline (DEC, 2006), and
- v) intermittent vibration values measured at the most affected residence are no more than the maximum values for human exposure to vibration, specified in Table 2.4 of Assessing Vibration: a technical guideline (DEC, 2006).

The JV was issued EPL Number 21347 on the 3 January 2020 for Railway activities - railway infrastructure construction. The EPL includes conditions permitting works to be undertaken outside of the approved working hours that are substantially consistent with the Planning Approval. The Out of Hours Works Protocol does not apply to works subject to EPL.

3.6 Communication

3.6.1 Internal communication

Ongoing communication with JV personnel is key to ensuring compliance with environmental obligations and continual improvement. The JV Environment and Sustainability Team will work collaboratively with the commercial, design, construction and communication teams through interdisciplinary meetings.

Internal communication on environmental performance will be led by the Environment and Sustainability Manager and delivered through team meetings, email correspondence, environmental alerts and the project newsletter. Key aspects to be communicated include:

- Progress against objectives and targets
- Environmental incidents and non-compliances
- Lessons learned
- Significant risks and opportunities

3.6.2 Government authority consultation

The Environmental and Sustainability Manager is responsible for communicating environmental performance to TfNSW and the ER. The Environment and Sustainability Manager will report regularly to TfNSW on progress and key environmental matters through:

- Monthly Reports
- Monthly EPL reports
- Regular Environment, Planning and Sustainability meetings with TfNSW and the ER
- Monthly Environmental Reference Groups with relevant stakeholders
- ER Inspection closeout reports.

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

The EPA will only be contacted by the Environment and Sustainability Manager in the event of a notifiable environmental incident (refer to **Section 3.7**). TfNSW will retain the responsibility for other communications with the EPA.

In the event that a request for information or action is received from the DPIE, the EPA or other authority, TfNSW will be immediately advised of the request. A response will be prepared by the Environment and Sustainability Manager and submitted to TfNSW for review and approval prior to external submission. In addition, TfNSW will be immediately advised on each occasion that the site is visited by a regulator or agency. A brief report will be provided to TfNSW within one working day of the visit detailing key outcomes.

3.6.3 Aboriginal Consultation

Consultation with Registered Aboriginal Parties (RAPs) was undertaken during preparation of the Heritage Management Sub-plan. Details on issues raised and how they have been addressed can be found in Appendix B of the Heritage Management Sub-plan. Consultation opportunities will also be provided to the RAPs during the development of Infrastructure Package media releases that involve Aboriginal heritage and culture.

RAPs participated in the Aboriginal archaeological testing activities and will also be present during archaeological salvage activities.

In compliance with the Project Deed and to assist with Aboriginal consultation, the JV will engage with an Aboriginal Focus Group (AFG) to provide updates on the progress of the works and forthcoming activities and provide updates on the progress of commitments made in the Aboriginal Cultural Heritage Assessments Report prepared for the EIS. AFG meetings will be scheduled in conjunction with key activities or PLR Stage 1 milestones.

Options for the repository, reuse or display of heritage items unearthed during the Infrastructure Works will be developed by the JV and provided to RAPs (as appropriate) in addition to Councils and the Department of Premiers and Cabinet (former OEH). Further consultation with both the RAPs and the AFG will occur following salvage activities.

3.6.4 Community liaison and/or notification

Community and stakeholder engagement on the Infrastructure Works is guided by the Communication and Engagement Management Plan (CEP). The CEP details the practical actions to be undertaken by the JV to support delivery of the TfNSW Community Communication Strategy.

The CEP includes various activities to ensure the community is adequately consulted on upcoming works, working hours, potential impacts, program changes and progress, including:

- Traffic alerts
- Newsletters
- Door knocking and face-to-face meetings
- Letterbox drops
- Hoardings and way finding signage incorporating infographics
- Website updates (<http://www.parramattalightrail.nsw.gov.au>)
- Social media posts
- A visitor centre featuring video and animation about the Light Rail
- Advertising
- SMS alerts
- Community events
- Schools education programs
- Business-specific initiatives such as the Eat Street pop up markets
- Presentations and forums with community groups and cultural organisations.

All public communication materials and communication activities will be coordinated with TfNSW to ensure sufficient time for development, approvals and distribution to the community. Dependant on the communication medium, timeframes will vary between five and 30 days for review and approval by TfNSW, and a minimum seven days notification to the community prior to construction.

3.6.5 Complaints management

As detailed in the CEP, a complaints management system has been developed and will be maintained for the duration of construction and for a minimum 12 months following completion of construction. The system includes the following elements to facilitate community enquiries and manage complaints:

- A 24-hour telephone number for the registration of complaints and enquiries about the Infrastructure Works
- A postal address to which written complaints and enquiries may be sent
- An email address to which electronic complaints and enquiries may be transmitted
- A mediation system for complaints unable to be resolved.

In line with TfNSW's requirements, the JV will ensure experienced personnel are available to manage enquiries and complaints in relation to construction activities 24 hours a day, seven days a week. Responses to enquiries and complaints will be issued within two hours of a phone call, within four hours of an email or online comment (dependant on the nature of the message), and within one to five days of letters being received. The details of every complaint received and how it was managed will be logged and closed out in Consultation Manager within 24 hours of the receipt of the complaint.

A written report will be provided to TfNSW within one day of complaint receipt which details the action taken to remedy the problem and/or prevent reoccurrence.

The ER will be notified in writing within 48 hours of any environmental complaint received, including the actions taken to resolve the complaint.

The Environment and Sustainability Manager will assist the Communications Manager in investigating and responding to environmental complaints. In addition, the Environment and Sustainability Manager will maintain an environmental complaints register throughout construction and for a minimum of 12 months following the completion of construction. The Register will record:

- Number of complaints received
- Number of people affected in relation to a complaint
- Means by which the complaint was addressed and whether a resolution was reached, with or without mediation.

The register will be provided to the ER on a daily basis and to the Planning Secretary on request, within the timeframe stated in the request.

The EPA will be provided with a Daily Complaints Report detailing all complaints received in relation to construction activities regulated by the licence by 2:00pm each business day in a format approved in writing by the EPA.

3.7 Emergency and Environmental Incident Planning

In the event of an environmental incident, the Environmental Incident and Emergency Response Plan will be implemented. The full plan is provided in **Appendix A5** with the key requirements summarised below. The requirements of the Plan are communicated to all workers through the induction, toolbox talks and regular communications.

Emergencies, significant environmental incidents or crisis events where safety is the key risk to be managed, the Incident Management Plan and Emergency Management Sub-plan (Sub-plans to the Safety Management Plan) are to take precedence.

Management definitions of environmental incidents are provided in **Table 3-7**.

Table 3-7 Environmental Incidents Definitions

Type	Definition	Source
Environmental Incident	An occurrence or set of circumstances that causes, or threatens to cause, material harm.	Planning Approval
Material harm	Is harm that: a) Involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or b) 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).	Planning Approval
Notifiable event	Any environmental incident or non-compliance that triggers a specific statutory requirement to notify a regulatory authority.	TfNSW Environmental Incident Classification and Reporting (9TP-PR-105/18.0)
Non-compliance	An occurrence, set of circumstances or development that is a breach of the planning approval but is not an environmental incident.	TfNSW Environmental Incident Classification and Reporting (9TP-PR-105/18.0)

3.7.1 Internal Reporting

All environmental incidents and non-compliances must be immediately reported to the Environment and Sustainability Manager who will verbally notify the TfNSW Environment and Planning Manager and ER. The verbal notification must occur immediately on becoming aware of the environmental incident or non-compliance.

All environmental incidents must also be immediately reported to the Person in Charge (PIC) who will distribute an SMS notification to all JV and TfNSW senior managers.

An event report must be lodged by the Environment and Sustainability Manager in the TfNSW INX system within four hours of occurrence. Additional details on the environmental incident or non-compliance must be provided within 48 hours of occurrence.

The event report will detail action(s) taken to control and correct the environmental incident or non-compliance and address the consequences, including mitigating any adverse environmental impacts. In evaluating the need for action, the cause of the environmental incident or non-compliance will be determined and the potential for similar environmental incidents or non-compliances to exist. Relevant corrective actions will be documented, implemented, and assessed for effectiveness. Any changes to operations or practices resulting from actions are to be communicated to employees and sub-constructors as required.

A register of all environmental incidents and non-compliances will maintained in INX.

Non-compliances will not be automatically raised as the result of an identified issue from an environmental inspection or audit. Where considered appropriate, by agreement of the JV, ER, IC and TfNSW representatives, issues identified during an environment inspection or audit will be closed-out as part of the inspection or audit reporting process. In the event that repetitive observations are made, i.e. if low-risk site improvement actions are not corrected within the agreed

timing for actions (for more than a month in most cases) the Environment and Sustainability Manager, TfNSW and/or ER will request that a NCR is raised.

3.7.2 External Reporting

DPIE and ER

The Environment and Sustainability Manager must immediately notify the ER in writing of all environmental incidents and non-compliances. Environmental incidents must also be immediately reported to the DPIE in writing (compliance@planning.nsw.gov.au). The notification must identify the Project (including the CSSI application number) and set out the location and nature of the environmental incident.

Within one week of notification of an environmental incident to the DPIE, the Environment and Sustainability Manager will submit a report to TfNSW for submission to the DPIE including the time and date of the environmental incident, details of the environmental incident and any consequent non-compliance with the CoA.

All written requirements of the Secretary, which may be given at any point in time, to address the cause or impact of an environmental incident must be complied with, within any timeframe specified by the Secretary or relevant public authority. This may include the outcomes of investigations (**Section 3.7.3**).

Notifiable Event

If an environmental incident is a pollution incident (as defined in the POEO Act), the Environment and Sustainability Manager will immediately notify the EPA (131 555) and the following agencies:

- Ministry of Health (1300 066 055)
- SafeWork NSW (13 10 50)
- City of Parramatta Council (1300 617 058)
- Fire and Rescue NSW (1300 729 579).

For notifiable events other than pollution incidents, the TfNSW Environment and Planning Manager will advise on whether external notification is to be made by the Environment and Sustainability Manager.

If an environmental incident occurs or if statutory notification is given to the EPA as required under the POEO Act, such notification must also be provided to the DPIE within 24 hours after the notification was given to the EPA.

3.7.3 Environmental Incident Investigations

All environmental incidents logged in the INX system must be investigated with a root cause analysis undertaken for environmental incidents with a risk rating of high and above and for lower risk items as determined by the moderator (i.e. TfNSW Senior Manager Environment).

3.7.4 Environmental Incident Simulation Drills

Environmental incident simulation drills will be undertaken at least once every 12 months. Additional drills may be required at the discretion of the Environment and Sustainability Manager in response to notifiable pollution incidents.

Environmental incident simulation drills may be integrated into other emergency and incident testing and training programs and delivered as a desktop simulation or practical exercise. The Environment and Sustainability will coordinate the drill and prepare a brief report on the outcomes and lessons learned.

3.8 Monitoring, inspections and auditing

3.8.1 Environmental inspections

As per CoA C2 (e), environmental inspections will be undertaken for the duration of the Infrastructure Works. The type and frequency of environmental inspections will be determined by the environmental risk assessment and reflect the minimum requirements detailed in **Table 3-8**.

Environmental inspections undertaken by the Environment and Sustainability Team will be documented on the online inspection form (CPB intranet).

Copies of all environmental inspection reports prepared by the Environment and Sustainability Team and the ER will be kept with the project records and closed out within the agreed timeframes.

Any findings by TfNSW from site inspections will be actioned by the JV within the agreed timeframes.

Table 3-8 Environmental Inspections

Type of Inspection	Minimum Frequency	Form	Scope	By Whom
Internal Inspections				
Informal – active work sites	Daily	Daily diary	<ul style="list-style-type: none"> • Site housekeeping • Erosion and sediment controls • Tree protection • Dust mitigation • Graffiti 	Leading Hand
Formal – active work sites	Weekly	Weekly Environmental Checklist	<ul style="list-style-type: none"> • Significant environmental aspects and impacts including erosion and sediment controls 	Environmental Coordinator/ Environmental Graduate
Heritage Exclusion Areas	Weekly	Weekly Environmental Checklist	<ul style="list-style-type: none"> • Heritage exclusion zones and protections 	Environmental Coordinator/ Environmental Graduate
Erosion and sediment controls	<p>At least weekly</p> <p>Daily during periods of rainfall</p> <p>Immediately before site closure greater than 48 hours</p> <p>Within 24 hours of the cessation of a rainfall event causing runoff to occur on or from the premises</p> <p>and</p> <p>Prior to any major rainfall event forecasted.</p>	Weekly Environmental Checklist	<ul style="list-style-type: none"> • Ensure that all erosion and sediment control measures installed on the premises are inspected and works undertaken to repair and/or maintain these controls if practicable and safe to do so. 	Environmental Coordinator/ Environmental Graduate
Tree Protection Works	Monthly	Tree Protection Works Inspection	<ul style="list-style-type: none"> • Tree protection works 	JV Arborist
External Inspections				

Type of Inspection	Minimum Frequency	Form	Scope	By Whom
TfNSW Inspections	TfNSW to attend ER inspections and carry out other inspections based on an assessment of risk or to confirm action close out as appropriate.	Determined by TfNSW	<ul style="list-style-type: none"> Determined by TfNSW 	TfNSW
ER Inspections	Fortnightly. Frequency may vary based on an assessment of risk.	Determined by ER	<ul style="list-style-type: none"> Determined by ER 	ER
AA Inspections	Refer to Note 1	Determined by AA	<ul style="list-style-type: none"> Noise and vibration impacts and controls 	AA
IA Inspections	Refer to Note 2	Determined by IA	<ul style="list-style-type: none"> Assessment of tree removal or major pruning works Assessment of tree protection 	IA

Notes:

1. Minimum frequency of AA inspections will be determined based on the potential risk of noise impacts for the Infrastructure Works as per the triggers listed below. Where these items are not triggered, inspections will occur as a minimum, quarterly during site establishment works and fortnightly (every two-weeks) during construction.

Where possible the routine inspections or those to review any of the additional triggers, would be completed in tandem with the ER, such that the application of noise and vibration compliance and mitigation can be considered in corroboration with any other environmental/project issues.

Triggers for additional inspections are provided as follows:

- As a result of noise or vibration related complaint(s), determined to warrant investigation by the AA, ER or TfNSW, or occurring on successive nights at a single work location
- Where a work site has not fully implemented the noise management protocols as per the approved construction methods to minimise noise or vibration, or where the adopted methods are not sufficient to achieve compliance (monitoring investigations found to exceed the relevant thresholds)
- During the commencement of a trial of a new high noise or vibration risk activity
- If considered appropriate at the discretion of the AA:
 - Where requested by the IC to assess compliance with the Planning Approval; or
 - Where requested by the ER, TfNSW or other entity with identified cause for concern pertaining to noise or vibration compliance.

2. Minimum frequency of IA inspections is weekly during site establishment and construction works. Frequency may increase based on the requirements of the Infrastructure Works and to verify compliance with Planning Approval. This includes site attendance as necessary to conduct tree inspections, assess potential impacts arising from pruning or construction activities, and liaise with the CPBDJV Project Arborist.

3.8.2 Action Tracking Register

All actions identified during environmental inspections will be tracked in an action tracking register and closed out within the required timeframes by the allocated personnel. The register will list the required action, date raised, status, and close out date. This register will be updated by the Environmental Coordinator (or delegate) and monitored for on-time completion.

3.8.3 Environmental monitoring

Environmental monitoring will be undertaken to validate the predicted impacts of the Infrastructure Works, to measure the effectiveness of environmental controls and to assess implementation of this CEMP. The monitoring requirements for nominated aspects are included in the relevant environmental management sub plans and summarised in **Table 3-9**.

Environmental monitoring results are analysed by the Environment and Sustainability Manager (or delete) to identify actual and potential non-compliances and events that may result in nuisance, environmental harm, unacceptable loss of amenity or community complaints. Corrective actions are taken immediately where required.

Table 3-9 Planning Approval Environmental Monitoring Requirements

CoA / REMMM	Description	Relevant Sub-Plan or CEMP Chapter	Reporting Requirements
C9	The following Construction Monitoring Programs must be prepared in consultation with the relevant government agencies for each to compare actual performance of construction of the CSSI against performance predicted in the documents listed in Condition A1 or in the CEMP:	-	-
(a)	Water Quality (Turbidity) Monitoring	Soil and Water Management Sub-plan	Water Quality Monitoring Program
(b)	Noise and Vibration Monitoring	Noise and Vibration Management Sub-plan	Noise and Vibration Monitoring Program
(c)	Grey-headed flying fox Monitoring	Flora and Fauna Management Sub-plan	Grey-headed flying fox Monitoring Program
E101	During construction near the Parramatta River and Cumberland Hospital East and West, the Proponent must engage a suitably qualified and experienced fauna specialist to monitor the behaviour of the Grey-headed Flying-fox camp that resides in Parramatta Park in accordance with the Grey-headed Flying Fox Monitoring Program required by Condition C9 and implement mitigation measures, as required to minimise potential impacts to the camp. Monitoring must commence at least 12 months before the commencement of construction within 300 metres, unless otherwise agreed with the Secretary, of the camp to establish baseline behaviour. Monitoring must be undertaken regularly during construction (in consultation with OEH) with the results compiled in a monitoring report submitted to OEH each month. Monitoring should include species present, numbers, a map of the extent of the camp, breeding status, and condition of animals. If monitoring suggests that construction associated with the CSSI is changing the behaviour of the camp, the Proponent must consult with OEH to determine whether additional mitigation measures are required.	Flora and Fauna Management Sub-plan	Grey-headed Flying Fox Monitoring Program

CoA / REMMM	Description	Relevant Sub-Plan or CEMP Chapter	Reporting Requirements
HY-1	A water quality management program would be developed in consultation with the Department of Industry (Lands and Water) and the EPA, and established prior to construction to ensure compliance with identified water quality objectives and enable potential impacts on surface and groundwater to be identified, controlled and reported. This would include targeted baseline monitoring of receiving waters and shallow groundwater prior to construction to identify baseline water quality conditions.	Soil and Water Management Sub-plan	Water Quality Monitoring Program
BI-3	A flora and fauna management plan would be prepared as part of the CEMP. Specific measures would be identified in consultation with relevant government agencies. The flora and fauna management plan would include the following:	Flora and Fauna Management Sub-plan	-
	Rehabilitation requirements, including identification of flora species and sources, and measures for the management and maintenance of rehabilitated areas (including for example a program of weed removal and monitoring).	Flora and Fauna Management Sub-plan	Weed Removal and Monitoring Program
	Auditing and monitoring of the plan	Flora and Fauna Management Sub-plan	Monitoring requirements for flora and fauna management
AB-2	The objectives and strategies of the plan would include the following: Heritage monitoring and auditing requirements.	Heritage Management Sub-plan	Monitoring requirements for heritage management
CM-4	Visual inspections and monitoring would be performed during excavation activities at medium risk AEIs to identify potential indicators of contamination. If suspected contamination is encountered, the materials would be subject to sampling and analysis to determine management requirements and suitability for reuse, recycling or remediation.	Contaminated Land Management Sub-plan	Visual inspections and monitoring requirements during excavation activities

CoA / REMMM	Description	Relevant Sub-Plan or CEMP Chapter	Reporting Requirements
AQ-1	<p>An air quality and dust management plan would be developed and implemented as part of the CEMP. This plan would identify triggers and procedures for dealing with significant dust generating activities, with the aim of minimising impacts on surrounding sensitive receivers. Air quality and dust management measures that would be identified in the CEMP would include:</p> <p>Install dust monitoring devices to quantify dust levels and determine whether control measures are adequate or whether further actions are required.</p>	Air Quality Management Sub-plan	Dust Monitoring
GG-7	<p>Regular monitoring, auditing and reporting on energy, resource use and associated greenhouse gas emissions would form as part of the environmental reporting requirements specified within the CEMP, and would be carried out.</p>	Waste and Resource Management Sub-plan	Regular monitoring requirements on energy, resource use and associated greenhouse gas emissions
HE-1	<p>The following mitigation and management measures would be implemented for Zone 2 – Locally significant historical archaeology:</p> <p>Archaeological monitoring would be carried out by a suitably qualified excavation director, followed by open area salvage (if required).</p>	Heritage Management Sub-plan	Archaeological Monitoring
HE-21	<p>In addition, archaeological monitoring of construction excavation activities would be carried out by a qualified archaeologist based on the archaeological research design to record any significant remains uncovered by excavation (in accordance with HE-3). Examples of where archaeological monitoring may be required include:</p> <p>Low impact construction activities (such as narrow trenching) in areas of moderate to high potential for local or State significant relics.</p> <p>Areas with low potential to contain remains of State significance.</p>	Heritage Management Sub-plan	Archaeological Monitoring

CoA / REMMM	Description	Relevant Sub-Plan or CEMP Chapter	Reporting Requirements
NV-2	<p>The CVNMP prepared for the project would include mitigation and management measures for the works with reference to the NSW Interim Construction Noise Guideline (ICNG) and Transport for NSW Construction Noise Strategy (CNS). Mitigation and management measures which would be considered include:</p> <p>Ongoing noise monitoring would be carried out during construction at sensitive receptors during critical periods to identify and assist in managing high risk noise events.</p>	Noise and Vibration Management Sub-plan	Noise and Vibration Monitoring Program
NV-3	<p>In the event of predicted exceedances of the noise goals, particularly during out-of-hours works, additional noise mitigation and management measures to be considered in the CNVMPs as described in the CNS. Additional mitigation and management measures would be determined on a site-specific basis and are dependent upon the level of predicted impact. Additional mitigation and management measures which would be considered include:</p> <p>Monitoring – Ongoing noise monitoring during construction at sensitive receptors during critical periods would be used to identify and assist in managing high risk noise events. Monitoring of noise would also be carried out in response to complaints. All noise monitoring would be carried out by an appropriately trained person in the measurement and assessment of construction noise and vibration, who is familiar with the requirements of the relevant standards and procedures.</p>	Noise and Vibration Management Sub-plan	Noise and Vibration Monitoring Program
NV-7	If vibration intensive works are required within the safe working distances, vibration monitoring or attended vibration trials must be carried out to ensure that levels remain below the cosmetic damage criterion.	Noise and Vibration Management Sub-plan	Noise and Vibration Monitoring Program

CoA / REMMM	Description	Relevant Sub-Plan or CEMP Chapter	Reporting Requirements
NV-8	Mitigation and management measures to address potential noise and vibration impacts to facilities within the Westmead Research Zone would be implemented during construction. Mitigation and management measures would be determined in consultation with the facility operator / owner and informed by the sensitivity of impacted spaces prior to the commencement of construction. The mitigation and management measures (in addition to those provided in NV-1 to NV-7) could include:	Noise and Vibration Management Sub-plan	Noise and Vibration Monitoring Program
	Unattended noise and vibration monitoring within the facilities to ensure noise and/or vibration levels are within acceptable levels.	Noise and Vibration Management Sub-plan	Noise and Vibration Monitoring Program
WM-2	The objectives and strategies of the waste and resource management plan would include the following: Monitoring and compliance requirements.	Waste and Resource Management Sub-plan	Monitoring requirements for waste and resource use.

3.8.4 Auditing

An Environmental Audit Schedule has been prepared for the Infrastructure Works (**Appendix A7**). Key elements of the program, including internal and external audits and the annual review process, are detailed in the sections below.

Internal audits

Following commencement of construction, internal audits will be undertaken in accordance with the audit schedule (**Appendix A7**) to assess compliance and determine the adequacy and effectiveness of the EMS. The audit schedule consists of the following categories of audits:

- **Compliance** – Compliance audits will focus on contractual obligations as defined in the Infrastructure Works Contract. In addition, waste audits will be undertaken to assess completeness of waste facility receipts.
- **System** – System audits will assess compliance with the documented EMS including the CEMP and Sub-plans. Audits will review the design and implementation of critical controls.
- **Sub-contractor** – Sub-contractor audits will assess compliance against environmental and sustainability specifications.

Audit protocols and checklists will be developed in response to the identified audit criteria. Audit criteria may include but not be limited to:

- CEMP and Sub-plans
- Environmental Legislation
- AS/NZS ISO 14001: Environmental Management System Standard – Requirements with guidance for use
- AS/NZS ISO 19011: Guidelines for Auditing Management Systems
- Standards, Codes of Practice and Guidelines (including TfNSW Guidelines).

Internal audits will be undertaken by suitably qualified personnel within CPBDJV. This may include JV team personnel or auditors from within CPB or Downer EDI.

Audit findings, including matters of non-compliance and observations, will be colour rated in accordance with **Table 3-11**. A corrective action plan will be developed in consultation with the workers involved in the audit and regularly monitored by the Environment and Sustainability Manager (or delegate) against agreed completion dates.

Table 3-11 Audit Finding Rating Definitions

Portion	Description
Green	Recommendations which could improve the efficiency and/or effectiveness of the system but which are not vital to achieving objectives. Green audit findings are generally matters of good practice that would achieve improved outcomes.
Yellow	A potential non-compliance or medium level weakness in the system which could place objectives at risk.
Orange	A significant weakness in the system or material non-compliance which will place objectives at risk.
Red	A fundamental impact preventing achievement of objectives. Significant non-compliance with statutory requirements.

Independent audits

Independent Environmental Audits will be undertaken by TfNSW in accordance with the Environmental Audit Program (PLR-TFNSW-PJT-EE-PRG-000001) and ISO 19011:2014 - Guidelines for Quality and/ or Environmental Management Systems Auditing. The scope of independent audits, as defined in CoA A42, is to:

- assess the environmental performance of the CSSI, and its effects on the surrounding environment
- assess whether the Infrastructure Works is complying with the terms of the approval
- recommend measures or actions to improve the environmental performance of the Infrastructure Works.

Audit will be conducted by a suitably qualified, experienced and independent auditor as nominated by TfNSW with, where required, a team of independent technical experts. Audit reports will be provided to the Planning Secretary for information within six weeks of audit completion. The submission must include a response to any recommendations contained in the audit report.

In addition to the TfNSW Environmental Audit Program (PLR-TFNSW-PJT-EE-PRG-000001), Road Safety Audits will be commissioned by the JV during the design and construction phase to identify any deficiencies and/or safety hazards and promote continual improvement.

A road safety audit is a formal examination of an existing or future road modification, in which an independent, qualified auditor, reports on the crash potential and safety performance. The audit team will include an independent auditor currently registered on the NSW Register of Road Safety Auditors.

Road Safety Audits are described further in the Traffic, Transport and Access Management Sub-plan.

Annual Review

The audit schedule will be reviewed annually to ensure the program remains relevant and focussed on significant risks and controls. Key inputs to the review include:

- Environmental risk register
- Findings of internal and external audits
- Incident investigations and corrective actions
- Stakeholder feedback.

3.8.5 Compliance tracking

A Compliance Tracking Program has been developed for the Infrastructure Works using TfNSW compliance monitoring system, INX. The Compliance Tracking Program (document number PLR-TFNSW-PJT-PE-PRG-000001) is available on the Parramatta Light Rail website (<http://www.parramattalightrail.nsw.gov.au>)

The requirements of the Compliance Tracking Program include:

- Provisions for submission to the ER for endorsement, following by submission to the Planning Secretary for information at least one month before the commencement of works (CoA A31) and at other intervals during the construction and operation, as identified in the Program
- Provisions for the notification of the Planning Secretary prior to the commencement of operation of the project (including prior to each stage, where works are being staged)
- Provisions for periodic review of project compliance with the CoA, REMMM and documents listed under condition C3
- A program for independent environmental auditing in accordance with ISO 19011:2014 - Guidelines for Quality and/ or Environmental Management Systems Auditing

- Mechanisms for reporting and recording incidents and actions taken in response to those incidents
- Provisions for reporting environmental incidents to the Planning Secretary during construction and operation
- Procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management
- Provisions for making each compliance report publicly available and notifying the Department in writing on completion (CoA A33).

The Compliance Tracking Program describes how the requirements of the CoA will be met and sets out a program and frequency for compliance reporting and independent auditing. Compliance tracking will be reported quarterly to TfNSW, and six monthly to the ER and DPIE. The compliance reporting required under the Compliance Tracking Program will record how the CoA and REMMM have been addressed. A summary of the required compliance reporting for the construction phase of the works, as required by CoA A34, and as tracked and monitored in the Compliance Tracking Program, is provided in **Appendix A1**.

Reflecting the requirements of CoA A30 and A32, the Compliance Tracking Program is aligned to the Staging Report and will be implemented for the duration of works and a minimum of one year following commencement of operation or for a longer period as determined by the Planning Secretary based on the outcomes of independent environmental audits, ER Monthly Reports and regular compliance reviews submitted through Compliance Reports.

3.8.6 Other reporting

Prior to, during and following construction, various reports will be prepared to fulfil contractual obligations and the requirements of the Planning Approval. **Table 3-10** sets out the reporting requirements applicable to the Infrastructure Works, timing of the reporting, the responsible person and the intended recipient(s).

Additional reporting may be necessary as the works progress. In such a circumstance, **Table 3-10** will be amended to reflect these changes.

Table 3-10 Reporting Requirements

No.	Report	Requirements	Timing	Responsibility	Recipient
CoA A23 (I)	Environmental Representative Reports	<ul style="list-style-type: none"> Construction activities carried out during the reporting period and proposed upcoming construction works where known ER activities undertaken during the reporting period including site inspections and audits Summary of community consultation undertaken by the proponent and complaints received Evaluation of environmental performance including any environmental incidents or non-compliances Analysis of lessons learnt and opportunities identified for improvement Changes to the project, including changes to CEMP, AFMPs, Sub-plans and to the approved project Meetings attended by the ER Summary of documentation issued by the ER Closing remarks. 	Within seven days following the end of the month	ER	CPBD JV, TfNSW
CoA A29	Noise and Vibration Report	<ul style="list-style-type: none"> Actions and decisions on matters for which the AA was responsible in the preceding month. 	Within seven days following the end of each month	AA	ER, TfNSW, DPIE

No.	Report	Requirements	Timing	Responsibility	Recipient
CoA A34	Pre-Construction Compliance Report	<ul style="list-style-type: none"> Assessment of compliance against the requirements of the Planning Approval that must be addressed before commencement of construction Construction commencement date. 	One month prior to commencement of construction.	Environment and Sustainability Manager	ER, TfNSW, DPIE
CoA A37	Construction Compliance Reports	<ul style="list-style-type: none"> Summary of results and analysis of environmental monitoring Number of complaints received, including a summary of main areas of complaint, action taken, response given and proposed strategies for reducing the recurrence of such complaints Details of any review of, and minor amendments made to, the CEMP as a result of construction carried out during the reporting period Register of any reviews of consistency undertaken including outcome Results of any independent environmental audits and details of any actions taken in response to the recommendations of an audit Summary of all incidents notified in accordance with CoA A44 and A46 Any other matter relating to compliance with the terms of the Planning Approval or as requested by the Planning Secretary. 	Every six (6) months from the date of the commencement of construction for the duration of construction.	Environment and Sustainability Manager	ER, TfNSW, DPIE

No.	Report	Requirements	Timing	Responsibility	Recipient
CoA A44	Notification of incident	<ul style="list-style-type: none"> Location and nature of the incident. 	As early as possible and within 24 hours of the incident	Environment and Sustainability Manager	ER, TfNSW
CoA A47	Notification of an Incident to the EPA under the POEO Act	<ul style="list-style-type: none"> Time, date, nature, duration and location of the incident Location of the place where pollution is occurring or is likely to occur Nature, estimated quantity or volume and the concentration of any pollutants involved, if known Circumstances in which the incident occurred (including the cause of the incident, if known) Action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known Other information prescribed by the regulations. 	Within 24 hours of notifying the Environment Protection Authority	Environment and Sustainability Manager	ER, TfNSW, DPIE, EPA
CoA C16	Construction Monitoring Programs	<ul style="list-style-type: none"> Water Quality (Turbidity) Monitoring Program 	Monthly	Environment and Sustainability Manager	Planning Secretary, ER, TfNSW, EPA, Relevant Councils.
		<ul style="list-style-type: none"> Noise and Vibration Monitoring 	Monthly	Environment and Sustainability Manager	Planning Secretary, ER, AA, TfNSW, EPA,

No.	Report	Requirements	Timing	Responsibility	Recipient
					Relevant Councils.
		<ul style="list-style-type: none"> Grey-headed flying fox Monitoring 	Monthly	TfNSW	OEH and the Planning Secretary
Deed, Exhibit A - Annexure 13	Monthly Progress Report, environment section	<ul style="list-style-type: none"> Report on the progress of environmental performance with the CEMP including monthly summary of results of each environmental inspection and monitoring program and the progress of tree removal, relocation and pruning. 	Monthly	Environment and Sustainability Manager	TfNSW IC
Deed, Exhibit A - Annexure 13	Quarterly Environment Reports	<ul style="list-style-type: none"> Details of the Tree Protection Plans in place during the reporting period, including summaries of monthly monitoring of tree protection measures An updated Tree Register and progress of tree removals, relocations and pruning activities Update on the progress of the tree plantings as required under the landscape designs Compliance reporting against the CEMP. 	Quarterly, within seven Business Days after the relevant quarter end	Environment and Sustainability Manager	TfNSW IC
Deed, Exhibit A - Annexure 13	Annual Environment Report	<ul style="list-style-type: none"> Annual summary of CEMP inspection and monitoring programs including interpretation of results against performance targets. 	Annually, within ten Business Days after the end of the relevant calendar year.	Environment and Sustainability Manager	TfNSW IC

3.9 Not used

3.10 Records of environmental activities

3.10.1 Environmental records

The Environment and Sustainability Manager is responsible for maintaining all environmental management documents and records as current at the point of use. Relevant documents and records include:

- Details of qualifications of personnel
- Environmental Design Review Report
- Monitoring and inspection reports (including monitoring of subcontractors and subcontractors monitoring of their own activities)
- Induction and training records
- Reports and registers of environmental issues, incidents, complaints, non-compliances, near misses and action taken to rectify
- Preventive and corrective action reports and register
- Internal and external audit reports
- Evidence of action taken because of recommendations from audit meetings
- Risk management records
- Completed forms and templates required under relevant Codes, Standards and guidelines
- Index of all environmental records (prior to completion)
- ECMs
- Records of environmental management reviews
- Tree Planting Register and Tree Protection Plan
- Register of equipment used for environmental monitoring, equipment calibration frequency and certificates
- Surveillance and audits of subcontractors' environmental performance and controls
- Correspondence with public authorities
- Community engagement information
- Minutes of CEMP and construction environmental management system review meetings and evidence of any action taken
- CEMP and Sub Plans.

All environmental management documents are subject to ongoing review to capture continual improvement opportunities and reflect changes in the internal and external environment.

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

All environmental records must be forwarded to the Principal's Representative within 3 business days of a request and the JV will make all records available to the Principal via the Principal's Document Control System (TeamBinder).

3.10.2 Document control

The JV, or TfNSW where relevant, will coordinate the preparation, review and distribution, as appropriate, of the environmental documents and records listed above. During the Infrastructure Works, the environmental documents and records will be stored at the main site compound. All environmental records will be retained for a period of no less than 5 years from the last Date of Portion Completion.

One controlled hard copy of the CEMP and relevant Sub-plans will be maintained by the Quality Manager at the main office and on the PLR website.

The JV Environment and Sustainability Policy is displayed on the Parramatta Light Rail Stage 1 website and at the site office. The Policy is communicated to staff and other interested parties via inductions and ongoing awareness programs.

The JV will implement a document control procedure to control the flow of documents within and between TfNSW, 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
- Archived.

A register and distribution list will identify the current revision of documents, records or data. The Document Register is maintained in **Appendix A4**.

3.11 Management review

Table 3-11 outlines the processes and procedures that will be implemented to monitor and review environmental performance and compliance with environmental requirements.

Table 3-11 Management Review Processes

Meeting	Purpose	Frequency	Attendees
Senior Leadership Team Meeting	To discuss upcoming risks, review performance and assess the adequacy resources.	Weekly	The JV Senior Leadership Team
Environment Team Meeting	To discuss upcoming activities, resourcing, and review effectiveness of controls and processes.	Weekly	Environment and Sustainability Team
Environment, Planning and Sustainability Meetings	Review of status and progress of key environmental deliverables, review upcoming activities, plan site inspections and audits, review incidents and complaints and nonconformity.	Fortnightly	Environment and Sustainability Manager, TfNSW Environment and Planning Manager and ER
Post Environmental Incident Meeting	To discuss the causes leading to an incident, possible failure in systems or procedures and rectification process.	As required	Environment and Sustainability Team, Construction Director and subject matter experts as required
CEMP Annual Review	To review the effectiveness of the CEMP and revise, if necessary, in accordance with changes to the Infrastructure Works. To review the adequacy and effectiveness of the audit schedule and monitoring programs, including monitoring results.	Every 12 months	Environment and Sustainability Team, Construction Director and subject matter experts as required

3.12 CEMP/Sub Plan revision and scope changes

3.12.1 CEMP revision

Continuous improvement of this CEMP and Sub-Plans will be achieved through the ongoing evaluation of performance against environmental policies, objectives and targets.

A review of relevant plans will be undertaken annually (at minimum) and within three months of the following events:

- Reportable environmental incidents
- Identification of new risks, including risks identified during risk register updates
- Non-compliances
- Environmental audit findings
- Material project changes (including modifications)
- Legislative changes
- As part of a continuous improvement process.

Where one or more of the above events present a risk of material harm, relevant plans will be revised within one month.

Any minor amendments to the CEMP and Sub-plans may be approved by the ER in accordance with CoA C8. What constitutes a “minor” amendment is subject to the discretion of the ER, but could include changes that:

- Are editorial in nature
- Do not increase the type or magnitude of impact on the environment when considered individually or cumulatively
- Do not compromise the ability of the JV to meet approval or legislative requirements.

In accordance with CoA A37, details of any review of, and minor amendments made to, the CEMP and Sub-plans will be detailed in the Construction Compliance Report.

Changes to the CEMP and Sub-plans that are not defined as minor will require the approval of the Secretary of DPIE.

A copy of the updated Plan and changes will be distributed to all relevant stakeholders, including TfNSW, ER and the DPIE. In accordance with CoA C8, the revised CEMP and Sub-plans must be submitted to or approved by the Planning Secretary.

3.12.2 Scope changes

Refinements to the scope of works may result from detailed design refinements or changed circumstances throughout construction. Any design changes or changes in scope of works must be communicated to the Environment and Sustainability Manager. The Environment and Sustainability Manager or nominated delegate will then prepare a consistency assessment in consultation with the TfNSW Senior Manager Planning to determine if a modification may be required to the Planning Approval.

Should the consistency assessment determine that a modification is required i.e. the impacts are of a nature and scale that it is not considered consistent with the Planning Approval, the ER will be informed and a modification application prepared under Section 5.25 of the EP&A Act 1979. The application must include all necessary reports/studies and be lodged by TfNSW to the Planning Secretary for determination.

The JV may also request from TfNSW to undertake works outlined under the flexibility provisions listed in Appendix A of the CSSI Approval. These represent minor logistical changes to the approved scope of works. To facilitate the acceptance of these works, the JV will provide all documentation and supporting information reasonably requested by TfNSW at least 10 business days prior to the proposed application of the flexibility provisions. Where agreed to by TfNSW, the JV will seek endorsement of the ER (as required) for use of the flexibility provisions.

Where changes in scope are proposed, including the application of the flexibility provisions, the Environment and Sustainability Manager will determine whether amendments are required to the CEMP or Sub-plans. Any changes to the CEMP or Sub-plans will occur in accordance with the process defined in **Section 3.11.1**.

4 Construction control

A number of environmental management Sub-plans have been prepared in response to significant environmental risks. These documents describe procedures and controls for specific environmental aspects requiring more rigorous management strategies. A list of environmental management Sub-plans and strategies for the Infrastructure Works, and their approval requirements, are provided in **Table 2-1**.

Where a separate sub-plan is not required, information regarding environmental management and control of specific areas is outlined in the below sections.

4.1 Fire safety and burning off

The following fire-fighting equipment is provided on-site and in vehicles to ensure the safety of public and property:

- Portable fire extinguishers within light vehicles
- Fire extinguishers within crib sheds, site offices and mobile work stations (routinely inspected and tagged).

Total fire ban declarations and resultant work restrictions will be communicated to staff during toolbox talks and pre-starts. During total fire bans, the following items of plant that have the potential to discharge sparks, are fitted with spark arresters:

- Excavators
- Bulldozers.

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. These activities will be required to have a hot-works permit to undertake high fire risk activities during a total fire ban.

5 Cumulative impacts

When considered in isolation, the environmental and community impacts of an individual project or stage of project may not be significant; however, when combined with the effects of other developments, the resultant cumulative effects can potentially result in a greater extent, magnitude or duration of impacts. Identifying potential cumulative impacts assists in developing appropriate management measures and provides a basis for coordinated regional planning and environmental monitoring.

Coordination and consultation with the Sydney Coordination Office and the following stakeholders will occur, as required and in accordance with relevant third party agreements, to coordinate interfacing projects:

- Department of Planning, Industry and Environment (through TfNSW)
- Other TfNSW agencies (including Roads and Maritime Services; Sydney Trains and Sydney Buses)
- Sydney Water
- City of Parramatta Council
- UrbanGrowth NSW Development Corporation
- Western Sydney University
- NSW Health (and its construction contractors)
- Land and Housing Corporation
- Emergency service providers
- Utility providers
- Construction contractors
- Other stakeholders as required, as advised by Tf NSW.

Coordination and consultation with these stakeholders will include:

- Review of current and upcoming development applications and precinct master plans
- Provision of regular updates to the detailed construction program, construction sites and haul routes at scheduled interface meetings
- Identification of key potential conflict points with other construction projects and PLR packages
- Developing mitigation strategies in order to manage cumulative impacts of the Parramatta Light Rail and other interfacing projects. Depending on the nature of the conflict, this could involve:
 - Adjustments to the Parramatta Light Rail (Stage 1) construction program, work activities or haul routes; or adjustments to the program, activities or haul routes of other construction projects
 - Coordination of traffic management arrangements between projects or work zones
 - Coordination of noise generating activities and respite, such as out of hours works and HNIW.

The level of coordination required to manage cumulative impacts will be dependent on the level of concurrent works within each precinct. When concurrent works are occurring within a precinct, such as for other packages of the Parramatta Light Rail project (see Section 1.2.3 for more details), regular meetings will be undertaken to develop coordinated community notifications, share out of hours works schedules and share information on stakeholder preferences.

Regular Project Interface Meetings will be established which will be attended by TfNSW and PLR Contractors (including the JV) which are required to be undertaken in a frank and co-operative manner. Interface issues will be managed through:

- Closely cooperating with other PLR Contractors and utility providers in relation to community and stakeholder liaison issues

- Using best endeavours to resolve any problems, and working closely and iteratively, with the other Contractor and the TfNSW to achieve a solution to any interface issues.

TfNSW (as proponent), the ER, IA and AA will provide oversight over all Parramatta Light Rail works packages and will assist in identifying periods of concurrent works, overlapping working areas and opportunities for information sharing to achieve compliance with the Planning Approval.

Further details of the management of cumulative impacts across the Parramatta Light Rail program, including TfNSW's approach is provided in PLR Project Wide Staging Report (Section 2.9) and the PLR Project Wide Out of Hours Works (OOHW) Protocol.

Appendix A1 Legal Requirements and Compliance Tracking

Appendix A1

Legal Requirements and Compliance Tracking

Transport for NSW
Infrastructure Package

Parramatta Light Rail – Stage 1

February 2020

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Table A1-1: Legal Requirements Register

Instrument	Activity/Aspect	Requirement	Reference	Relevant to the Project
<i>Environmental Planning and Assessment Act 1979</i>	All	Comply with the terms Minister for Planning and Infrastructure's approval for the project. Obtain the Minister's approval for any project modifications that are not consistent with the planning approval.	S5.25	The terms of the Project Approval have been reflected in the CEMP and Sub-plans together with details on how the requirements will be implemented. A process has been established within the CEMP (Section 3.12.2) to seek relevant approvals for project modifications.
<i>Protection of the Environment Operations Act 1997 (POEO Act)</i>	All	<p>The PLR Stage 1 Infrastructure Works qualify as a Scheduled Activity 'Railway Activities – railway infrastructure construction' pursuant to the Schedule 1 of the POEO Act.</p> <p>The POEO Act also provides requirements of the classification and disposal of waste relevant to the Project.</p>	Part 3.2 and Schedule 1 Division 3 Waste Offences	<p>Prior to the commencement of the scheduled activities, the JV were issued Environmental Protection License (EPL) 21347 on the 3 January 2020.</p> <p>The EPL includes conditions relating to pollution of waters, discharge concentration limits, noise limits, hours of operation, operating conditions, monitoring and recording, reporting and general conditions.</p>
<i>Environmentally Hazardous Chemicals Act 1985</i>	All	The manufacture, processing, storage, distribution, conveyance, use, sale or disposal of an environmental hazardous chemical or waste (prescribed activity) is prohibited except under the provisions of a chemical control or a licence.	--	The Project is not proposing to manufacture, process, store, distribute, convey, use, sell or dispose of environmentally hazardous chemicals or waste.

Instrument	Activity/Aspect	Requirement	Reference	Relevant to the Project
<p><i>Water Management Act 2000</i></p> <p>With the exception of controlled activity approvals, the Water Management Act 2000 (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.</p>	Water access and use.	<p>Do not 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, including coastal waters) without an access licence.</p> <p>Do not use water on land (unless supplied by a water utility, irrigation corporation or in accordance with basic landholder rights) without a water use approval.</p>	S56 S60A S89 S91A	The Project is not proposing to take water from a lake, river or estuary or place where water occurs naturally on or below the surface of the ground, including coastal waters. The Project is not proposing to use water on land (unless supplied by a water utility, irrigation corporation or in accordance with basic landholder rights).
<i>Water Management Act 2000</i>	Water management works	Do not construct/use a water supply work, drainage work or flood work without the appropriate approval.	S90 S91B S91C S91D	The Project is not proposing to construct/use a water supply work, drainage work or flood work.
<i>Water Management Act 2000</i>	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	Public authorities are exempt from the need to obtain a controlled activity approval (Water Management (General) Regulation 2004)
<p><i>Water Act 1912</i></p> <p>Note that this Act is being progressively repealed by the Water Management Act 2000 (WM Act).</p> <p>With the exception of</p>	Surface water	Obtain a licence or permit for construction or use of 'work' for purposes including the taking and using of water.	S21B	The Project is not proposing to take or use water.
	Groundwater	Obtain a licence where interference with groundwater is likely to occur.	S112 S121A	S112 does not apply to the Crown. TfNSW is therefore not required to obtain a licence under this provision.

Instrument	Activity/Aspect	Requirement	Reference	Relevant to the Project
controlled activity approvals, the 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.	Floodplains	Obtain an approval for controlled works. These include works which occur on a designated floodplain, which can prevent land from being flooded or which can affect water flow to or from a river or lake.	S180	An exemption applies in accordance with Section 5.23 (1)(g) of the EP&A Act.
<i>Roads Act 1993</i>	Road works	Obtain the consent of the appropriate roads authority for the erection of a structure, or the carrying out of a work in, on or over a public road, or the digging up or disturbance of the surface of a public road. If the applicant is a public authority, the roads authority must consult with the applicant before deciding whether or not to grant consent or concurrence.	S138	Road occupancy permits will be sought in accordance with the Traffic, Transport and Access Management Sub-plan
<i>Rural Fires Act 1997</i>	Hot works	Hot works are not permitted to be undertaken on Total Fire Ban days unless a suitable exemption is sought and obtained.	Section 99	An exemption to allow hot works to be undertaken on Total Fire Ban days as detailed under the <i>Rural Fires Act 1997</i> will be sought.

Instrument	Activity/Aspect	Requirement	Reference	Relevant to the Project
<i>Contaminated Land Management Act 1997</i>	Excavation works	<p>Provides a regime for investigating and, where appropriate, remediating land affected by contamination, which represents a significant risk of harm to human health or the environment.</p> <p>Under this act, the EPA has the power to:</p> <ul style="list-style-type: none"> • Declare an investigation site and order an investigation • Declare a remediation site and order remediation to take place • Agree to a voluntary proposal to investigate or remediate a site. 	--	Areas of Environmental Interest have been identified for the Project as part of the EIS. The process by which medium and high risk sites will be investigated and, if necessary, remediated, is detailed in the Contaminated Land Management Sub-plan.
<i>Fisheries Management Act 1994</i>	Works in waterways	The relevant objectives of this Act are to conserve threatened species, populations and ecological communities and promote sustainable development.	--	Assessed under Part 5.1 (now Division 5.2) of EP&A Act and therefore permits are not required. Note that dredging or removal of marine vegetation is not part of the scope of works.
<i>Heritage Act 1977</i>	Heritage works / excavation	Approval must be gained from the Heritage Council when making changes to a heritage place listed on the State Heritage Register, or when excavating any land in NSW where you might disturb an archaeological relic.	--	Assessed under Part 5.1 (now Division 5.2) of EP&A Act and therefore permits are not required.
<i>National Parks and Wildlife Act 1974</i>	Heritage works / excavation	Aboriginal Heritage sites are managed under this Act by the Office of Environment and Heritage (OEH). Unexpected finds of heritage require stop work proceedings and approval sought from the OEH to disturb site.	--	Assessed under Part 5.1 (now Division 5.2) of EP&A Act therefore permits not required.

Instrument	Activity/Aspect	Requirement	Reference	Relevant to the Project
<i>National Greenhouse and Energy Reporting (NGER) Act 2007 (Cth)</i>	Construction	<p>This Act provides data and accounting in relation to greenhouse gas emissions and energy consumption and production and:</p> <ul style="list-style-type: none"> • Underpin the carbon price mechanism • Inform policy-making and the Australian public • Meet Australia's international reporting obligations and provide a single national reporting framework for energy and emissions reporting. 	--	CPBD JV will undertake reporting of the greenhouse gas emission and energy production and consumption under the NGER Act, inclusive of 'material' subcontractors.
<i>Native Vegetation Act 2003</i>	Clearing and grubbing works	For the purposes of the EP&A Act, the Minister for Planning and Infrastructure is the consent authority for any development application made under that Act for any clearing of native vegetation that requires development consent because of this Act.	--	Assessed under Part 5.1 (now Division 5.2) of EP&A Act and approval from Minister of Planning received.
<i>Noxious Weeds Act 1993</i> (Now repealed by the Biosecurity Act but is still referenced due to the timing of the Projects' EIS)	Clearing and grubbing works	Noxious weeds are to be managed in a way to restrict their dispersal and establishment.	--	Noxious weeds will be disposed of and managed in accordance with assigned control categories under this Act. Relevant management and mitigation measures are detailed in the Flora and Fauna Management Sub-plan.
<i>Pesticides Act 1999</i>	Clearing and grubbing works	This Act promotes the protection of human health, environment, property and trade in relation to the use of pesticides.	--	Pesticides may be used in the eradication of weeds as described in the Flora and Fauna Management Sub-plan.

Instrument	Activity/Aspect	Requirement	Reference	Relevant to the Project
<i>Protection of the Environment Administration Act 1991</i>	Construction	Outlines principles of Ecologically Sustainable Development.	--	The Project and all associated activities will be consistent with the principles of Ecologically Sustainable Development (refer to the Delivery Phase Sustainability Management Plan).
<i>Sydney Water Act 1994</i>	Dewatering	Approval to discharge wastewater to sewer and trade Waste Agreement.	--	Ancillary facilities will not discharge directly to sewer. Details on ancillary facility services are provided in the Site Establishment Management Plan.
<i>Threatened Species Conservation Act 1995</i> (Now repealed by the <i>Biodiversity Act 2017</i> but is still referenced due to the timing of the Projects' EIS)	Construction	The Act requires any threatened plant or animal species, populations or ecological communities associated with a proposed development to be identified and that acceptable recovery and management strategies are implemented if a likely significant impact would occur. Under Part 7A of the TSC Act, the Minister may enter into a Bio-banking Agreement with a landowner.	--	The Project will be managed to avoid impacts on threatened species and endangered ecological communities, as necessary. Relevant controls are detailed in the Flora and Fauna Management Sub-plan/ Responsibility for biodiversity offsetting is held by TfNSW.
<i>Waste Avoidance and Resource Recovery Act 2001</i>	Waste Management	Establishes the waste hierarchy. Promotes waste avoidance and resource recovery by developing waste avoidance and resource recovery strategies	--	The Waste and Resource Management Sub-plan details processes and controls to adhere to the waste hierarchy.

Instrument	Activity/Aspect	Requirement	Reference	Relevant to the Project
<i>Water Management Act 2000</i>	Construction	The objective of this Act is to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations.	--	<p>The Project is assessed under Part 5.1 (now Division 5.2) of the EP&A Act and as such approvals are not required under Section 89 for water use, or Section 90 for water management work</p> <p>In addition, activities generally requiring permits under the Water Management Act are exempt from aquifer interference approval under Section 91.</p>
<i>NSW Code of Practice for Authorised Network Operators (the Code)</i>	Construction	The Code is approved under clause 244K of the Environmental Planning and Assessment Regulation 2000 and enables Authorised Network Operators to assess the impacts of activities under Part 5 of the EP&A Act.	Section 1.2	The Project is assessed under Part 5.1 (now Division 5.2) of the EP&A Act and therefore the Project, or parts thereof, cannot be self-determined by an Authorised Network Operator. As such, the requirements of the NSW Code of Practice for Authorised Network Operators do not apply to the Infrastructure Works.

Notes:

The responsibilities of the former Minister for Planning and Infrastructure are now administered by the Minister for Planning and Public Spaces.

The responsibilities of the former Department of Environment and Planning are now administered by the Department of Planning, Industry and Environment.

Under Section 5.23 of the EP&A Act the following authorisations are not required for approved State Significant Infrastructure (and accordingly the provisions of any Act that prohibit an activity without such an authority do not apply):

- a) the concurrence under Part 3 of the *Coastal Protection Act 1979* of the Minister administering that Part of that Act
- b) a permit under section 201, 205 or 219 of the *Fisheries Management Act 1994*
- c) an approval under Part 4, or an excavation permit under section 139, of the *Heritage Act 1977*
- d) an Aboriginal heritage impact permit under section 90 of the *National Parks and Wildlife Act 1974*
- e) an authorisation referred to in section 12 of the *Native Vegetation Act 2003* (or under any Act repealed by that Act) to clear native vegetation or State protected land

- f) a bush fire safety authority under section 100B of the *Rural Fires Act 1997*
- g) a water use approval under section 89, a water management work approval under section 90 or an activity approval (other than an aquifer interference approval) under section 91 of the *Water Management Act 2000*.

In addition, Division 8 of Part 6 of the *Heritage Act 1977* does not apply to prevent or interfere with the carrying out of approved State Significant Infrastructure and the following directions, orders or notices cannot be made or given so as to prevent or interfere with the carrying out of approved critical State Significant Infrastructure:

- a) an interim protection order (within the meaning of the *National Parks and Wildlife Act 1974* or the *Threatened Species Conservation Act 1995*)
- b) an order under Division 1 (Stop work orders) of Part 6A of the *National Parks and Wildlife Act 1974*, Division 1 (Stop work orders) of Part 7 of the *Threatened Species Conservation Act 1995* or Division 7 (Stop work orders) of Part 7A of the *Fisheries Management Act 1994*
- c) a remediation direction under Division 3 (Remediation directions) of Part 6A of the *National Parks and Wildlife Act 1974*
- d) an environment protection notice under Chapter 4 of the *Protection of the Environment Operations Act 1997*
- e) an order under section 124 of the *Local Government Act 1993*.

As an alternative, the above potential aspects and impacts are deemed to be addressed under the Project Approval.

In addition, Division 8 of Part 6 of the *Heritage Act 1977* does not apply to prevent or interfere with the carrying out of approved State Significant Infrastructure and the following directions, orders or notices cannot be made or given so as to prevent or interfere with the carrying out of approved critical State Significant Infrastructure:

- a) an interim protection order (within the meaning of the *National Parks and Wildlife Act 1974* or the *Threatened Species Conservation Act 1995*)
- b) an order under Division 1 (Stop work orders) of Part 6A of the *National Parks and Wildlife Act 1974*, Division 1 (Stop work orders) of Part 7 of the *Threatened Species Conservation Act 1995* or Division 7 (Stop work orders) of Part 7A of the *Fisheries Management Act 1994*
- c) a remediation direction under Division 3 (Remediation directions) of Part 6A of the *National Parks and Wildlife Act 1974*
- d) an environment protection notice under Chapter 4 of the *Protection of the Environment Operations Act 1997*
- e) an order under section 124 of the *Local Government Act 1993*.

Similar to the *Heritage Act* provisions, these potential aspects and impacts are deemed to be addressed under the PLR Project Approval.

Table A1-2: Conditions of Approval relevant to the CEMP

CoA ID	Requirement	Reference	How Addressed
A1	<p>The CSSI must be carried out in accordance with the terms of this approval and generally in accordance with the description of the CSSI in the Parramatta Light Rail (Stage 1) Westmead to Carlingford via Parramatta CBD and Camellia Environmental Impact Statement (dated August 2017) (the EIS) as amended by:</p> <ul style="list-style-type: none">(a) the Parramatta Light Rail (Stage 1) Westmead to Carlingford via Parramatta CBD and Camellia Submissions Report (incorporating Preferred Infrastructure Report) (February 2018) (the SPIR);(b) SSI 8285 Administrative modification (November 2018) (MOD 1); and(c) SSI 8285 Correction to Administrative modification (January 2019) (MOD 2).	This Plan	<p>This CEMP is the overarching document in the environmental management system for the Project and includes a number of management documents, including sub-plans and procedures. It is applicable to all staff and Subcontractors associated with the construction of the Project.</p> <p>The CEMP provides a framework for ensuring compliance with the requirements of the CoA (including approved Modifications 1 and 2), REMMMs, relevant legislative requirements and the Deed.</p>
A2	<p>The CSSI must be carried out in accordance with all procedures, commitments, preventative actions, performance criteria and mitigation measures set out in the EIS as amended by the Submissions Report (incorporating Preferred Infrastructure Report) unless otherwise specified in, or required under, this approval.</p>	This Plan	<p>This CEMP is the overarching document in the environmental management system for the Project and includes a number of management documents, including sub-plans and procedures. It is applicable to all staff and Subcontractors associated with the construction of the Project.</p> <p>The CEMP provides a framework for ensuring compliance with the requirements of the CoA (including approved Modifications 1 and 2), REMMMs, relevant legislative requirements and the Deed.</p>

CoA ID	Requirement	Reference	How Addressed
A3	<p>In the event of an inconsistency between the EIS and the Submissions Report (incorporating Preferred Infrastructure Report) or any other document required under this approval, and a term of this approval, the term of this approval prevails to the extent of the inconsistency.</p> <p>Note: For the purpose of this condition, there will be an inconsistency between a term of this approval and any document if it is not possible to comply with both the term and the document.</p>	<p>This Plan</p> <p>Appendix A1</p>	<p>Condition noted.</p> <p>In the event that an inconsistency is identify, clarification will be sought from the ER or the DPIE, if required.</p>
A4	The Proponent must comply with all written requirements or directions of the Secretary, including in relation to:	Appendix A1	Condition noted.
(a)	the environmental performance of the CSSI;	Appendix A1	<p>Condition noted.</p> <p>In the event that a written requirement or direction is received from the Planning Secretary, relevant information and/or records will be provided to TfNSW for submission.</p>
(b)	any document or correspondence in relation to the CSSI;	Appendix A1	<p>Condition noted.</p> <p>In the event that a written requirement or direction is received from the Planning Secretary, relevant information and/or records will be provided to TfNSW for submission.</p>
(c)	any notification given to the Secretary under the terms of this approval;	Appendix A1	<p>Condition noted.</p> <p>In the event that a written requirement or direction is received from the Planning Secretary, relevant information and/or records will be provided to TfNSW for submission.</p>

CoA ID	Requirement	Reference	How Addressed
(d)	any audit of the construction or operation of the CSSI;	Appendix A1	Condition noted. In the event that a written requirement or direction is received from the Planning Secretary, relevant information and/or records will be provided to TfNSW for submission.
(e)	the terms of this approval and compliance with the terms of this approval (including anything required to be done under this approval); and	Appendix A1	Condition noted. In the event that a written requirement or direction is received from the Planning Secretary, relevant information and/or records will be provided to TfNSW for submission.
(f)	the carrying out of any additional monitoring or mitigation measures.	Appendix A1	Condition noted. In the event that a written requirement or direction is received from the Planning Secretary, relevant information and/or records will be provided to TfNSW for submission.
A5	Where the terms of this approval require a document or monitoring program to be prepared or a review to be undertaken in consultation with identified parties, evidence of the consultation undertaken must be submitted to the Secretary with the document or monitoring program or review. The evidence must include:	Appendix A6	The terms of this approval require the CEMP to be prepared in consultation with the ER. Consultation will be undertaken in accordance with the requirements of this condition and documented in Appendix A6 of this Plan.
(a)	documentation of the engagement with the party(ies) identified in the relevant condition of approval before submitting the document for approval;	Table 2-1	The agency consultation requirements for the CEMP and each sub plan are outlined in Table 2-1 of the CEMP. Evidence of engagement (or attempted engagement) with the identified parties will be provided as an Appendix to the relevant Sub-plan.

CoA ID	Requirement	Reference	How Addressed
(b)	log of the points of engagement or attempted engagement with the identified party(ies) and a summary of the issues raised by the identified party(ies);	Section 2.1	The JV will provide a copy of the relevant document to the external stakeholder and if required arrange to meet with the stakeholder to review the document. Upon receipt of any comments from external stakeholders, the JV will either amend the document to reflect the comments or document the justification as to why no change is required. Evidence of consultation will be retained and included in an Appendix to the relevant Sub-plan.
(c)	documentation of any follow-up with the identified party(ies), where feedback has not been provided, to confirm that the identified party(ies) has none or has failed to provide feedback after repeated requests;	Section 2.1	If no feedback or comments have been received following repeated attempts and reminders, after a period of time (as agreed with TfNSW and/ or the ER), the evidence of requested feedback will be submitted along with the log of attempted contact with the stakeholder agency and a “no response” entry against the stakeholder will be included in the relevant plan.
(d)	outline of the issues raised by the identified party(ies) and how they have been addressed, including evidence that the party(ies) is satisfied the issues have been addressed; and	This Plan	Upon receipt of any comments from external stakeholders, the JV will either amend the document to reflect the comments or document the justification as to why no change is required, in liaison with TfNSW and/or the ER. Evidence of consultation will be retained and included in an Appendix to the relevant Sub-plan.
(e)	where there are outstanding issues raised by the identified party(ies) that have not been adopted, the reasons why they have not been/could not be adopted must be provided, including evidence of consultation with the relevant party(ies).	This Plan	Upon receipt of any comments from external stakeholders, the JV will either amend the document to reflect the comments or document the justification as to why no change is required, in liaison with TfNSW and/or the ER. This justification will be shared with the relevant stakeholder and discussed further, if required. Evidence of consultation and any justification will be retained and included in an Appendix to the relevant Sub-plan.
A6	This approval lapses five (5) years after the date on which it is granted, unless works for the purpose of the CSSI are physically commenced on or before that date.	Section 1.2.3	Physical work on this project has commenced and as such, this condition will not be activated. This requirement is reflected in Section 1.2.3.

CoA ID	Requirement	Reference	How Addressed
A7	References in the terms of this approval to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this approval, unless otherwise agreed with the Secretary.	Appendix A1	Condition noted. A register of legal and other requirements for the Project is contained in this Appendix. References to any guideline, protocol, Australian Standard or policy of this approval is in the form they were in as at the date of the CSSI approval, unless otherwise agreed with the Planning Secretary.
A8	In the event that there are differing interpretations of the terms of this approval, including in relation to a condition of this approval, the Secretary's interpretation is final.	This Plan	Condition noted. If there are any differing interpretations regarding the terms of the approval, TfNSW and/ or the ER will liaise with the Planning Secretary and advise the JV on the appropriate interpretation and resolution.
A9	Where a condition of this approval requires the Proponent to submit a document or notification to the Secretary or obtain an approval from the Secretary within a specified time period, the Proponent may make a written request to the Secretary seeking an alternative timeframe. Any request must be made at least one (1) month before the submission timeframe stipulated in the condition of approval relating to the variation request. This condition does not apply to the immediate notification required in respect of an incident under Condition A44 .	This Plan	Condition noted. Where a document requires the specific approval of the Planning Secretary of the DPIE, the JV will submit the document and cover letter to TfNSW and request that TfNSW submit the document to the DPIE for approval. The JV may request an alternative approval timeframe and if so, JV will submit the alternative approval timeframe request and justification to TfNSW and request that TfNSW submit the document to the DPIE for consideration. Any request will be made at least one (1) month before the submission timeframe stipulated in the condition of approval relating to the variation request.
A10	Where the terms of approval provide the Secretary the discretion to alter the requirements of the approval, the Proponent must provide supporting evidence so that the Secretary can consider the need, environmental impacts and consistency of any request. Note: Inaction and/or expedience will not be supported as justifications for need unless it can be demonstrated that there is beneficial environmental impact for the project and the affected environment.	This Plan	Condition noted. In the event that the requirements of the approval require alteration, the JV will prepare suitable supporting evidence and submit to TfNSW and the ER for consideration. Subject to review, the ER will make a written statement of endorsement and TfNSW will submit such documents to the Planning Secretary for approval.

CoA ID	Requirement	Reference	How Addressed
A11	Without limitation, all strategies, plans, programs, reviews, audits, report recommendations, protocols and the like required by the terms of this approval must be implemented by the Proponent in accordance with all requirements issued by the Secretary from time to time in respect of them.	Appendix A1	This CEMP and Sub-plans have been prepared to outline and describe how the JV will comply with the environmental requirements, including the CoA and REMMMs. Implementation of the CEMP and Sub-plans will be demonstrated through relevant records, inspections and monitoring.
A12	The Proponent may undertake the flexibility provisions outlined in Appendix A. Flexibility provisions in Table 5.1 of the EIS do not apply.	Section 3.12.2	The JV may request from TfNSW to undertake works outlined under the flexibility provisions. If so, the JV will provide all documents, information, assistance and co-operation reasonably requested by TfNSW, DPIE and/or the ER at least 10 business days prior to the proposed application of the flexibility provisions.
A19	Works must not commence until an ER has been approved by the Secretary and engaged by the Proponent.	Section 3.2.2	The JV have been advised that an ER has been engaged by TfNSW and has been approved by DPIE.
A23	For the duration of the works until after the commencement of operation, or as agreed with the Secretary, the approved ER must:	-	-
(a)	receive and respond to communication from the Secretary in relation to the environmental performance of the CSSI;	Section 3.2.2	<p>The ER is to independently oversee compliance with the Project Approval and act as the principle point of advice in relation to environmental performance.</p> <p>The ER will receive and respond to communication from the Planning Secretary. This requirement is outlined in Section 3.2.2 (Table 3-6).</p>
(b)	consider and inform the Secretary on matters specified in the terms of this approval;	Section 3.2.2	<p>The ER is to independently oversee compliance with the Project Approval and act as the principle point of advice in relation to environmental performance.</p> <p>The ER will consider and inform the Planning Secretary on matters specified in the MCoA. This requirement is outlined in Section 3.2.2 (Table 3-6).</p>

CoA ID	Requirement	Reference	How Addressed
(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 the community;	Section 3.2.2	<p>The ER is to independently oversee compliance with the Project Approval and act as the principle point of advice in relation to environmental performance.</p> <p>The ER will consider and recommend improvements to work practices to reduce and avoid impact to the environment and or community. This requirement is outlined in Section 3.2.2 (Table 3-6).</p>
(d)	<p>review documents identified in Table 2 and any other documents that are identified by the Secretary, for consistency, in the opinion of the ER, 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 for information or are not required to be submitted to the Secretary); 	Section 3.2.2	<p>The ER is to independently oversee compliance with the Project Approval and act as the principle point of advice in relation to environmental performance.</p> <p>The ER will review all prepared documentation to ensure compliance with the outlined requirements. This requirement is outlined in Section 3.2.2 (Table 3-6).</p>
(e)	regularly monitor the implementation of the documents listed in Table 2 to ensure implementation is being carried out in accordance with the document and the terms of this approval;	Section 3.2.2	<p>The ER is to independently oversee compliance with the Project Approval and act as the principle point of advice in relation to environmental performance.</p> <p>The ER will monitor the implementation of all documentation. This requirement is outlined in Section 3.2.2 (Table 3-6).</p>
(f)	as may be requested by the Secretary, help plan, attend or undertake audits of the CSSI commissioned by the Department including scoping audits, programming audits, briefings and site visits, but not independent environmental audits required under Condition A41 of this approval;	Section 3.2.2	<p>The ER is to independently oversee compliance with the Project Approval and act as the principle point of advice in relation to environmental performance.</p> <p>The ER may be requested to undertake Department audits of the CSSI. This requirement is outlined in Section 3.2.2 (Table 3-6).</p>

CoA ID	Requirement	Reference	How Addressed
(g)	as may be requested by the Secretary, assist the Department in the resolution of community complaints;	Section 3.2.2	<p>The ER is to independently oversee compliance with the Project Approval and act as the principle point of advice in relation to environmental performance.</p> <p>In the case of conflict, the ER will follow the procedure outlined in the Community Communication Strategy. This requirement is outlined in Section 3.2.2 (Table 3-6).</p>
(h)	assess and, if acceptable, approve the impacts of minor ancillary facilities comprising lunch sheds, office sheds and portable toilet facilities or other ancillary facilities determined by the ER to have a minor environmental impact; and	Section 3.2.2	<p>The ER is to independently oversee compliance with the Project Approval and act as the principle point of advice in relation to environmental performance.</p> <p>The ER will assess the impacts of minor ancillary facilities. This requirement is outlined in Section 3.2.2 (Table 3-6).</p>
(i)	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 days following the end of each month for the duration of the ER’s engagement for the CSSI.	Section 3.2.2	<p>The ER is to independently oversee compliance with the Project Approval and act as the principle point of advice in relation to environmental performance.</p> <p>The ER will prepare and submit to the Planning Secretary and other relevant regulatory agencies a monthly Environmental Representative Report. This requirement is outlined in Section 3.2.2 (Table 3-6).</p>
A24	The Proponent must provide the ER with all documentation requested by the ER in order for the ER to perform their functions specified in Condition A23 (including preparation of the ER monthly report), as well as:	Section 3.2.2	The JV will provide TfNSW (or the ER directly if advised) with all documentation requested, to enable the ER to independently oversee compliance with the Project Approval and perform the duties and responsibilities of their role, as detailed in CoA A23 and Section 3.2.2.
(a)	the complaints register (to be provided on a daily basis); and	Section 3.2.2 Section 3.6.5	The JV will provide the complaints register to TfNSW within one day of a complaint receipt, detailing the nature of the complaint and the action taken to remedy the problem.

CoA ID	Requirement	Reference	How Addressed
(b)	a copy of any assessment carried out by the Proponent of whether proposed work is consistent with the approval (which must be provided to the ER before the commencement of the subject work).	Section 3.12 Section 3.2.2	The JV will liaise with TfNSW regarding any proposed consistency assessments and provide a copy to TfNSW for submission to the ER for approval and/ or endorsement. Minor amendments to the CEMP and/or Sub-Plans will be reviewed by TfNSW and the ER for consistency.
A25	The Secretary may at any time commission an audit of an ER's exercise of its functions under Condition A23 . The Proponent must:	Section 3.8.4	Condition noted.
(a)	facilitate and assist the Secretary in any such audit; and	This Plan	The JV will facilitate and assist TfNSW, the Planning Secretary and/ or the ER in any such audit.
(b)	make it a term of their engagement of an ER that the ER facilitate and assist the Secretary in any such audit.	Table 3-6	Condition noted. The terms of the engagement were established by TfNSW.
A30	A Compliance Tracking Program to monitor compliance with the terms of this approval must be prepared, taking into consideration any staging of the CSSI that is proposed in a Staging Report submitted in accordance with Conditions A13 and A14 of this approval.	Section 3.8.5 Appendix A1	A Compliance Tracking Program has been developed to monitor compliance with the terms of this approval. The program is described in Section 3.8.5 and detailed in Appendix A1 of this Plan. The Compliance Tracking Program takes into consideration relevant staging of the CSSI as proposed in the Staging Report. This is in accordance with CoA A13 and A14.
A31	The Compliance Tracking Program must be endorsed by the ER and then submitted to the Secretary for information at least one (1) month before the commencement of works.	Section 3.8.5 Appendix A1	The Compliance Tracking Program will be endorsed by the ER and submitted to the Planning Secretary at least one (1) month before the commencement of works. Evidence of endorsement will be included in Appendix A6 of this Plan.

CoA ID	Requirement	Reference	How Addressed
A32	The Compliance Tracking Program in the form required under Condition A30 of this approval must be implemented for the duration of works and for a minimum of one (1) year following commencement of operation, or for a longer period as determined by the Secretary based on the outcomes of independent environmental audits, Environmental Representative Monthly Reports and regular compliance reviews submitted through Compliance Reports . If staged operation is proposed, or operation is commenced of part of the CSSI, the Compliance Tracking Program must be implemented for the relevant period for each stage or part of the CSSI.	Section 3.8.5 Appendix A1	A Compliance Tracking Program has been developed to monitor compliance with the terms of this approval. The program is described in Section 3.8.5 and detailed in Appendix A1 of this Plan. The Compliance Tracking Program will be implemented for the duration of works and for a minimum of one (1) year following commencement of operation, or longer as determined by the Planning Secretary. In the case that staged operation is proposed, the Compliance Tracking Program will be implemented for the relevant period for each stage or part of the CSSI.
A33	The Proponent must make each compliance report publicly available and notify the Department in writing when this has been done.	Section 3.8.5 Appendix A1	Each compliance report will be made publicly available and the Department will be notified in writing upon the completion of this action.
A34	A Pre-Construction Compliance Report must be prepared and submitted to the Secretary for information no later than one (1) month before the commencement of construction (or each stage of construction identified in the Staging Report).	Section 3.8.6	A Pre-Construction Compliance Report will be prepared and submitted to the Planning Secretary no later than one (1) month before the commencement of construction.
A35	The Pre-Construction Compliance Report must include:	-	-
(a)	details of how the terms of this approval that must be addressed before the commencement of construction have been complied with; and	Section 3.8.6	The Pre-Construction Compliance Report will demonstrate compliance with the CoA that must be addressed before the commencement of construction.
(b)	the proposed commencement date for construction.	Section 3.8.6	The Pre-Construction Compliance Report will propose the commencement date for construction.
A36	Construction must not commence until the Pre-Construction Compliance Report has been submitted to the Secretary.	Section 3.8.6	Construction will not commence until the Pre-Construction Compliance Report has been submitted to the Planning Secretary.

CoA ID	Requirement	Reference	How Addressed
A37	Construction Compliance Reports must be prepared and submitted to the Secretary for information every six (6) months from the date of the commencement of construction for the duration of construction. The Construction Compliance Reports must include:	Section 3.8.6	Construction Compliance Reports will be prepared and submitted to the Planning Secretary for information every six (6) months from the date of the commencement of construction for the duration of construction.
(a)	a results summary and analysis of environmental monitoring;	Section 3.8.6	Construction Compliance Reports will summarise results and analyse environmental monitoring.
(b)	the number of complaints received, including a summary of main areas of complaint, action taken, response given and proposed strategies for reducing the recurrence of such complaints;	Section 3.8.6	Construction Compliance Reports will detail complaints received.
(c)	details of any review of, and minor amendments made to, the CEMP as a result of construction carried out during the reporting period;	Section 3.8.6	Construction Compliance Reports will detail reviews of CEMP amendments.
(d)	a register of any reviews of consistency undertaken including outcome;	Section 3.8.6	Construction Compliance Reports will contain a register of consistency reviews.
(e)	results of any independent environmental audits and details of any actions taken in response to the recommendations of an audit;	Section 3.8.6	Construction Compliance Reports will outline the results of independent environmental audits and relevant responsive actions.
(f)	a summary of all incidents notified in accordance with Conditions A44 and A46 of this approval; and	Section 3.8.6	Construction Compliance Reports will summarise all incidents in accordance with Conditions A44 and A46.
(g)	any other matter relating to compliance with the terms of this approval or as requested by the Secretary.	Section 3.8.6	Construction Compliance Reports will include matters relating to compliance with the terms of the approval and as requested by the Planning Secretary.

CoA ID	Requirement	Reference	How Addressed
A40	An Environmental Audit Program for annual independent environmental auditing against the terms of this approval must be prepared in accordance with <i>AS/NZS ISO 19011:2014 - Guidelines for Auditing Management Systems</i> and submitted to the Secretary for information no later than one month before the commencement of construction.	Section 3.8.4 Appendix A7	An Environmental Audit Program has been prepared in accordance with AS/NZS ISO 19011:2014 - Guidelines for Auditing Management Systems (Appendix A7). The program includes both internal audits and annual independent environmental audits. The program will be submitted to the Planning Secretary as part of the CEMP a minimum of one month prior to construction.
A41	The Environmental Audit Program , as submitted to the Secretary, must be implemented for the duration of construction and operation.	Section 3.8.4 Appendix A7	The Environmental Audit Program will be implemented for the duration of construction and operation.
A42	All independent environmental audits of the CSSI must be conducted by a suitably qualified, experienced and independent auditor with, where required, a team of independent technical experts and be documented in an Environmental Audit Report which:	Section 3.8.4 Appendix A7	Independent Environmental Audits will be undertaken by a suitably qualified independent environment auditor independent to the Project in accordance with ISO 19011:2014 - Guidelines for Quality and/ or Environmental Management Systems Auditing.
(a)	assesses the environmental performance of the CSSI, and its effects on the surrounding environment;	Section 3.8.4 Appendix A7	Independent Environmental Audits will assess the environmental performance of the Project.
(b)	assesses whether the project is complying with the terms of this approval; and	Section 3.8.4 Appendix A7	Independent Environmental Audits will assess compliance with approval and legal requirements, TfNSW specifications, construction documentation and any other commitments.
(c)	recommends measures or actions to improve the environmental performance of the CSSI.	Section 3.8.4 Appendix A7	The scope of Independent Environmental Audits includes the identification of corrective actions and measures to improve the environmental performance of the Project.
A43	The Proponent must submit a copy of the Environmental Audit Report to the Secretary for information, with a response to any recommendations contained in the audit report within six (6) weeks of completing the audit.	Section 3.8.4 Appendix A7	Independent Environmental Audit reports are to be provided to the Planning Secretary for information purposes. The submission must include a response to any recommendations contained in the audit report.

CoA ID	Requirement	Reference	How Addressed
A44	The Department must be notified in writing to compliance@planning.nsw.gov.au immediately after the Proponent becomes aware of an incident. The notification must identify the CSSI (including the application number and the name of the CSSI if it has one), and set out the location and nature of the incident.	Section 3.7.2 Appendix A5	The TfNSW Environment and Planning Manager will immediately notify the DPIE and ER of all environmental incidents. The notification will identify the Project (including the CSSI application number) and set out the location and nature of the incident. This requirement is detailed in the Environment Incident and Emergency Response Plan (Appendix A5).
A45	Within one week of notification of an incident under Condition A44 of this approval, the Proponent must submit a report to the Department providing the time and date of the incident, details of the incident and must identify any consequent non-compliance with this approval.	Section 3.7.2 Appendix A5	Reflecting the requirements of the Environment Incident and Emergency Response Plan (Appendix A5), the JV will submit a report to the DPIE within one week of the notification of an incident. The report will outline time and date of the incident, details of the incident and any consequent non-compliance with the CoA.
A46	All written requirements of the Secretary, 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 3.7.2 Appendix A5	Condition noted. The requirements of this condition are reflected in the Environment Incident and Emergency Response Plan (Appendix A5).
A47	If an incident occurs or if statutory notification is given to the EPA as required under the <i>Protection of the Environment Operations Act 1997</i> 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 3.7.2 Appendix A5	Condition noted. The requirements of this condition are reflected in the Environment Incident and Emergency Response Plan (Appendix A5).
B11	A website providing information in relation to the CSSI must be established before commencement of works and maintained for the duration of construction, and for a minimum of 24 months following the completion of construction. Up-to-date information (excluding confidential commercial information) must be published before the relevant works commence, and maintained on the website or dedicated pages including:	Community Communication Strategy (Section 2)	The Project website (http://www.parramattalightrail.nsw.gov.au) includes current information on the Project. This website will be maintained for the duration of construction and for a minimum of 24 months following the completion of construction. Additional details on the Project website are provided in the Community Communication Strategy.

CoA ID	Requirement	Reference	How Addressed
(a)	information on the current implementation status of the CSSI;	Community Communication Strategy (Section 2)	The Project website (http://www.parramattalightrail.nsw.gov.au) includes the current implementation status of the Project. Additional details on the Project website are provided in the Community Communication Strategy.
(b)	a copy of the documents listed in Condition A1 and Condition A2 of this approval, and any documentation relating to any modifications made to the CSSI or the terms of this approval;	Community Communication Strategy (Section 2)	The Project website (http://www.parramattalightrail.nsw.gov.au) will include a copy of the documents listed in Condition A1 and Condition A2 of this approval, and any documentation relating to any modifications made to the CSSI or the terms of this approval. Additional details on the Project website are provided in the Community Communication Strategy.
(c)	a copy of this approval in its original form, a current consolidated copy of this approval (that is, including any approved modifications to its terms), and copies of any approval granted by the Minister to a modification of the terms of this approval;	Community Communication Strategy (Section 2)	The Project website (http://www.parramattalightrail.nsw.gov.au) includes the original approval, the consolidated approval and the approved modifications. Additional details on the Project website are provided in the Community Communication Strategy.
(d)	a copy of each statutory approval, licence or permit required and obtained in relation to the CSSI;	Community Communication Strategy (Section 2)	The Project website (http://www.parramattalightrail.nsw.gov.au) includes statutory approvals. In the event that licence(s) or permit(s) are obtained, documentation will be included on the Project Website. Additional details on the Project website are provided in the Community Communication Strategy.
(e)	a current copy of each approved document required under the terms of this approval and any endorsements, approvals or requirements from the ER, AA and Secretary, all of which must be published before the commencement of any works to which they relate or before their implementation as the case may be; and	Community Communication Strategy (Section 2)	The Project website (http://www.parramattalightrail.nsw.gov.au) will include approved documents required under the CoA and any endorsements, approvals or requirements from the ER, AA and Planning Secretary includes statutory approvals. Additional details on the Project website are provided in the Community Communication Strategy.

CoA ID	Requirement	Reference	How Addressed
(f)	a copy of the compliance reports required under Condition A30 of this approval. Information relating solely to construction may be removed from the website 12 months following the completion of construction.	Community Communication Strategy (Section 2)	The Project website (http://www.parramattalightrail.nsw.gov.au) will include a copy of the compliance reports required under Condition A30. Additional details on the Project website are provided in the Community Communication Strategy.
C1	A Construction Environmental Management Plan (CEMP) must be prepared to detail how the performance outcomes, commitments and mitigation measures specified in Chapter 17 of the EIS (as modified by the Response to Submissions and Preferred Infrastructure Report) will be implemented and achieved during construction.	This plan	The CEMP provides a central mechanism for all potential environmental impacts will be managed. It outlines the framework for the management of environment impacts. The CEMP has been prepared and will be implemented during construction.
C2	The CEMP must provide:	-	-
(a)	a description of activities to be undertaken during construction (including the scheduling of construction);	Section 1.2 Table 1-1	Section 1.2 provides a description of activities to be undertaken during construction. The construction activities have been outlined in the six separate works packages. Table 1-1 provides proposed completion and access dates for construction activities.
(b)	details of environmental policies, guidelines and principles to be followed in the construction of the CSSI;	Section 3	Section 3 outlines the Environmental Management Plan for this Project. This section details environmental policies, guidelines and principles to be followed during construction.

CoA ID	Requirement	Reference	How Addressed
(c)	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 1.5.1	<p>Section 1.5.1 outlines how risks will be continuously identified and managed throughout the Project. This includes:</p> <ul style="list-style-type: none"> • Principal Risk Assessment • Engineering workshops • Work Area Plan (WAP) risk assessments • Safe Work Method Statements (SWMS) • Environmental Work Method Statements (EWMS) • Environmental Control Maps (ECMs) • Erosion and Sedimentation Control Plans (ESCPs) • Prestart meetings and toolboxes.
(d)	details of how the activities described in subsection (a) of this condition will be carried out to:	-	-
	(i) meet the performance outcomes stated in the documents identified in Condition A1; and	Section 3.8.5	Assurance that the performance outcomes will be achieved is provided by the compliance tracking systems for the Project, including INX and RVTM.
	(ii) manage the risks identified in the risk analysis undertaken in subsection (c) of this condition;	Appendix A2	<p>Appendix A2 is the environmental risk register to supplement environmental risk analysis.</p> <p>The risk register identified mitigation measures to manage the identified risks.</p>
(e)	an inspection program detailing the activities to be inspected and frequency of inspections;	Section 3.8.1 Table 3-8	Environmental inspection requirements for this Project are detailed in Section 3.9.1. Table 3-8 provides a program of the Project's environmental inspections including their proposed frequency.
(f)	a protocol for managing and reporting any:	-	-
	(i) incidents; and	Section 3.7	The protocol for managing and reporting incidents is outlined in Section 3.7. This details incident and non-compliance reporting, external reporting and incident investigations.

CoA ID	Requirement	Reference	How Addressed
	(ii) non-compliances with this approval and with statutory requirements.	Section 3.9	A process to deal with non-compliances has been prepared in Section 3.9. The procedures addressed will be implemented during construction and communicated through toolbox talks and daily pre-starts.
(g)	procedures for rectifying any non-compliance with this approval identified during compliance auditing, incident management or at any time during construction;	Section 3.9	A process to deal with non-compliances has been prepared in Section 3.9. The procedures addressed will be implemented during construction and communicated through toolbox talks and daily pre-starts.
(h)	a list of all the CEMP Sub-plans required in respect of construction, as set out in Condition C3 . 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 1.5.2 Table 1-3	The required CEMP Sub-plans have been outlined in Section 1.5.2. Table 1-3 details the requirement source, sub plan and procedure in place. These sub-plans have been prepared and will be implemented during pre-construction and construction phases of the Project.
(i)	a description of the roles and environmental responsibilities for relevant employees and their relationship with the ER;	Section 3.2 Figure 3-1	A management structure chart has been developed and provided in Section 3.2 as Figure 3-1. A description of the roles is also provided in Section 3.2 which explains the authority and responsibility of each role.
(j)	for training and induction for employees, including contractors and sub-contractors, in relation to environmental and compliance obligations under the terms of this approval;	Section 3.4	Section 3.4 outlines the required training. Inductions, toolbox talks and daily pre-start meetings will be used to assess competence, train workers and spread awareness of relevant information.
(k)	for periodic review and update of the CEMP and all associated plans and programs.	Section 3.11 Section 3.12	The management review process is outlined in Sections 3.11 and 3.12. Periodic review and update of the CEMP and associated plans and programs are outlined.
C3	The following CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan and be consistent with the CEMP referred to in Condition C1 :	-	-

CoA ID	Requirement	Reference	How Addressed
(a)	<p>Traffic, Transport and Access</p> <p><i>Relevant government agencies to be consulted for each CEMP Sub-plan:</i> Relevant Council(s), Roads and Maritime Services, Emergency Services</p> <p><i>Secretary Approval/Information:</i> Information</p>	Appendix B1	<p>A Traffic, Transport and Access Management Sub-plan has been prepared and will be consulted with the relevant councils and agencies.</p> <p>This Plan supports the management of environmental impacts that are outlined in the CEMP. This Plan will be implemented during the pre-construction and construction phases of this Project.</p>
(b)	<p>Noise and Vibration</p> <p><i>Relevant government agencies to be consulted for each CEMP Sub-plan:</i> Relevant Council(s), EPA, NSW Health</p> <p><i>Secretary Approval/Information:</i> Approval</p>	Appendix B3	<p>A Noise and Vibration Management Sub-plan has been prepared and will be consulted with the relevant councils and agencies.</p> <p>This Plan supports the management of environmental impacts that are outlined in the CEMP. This Plan will be implemented during the pre-construction and construction phases of this Project.</p>
(c)	<p>Flood Management</p> <p><i>Relevant government agencies to be consulted for each CEMP Sub-plan:</i> Relevant Council(s), OEH and Sydney Water</p> <p><i>Secretary Approval/Information:</i> Information</p>	Appendix B10	<p>A Flood Management Sub-plan has been prepared and will be consulted with the relevant councils and agencies.</p> <p>This Sub-plan supports the management of environmental impacts that are outlined in the CEMP. This Plan will be implemented during the pre-construction and construction phases of this Project.</p>
(d)	<p>Heritage</p> <p><i>Relevant government agencies to be consulted for each CEMP Sub-plan:</i> Relevant Council(s), OEH</p> <p><i>Secretary Approval/Information:</i> Approval</p>	Appendix B2	<p>A Heritage Management Sub-plan has been prepared and will be consulted with the relevant councils and agencies.</p> <p>This Plan supports the management of environmental impacts that are outlined in the CEMP. This Plan will be implemented during the pre-construction and construction phases of this Project.</p>
(e)	<p>Flora and Fauna Biodiversity</p> <p><i>Relevant government agencies to be consulted for each CEMP Sub-plan:</i> Relevant Council(s), OEH</p> <p><i>Secretary Approval/Information:</i> Information</p>	Appendix B4	<p>A Flora and Fauna Management Sub-plan has been prepared and will be consulted with the relevant councils and agencies.</p> <p>This Sub-plan supports the management of environmental impacts that are outlined in the CEMP. This Plan will be implemented during the pre-construction and construction phases of this Project.</p>
C4	The CEMP Sub-plans must state how:	-	-

CoA ID	Requirement	Reference	How Addressed
(a)	the environmental performance outcomes identified in the documents listed in Condition A1 will be achieved;	Sub-plans	The relevant environmental performance outcomes are outlined in the Sub-plans. These targets were derived from the EIS to be measurable during the Project's inspections and monitoring.
(b)	the mitigation measures identified in the documents listed in Condition A1 will be implemented	Appendix A1 Sub-plans	The initiatives that are identified in the documents listed in Condition A1 are reflected in the management measures and controls tables of each Sub-plan and Appendix A1 of this Plan. These will be implemented during pre-construction and construction phases of the Project and communicated through training and awareness programs.
(c)	the relevant terms of this approval will be complied with; and	Section 3	Section 3 details the requirements for the project. Mitigation measures have been included in a control measures table.
(d)	issues requiring management during construction, as identified through ongoing environmental risk analysis, will be managed.	Sub-plans Appendix A2	Specific management issues during construction are outlined in the Environmental Aspects and Impacts Section of each Sub-plan. Appendix A2 is the environmental risk register for the construction activities associated with the Project. The risk register is reviewed and updated as required.
C5	The CEMP Sub-plans must be developed in consultation with relevant government agencies (including Relevant Council(s)). Details of all information requested by an agency to be included in a CEMP Sub-plan as a result of consultation, including all copies of correspondence from those agencies, must be provided to the Secretary with the relevant CEMP Sub-plan.	Section 2.1	Consultation requirements associated with each Sub-plan are detailed in Section 2.1. Copies of correspondences from each agency agencies will be provided to the Planning Secretary during submission of each Sub-plan. CEMP.
C6	Any of the CEMP Sub-plans may be submitted along with, or subsequent to, the submission of the CEMP but in any event, no later than one month before construction.	Section 2.1	All Sub-plans will be submitted no later than one month before construction. This is to ensure adequate time is allowed for the approval of the plan prior to construction. Details of this and other approval and submission requirements have been incorporated into Section 2.1.

CoA ID	Requirement	Reference	How Addressed
C7	The CEMP must be endorsed by the ER and then submitted to the Secretary for approval no later than one month before the commencement of construction.	Section 2.1	The CEMP and relevant Sub-plans, will be endorsed by the ER and submitted to the Planning Secretary for approval no later than one month before construction. Details of this and other approval and submission requirements have been incorporated into Section 2.1.
C8	Construction must not commence until the CEMP and any CEMP Sub-plan specified in Condition C3 have been submitted to or approved by the Secretary. The CEMP and CEMP Sub-plans submitted to or approved by the Secretary, including any minor amendments approved by the ER, must be implemented for the duration of construction. Where construction of the CSSI is staged, construction of a stage must not commence until the CEMP and Sub-plans for that stage have been submitted to or approved by the Secretary. Note: The requirement to submit or have a CEMP or CEMP Sub-plan approved is specified in Condition C3.	Section 2.1	Construction will not commence until the CEMP and any CEMP Sub-plans have been submitted and approved by the Planning Secretary. Details of this and other approval and submission requirements have been incorporated into Section 2.1.
C9	The following Construction Monitoring Programs must be prepared in consultation with the relevant government agencies for each to compare actual performance of construction of the CSSI against performance predicted in the documents listed in Condition A1 or in the CEMP:	-	-
(a)	Water Quality (Turbidity) Monitoring <i>Relevant government agencies to be consulted for each Construction Monitoring Program – DoI Water, EPA, Relevant Council(s)</i>	Appendix B5	A water quality monitoring program has been included as part of the Soil and Water Management Sub-plan. This will be communicated through site-inductions, toolbox talks and daily pre-start meetups.
(b)	Noise and Vibration Monitoring <i>Relevant government agencies to be consulted for each Construction Monitoring Program – Relevant Council(s), EPA, NSW Health (as relevant)</i>	Appendix B3	A noise and vibration monitoring program has been included as part of the Noise and Vibration Management Sub-plan. This will be communicated through site-inductions, toolbox talks and daily pre-start meetups.

CoA ID	Requirement	Reference	How Addressed
(c)	Grey-headed flying fox Monitoring <i>Relevant government agencies to be consulted for each Construction Monitoring Program – OEH</i>	Appendix B4	A Grey-headed flying fox monitoring program has been included as part of the Flora and Fauna Management Sub-plan. This will be communicated through site-inductions, toolbox talks and daily pre-start meetups.
C17	Where a relevant CEMP Sub-plan exists, the relevant Construction Monitoring Program may be incorporated into that CEMP Sub-plan.	Sub-plans	A monitoring program has been included in the NVMP, SWMP and FFMP. This will be communicated through site-inductions, toolbox talks and daily pre-start meetups.

CoA ID	Requirement	Reference	How Addressed
E87	<p>The Proponent must prepare and implement an Urban Design Requirements Report for public domain, architecture, landscape architecture, identity and place making with a specific focus on stop access and design. The Urban Design Requirements Report must consider crime prevention through environmental design principles and relevant design standards such as:</p> <ul style="list-style-type: none"> (a) Better Placed (NSW Government Architect, 2017); (b) Greener Places (NSW Government Architect, 2018); (c) Guidelines for the Development of Public Transport Interchange Facilities (Ministry of Transport, 2008); (d) Water Sensitive Urban Design, NSW Sustainable Design Guidelines Version 4 (TfNSW, 2017); (e) AS4282-1997 Control of the obtrusive effects of outdoor lighting; and (f) relevant agency and Council design standards including those set out in the Parramatta Strategic Planning Framework. <p>The Urban Design and Requirements Report must incorporate:</p> <ul style="list-style-type: none"> (g) design principles and objectives; (h) identification of relevant land use changes, masterplans and initiatives; (i) analysis and mapping of local context and character; and (j) analysis and mapping of transport and land use integration and system functionality in the context of precincts. 	Section 3.8.5	<p>The requirements of this condition are addressed in the Urban Design Requirements Report.</p> <p>Assurance that the requirements will be achieved is provided by the compliance tracking systems for the Project, including INX and RVTM.</p>

E88	<p>The Urban Design Requirements Report must inform the detailed design of the CSSI to:</p> <ul style="list-style-type: none"> (a) demonstrate responsiveness to local streetscape and landscape character; (b) integrate with, or allow for, known land use changes, masterplans and developments; (c) contribute to the character and identify of the local area; (d) respond to the character, setting and fabric of heritage elements and landscapes; (e) demonstrate material selection and detailing (including consideration of anti-graffiti measures); (f) achieve a safe, secure, functional and efficient transport network for all street users; (g) maintain community amenity and privacy; (h) maintain local access and circulation for residents, business and road users; (i) address sensitive receivers to minimise noise, vibration, electromagnetic interference, light spill and nuisance; (j) minimise the loss of existing trees, maximise urban tree canopy, including street trees and soft landscaping; (k) address flooding and drainage issues; (l) contribute to the activation of precincts; 	Section 3.8.5	<p>The requirements of this condition are addressed in the Urban Design Requirements Report.</p> <p>Assurance that the requirements will be achieved is provided by the compliance tracking systems for the Project, including INX and RVTM.</p>
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CoA ID	Requirement	Reference	How Addressed
	<p>(m) maximise local connectivity and minimise barriers;</p> <p>(n) maximise walk-in catchments and offer legible, direct pedestrian connections;</p> <p>(o) demonstrate clear wayfinding;</p> <p>(p) maximise user safety, crime prevention and comfort; and</p> <p>(q) consider the Camellia Town Centre Masterplan and the Telopea Masterplan, and Westmead Alliance master planning.</p> <p>The Urban Design Requirements Report must be submitted to the Secretary for approval, following review by the Design Review Panel required by Condition E90, including recommendations provided by the Design Review Panel and the way these have been addressed.</p>		
E89	Construction of light rail stops, tracks and associated facilities must not commence before the Urban Design Requirements Report has been approved by the Secretary. The detailed design development of light rail stops and associated light rail infrastructure within or in proximity to Heritage listed items must be undertaken in consultation with the Heritage Council (or its delegate).	Section 3.8.5 Urban Design Requirements Report	<p>The requirements of this condition are addressed in the Urban Design Requirements Report.</p> <p>Assurance that the requirements will be achieved is provided by the compliance tracking systems for the Project, including INX and RVTM.</p>

CoA ID	Requirement	Reference	How Addressed
E92	<p>The Design Review Panel must be chaired by the NSW Government Architect (or its nominee), and must be comprised of, where relevant, a suitably qualified, experienced and independent professional in each of the fields of:</p> <ul style="list-style-type: none"> (a) architecture; (b) urban design and place making; (c) landscape design; (d) Aboriginal cultural heritage; and (e) non-Aboriginal heritage. <p>The Chair is to invite Relevant Councils, technical experts, key stakeholders, and NSW government agencies to observe Design Review Panel meetings and to provide advice on local issues, context, and city outcomes. This includes the Heritage Council (or its delegate). The Proponent and its contractor(s) may be invited onto the Panel as observers only and to provide technical advice.</p> <p>Observers or advisors should not be present while the Panel is deciding upon its recommendations.</p> <p>The Proponent must provide independent secretarial resources to the Panel.</p>	N/A	The requirements of this condition are addressed by the Proponent.
E93	The Design Review Panel members must be nominated by the Proponent and approved by the Secretary in accordance with the timeframes in Condition E90.	N/A	The requirements of this condition are addressed by the Proponent.
E94	Nomination and appointments of the Design Review Panel must comply with the Public Service Commission's Appointment Standards: Boards and Committees in the NSW Public Sector guideline.	N/A	The requirements of this condition are addressed by the Proponent.

CoA ID	Requirement	Reference	How Addressed
E95	<p>Once the Design Review Panel is formed a Design Review Panel Terms of Reference must be developed and endorsed by all panel members and then approved by the Secretary. The Terms of Reference must:</p> <ul style="list-style-type: none"> (a) establish best practice governance and protocols for the operation of the Design Review Panel; (b) include a Code of Conduct; (c) outline the agreed frequency of Design Review Panel meetings; (d) outline secretariat functions and administration including the recording and storing of meeting agenda, minutes and actions; and (e) identify cessation arrangements 	N/A	The requirements of this condition are addressed by the Proponent.
E96	The Design Review Panel must be operated and managed in accordance with the approved Design Review Panel Terms of Reference and in accordance with the NSW Government Boards and Committees Guidelines (Department of Premier and Cabinet, September 2015).	N/A	The requirements of this condition are addressed by the Proponent.

CoA ID	Requirement	Reference	How Addressed
E132	<p>At least one month before the commencement of construction of any hazardous works or works adjacent to hazardous infrastructure, the Proponent must prepare and submit for the approval of the Secretary, the following:</p> <p>(a) A Final Hazard Analysis of the development consistent with the Department's Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis'. The study must be prepared based on the final detailed design of the development and include:</p> <ul style="list-style-type: none"> i) a quantitative risk assessment; ii) details of all safeguards to be implemented, in particular those at the locations of pipeline crossing; iii) findings and recommendations from the Safety Management Study undertaken in consultation with the relevant dangerous goods pipeline operators and pipeline licensees; iv) demonstrate that the risks from the development satisfy relevant NSW Risk Criteria as set out in HIPAP 10. <p>(b) A Construction Safety Study, prepared consistent with Hazardous Industry Planning Advisory Paper No. 7 'Construction Safety'. The Construction Safety Study must be prepared in consultation with the relevant dangerous goods pipeline operators and licensees and include details of the proposed safety measures to ensure the relevant underground pipelines will not be impacted by the construction of the development.</p>	<p>Section 3.8.5</p> <p>Final Hazard Analysis and Construction Safety Study</p>	<p>The requirements of this condition are addressed in the Final Hazard Analysis and Construction Safety Study.</p> <p>Assurance that the requirements will be achieved is provided by the compliance tracking systems for the Project, including INX and RVTM.</p>

CoA ID	Requirement	Reference	How Addressed
E135	The Proponent must identify utilities, services and other infrastructure and property potentially affected by construction to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the CSSI must be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The Proponent must ensure that any disruption to any service is minimised and shall be responsible for advising impact to service recipients before any planned disruption of service. The cost of any such arrangements must be borne by the Proponent, unless otherwise agreed with the utility/service provider.	Section 3.8.5 Utility Service Management Plan	The requirements of this condition are addressed in the Utility Service Management Plan. Assurance that the requirements will be achieved is provided by the compliance tracking systems for the Project, including INX and RVTM.

Table A1-3: Revised Environmental mitigation and management measures relevant to this CEMP

Item ID	Commitment	Timing	Reference	How Addressed
GEN-1	A construction environmental management plan (CEMP) would be prepared for the construction phase of the project. The CEMP would provide a centralised mechanism through which all potential environmental impacts would be managed. The CEMP would document mechanisms for demonstrating compliance with the commitments made in the Environmental Impact Statement), the submissions report, as well as any other relevant statutory approvals (e.g. conditions of approval, licences and permits). The CEMP would outline a framework for the management of environmental impacts during construction, including further details on the following:	Pre-construction	CEMP and CEMP Sub-Plans	<p>The CEMP provides a central mechanism for all potential environmental impacts will be managed. It outlines the framework for the management of environment impacts.</p> <p>The CEMP and the required Sub-Plans have been prepared and will be implemented during construction.</p>
GEN-1	Traffic, transport and access management.	Pre-construction	TTAMP	<p>A Traffic, Transport and Access Management Sub-Plan has been developed.</p> <p>This Sub-plan supports the management of environmental impacts that are outlined in the CEMP. This Sub-plan will be implemented during the pre-construction and construction phases of this Project.</p>
GEN-1	Noise and vibration management.	Pre-construction	NVMP	<p>A Noise and Vibration Management Sub-Plan has been developed.</p> <p>This Sub-plan supports the management of environmental impacts that are outlined in the CEMP. This Sub-plan will be implemented during the pre-construction and construction phases of this Project.</p>

Item ID	Commitment	Timing	Reference	How Addressed
GEN-1	Heritage management.	Pre-construction	HMP	<p>A Heritage Management Sub-Plan has been developed.</p> <p>This Sub-plan supports the management of environmental impacts that are outlined in the CEMP. This Sub-plan will be implemented during the pre-construction and construction phases of this Project.</p>
GEN-1	Air quality and dust management.	Pre-construction	AQMP	<p>An Air Quality and Dust Management Sub-Plan has been developed.</p> <p>This Sub-plan supports the management of environmental impacts that are outlined in the CEMP. This Sub-plan will be implemented during the pre-construction and construction phases of this Project.</p>
GEN-1	Soil and water management.	Pre-construction	SWMP	<p>A Soil and Water Management Sub-Plan has been developed.</p> <p>This Sub-plan supports the management of environmental impacts that are outlined in the CEMP. This Sub-plan will be implemented during the pre-construction and construction phases of this Project.</p>
GEN-1	Flora and fauna management.	Pre-construction	FFMP	<p>A Flora and Fauna Management Sub-Plan has been developed.</p> <p>This Sub-plan supports the management of environmental impacts that are outlined in the CEMP. This Sub-plan will be implemented during the pre-construction and construction phases of this Project.</p>

Item ID	Commitment	Timing	Reference	How Addressed
GEN-1	Waste and resource management.	Pre-construction	WRMP	<p>A Waste and Resource Management Sub-Plan has been developed.</p> <p>This Sub-plan supports the management of environmental impacts that are outlined in the CEMP. This Sub-plan will be implemented during the pre-construction and construction phases of this Project.</p>
GEN-1	Site compound and ancillary works management.	Pre-construction	SEMP	<p>A Site Establishment Management Plan has been developed.</p> <p>This Plan supports the management of environmental impacts that are outlined in the CEMP. This Plan will be implemented during the pre-construction and construction phases of this Project.</p>
GEN-1	Landscape and temporary works management.	Pre-construction	LTWMP	<p>A Landscape and Temporary Works Management Sub-Plan has been developed.</p> <p>This Sub-plan supports the management of environmental impacts that are outlined in the CEMP. This Sub-plan will be implemented during the pre-construction and construction phases of this Project.</p>
GEN-1	Emergency and incident response management.	Pre-construction	CEMP (Appendix A5)	<p>An Emergency and Incident Response Management Plan has been developed.</p> <p>This Plan supports the management of environmental impacts that are outlined in the CEMP. This Plan will be implemented during the pre-construction and construction phases of this Project.</p>

Item ID	Commitment	Timing	Reference	How Addressed
GEN-1	The CEMP would be prepared by the responsible contractor(s) and approved by the Secretary of the NSW Department of Planning and Environment.	Pre-construction	CEMP	The CEMP has been prepared by the JV and will be provided to the Planning Secretary of the DPIE for approval. Copies of correspondences from each agency agencies will be provided to the Planning Secretary with Appendix A8 of the CEMP.
GEN-3	Incident management procedures would be developed as part of the CEMP. The procedures would clearly outline the process to be followed in the event of an environmental incident or noncompliance, including (but not limited to) the following:	Pre-construction	CEMP (Appendix A5)	An Environmental Incident and Emergency Response Management Plan has been developed as part of the CEMP (Appendix A5).
GEN-3	Classification of the incident (e.g. minor, moderate, and serious) based on the severity of the likely impact on the surrounding environment and community.	Pre-construction	CEMP (Appendix A5)	An Environmental Incident and Emergency Response Management Plan (EIRMP) has been developed as part of the CEMP (Appendix A5). Classification of incidents is outlined in the EIRMP.
GEN-3	Emergency response procedures.	Pre-construction	CEMP (Appendix A5)	An EIRMP has been developed as part of the CEMP (Appendix A5). Emergency response are outlined in the EIRMP.
GEN-3	Notification requirements (e.g. Transport for NSW and/or other regulatory authorities, or owners/occupiers in the vicinity of the incident).	Pre-construction	CEMP (Appendix A5)	An EIRMP has been developed as part of the CEMP (Appendix A5). Notification requirements are outlined in the EIRMP.
GEN-3	Mechanisms for improving environmental controls to reduce the likelihood of a similar incident occurring.	Pre-construction	CEMP (Appendix A5)	An EIRMP has been developed as part of the CEMP (Appendix A5). Mechanisms to improve environmental controls are outlined in the EIRMP.

GEN-3	Incident reporting and tracking.	Pre-construction	CEMP (Appendix A5)	An EIRMP has been developed as part of the CEMP (Appendix A5). Incident reporting and tracking is outlined in the EIRMP.
BI-3	A flora and fauna management plan would be prepared as part of the CEMP. Specific measures would be identified in	Pre-construction	CEMP	A Flora and Fauna Management Sub-Plan has

Item ID	Commitment	Timing	Reference	How Addressed
	<p>consultation with relevant government agencies. The flora and fauna management plan would include the following:</p> <p><i>Note: Only relevant aspects of BI-3 included in this Plan Remaining aspects are addressed in the Flora and Fauna Management Sub-plan.</i></p>		(Appendix A5)	<p>been developed.</p> <p>Consultation with relevant agencies is addressed in Section 4 of the FFMP. Specific measures have been identified in Section 7 of the FFMP.</p>

Item ID	Commitment	Timing	Reference	How Addressed
BI-3	<p>A requirement to prepare Environmental Control Maps in accordance with Transport for NSW's Guide to Environmental Control Map. The maps would delineate ecologically sensitive areas (such as habitat areas or locations of threatened species, populations or ecological communities), clearing extents, vegetation to be retained, and any other no-go areas.</p> <p>Note: Only relevant aspects of BI-3 included in this Plan Remaining aspects are addressed in the Flora and Fauna Management Sub-plan.</p>	Pre-construction	CEMP, Section 3.1.4	<p>The purpose of Environmental Control Maps is outlined in Section 3.1.4 of the CEMP.</p> <p>This section details the process by which Environmental Control Maps are prepared, approved and implemented. This process is in accordance with Transport for NSW's Guide to Environmental Control Maps.</p> <p>The Environmental Control Maps for this Project are attached as Appendix A6 of the CEMP.</p>
CC-2	Construction-related climate change risks (e.g. increased frequency and severity of extreme rainfall events placing increased pressure on construction water quality control measures) would be considered during the development of environmental management measures as part of the CEMP.	Pre-construction	CEMP (Appendix B4)	Risks associated with climate change are identified with control measures in the Soil and Water Management Plan.

Item ID	Commitment	Timing	Reference	How Addressed
GG-4	<p>The CEMP would incorporate measures to minimise the emission of greenhouse gases during construction. Activities with the potential to cause substantial emissions (such as material delivery and loading and bulk earthworks) would be identified in the energy and greenhouse gas emissions strategy. Emissions management actions would be investigated and applied where reasonable and feasible. These would potentially include:</p> <ul style="list-style-type: none"> • The use of biodiesel and other low carbon fuels in vehicles and equipment. • The use of fuel-efficient construction equipment. • The use of energy efficient construction practices. • Use of energy efficient or solar powered lighting for temporary construction facilities. 	Pre-construction	DSMP (Appendix D)	Activities with the potential to cause substantial greenhouse gas emissions and measures to minimise emissions of greenhouse gases during construction are outlined in Section 5.1.5 of Appendix D (CEMSP).
HR-1	<p>All electromagnetic equipment for the project would be designed and constructed to:</p> <ul style="list-style-type: none"> • Be compatible with the existing electromagnetic environment along the light rail route. • Ensure that no part of the light rail system interferes electromagnetically with the safe and proper operation of any other parts of the light rail system. <p>Further opportunities to minimise potential electromagnetic impact would be investigated during detailed design including consideration of:</p> <ul style="list-style-type: none"> • Wire-free technology and on-board energy storage. • Reduction of the current-loop circuit created between the substation and LRVs. • Reduce traction control demand. 	Pre-construction Construction	Section 3.8.5 Design Report	<p>It is noted that the equipment and technology selection is undertaken as part of the Supply, Operate and Maintain Works (SOM). As such, the design of infrastructure, conduits and concrete bases undertaken by the JV must be informed by the requirements of SOM.</p> <p>Assurance is provided by the compliance tracking systems for the Project, including INX and RVTM.</p>

Item ID	Commitment	Timing	Reference	How Addressed
HR-2	The project would be designed to comply with appropriate standards for the management of EMI including the international European Standards EN 50121 Electromagnetic Compatibility series AS 7722:2016 EMC Management. The light rail would be designed so that electromagnetic emissions comply with the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) guidelines for emitted radiation.	Pre-construction	Section 3.8.5 Design Report	The requirements of this commitment will be reflected in Design Reports. Assurance is provided by the compliance tracking systems for the Project, including INX and RVTM.

Item ID	Commitment	Timing	Reference	How Addressed
HR-3	<p>Targeted consultation with identified sensitive receivers for EMI (such as the Westmead Health Precinct) would be carried out to inform the detailed design. Any issues identified would be resolved on a case by case basis with solutions such as monitoring and, if necessary, protective screening at the site of the sensitive equipment. Additional mitigation strategies would be considered and, where required, implemented. These may include:</p> <ul style="list-style-type: none"> • Minimisation of electromagnetic fields through the design and engineering of the project. During detailed design, considerations for magnetic field reduction at substations would include: <ul style="list-style-type: none"> - Locating major magnetic field sources within the substation to increase separation distances including transformer secondary terminations, cable runs to the switch room, capacitors, reactors, busbars, and incoming and outgoing feeders. - Locating areas with the lowest magnetic fields closest to the site boundaries (e.g. control rooms, equipment rooms, amenities, fire stairs, lifts, walkways, transformer roadway, oil containment, air vents/ducts and pilot isolation rooms). - • Orienting equipment so that magnetic fields are minimised. • Earthing and bonding. • Increasing the separation distance between the source and equipment. • If mitigation is required at the receiver (building or the equipment itself), Transport for NSW would work with the operator/owner to resolve the potential impact. 	Pre-construction	Section 3.8.5 Design Report	Targeted consultation with sensitive receivers for EMI will be undertaken by the Principal. The outcomes will be reflected in relevant Design Reports. Assurance is provided by the compliance tracking systems for the Project, including INX and RVTM.

Item ID	Commitment	Timing	Reference	How Addressed
HR-5	<p>Environmental management measures relating to hazards and risk would be developed and implemented as part of the CEMP. These would include:</p> <p>Note: Only relevant aspects of HR-5 included in this Plan Remaining aspects are addressed in the Soil and Water Management Sub-plan.</p>	Pre-construction	Section 1.5 Appendix A2	<p>Section 1.5 of the CEMP outlines how risks will be continuously identified and managed throughout the Project.</p> <p>Appendix A2 is the environmental risk register to supplement environmental risk analysis.</p>
HR-5	<p>Potential environmental hazards and risks associated with construction activities would be identified prior to construction.</p> <p>Note: Only relevant aspects of HR-5 included in this Plan Remaining aspects are addressed in the Soil and Water Management Sub-plan.</p>	Pre-construction Construction	Section 3.1.1	<p>This Plan provides details on the environmental risk assessment workshop that was held (on 2 May 2018). The workshop identified and assessed potential environmental hazards and risks associated with construction activities.</p>

HR-6	A process for regularly reviewing work practices/procedures would be implemented throughout construction to identify, report and respond to any new environmental hazards/risks.	Pre-construction	Section 1.5.1 Appendix A2	<p>This Plan details the risk identification and management processes. The objective of these processes is to confirm that the works are designed and constructed within acceptable limits of risk to personnel and the environment.</p> <p>Environmental risks and opportunities are considered during all Project risk assessments, including:</p> <ul style="list-style-type: none"> • Principal Risk Assessment • Engineering workshops • Work Area Plan (WAP) risk assessments • Safe Work Method Statements (SWMS) • Environmental Work Method Statements (EWMS) • Environmental Control Maps (ECMs) • Erosion and Sedimentation Control Plans (ESCPs) • Prestart meetings and toolboxes.
HR-8	All cables would be buried within ducts and would adhere to all International and Australian electrical standards in terms of	Pre-construction	Utility Service Management	Reflecting the requirements of the Utility Service Management Plan, buried cables and

Item ID	Commitment	Timing	Reference	How Addressed
	distances from surrounding cables (i.e. adjacent high voltage cables require minimum separation in accordance with industry standards).	Construction	Plan	ducts would adhere to all International and Australian electrical standards in terms of distances from surrounding cables. Assurance is provided by the compliance tracking systems for the Project, including INX and RVTM.
LU-4	Transport for NSW would undertake works required to realign of the existing playing fields to mitigate the direct impact of the project on the ongoing use of the playing fields.	Construction	Section 3.8.5 Design Report	Through design refinement, potential significant impacts on the playing fields are unlikely to eventuate. In the event of impact, options to address playing field alterations will be developed. Assurance that the requirements of this commitment will be addressed is provided by the compliance tracking systems for the Project, including INX and RVTM.
VL-4	Detailed design of new bridges would be carried out in accordance with Bridge Aesthetics: Design guidelines to improve the appearance of bridges in NSW (RMS, 2012).	Pre-construction	Section 1.5.3 Section 3.8.5 Environmental Design Review Reports	The requirements of this condition will be addressed in relevant Environmental Design Review Reports. The process by which Environmental Design Review Reports are prepared is detailed in Section 1.5.3. Assurance that the requirements of this commitment will be addressed is provided by the compliance tracking systems for the Project, including INX and RVTM.

Item ID	Commitment	Timing	Reference	How Addressed
VL-5	During detailed design, opportunities would be investigated to improve pedestrian connections and public domain treatments at interchanges between transport services.	Pre-construction	Section 1.5.3 Section 3.8.5 Environmental Design Review Reports	The requirements of this condition will be addressed in relevant Environmental Design Review Reports. The process by which Environmental Design Review Reports are prepared is detailed in Section 1.5.3. Assurance that the requirements of this commitment will be addressed is provided by the compliance tracking systems for the Project, including INX and RVTM.

Item ID	Commitment	Timing	Reference	How Addressed
VL-6	<p>During detailed design, opportunities would be investigated where feasible to retain vegetation in order to screen and visually integrate the project with the surrounding area, and where required, additional tree planting and landscaping would be provided to screen views in order to soften the visual impact of the project including:</p> <ul style="list-style-type: none"> • Along Hawkesbury Road. • Within the Cumberland Hospital (east and west). • Riparian areas in the vicinity of bridge crossings. • Along the O'Connell Street perimeter of the Parramatta Gaol. • St Patrick's Roman Catholic Cemetery. • Within Prince Alfred Square. • Within Robin Thomas Reserve. • Within Queen's Wharf Reserve. • Along the boundary of the stabling and maintenance facility site. • Along the site boundary with the Western Sydney University campus. • Along the Carlingford Line. 	Pre-construction	<p>Section 1.5.3</p> <p>Section 3.8.5</p> <p>Environmental Design Review Reports</p>	<p>The requirements of this condition will be addressed in relevant Environmental Design Review Reports. The process by which Environmental Design Review Reports are prepared is detailed in Section 1.5.3.</p> <p>Assurance that the requirements of this commitment will be addressed is provided by the compliance tracking systems for the Project, including INX and RVTM.</p>

Item ID	Commitment	Timing	Reference	How Addressed
VL-9	<p>During detailed design, where feasible opportunities would be investigated to refine the project footprint in order to reduce impact on key heritage areas such as:</p> <ul style="list-style-type: none"> • St Patrick's Roman Catholic Cemetery. • Prince Alfred Square. • Robin Thomas Reserve. 	Pre-construction	<p>Section 1.5.3</p> <p>Section 3.8.5</p> <p>Environmental Design Review Reports</p>	<p>The requirements of this condition will be addressed in relevant Environmental Design Review Reports. The process by which Environmental Design Review Reports are prepared is detailed in Section 1.5.3.</p> <p>Assurance that the requirements of this commitment will be addressed is provided by the compliance tracking systems for the Project, including INX and RVTM.</p>
VL-10	<p>Detailed design of any overhead wire masts on Lennox Bridge would:</p> <ul style="list-style-type: none"> • Minimise the number of vertical elements • Locate vertical elements considering symmetry and surrounding built form • Minimise visibility from the river foreshore parkland. <p>During detailed design and construction planning, opportunities to reduce impacts on Lennox Bridge would be explored including:</p> <ul style="list-style-type: none"> • Minimising structural impacts in consultation with a structural engineer with heritage experience. • Minimising impacts on the significant fabric of the bridge in consultation with a heritage architect. • Considering a wire-free design in this area to reduce visual impacts. • Design responses to ensure adverse impacts to the bridge structure due to operational vibration are avoided. • The Heritage Division (as delegate of the NSW Heritage Council) would be consulted during detailed design. 	Pre-construction	<p>Section 1.5.3</p> <p>Section 3.8.5</p> <p>Environmental Design Review Reports</p>	<p>The requirements of this condition will be addressed in relevant Environmental Design Review Reports. The process by which Environmental Design Review Reports are prepared is detailed in Section 1.5.3.</p> <p>Assurance that the requirements of this commitment will be addressed is provided by the compliance tracking systems for the Project, including INX and RVTM.</p>

Item ID	Commitment	Timing	Reference	How Addressed
VL-11	During detailed design, opportunities would be investigated to minimise the visual impact of the stabling and maintenance facility to reduce adverse views to the facility.	Pre-construction	Section 1.5.3 Section 3.8.5 Environmental Design Review Reports	The requirements of this condition will be addressed in relevant Environmental Design Review Reports. The process by which Environmental Design Review Reports are prepared is detailed in Section 1.5.3. Assurance that the requirements of this commitment will be addressed is provided by the compliance tracking systems for the Project, including INX and RVTM.
VL-12	During detailed design, opportunities would be investigated for the layout of the Dundas stop so that it has greater visual prominence from approaching footpaths, and an improved relationship with the retained heritage station platform and building.	Pre-construction	Section 1.5.3 Section 3.8.5 Environmental Design Review Reports	The requirements of this condition will be addressed in relevant Environmental Design Review Reports. The process by which Environmental Design Review Reports are prepared is detailed in Section 1.5.3. Assurance that the requirements of this commitment will be addressed is provided by the compliance tracking systems for the Project, including INX and RVTM.
UT-1	Dial before you dig searches and non-destructive digging (including pot-holing and/or hand-digging) would be carried out to identify the presence of underground utilities prior to commencement of construction in accordance with guidelines provided by the relevant utility authority.	Pre-construction	Section 3.8.5 Utility Service Management Plan	The requirements of this condition will be addressed in the Utility Service Management Plan. Assurance that the requirements of this commitment will be addressed is provided by the compliance tracking systems for the Project, including INX and RVTM.

Item ID	Commitment	Timing	Reference	How Addressed
UT-2	<p>Consultation with utility service providers would be carried out during detailed design to ensure that appropriate measures are taken regarding the potential integration of future utilities requirements along the project alignment, and to ensure that the project does not preclude the development or installation of these proposed utilities.</p> <p>A Basis of Design Manual would be developed for each utility owner which would:</p> <ul style="list-style-type: none"> • Outline relocation or protection rules for each utility • Identify design approval process(es) and indicative timeframes • Identify construction requirements, including provisions for standby support • Indicate future proofing spares requirements • Identify interfacing projects to consider during project construction. <p>Ongoing consultation would be carried out with high risk utility providers (including Caltex and Jemena) to identify appropriate construction methodologies which would apply to construction operations within the vicinity of the Hunter Pipeline and Jemena secondary gas mains.</p>	Pre-construction	Section 3.8.5 Utility Service Management Plan	<p>The requirements of this condition will be addressed in the Utility Service Management Plan.</p> <p>Assurance that the requirements of this commitment will be addressed is provided by the compliance tracking systems for the Project, including INX and RVTM.</p>

Item ID	Commitment	Timing	Reference	How Addressed
UT-3	<p>A strategy for the management of utilities would be developed during detailed design. The strategy for the preferred hierarchy of utilities treatment would be as follows:</p> <ul style="list-style-type: none"> • Avoid/Do nothing – avoid impact on utilities where possible. • Protect – protect utilities in their existing locations where feasible. • Relocate – utilities to be relocated only where no other options are feasible or acceptable. 	Pre-construction	Section 3.8.5 Utility Service Management Plan	<p>The requirements of this condition will be addressed in the Utility Service Management Plan.</p> <p>Assurance that the requirements of this commitment will be addressed is provided by the compliance tracking systems for the Project, including INX and RVTM.</p>
UT-4	Risk assessments and hazard logs would be developed and specific management plans put in place if deemed necessary to mitigate the risk of personal safety incidents and asset integrity damage.	Pre-construction	Section 3.8.5 Utility Service Management Plan	<p>The requirements of this condition will be addressed in the Utility Service Management Plan.</p> <p>Assurance that the requirements of this commitment will be addressed is provided by the compliance tracking systems for the Project, including INX and RVTM.</p>
UT-5	The design of the project and construction activities would comply with the requirements of AS 2885 Pipelines – Gas and Liquid Petroleum, to ensure that existing utilities are protected.	Pre-construction	Section 3.8.5 Utility Service Management Plan	<p>The requirements of this condition will be addressed in the Utility Service Management Plan.</p> <p>Assurance that the requirements of this commitment will be addressed is provided by the compliance tracking systems for the Project, including INX and RVTM.</p>

Item ID	Commitment	Timing	Reference	How Addressed
UT-6	When working in the vicinity of utilities during construction, a review of the proposed works at these location(s) would be carried out by the Construction Contractor in consultation with the relevant service provider(s). The review would consider service provider and project requirements in terms of safety, network integrity and constructability. Safe working method statements and appropriate management plans must be implemented to minimise the risk of striking nearby utilities.	Pre-construction	Section 3.8.5 Utility Service Management Plan	The requirements of this condition will be addressed in the Utility Service Management Plan. Assurance that the requirements of this commitment will be addressed is provided by the compliance tracking systems for the Project, including INX and RVTM.
UT-7	During construction, the upgrade of utilities along Eat Street would consider, as far as practical, staging so that only part of the street is affected at any one time.	Pre-construction Construction	Section 3.8.5 Utility Service Management Plan	The requirements of this condition will be addressed in the Utility Service Management Plan. Assurance that the requirements of this commitment will be addressed is provided by the compliance tracking systems for the Project, including INX and RVTM.

Table A1-4: Environmental Performance Outcomes for the CEMP

ID Ref#	Environmental Performance Outcome	Timing	Plan reference	How Addressed
EPO-LU-1	The project would minimise property acquisition, where feasible and reasonable.	Detailed design	Section 3.8.5 Design Report	Opportunities to minimise property acquisition are explored as part of detailed design. Assurance is provided by the compliance tracking systems for the Project, including INX and RVTM.
EPO-UT-1	There would be no unplanned or unexpected disturbance of utilities.	Pre-Construction Construction	Section 3.8.5 Utility Service Management Plan	The requirements of this performance outcome are reflected in the Utility Service Management Plan. Assurance is provided by the compliance tracking systems for the Project, including INX and RVTM.

Table A1-5: AS/NZS ISO 14001 Requirements for CEMP

Item	Requirement	Reference
4.1	The organization shall determine external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended outcomes of its environmental management system. Such issues shall include environmental conditions being affected by or capable of affecting the organization.	Section 1.2 Section 1.5 Section 3.1
4.2	The organization shall determine: a) the interested parties that are relevant to the environmental management system; b) the relevant needs and expectations (i.e. requirements) of these interested parties; c) which of these needs and expectations become its compliance obligations.	Appendix A1 Section 2
4.3	The organization shall determine the boundaries and applicability of the environmental management system to establish its scope. When determining this scope, the organization shall consider: a) the external and internal issues referred to in 4.1; b) the compliance obligations referred to in 4.2; c) its organizational units, functions and physical boundaries; d) its activities, products and services; e) its authority and ability to exercise control and influence. Once the scope is defined, all activities, products and services of the organization within that scope need to be included in the environmental management system. The scope shall be maintained as documented information and be available to interested parties.	Section 1.4
4.4	To achieve the intended outcomes, including enhancing its environmental performance, the organization shall establish, implement, maintain and continually improve an environmental management system, including the processes needed and their interactions, in accordance with the requirements of this International Standard. The organization shall consider the knowledge gained in 4.1 and 4.2 when establishing and maintaining the environmental management system.	Section 1.5

Item	Requirement	Reference
5.1	<p>Top management shall demonstrate leadership and commitment with respect to the environmental management system by:</p> <ul style="list-style-type: none"> a) taking accountability for the effectiveness of the environmental management system; b) ensuring that the environmental policy and environmental objectives are established and are compatible with the strategic direction and the context of the organization; c) ensuring the integration of the environmental management system requirements into the organization's business processes; d) ensuring that the resources needed for the environmental management system are available; e) communicating the importance of effective environmental management and of conforming to the environmental management system requirements; f) ensuring that the environmental management system achieves its intended outcomes; g) directing and supporting persons to contribute to the effectiveness of the environmental management system; h) promoting continual improvement; i) supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility. <p>NOTE Reference to "business" in this International Standard can be interpreted broadly to mean those activities that are core to the purposes of the organization's existence.</p>	Section 3.2

Item	Requirement	Reference
5.2	<p>Top management shall establish, implement and maintain an environmental policy that, within the defined scope of its environmental management system:</p> <ul style="list-style-type: none"> a) is appropriate to the purpose and context of the organization, including the nature, scale and environmental impacts of its activities, products and services; b) provides a framework for setting environmental objectives; c) includes a commitment to the protection of the environment, including prevention of pollution and other specific commitment(s) relevant to the context of the organization; <p>NOTE Other specific commitment(s) to protect the environment can include sustainable resource use, climate change mitigation and adaptation, and protection of biodiversity and ecosystems.</p> <ul style="list-style-type: none"> d) includes a commitment to fulfil its compliance obligations; e) includes a commitment to continual improvement of the environmental management system to enhance environmental performance. <p>The environmental policy shall:</p> <ul style="list-style-type: none"> — be maintained as documented information; — be communicated within the organization; — be available to interested parties. 	Appendix A3
5.3	<p>Top management shall ensure that the responsibilities and authorities for relevant roles are assigned and communicated within the organization.</p> <p>Top management shall assign the responsibility and authority for:</p> <ul style="list-style-type: none"> a) ensuring that the environmental management system conforms to the requirements of this International Standard; b) reporting on the performance of the environmental management system, including environmental performance, to top management. 	Section 3.2 Section 3.8

Item	Requirement	Reference
6.1.1	<p>The organization shall establish, implement and maintain the process(es) needed to meet the requirements in 6.1.1 to 6.1.4.</p> <p>When planning for the environmental management system, the organization shall consider:</p> <ul style="list-style-type: none"> a) the issues referred to in 4.1; b) the requirements referred to in 4.2; c) the scope of its environmental management system; <p>and determine the risks and opportunities, related to its environmental aspects (see 6.1.2), compliance obligations (see 6.1.3) and other issues and requirements, identified in 4.1 and 4.2, that need to be addressed to:</p> <ul style="list-style-type: none"> — give assurance that the environmental management system can achieve its intended outcomes; — prevent or reduce undesired effects, including the potential for external environmental conditions to affect the organization; — achieve continual improvement. <p>Within the scope of the environmental management system, the organization shall determine potential emergency situations, including those that can have an environmental impact.</p> <p>The organization shall maintain documented information of its:</p> <ul style="list-style-type: none"> — risks and opportunities that need to be addressed; — process(es) needed in 6.1.1 to 6.1.4, to the extent necessary to have confidence they are carried out as planned. 	CEMP

Item	Requirement	Reference
6.1.2	<p>Within the defined scope of the environmental management system, the organization shall determine the environmental aspects of its activities, products and services that it can control and those that it can influence, and their associated environmental impacts, considering a life cycle perspective.</p> <p>When determining environmental aspects, the organization shall take into account:</p> <ul style="list-style-type: none"> a) change, including planned or new developments, and new or modified activities, products and services; b) abnormal conditions and reasonably foreseeable emergency situations. <p>The organization shall determine those aspects that have or can have a significant environmental impact, i.e. significant environmental aspects, by using established criteria. The organization shall communicate its significant environmental aspects among the various levels and functions of the organization, as appropriate.</p> <p>The organization shall maintain documented information of its:</p> <ul style="list-style-type: none"> — environmental aspects and associated environmental impacts; — criteria used to determine its significant environmental aspects; — significant environmental aspects. <p>NOTE Significant environmental aspects can result in risks and opportunities associated with either adverse environmental impacts (threats) or beneficial environmental impacts (opportunities).</p>	Section 1.5 Section 4
6.1.3	<p>The organization shall:</p> <ul style="list-style-type: none"> a) determine and have access to the compliance obligations related to its environmental aspects; b) determine how these compliance obligations apply to the organization; c) take these compliance obligations into account when establishing, implementing, maintaining and continually improving its environmental management system. <p>The organization shall maintain documented information of its compliance obligations.</p> <p>NOTE Compliance obligations can result in risks and opportunities to the organization.</p>	Section 3.1.2 Appendix A1

Item	Requirement	Reference
6.1.4	<p>The organization shall plan:</p> <ul style="list-style-type: none"> a) to take actions to address its: <ul style="list-style-type: none"> 1) significant environmental aspects; 2) compliance obligations; 3) risks and opportunities identified in 6.1.1; b) how to: <ul style="list-style-type: none"> 1) integrate and implement the actions into its environmental management system processes (see 6.2, Clause 7, Clause 8 and 9.1), or other business processes; 2) evaluate the effectiveness of these actions (see 9.1). <p>When planning these actions, the organization shall consider its technological options and its financial, operational and business requirements.</p>	Section 3.1
6.2.1	<p>The organization shall establish environmental objectives at relevant functions and levels, taking into account the organization's significant environmental aspects and associated compliance obligations, and considering its risks and opportunities.</p> <p>The environmental objectives shall be:</p> <ul style="list-style-type: none"> a) consistent with the environmental policy; b) measurable (if practicable); c) monitored; d) communicated; e) updated as appropriate. <p>The organization shall maintain documented information on the environmental objectives.</p>	Section 3.1.3

Item	Requirement	Reference
6.2.2	<p>When planning how to achieve its environmental objectives, the organization shall determine:</p> <ul style="list-style-type: none"> a) what will be done; b) what resources will be required; c) who will be responsible; d) when it will be completed; e) how the results will be evaluated, including indicators for monitoring progress toward achievement of its measurable environmental objectives (see 9.1.1). <p>The organization shall consider how actions to achieve its environmental objectives can be integrated into the organization's business processes.</p>	<p>Section 3.1.3</p> <p>Section 3.2</p> <p>Section 3.8</p>
7.1	<p>The organization shall determine and provide the resources needed for the establishment, implementation, maintenance and continual improvement of the environmental management system.</p>	Section 3.2
7.2	<p>The organization shall:</p> <ul style="list-style-type: none"> a) determine the necessary competence of person(s) doing work under its control that affects its environmental performance and its ability to fulfil its compliance obligations; b) ensure that these persons are competent on the basis of appropriate education, training or experience; c) determine training needs associated with its environmental aspects and its environmental management system; d) where applicable, take actions to acquire the necessary competence, and evaluate the effectiveness of the actions taken. <p>NOTE Applicable actions can include, for example, the provision of training to, the mentoring of, or the reassignment of currently employed persons; or the hiring or contracting of competent persons.</p> <p>The organization shall retain appropriate documented information as evidence of competence.</p>	<p>Section 3.3</p> <p>Section 3.4</p>

Item	Requirement	Reference
7.3	<p>The organization shall ensure that persons doing work under the organization's control are aware of:</p> <ul style="list-style-type: none"> a) the environmental policy; b) the significant environmental aspects and related actual or potential environmental impacts associated with their work; c) their contribution to the effectiveness of the environmental management system, including the benefits of enhanced environmental performance; d) d) the implications of not conforming with the environmental management system requirements, including not fulfilling the organization's compliance obligations. 	Section 3.4
7.4.1	<p>The organization shall establish, implement and maintain the process(es) needed for internal and external communications relevant to the environmental management system, including:</p> <ul style="list-style-type: none"> a) on what it will communicate; b) when to communicate; c) with whom to communicate; d) how to communicate. <p>When establishing its communication process(es), the organization shall:</p> <ul style="list-style-type: none"> — take into account its compliance obligations; — ensure that environmental information communicated is consistent with information generated within the environmental management system, and is reliable. <p>The organization shall respond to relevant communications on its environmental management system. The organization shall retain documented information as evidence of its communications, as appropriate.</p>	Section 3.6
7.4.2	<p>The organization shall:</p> <ul style="list-style-type: none"> a) internally communicate information relevant to the environmental management system among the various levels and functions of the organization, including changes to the environmental management system, as appropriate; b) ensure its communication process(es) enable(s) persons doing work under the organization's control to contribute to continual improvement. 	Section 3.6
7.4.3	<p>The organization shall externally communicate information relevant to the environmental management system, as established by the organization's communication process(es) and as required by its compliance obligations.</p>	Section 3.6

Item	Requirement	Reference
7.5.1	<p>The organization's environmental management system shall include:</p> <ul style="list-style-type: none"> a) documented information required by this International Standard; b) documented information determined by the organization as being necessary for the effectiveness of the environmental management system. <p>NOTE The extent of documented information for an environmental management system can differ from one organization to another due to:</p> <ul style="list-style-type: none"> — the size of organization and its type of activities, processes, products and services; — the need to demonstrate fulfilment of its compliance obligations; — the complexity of processes and their interactions; — the competence of persons doing work under the organization's control. 	Appendix A1
7.5.2	<p>When creating and updating documented information, the organization shall ensure appropriate:</p> <ul style="list-style-type: none"> a) identification and description (e.g. a title, date, author, or reference number); b) format (e.g. language, software version, graphics) and media (e.g. paper, electronic); c) review and approval for suitability and adequacy. 	<p>Section 3.10</p> <p>Section 3.12</p>

Item	Requirement	Reference
7.5.3	<p>Documented information required by the environmental management system and by this International Standard shall be controlled to ensure:</p> <ul style="list-style-type: none"> a) it is available and suitable for use, where and when it is needed; b) it is adequately protected (e.g. from loss of confidentiality, improper use, or loss of integrity). <p>For the control of documented information, the organization shall address the following activities as applicable:</p> <ul style="list-style-type: none"> — distribution, access, retrieval and use; — storage and preservation, including preservation of legibility; — control of changes (e.g. version control); — retention and disposition. <p>Documented information of external origin determined by the organization to be necessary for the planning and operation of the environmental management system shall be identified, as appropriate, and controlled.</p> <p>NOTE Access can imply a decision regarding the permission to view the documented information only, or the permission and authority to view and change the documented information.</p>	This Plan

Item	Requirement	Reference
8.1	<p>The organization shall establish, implement, control and maintain the processes needed to meet environmental management system requirements, and to implement the actions identified in 6.1 and 6.2, by:</p> <ul style="list-style-type: none"> — establishing operating criteria for the process(es); — implementing control of the process(es), in accordance with the operating criteria. <p>NOTE Controls can include engineering controls and procedures. Controls can be implemented following a hierarchy (e.g. elimination, substitution, administrative) and can be used individually or in combination.</p> <p>The organization shall control planned changes and review the consequences of unintended changes, taking action to mitigate any adverse effects, as necessary.</p> <p>The organization shall ensure that outsourced processes are controlled or influenced. The type and extent of control or influence to be applied to the process(es) shall be defined within the environmental management system.</p> <p>Consistent with a life cycle perspective, the organization shall:</p> <ol style="list-style-type: none"> a) establish controls, as appropriate, to ensure that its environmental requirement(s) is (are) addressed in the design and development process for the product or service, considering each life cycle stage; b) determine its environmental requirement(s) for the procurement of products and services, as appropriate; c) communicate its relevant environmental requirement(s) to external providers, including contractors; d) consider the need to provide information about potential significant environmental impacts associated with the transportation or delivery, use, end-of-life treatment and final disposal of its products and services. <p>The organization shall maintain documented information to the extent necessary to have confidence that the processes have been carried out as planned.</p>	Section 3.1

Item	Requirement	Reference
8.2	<p>The organization shall establish, implement and maintain the process(es) needed to prepare for and respond to potential emergency situations identified in 6.1.1. The organization shall:</p> <ul style="list-style-type: none"> a) prepare to respond by planning actions to prevent or mitigate adverse environmental impacts from emergency situations; b) respond to actual emergency situations; c) take action to prevent or mitigate the consequences of emergency situations, appropriate to the magnitude of the emergency and the potential environmental impact; d) periodically test the planned response actions, where practicable; e) periodically review and revise the process(es) and planned response actions, in particular after the occurrence of emergency situations or tests; f) provide relevant information and training related to emergency preparedness and response, as appropriate, to relevant interested parties, including persons working under its control. <p>The organization shall maintain documented information to the extent necessary to have confidence that the process(es) is (are) carried out as planned.</p>	Section 3.7
9.1.1	<p>The organization shall monitor, measure, analyse and evaluate its environmental performance. The organization shall determine:</p> <ul style="list-style-type: none"> a) what needs to be monitored and measured; b) the methods for monitoring, measurement, analysis and evaluation, as applicable, to ensure valid results; c) the criteria against which the organization will evaluate its environmental performance, and appropriate indicators; d) when the monitoring and measuring shall be performed; e) when the results from monitoring and measurement shall be analysed and evaluated. <p>The organization shall ensure that calibrated or verified monitoring and measurement equipment is used and maintained, as appropriate. The organization shall evaluate its environmental performance and the effectiveness of the environmental management system. The organization shall communicate relevant environmental performance information both internally and externally, as identified in its communication process(es) and as required by its compliance obligations. The organization shall retain appropriate documented information as evidence of the monitoring, measurement, analysis and evaluation results.</p>	Section 3.8

Item	Requirement	Reference
9.1.2	<p>The organization shall establish, implement and maintain the process(es) needed to evaluate fulfilment of its compliance obligations. The organization shall:</p> <ul style="list-style-type: none"> a) determine the frequency that compliance will be evaluated; b) evaluate compliance and take action if needed; c) maintain knowledge and understanding of its compliance status. d) The organization shall retain documented information as evidence of the compliance evaluation result(s). 	Appendix A1
9.2.1	<p>The organization shall conduct internal audits at planned intervals to provide information on whether the environmental management system:</p> <ul style="list-style-type: none"> a) conforms to: <ul style="list-style-type: none"> 1) the organization's own requirements for its environmental management system; 2) the requirements of this International Standard; b) is effectively implemented and maintained. 	Section 3.8.3
9.2.2	<p>The organization shall establish, implement and maintain (an) internal audit programme(s), including the frequency, methods, responsibilities, planning requirements and reporting of its internal audits. When establishing the internal audit programme, the organization shall take into consideration the environmental importance of the processes concerned, changes affecting the organization and the results of previous audits. The organization shall:</p> <ul style="list-style-type: none"> a) define the audit criteria and scope for each audit; b) select auditors and conduct audits to ensure objectivity and the impartiality of the audit process; c) ensure that the results of the audits are reported to relevant management. <p>The organization shall retain documented information as evidence of the implementation of the audit programme and the audit results.</p>	Section 3.8.3

Item	Requirement	Reference
9.3	<p>Top management shall review the organization's environmental management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness. The management review shall include consideration of:</p> <ul style="list-style-type: none"> a) the status of actions from previous management reviews; b) changes in: <ul style="list-style-type: none"> 3) external and internal issues that are relevant to the environmental management system; 4) the needs and expectations of interested parties, including compliance obligations; 5) its significant environmental aspects; 6) risks and opportunities; c) the extent to which environmental objectives have been achieved; d) information on the organization's environmental performance, including trends in: <ul style="list-style-type: none"> 1) nonconformities and corrective actions; 2) monitoring and measurement results; 3) fulfilment of its compliance obligations; 4) audit results; e) adequacy of resources; f) relevant communication(s) from interested parties, including complaints; g) opportunities for continual improvement. <p>The outputs of the management review shall include:</p> <ul style="list-style-type: none"> — conclusions on the continuing suitability, adequacy and effectiveness of the environmental management system; — decisions related to continual improvement opportunities; — decisions related to any need for changes to the environmental management system, including resources; — actions, if needed, when environmental objectives have not been achieved; — opportunities to improve integration of the environmental management system with other business processes, if needed; — any implications for the strategic direction of the organization. <p>The organization shall retain documented information as evidence of the results of management reviews.</p>	Section 3.11

Item	Requirement	Reference
10.1	The organization shall determine opportunities for improvement (see 9.1, 9.2 and 9.3) and implement necessary actions to achieve the intended outcomes of its environmental management system.	Section 3.12
10.2	<p>When a nonconformity occurs, the organization shall:</p> <ul style="list-style-type: none"> a) react to the nonconformity and, as applicable: <ul style="list-style-type: none"> 1) take action to control and correct it; 2) deal with the consequences, including mitigating adverse environmental impacts; b) evaluate the need for action to eliminate the causes of the nonconformity, in order that it does not recur or occur elsewhere, by: <ul style="list-style-type: none"> 1) reviewing the nonconformity; 2) determining the causes of the nonconformity; 3) determining if similar nonconformities exist, or could potentially occur; c) implement any action needed; d) review the effectiveness of any corrective action taken; e) make changes to the environmental management system, if necessary. <p>Corrective actions shall be appropriate to the significance of the effects of the nonconformities encountered, including the environmental impact(s).</p> <p>The organization shall retain documented information as evidence of:</p> <ul style="list-style-type: none"> — the nature of the nonconformities and any subsequent actions taken; — the results of any corrective action. 	Section 3.9
10.3	The organization shall continually improve the suitability, adequacy and effectiveness of the environmental management system to enhance environmental performance.	Section 3.12

For more information about the Parramatta Light
Rail project, visit Parramattalightrail.nsw.gov.au

Call: 1800 139 389

Email: Parramattalightrail@transport.nsw.gov.au



Appendix A2 Environmental Risk Register

Appendix A2

Environmental Risk Register

Transport for NSW
Infrastructure Package

Parramatta Light Rail – Stage 1

February 2020

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This Environmental Risk Register has been prepared by CPBD JV, to supplement the Environmental Risk Analysis conducted as part of the Environmental Assessment (EA).

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 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, the REMMM, and review of the environmental risks identified by the EIS and subsequent Submissions Report.

Risk Criteria

Risk management criteria is presented in the following tables and was extracted from the TfNSW Project Risk Management Procedure (3TP-PR-086/2.0). Table 1 provides relevant key definitions and Table 2 provides an example of particular consequence criteria.

To rate a risk, consequence categories that apply to identified impacts are determined, and then the likelihood for each identified consequence are defined (refer to Table 3).

The overall risk rating (Extreme, High, Medium, and Low) for each applicable category is then determined by use of the risk matrix in Table 4.

Table 1: Definitions of key terms

Key Term	Definition
Consequence	<p>Outcome of an event affecting objectives.</p> <ul style="list-style-type: none">• An event can lead to a range of consequences• A consequence can be certain or uncertain and can have positive or negative effects on objectives• Consequences can be expressed qualitatively or quantitatively• Initial consequences can escalate through knock-on effects.
Likelihood	<p>The chance of something happening.</p> <ul style="list-style-type: none">• Likelihood is described using general terms, or mathematically, such as a probability or a frequency over a given time period• In risk management terminology, the term likelihood refers to the chance of something happening, whether defined, measured or determined objectively or subjectively, qualitatively or quantitatively.

Key Term	Definition
Risk Rating	Risk rating combines the consequence and likelihood ratings to determine the overall risk ratings (either 'Extreme', 'High', 'Medium' or 'Low').

Table 2: Consequence Criteria

INSIGNIFICANT S6	MINOR S5	MODERATE S4	MAJOR S3	CRITICAL S2	CATASTROPHIC S1
SAFETY Injury and Disease (including employees, contractors, passengers, and the public)					
Illness, first aid treatment or injury not requiring treatment.	One or more Minor Injuries (medical treatment required).	Loss Time Injury (or restricted injury or occupational illness (recoverable)).	Multiple Injuries or permanent major disabilities of employees, contractors, passengers, and/or the public.	Fatality of one employee, contractor, passenger, or a member of the public.	Multiple Fatalities involving employees, contractors, passengers, and/or the public.
ENVIRONMENT Environmental Effects / Cultural Heritage					
No appreciable change to environment or highly localised event.	Change from normal conditions but within environmental regulatory limits. Environmental effects are within site boundaries.	Short lived environmental effect. Effects to environment but experienced mostly within boundary. Minor remedial actions probably required. Breach of environmental law or regulation.	Impacting external ecosystem. Considerable remediation required. Serious breach of environmental law or regulation with investigation or report to authority with prosecution and/or moderate fine possible.	Long-term environmental impairment felt in neighbouring or valued ecosystem functions. Long term remediation required. Major breach of environmental law or regulation with likely major litigation.	Irreversible large scale environmental impact. Loss of valued ecosystem. Violation of environmental law or regulation such that very serious litigation, fines and prosecution.
FINANCIAL Project/Program/I&S Division Project Budgets					
Loss or increased cost of < \$100k.	Loss or increased cost of \$100k - \$500k.	Loss or increased cost of \$500k - \$1M.	Loss or increased cost of \$1M - \$10M.	Loss or increased cost of \$10M - \$100M	Loss or increased cost of > \$100M.
SERVICE RELIABILITY Passengers					
No impact on on-time or Nil impact on commuters	< 5 trains delayed or cancelled for less than 5 minutes in 1 sector	5 or more trains delayed or cancelled for 5 or more minutes in 1 sector	12 or more trains delayed or cancelled for 5 or more minutes in 1 sector	Whole network closes down for 1 peak period. 240-480 peak hour train delays and cancellations	Whole network closes down for multiple peak periods. > 480 peak hour train delays and cancellations
REPUTATION Government / Media / Stakeholders					

INSIGNIFICANT S6	MINOR S5	MODERATE S4	MAJOR S3	CRITICAL S2	CATASTROPHIC S1
No reaction / apprehension: Goodwill and reputation retained.	Unease: Reputation remains but loss of some goodwill. Some ongoing scrutiny / attention.	Disappointment: reputation questioned but quickly recoverable. Ongoing local public and/or media attention and/or complaints.	Concern: Reputation damaged but recoverable with time. Heightened concern by local community/media.	Displeasure: Reputation damaged but recoverable given significant effort, time & resources. Adverse media / public attention.	Outrage: Reputation damaged beyond repair. Serious public or media outcry.
REPUTATION Community					
Little or no community reaction or recognition.	Unease: Community recognises issues with minor reaction.	Community reaction and concern is evident. All or most concerns are capable of management by actions.	Community reaction and concern is significant and may impact on the success of the initiative. Issues require additional project resources to resolve.	Community actively oppose activities. Issues are substantial and require diversion of resources to resolve.	Community reaction and concern is overwhelming causing major changes or project cancellation. Requires fundamental changes to project resourcing / approach.
REPUTATION Time					
No real delay, as project has provision for accelerated schedule.	Minor delay on the project or another project and no public implications.	Final completion date missed or track possession missed for non-critical path activity (i.e. will not ultimately delay intended date for usage).	Publicly announced portion / milestone missed or final completion date missed or track possession missed – but demonstrable mitigating external circumstances.	Publicly announced portion / milestones missed or final completion date missed or track possession missed - all for critical path projects.	Publicly announced portion/milestones significantly missed or final completion date significantly missed or multiple track possessions missed – all for critical path projects.

Table 3: Likelihood criteria

INCREDIBLE (L6)	IMPROBABLE (L5)	REMOTE (L4)	OCCASIONAL (L3)	PROBABLE (L2)	FREQUENT (L1)
Quantitative Frequency					
Less than once every 100 years.	Once every 10 to 100 years.	Once every 5 to 10 years.	Once every 2 to 5 years.	Annually	More than once per year.
Qualitative Expectation					
You do not expect it would ever occur during the life of the project.	You do not expect it to occur during the life of the project.	You would expect it will more likely not occur than occur during the life of the project.	You would expect it will occur more likely than not occur during the life of the project.	You expect it will very likely occur during the life of the project.	You expect it will definitely be a regular & repeated feature of the project life.

Table 4: Risk Matrix

Risk Level: 1 – Extreme 2 – High 3 – Medium 4 – Low		L6	L5	L4	L3	L2	L1
		INCREDIBLE	IMPROBABLE	REMOTE	OCCASIONAL	PROBABLE	FREQUENT
SI	CATASTROPHIC	2	1	1	1	1	1
S2	CRITICAL	3	2	1	1	1	1
S3	MAJOR	3	3	2	2	2	1
S4	MODERATE	4	3	3	2	2	2
S6	MINOR	4	4	3	3	3	2
S7	INSIGNIFICANT	4	4	4	4	4	3

Table 5: Environmental Risk Register

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation and Management Measures	Risk level following mitigation	Management Documents
Air quality	General earthworks Vegetation clearing Open excavation works Spoil handling Stockpiling Vehicular movements on unsealed roads Material haulage Quarrying Vehicle emissions Handling of chemicals, waste and hazardous goods.	Loss of amenity	3 (medium)	<ul style="list-style-type: none"> Induct personnel on air quality risks and controls Use water carts on unsealed surfaces and stockpiles Utilise safe dust suppressants to reduce dust generation Use street sweepers to reduce dust in areas of dust build up 	4 (low)	Air Quality and Dust Management Sub-plan Environmental Work Method Statements Soil and Water Management Sub-plan Complaints Procedure Delivery Phase Sustainability Management Plan
		Potential adverse health effects	4 (low)	<ul style="list-style-type: none"> Modify or cease operations during high winds All trucks on public roads to cover loads 	4 (low)	
		Degradation of water quality and other aspects of the natural environment	4 (low)	<ul style="list-style-type: none"> Vehicles, equipment, machinery used and all facilities – designed, operated and maintained to control the emission of smoke, dust, odours and fumes All disturbed areas stabilised, revegetated and/or landscaped as soon as practicable 	4 (low)	
		Health risks to stakeholders from fumes and/or smoke	4 (low)	<ul style="list-style-type: none"> Establish adequate controls to prevent tracking of mud/dust onto public roads No burning or incineration of any material at any time Dust monitoring Avoid hot work during total fire bans and obtain any necessary permits/exemptions from the Rural Fire Service 	4 (low)	
		Excessive greenhouse gas emissions	4 (low)	<ul style="list-style-type: none"> Avoid unnecessary idling of vehicles Minimise offsite transfer of materials Implement Green Travel Plan 	4 (low)	
Soil & Water	Bulk earthworks Vegetation clearing and topsoil stripping Site access including temporary waterway crossings Utility realignment works (All utility providers) Bridge construction & Piling Enabling works / demolition Slope or embankment creation/stabilisation processes Enabling works / demolition Temporary Works	Erosion and sediment runoff from stockpiles	B (medium)	<ul style="list-style-type: none"> Stockpiles are to be covered, protected with down slope sediment fences, or stabilised Identify suitable stockpile locations on Environmental Control Maps and Erosion and Sediment Control Plans The location of temporary stockpiles must either be elevated or located outside of the 10% AEP flood level. 	C (low)	Soil and Water Management Sub-plan Erosion and Sediment Control Plans Flood Management Sub-plan
		Frequency and level of inundation of flood waters (climate change)	B (medium)	<ul style="list-style-type: none"> The location of temporary stockpiles must either be elevated or located outside of the 10% AEP flood level. Implement the Construction Ancillary Facility Checklist and the Minor Ancillary Facility Checklist 	B (medium)	Flood Management Plan Site Establishment Management Plan
		Erosion and sediment runoff from cut area.	B (medium)	<ul style="list-style-type: none"> Site controls to be installed as per LandComs Blue Book (2004). Inspect erosion and sediment controls at least weekly, prior to rainfall, daily during rainfall, following rainfall and prior to site shut down greater than 48hr 	C (low)	Soil and Water Management Sub-plan Erosion and Sediment Control Plans
		Dust from stockpiles in highly sensitive areas.	B (medium)	<ul style="list-style-type: none"> Stockpiles in sensitive areas to be stabilised with polymer or covered 	C (Low)	Soil and Water Management Sub-plan Erosion and Sediment Control Plans
		Contaminated soils (project risk).	B (medium)	<ul style="list-style-type: none"> In-situ waste classifications to be undertaken where feasible Unexpected Contaminated Land and Asbestos Finds Procedure Asbestos hygienist to be on-call for out of hours works near suspected asbestos pits and pipes, i.e. intersections and areas known to be contaminated. 	C (Low)	Contaminated Land Management Sub-plan
		Disturbance of ASS (project risk).	B (medium)	<ul style="list-style-type: none"> Acid Sulphate Soil procedure to be establish Provisions to be made for expected ASS in bridge piling areas near waterways. 	C (Low)	Soil and Water Management Sub-plan
		Intercepting groundwater, in particular during pipe-jacking works, pole structures.	A (High)	<ul style="list-style-type: none"> Construction Site Dewatering and Discharge Procedure to be undertaken by trained staff and dewatering permit to be in place Geo-tech surveys to determine water table height before piling and deep excavation activities. 	B (medium)	Soil and Water Management Sub-plan Construction Site Dewatering and Discharge Procedure

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation and Management Measures	Risk level following mitigation	Management Documents
		Space constraints for stockpiles.	B (medium)	<ul style="list-style-type: none"> Identify suitable stockpile locations on Environmental Control Maps and Erosion and Sediment Control Plans 	C (Low)	Waste and Resource Management Sub-plan
		Proximity of compounds to waterways	B (medium)	<ul style="list-style-type: none"> Compounds to be 50m from waterways with robust surface water controls in place. Designated compound areas to be defined in the Site Establishment Management Plan 	C (Low)	Site Establishment Management Plan
		Drilling fluid.	B (medium)	<ul style="list-style-type: none"> Retained or discharged as per Construction Site Dewatering and Discharge Procedure 	C (Low)	Construction Site Dewatering and Discharge Procedure
		Discharge from sediment basin.	B (medium)	<ul style="list-style-type: none"> Designated stabilised discharge point to be used EPA Approved Discharge permit to be in place 	C (Low)	Soil and Water Management Sub-plan Discharge Impact Assessment Construction Site Dewatering and Discharge Procedure
		Disposal of prescribed waste (potentially contaminated fill and road deconstruction waste).	B (medium)	<ul style="list-style-type: none"> In-site waste classifications to be prepared, where feasible Materials tracked and logged into a tracking register. 	C (Low)	Waste and Resource Management Sub-plan Waste Management Plans to be prepared in accordance with EPL O4
	Compounds operation including fuel and chemical storage, refuelling and chemical handling	Flooding runoff reaching site areas (compounds, stockpiles, vehicles, sediment basins).	B (medium)	<ul style="list-style-type: none"> Fuels and chemicals not to be stored in flood prone areas Chemical spill kits / spill response materials must be readily available and accessible to construction workers in the event of a spill Storage of hazardous materials, and refuelling/maintenance of construction plant and equipment to be carried out in clearly marked and bunded areas within the construction site that are designed to contain spills and leaks in accordance with Australian Standards and DECCW guidelines The effective volume of the secondary containment for tank storage needs to be at least 100% of total volume of the largest tank, plus enough additional capacity to contain rain or fire-fighting water. As a guide sufficient capacity should be allowed to cope with a one-in-twenty-year 24-hour storm. 	C (Low)	Flood Management Sub-plan Soil and Water Management Sub-plan Environmental Work Method Statements Erosion and Sediment Control Plans
	Bridge construction	Spoil contamination discharge into waterway (coffer dam & waterway diversion).	A (High)	<ul style="list-style-type: none"> Site erosion and sedimentation controls to be in place as per Erosion and Sediment Control Plans Silt curtains to be used in waterways for bridge works, to be inspected daily. 	B (medium)	Soil and Water Management Sub-plan Erosion and Sediment Control Plans
		Flow velocity and associated impacts to sediment transport and geomorphology (waterway diversion).	A (High)	<ul style="list-style-type: none"> Works in waterways to be in accordance with Bluebook Erosion and Sediment Control Plans to be submitted to ER/TfNSW prior to sensitive area works. 	B (medium)	Erosion and Sediment Control Plans
		Water quality impacts on downstream receptors.	A (High)	<ul style="list-style-type: none"> In-situ continuous water monitoring equipment to be used with real-time data collection Site controls to include silt booms, polymer stabilisation, surface water controls and progressive stabilisation. 	C (Low)	Soil and Water Management Sub-plan Erosion and Sediment Control Plans Environmental Work Method Statement
		Physical disruption of riverbed – increase TSS, smothering of ecological habitat (localised and downstream – potentially upstream dependent on tidal strength).	B (medium)	<ul style="list-style-type: none"> Riparian areas to be fenced, tool boxed, and permit to enter before works can commence in these areas. 	C (Low)	Soil and Water Management Sub-plan Erosion and Sediment Control Plans, Environmental Work Method Statement
		Tidal impacts (diurnal fluctuation in water level and potential impacts both upstream and downstream).	B (medium)	<ul style="list-style-type: none"> Flood Management Design Report to be prepared at each design stage with potential to cause adverse flooding impacts 	C (Low)	Soil and Water Management Sub-plan Erosion and Sediment Control Plans Environmental Work Method Statement

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation and Management Measures	Risk level following mitigation	Management Documents
	Paving activities	Increased impervious surfaces and therefore runoff.	C (low)	<ul style="list-style-type: none"> Controls to include drainage pit bags (drain wardens), polymer and seal for un-prepped areas. 	C (Low)	Erosion and Sediment Control Plans
	Utility realignment works (All utility providers)	Asbestos pipes	A (High)	<ul style="list-style-type: none"> Hygienist to be in standby for intersection out of hours works. 	B (medium)	Contaminated Land Management Sub-plan
		Imported fill	C (low)	<ul style="list-style-type: none"> Minimise through material reuse. 	C (low)	Contaminated Land Management Sub-plan
		Unknown geology	M (Medium)	<ul style="list-style-type: none"> Check for hard-rock/bedrock vs tertiary level gravels and sands. 	C (Low)	Contaminated Land Management Sub-plan
		Temporary discharges/leaks of sewerage due to diversions	A (High)	<ul style="list-style-type: none"> Vacuum truck(s) on standby during diversions. 	C (Low)	Soil and Water Management Sub-plan
		Stormwater diversions	A (High)	<ul style="list-style-type: none"> Vacuum truck(s) on standby during diversions Works not planned in inclement weather. 	B (medium)	Soil and Water Management Sub-plan Erosion and Sediment Control Plans Environmental Work Method Statement
		Potential risk of rainfall flooding into excavation works	M (Medium)	<ul style="list-style-type: none"> Diverting surface water away from excavations with site controls Dewatering, or pumping excess water into tank for onsite treatment or removal to licenced facility Blinding base of excavations with stabilised inlet to prevent sediment stirring. 	C (Low)	Erosion and Sediment Control Plans
	Site access including temporary waterway crossings	Changes to flow velocity	A (High)	<ul style="list-style-type: none"> Flow rate data to be assessed prior to designing temporary crossing Environmental Work Method Statement to be submitted to review prior to commencement of works and release of hold point. 	B (medium)	Environmental Work Method Statement Erosion and Sediment Control Plans
Heritage & Aboriginal Heritage	Bulk Earthworks Bridge construction Vegetation clearing and topsoil stripping	Disturbance of Aboriginal Archaeology (portion of Parramatta Sand Body).	A (High)	<ul style="list-style-type: none"> Unexpected Heritage Finds Guideline Archaeological testing prior to commencement of construction 	B (medium)	Heritage Management Sub-plan
	Utility realignment works (All utility providers)	Identified Aboriginal heritage sites	A (High)	<ul style="list-style-type: none"> Consultation with Registered Aboriginal Parties ACHAR. 	B (medium)	Heritage Management Sub-plan
	Culvert and drainage works Site access including temporary waterway crossings	Consultation requirements	A (High)	<ul style="list-style-type: none"> Aboriginal parties are identified early on in the project so a streamlined consultation and works process can be undertaken for survey and other works Wider government parties to be consulted prior to construction. 	B (medium)	Heritage Management Sub-plan
	Slope or embankment creation/stabilisation processes Enabling works / demolition Material stockpiles including the treatment of contaminated or acid sulphate soil and rock Compounds operation including fuel and chemical storage, refuelling and chemical handling	Identified non-Aboriginal heritage sites	A (High)	<ul style="list-style-type: none"> Controls as per the Historical Archaeological Research Design. 	B (medium)	Heritage Management Sub-plan
	Bulk Earthworks Bridge construction Enabling works / demolition	Unidentified Aboriginal heritage sites and coordination of surface clearance.	A (High)	<ul style="list-style-type: none"> Unexpected Heritage Finds Guideline Archaeological testing prior to commencement of construction 	M (Medium)	Heritage Management Sub-plan Unexpected Heritage Finds Guideline
	Slope or embankment creation/stabilisation processes Vegetation clearing and topsoil stripping	Unidentified non-Aboriginal heritage sites.	M (Medium)	<ul style="list-style-type: none"> Unexpected Heritage Finds Guideline Archaeological testing prior to commencement of construction 	M (Medium)	Heritage Management Sub-plan Unexpected Heritage Finds Guideline
	Utility realignment works (All utility providers)	Impact to cultural landscape and/or intangible values	M (Medium)	<ul style="list-style-type: none"> Personnel to be trained in the requirements of the Heritage Management Sub-plan 	M (Medium)	Heritage Management Sub-plan Unexpected Heritage Finds Guideline

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation and Management Measures	Risk level following mitigation	Management Documents
	Bulk Earthworks Bridge construction Vegetation clearing and topsoil stripping Enabling works / demolition Slope or embankment creation/stabilisation processes Material stockpiles including the treatment of contaminated or acid sulphate soil and rock Compounds operation including fuel and chemical storage, refuelling and chemical handling	Aesthetic curtilage (area and context around the heritage item itself is part of the item) – problem for construction compound sites, stockpiling site.	M (Medium)	<ul style="list-style-type: none"> Physical barriers and access restrictions Induction training 	M (Medium)	Heritage Management Sub-plan
Noise	Bulk Earthworks Bridge Construction Vegetation clearing and topsoil stripping Utility realignment works (All utility providers) Culvert and drainage works Site access including temporary waterway crossings Batch plant operation (TBC) Slope or embankment creation/stabilisation processes Enabling works / demolition Material stockpiles including the treatment of contaminated or acid sulphate soil and rock Compounds operation including fuel and chemical storage, refuelling and chemical handling Dewatering activities Paving activities Construction phase water use / extraction for	Highly noise intensive work	H (high)	<ul style="list-style-type: none"> Implement controls as per the Construction Noise and Vibration Impact Statement and Construction Noise and Vibration Strategy (TfNSW) Adhere to the EPL for standard construction hours, works outside of standard construction hours and respite periods Adhere to respite requirements (highly noise intensive works respite and out of hours works respite) as defined in the CoA Coordinate works with other projects to minimise cumulative impacts 	M (Medium)	Noise and Vibration Management Plan Out of Hours Works Permits Highly Noise Intensive Works Permit
		Track alignment vs off-corridor works: difference in activity and therefore noise level.	M (Medium)	<ul style="list-style-type: none"> Implement controls as per the Construction Noise and Vibration Impact Statement and Construction Noise and Vibration Strategy (TfNSW) Adhere to the EPL for standard construction hours, works outside of standard construction hours and respite periods Adhere to respite requirements (highly noise intensive works respite and out of hours works respite) as defined in the CoA Coordinate works with other projects to minimise cumulative impacts 	L (Low)	Noise and Vibration Management Plan Out of Hours Works Permits Highly Noise Intensive Works Permit
		Out of Hours Works	A (high)	<ul style="list-style-type: none"> Implement controls as per the Construction Noise and Vibration Impact Statement and Construction Noise and Vibration Strategy (TfNSW) Adhere to the Out of Hours works Protocol Adhere to respite requirements (highly noise intensive works respite and out of hours works respite) as defined in the CoA Coordinate works with other projects to minimise cumulative impacts 	M (Medium)	Communication and Engagement Management Plan
Vibration	Bulk Earthworks Bridge Construction Utility realignment works (All utility providers) Culvert and drainage works Site access including temporary waterway crossings Slope or embankment creation/stabilisation processes Enabling works / demolition Material stockpiles including the treatment of contaminated or acid sulphate soil and rock	Structural damage and human annoyance	A (high)	<ul style="list-style-type: none"> Implement controls as per the Construction Noise and Vibration Impact Statement and Construction Noise and Vibration Strategy (TfNSW) Adhere to the EPL for standard construction hours, works outside of standard construction hours and respite periods Adhere to respite requirements (highly noise intensive works respite and out of hours works respite) as defined in the CoA and EPL Coordinate works with other projects to minimise cumulative impacts Vibration monitors to have real-time alarms and modem installed at highly sensitive locations. 	M (Medium)	Noise and Vibration Management Plan

Issue	Construction activity/aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation and Management Measures	Risk level following mitigation	Management Documents
	Compounds operation including fuel and chemical storage, refuelling and chemical handling Dewatering activities Paving activities Construction phase water use / extraction for					
Flora & Fauna	Bulk Earthworks Bridge Construction Vegetation clearing and topsoil stripping Utility realignment works (All utility providers) Culvert and drainage works Site access including temporary waterway crossings Utility realignment works (NBN, sewers, electrical etc.) Slope or embankment creation/stabilisation processes Enabling works / demolition refuelling and chemical handling Noxious weed treatment including herbicide spraying	Unnecessary Removal of Trees	A (high)	<ul style="list-style-type: none"> Pre-construction Clearing Survey to be undertaken as early works Ensure pre-clearing permits and procedures are adhered Alignment of project design with Tree Assessment Report Perform ground truthing to ensure tree removal for services and drainage has been adequately captured. 	L (low)	Flora and Fauna Management Plan
		Micro-bat relocation (locations include: bridges, culverts, services).	A (high)	<ul style="list-style-type: none"> Consult ecologists for micro-bat relocation procedure, survey and relocation to be undertaken outside breeding season, and in accordance with ecologist direction. 	M (Medium)	Flora and Fauna Management Sub-plan
		Ongoing erosion of cleared areas	A (high)	<ul style="list-style-type: none"> Progressive revegetation and stabilisation to be undertaken. 	M (Medium)	Soil and Water Management Sub-plan
		Contamination to waterways and sensitive species/areas.	M (Medium)	<ul style="list-style-type: none"> Ensure weed spraying is undertaken by qualified operator in accordance with Flora and Fauna Management Sub-plan Notifications to be distributed in accordance with guidelines Records to be kept, together with weed spray location maps. 	L (low)	Flora and Fauna Management Sub-plan
		Fuel and chemical spills in sensitive areas.	M (Medium)	<ul style="list-style-type: none"> No refuelling within 50m of a waterway Refuelling vehicles to have spill kits on standby. 	L (low)	Soil and Water Management Sub-plan
		Spreading of weeds/pathogens	M (Medium)	<ul style="list-style-type: none"> Ensure plant, equipment and clothing are free of soil and vegetative matter prior to being brought to site. Appendix D provides a Plant and Equipment Clean Down Declaration to be provided with all plant and equipment working on the project Minimise disturbance to existing native vegetation on the site Separate weed infested topsoils from weed free topsoils Control weed at suitable times to prevent the development of propagules (seed heads) Ensure erosion controls are in place to minimise the spread of weeds from run off Apply mulch and revegetate disturbed sites as soon as practical. 	L (low)	Flora and Fauna Management Sub-plan
Community	Out of Hours Works	Noise disturbance (loss of sleep)	A (high)	<ul style="list-style-type: none"> Out of hours works are not to take place without signed permit from relevant stakeholders and noise assessment Noise Monitoring Program Site foreman to undertake additional spot checks during shift, particularly for high impact works. 	M (Medium)	Noise and Vibration Management Plan Out of Hours Works Permits
	General day works	Community noise disturbance	M (Medium)	<ul style="list-style-type: none"> Works to be undertaken in accordance with the Noise and Vibration Management Plan, in particular: <ul style="list-style-type: none"> No Idling engines on nearby streets Limit horn use and use UHF and non-tonal reverse alarms Smallest plant and thought out methodologies to limit community disruption Early identification of sensitive receivers and tailored mitigation, where required Clear communication and notifications in accordance with the Communication and Engagement Management Plan. 	L (low)	Noise and Vibration Management Plan

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Email: Parramattalightrail@transport.nsw.gov.au



Appendix A3 Environment and Sustainability Policy

Environment & Sustainability Policy

Parramatta Light Rail Stage 1 Infrastructure Contract

Purpose

CPB Contractors Pty Ltd/Downer EDI Pty Ltd Joint Venture (the JV) recognise and support the commitments of the TfNSW PLR Environment and Sustainability Policy. For the JV, excellence in environmental management and sustainability is integral to the way we work.

Policy Statement

We will strive to deliver new benchmarks for sustainability in the transport infrastructure sector. At all times we will involve all employees, subcontractors, suppliers and consultants to:

- Promote a culture of innovation, engagement and participation towards all activities, by expecting quality behaviours that contribute to a sustainable and socially inclusive culture
- Improve energy, water and resource use efficiency, and taking all reasonable and practical steps to minimise pollution, reduce waste and other adverse environmental effects
- Meet or exceed all applicable environmental legislative, regulatory and other requirements
- Enhance heritage values through education and adaptive reuse as a project legacy
- Actively reduce our projects' contribution to climate change and work with our local and regional supply chain to develop innovative solutions, sustainability practices and materials
- Provide a positive legacy through environmental protection and restoration of the projects degraded ecological habitats
- Ensure a balanced consideration of the whole of life environment, social and economic costs and benefits during decision-making
- Achieve an ISCA IS rating "Design" and "As Built" rating of 70, with an aspirational target above 80
- Set frameworks that will deliver a value for money, resilient asset over the infrastructures life cycle through the application of appropriate risk management techniques and assessments
- Increase community amenity and connectivity through urban placemaking, active transport options and integration of public transport modes.
- Establish, monitor and review sustainability objectives and targets to achieve continual improvement and regularly report our performance to external stakeholders
- Strive to achieve leading industry practice and develop, implement and maintain management systems and practices that meet the requirements of AS/NZS ISO 14001
- Provide our employees, contractors and suppliers with the information, training and support they require to meet our objectives
- Work with the local community to develop workforce skills and diversity
- Promote personal commitment and involvement in sustainability throughout our work force
- Implement a user focused, coordinated and transparent decision-making process through collaboration across SOM, TfNSW, stakeholders and suppliers.

The JV recognises that a successful future for our business depends on sustainability of the environments, communities and economies in which we operate.



.....
David Jackson
Parramatta Connect
Project Director

Appendix A4 Document Register

Appendix A4

Document register

Transport for NSW
Infrastructure Package

Parramatta Light Rail – Stage 1

Februaru 2020

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Table 1: Document Register

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Consultation
<p>Construction Environmental Management Plan</p> <ul style="list-style-type: none"> • Legal and Compliance tracking • Environmental Risk Register • Environmental policy • Document register 	The CEMP would provide a framework through which all potential environmental impacts would be managed. The CEMP would document mechanisms for demonstrating compliance with the commitments made in the Environmental Impact Statement), the submissions report, and any other relevant statutory approvals (e.g. CoA, EPL).	PLR-INF-CPBD-PJT-EN-PLN-000002	Review annually, as required	Planning Secretary, DPIE	TfNSW
<p>Environmental Incident and Emergency Response Plan (CEMP, Appendix A5)</p> <ul style="list-style-type: none"> • Emergency response procedures • Incident reporting and tracking • Hazardous Material Procedures 	Document incident response procedures to follow in the event of an incident, pollution event or other emergency situation. Includes reporting requirements and incident investigation requirements.	PLR-INF-CPBD-PJT-EN-PLN-000002	Review annually	Planning Secretary, DPIE	TfNSW
Communication and Engagement Management Plan	Procedures and mechanisms to guide community communication and respond to	PLR-INF-CPBD-PJT-CM-PLN-000001	Review annually	Planning Secretary, DPIE	TfNSW City of Parramatta Council Cumberland Council

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Consultation
<ul style="list-style-type: none"> Complaints Management System Complaints Register Business Consultation and Activation Plan 	requests for information or community complaints				
Site Establishment Management Plan <ul style="list-style-type: none"> Construction compound plan 	Description of construction activities and mitigation measures during site establishment and during construction/ set up of compound, stockpile areas, laydown areas and other ancillary activities required to construct the project.	PLR-INF-CPBD-PJT-EN-PLN-000007	Review annually	Planning Secretary, DPIE	TfNSW City of Parramatta Council Cumberland Council NSW RMS
Traffic, Transport and Access Management Sub-plan <ul style="list-style-type: none"> Network Management Strategy Local Access Plans Site specific traffic management plans Site specific traffic control plans (TCPs) 	To maintain safe motorist, pedestrian and cyclist access around and at the interface of construction sites.	PLR-INF-CPBD-PJT-EN-PLN-000008	Review quarterly	N/A	TfNSW City of Parramatta Council Cumberland Council NSW RMS Sydney Coordination Office

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Consultation
<ul style="list-style-type: none"> Pedestrian and Cyclist Network and Facilities Strategy 					
Flora and Fauna Management Sub-plan <ul style="list-style-type: none"> Vegetation Clearing Protocol Unexpected Finds Procedure (Threatened Species) Tree Register Environmental Control Maps Procedures for the vegetation clearing and relocation of displaced flora and fauna 	Documents measures to avoid and/or minimise the removal of native vegetation or other bushland that may provide habitat for native fauna near the Project. Includes measures to limit impacts to threatened species, populations and ecological communities. Documents strategies to rehabilitate impacted vegetation with a diversity of endemic species in proximity to the area of disturbance.	PLR-INF-CPBD-PJT-EN-PLN-000009	Review annually	N/A	TfNSW City of Parramatta Council Cumberland Council OEH DPI (fisheries) Biodiversity Conservation Trust
Noise and Vibration Management Sub-plan <ul style="list-style-type: none"> Out of Hours Work Protocol Noise and Vibration Monitoring Program 	The Plan provides a framework to document all reasonable and feasible measures to manage and mitigate potential noise and vibration impacts associated with construction works during standard daytime working hours, the approved extensions of working hours within various	PLR-INF-CPBD-PJT-EN-PLN-000005	Review annually	Planning Secretary, DPIE	TfNSW City of Parramatta Council Cumberland Council EPA NSW Health

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Consultation
<ul style="list-style-type: none"> Procedures for addressing noise and vibration exceedances Site specific noise management plans Noise and Vibration land use survey Building Condition Survey Reports 	precincts and for any out-of-hours construction activities. This plan aims to undertake works in a sensitive manner in a highly urban noise environment, with many and varied noise receivers.				
Soil and Water Management Sub-plan <ul style="list-style-type: none"> Erosion and sediment control plans Water Quality Monitoring Program Groundwater management strategy Management of tannins from vegetation mulch Acid sulfate soil management plan Environmental Control Maps 	To manage and minimise potential impacts associated with the project on soils and receiving waters. Include strategies to minimise the extent and duration of exposed surfaces to limit erosion and sedimentation potential, limit groundwater impacts and undertake monitoring.	PLR-INF-CPBD-PJT-EN-PLN-000010	Review annually	N/A	TfNSW City of Parramatta Council Cumberland Council EPA DoI Water

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Consultation
Heritage Management Sub-plan <ul style="list-style-type: none"> Unexpected heritage finds procedure, including Exhumation Policy and Guideline Heritage induction Heritage interpretation plan Conservation Management Plans 	To undertake works in a controlled manner to minimise impacts to known heritage sites and to manage works and implement procedures if unknown heritage sites are unearthed or disturbed as part of the Project.	PLR-INF-CPBD-PJT-EN-PLN-000006	Review annually	Planning Secretary, DPIE	TfNSW OEH City of Parramatta Council Cumberland Council Registered Aboriginal Parties
Air Quality and Dust Management Sub-plan <ul style="list-style-type: none"> Energy and Greenhouse Gas Strategy 	Manage works to minimise the generation of dust on site and improve air quality standards	PLR-INF-CPBD-PJT-EN-PLN-000011	Review annually	N/A	TfNSW
Waste and Resource Management Sub-plan <ul style="list-style-type: none"> Waste Classification Procedures Records Spoil Management Strategy 	To manage, classify and record waste streams as legally required and implement the waste minimisation hierarchy to reduce waste and maximise recycling and reuse as part of the construction project.	PLR-INF-CPBD-PJT-EN-PLN-000012	Review annually	N/A	TfNSW
Contaminated Land Management Sub-plan	To manage known contaminated sites and unexpected discoveries of	PLR-INF-CPBD-PJT-	Review annually	N/A	TfNSW

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Consultation
<ul style="list-style-type: none"> Site Contamination Report /Site Audit Statement Remediation Action Plan Unexpected discovery of contaminated land procedure Asbestos management plan 	contaminated unearthed as part of the construction works	EN-PLN-000015			
Flood Management Sub-plan <ul style="list-style-type: none"> Flood Management Strategy Flood Design Report 	To manage and minimise known flood risks and to implement strategies prior to, during and after a flood event	PLR-INF-CPBD-PJT-EN-PLN-000013	Review annually	N/A	TfNSW City of Parramatta Council Cumberland Council OEH Sydney Water
Landscape and Temporary Works Management Sub-plan <ul style="list-style-type: none"> Urban Design and Landscape Plan Urban Design Requirements Report 	This plan will document requirements to minimise the temporary visual impacts associated with the construction works, through the provision of landscape features and urban design principles.	PLR-INF-CPBD-PJT-EN-PLN-000014	Review annually	N/A	TfNSW

Environmental management document	Purpose	Document no.	Review timeframe and status	Approval requirement	Agency Consultation
Delivery Phase Sustainability Management Plan <ul style="list-style-type: none"> • Workforce development and industry participation strategy • Sustainability Strategy 	To include measures to achieve a minimum project score of 65 for 'Design' and 'As built' rating under the Infrastructure Sustainability Council of Australia infrastructure rating tool. Support the achievement of the project sustainability objectives/initiatives	PLR-INF-CPBD-PJT-EN-PLN-000003	Review annually	N/A	TfNSW
Construction Electromagnetic Management Sub-Plan	The Plan will identify how operational electromagnetic fields attributable to the Project could affect the nearby receivers and existing EMI susceptible devices near the Project.	Prepared by TfNSW	Review annually	N/A	TfNSW Owner/operators of potentially EMI susceptible devices

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Appendix A5 Environmental Incident and Emergency Response Plan

Appendix A5

Environmental Incident and Emergency Response Plan

Transport for NSW
Infrastructure Package

Parramatta Light Rail – Stage 1

February 2020

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1 Introduction

1.1 Purpose and Scope

The purpose of this procedure is to define the process to be followed when classifying and reporting an environmental incident or non-compliance.

This procedure applies to all work undertaken by, or on behalf of, the JV in delivering the Package 4 – Infrastructure Works.

1.2 Accountabilities

The Environment and Sustainability Manager is accountable for this Procedure including authorising the document, implementing the requirements, monitoring its effectiveness and performing a formal document review.

The Project Manager is accountable for ensuring the requirements of this document are implemented across the Project.

Workers are accountable for compliance with this document, including the immediate reporting of all environmental incidents and non-compliances.

1.3 Emergency Contacts

Contact	Phone Number
Internal	
Construction Manager	0437 501 549
Site Supervisor	0418 611 204
Environment and Sustainability Manager	0437 685 224
Communications and Engagement Manager	0429 239 273
Person in Charge (PIC) – Incident notification	0437 501 549
External – Stakeholders	
EPA Environment Line	131 555
City of Parramatta Council	1300 617 058
Ministry of Health	1300 066 055
SafeWork NSW	131 050
Fire and Rescue NSW	1300 729 579
Fire Brigade Service/HAZMAT	000
Sydney Water	13 20 90

Contact	Phone Number
Gas - Jemena	13 19 09
Electricity – Endeavour Energy	13 10 03
NSW Wildlife Information, Rescue and Education Service (WIRES)	1300 094 737
External – TfNSW	
TfNSW Environment and Planning Manager	0452 318 524
TfNSW Senior Construction Manager	0407 359 696
Construction Response Line Number	1800 775 465
Infrastructure and Services Infoline Number	1800 684 490

1.4 Definitions

Abbreviation	Expanded text
CEMP	Construction Environmental Management Plan
DPIE	Department of Planning, Industry and Environment
EPA	NSW Environment Protection Authority
EPL	Environmental Protection Licence
Environmental incident	An occurrence or set of circumstances that causes, or threatens to cause, material harm.
Non-compliance	An occurrence, set of circumstances or development that is a breach of the planning approval but is not an incident.
Environmental Issue	Any occurrence or set of circumstances that has the potential to cause or lead to an environmental incident or non-compliance if not rectified.
ER	Environmental Representative. A suitably qualified and experienced person independent of the Contractor and Proponent, and project design and construction personnel, employed for the duration of construction. The Environmental Representative sits under the Independent Certifier.
INX	INX System
Investigation	The process by which the cause(s) of an environmental incident, non-compliance, issue or event is examined and identified.
Material harm	Is harm that:

Abbreviation	Expanded text
	<ul style="list-style-type: none"> a) Involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or b) 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).
Notifiable incident	Any environmental incident or non-compliance that triggers a specific statutory requirement to notify a regulatory authority.
OEH	Office of Environment and Heritage
POEO Act	<i>Protection of the Environment Operations Act 1997</i> (NSW)
Pollution incident	Has the meaning as defined in the Dictionary to the POEO Act: An incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.
TfNSW	Transport for NSW

2 Environmental Incident Classification

2.1 Notifiable Events

A notifiable event is any environmental incident or non-compliance that triggers a specific statutory requirement to notify a regulatory authority. Examples of notifiable events are detailed in **Table 2-1** below.

Table 2-1 Notifiable events

Type	Legislation	Notification Requirement
Pollution incident	<i>Protection of the Environment Operations Act (POEO Act) 1997</i> Part 5.7 EPL 21347, R2	Immediately after becoming aware of the incident to each relevant authority: <ul style="list-style-type: none"> EPA Environment Line (131 555). The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred. Local Council Ministry of Health (via the Local Public Health Unit) WorkCover Authority Fire and Rescue NSW Further notification must be provided to the DPIE within 24 hours after the notification was given to the EPA compliance@planning.nsw.gov.au
Environmental incident	Planning Approval	Environmental incidents that cause, or threaten to cause, material harm must be immediately reported to the DPIE in writing (compliance@planning.nsw.gov.au). The notification must identify the Project (including the CSSI application number) and set out the location and nature of the environmental incident. Within one week of notification of an environmental incident to the DPIE, the Environment and Sustainability Manager will submit a report to TfNSW for submission to the DPIE including the time and date of the environmental incident, details of the environmental incident and any consequent non-compliance with the CoA.
Land contamination	<i>Contaminated Land Management Act 1997</i> Section 60 (1)	EPA in writing as soon as practicable after becoming aware of the contamination, where required as prescribed in the EPA 'Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997'

Type	Legislation	Notification Requirement
Discover Aboriginal relic	<i>National Parks and Wildlife Act 1974</i> Section 89A	Director-General of the Department of Premier and Cabinet in writing within a reasonable time after becoming aware.
Discover Human Remains	<i>Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i> Section 20 <i>Heritage Act 1977</i> Section 146	<ul style="list-style-type: none"> • Notify TfNSW, NSW Police and ER • Consult a physical or forensic anthropologist to assess the remains • Advise the NSW Police if the human remains are forensic (less than 100 years) and notify the Coroner's Office • Notify the DPC (Aboriginal Heritage Section), RAPs, TfNSW, DPIE and Commonwealth Minister of Environment if the human remains are archaeological (more than 100 years old) and likely to be Aboriginal • Notify the DPC (Heritage Division), TfNSW and DPIE if the human remains are archaeological (more than 100 years old) and likely to be non-Aboriginal. <p>See the Heritage Management Sub-Plan for more details on this process.</p>
Discover relic	<i>Heritage Act 1977</i> Section 146	Heritage Council in writing within a reasonable time after becoming aware.

2.2 Environmental Incidents

An occurrence or set of circumstances that causes, or threatens to cause, material harm.

Environmental harm includes pollution (air, water, noise or land), contamination, impact to flora and fauna (either individual species or communities), damage to heritage items and adverse community impacts.

2.3 Non-compliance

A non-compliance is an occurrence, set of circumstances or development that is a breach of the planning approval but is not an environmental incident. Examples of non-compliances include:

- Works without the required planning approval
- Failure to comply with a condition of approval
- Works without the required approval of a hold point (e.g. Out of Hours Works Approval)
- Works without the required Environment Protection Licence (EPL)
- Failure to comply with an EPL condition
- Works undertaken without any other required statutory approval

- Failure to comply with any other statutory requirement that does not result in an adverse environmental impact or pollution.

3 Reporting and Investigations

3.1 Verbal Notification

All environmental incidents and non-compliances must be immediately reported to the Environment and Sustainability Manager who will verbally notify the TfNSW Environment and Planning Manager and ER. The verbal notification must occur immediately on becoming aware of the environmental incident or non-compliance.

All environmental incidents must be immediately reported to the Person in Charge (PIC) who will distribute an SMS notification to all JV and TfNSW senior managers.

3.2 Internal Reporting

An event report must be lodged by the Environment and Sustainability Manager in the TfNSW INX system within four hours of occurrence. Additional details on the environmental incident or non-conformance must be provided within 48 hours of occurrence.

The event report will detail action(s) taken to control and correct the environmental incident or non-compliance and address the consequences, including mitigating any adverse environmental impacts. In evaluating the need for action, the cause of the environmental incident or non-compliance will be determined and the potential for similar environmental incidents or non-compliances to exist. Relevant corrective actions will be documented, implemented, and assessed for effectiveness. Any changes to operations or practices resulting from actions are to be communicated to employees and sub-constructors as required.

A register of all environmental incidents and non-compliances will be maintained in INX.

Non-compliances will not be automatically raised as the result of an identified issue from an environmental inspection or audit. Where considered appropriate, by agreement of the JV, ER, IC and TfNSW representatives, issues identified during an environment inspection or audit will be closed-out as part of the inspection or audit reporting process. In the event that repetitive observations are made, i.e. if low-risk site improvement actions are not corrected within the agreed timing for actions (for more than a month in most cases) the Environment and Sustainability Manager, TfNSW and/or ER will request that a NCR is raised.

The INX system is accessed via <https://tfnsw.inxsoftware.com>. Further guidance is provided in the Transport for NSW procedure, Guide to Environmental Incident and Non-compliance Reporting using the INX System (9TP-SD-005).

If the INX system cannot be accessed, the Environmental Incident/Non-compliance Report (**Appendix A**) must be completed by the Environment and Sustainability Manager and submitted to the TfNSW Environment and Planning Manager.

The TfNSW Senior Manager Environment shall review the report and close the event when all actions are complete.

3.2.1 Risk Assessment and Classification

All environmental incidents and non-compliances must be risk assessed and classified as part of the INX reporting process. The consequence and likelihood must be determined by the Environment and Sustainability Manager in accordance with the definitions detailed in **Table 3-1**. Reflecting the risk assessment outcome (**Table 3-2**), the notification, coordination and timing requirements are defined within INX.

Table 3-1 Consequence and Likelihood Definitions

Category	Definition
Consequence	
C6 – Insignificant	<ul style="list-style-type: none"> • Safety: Illness, first aid treatment or injury not requiring treatment. • Environment: No appreciable changes to environment and/or highly localised event. • Reliability: Short duration disruptions affecting part of one transport mode.
C5 – Minor	<ul style="list-style-type: none"> • Safety: 1 or more Minor Injuries (medical treatment required). • Environment: Change from normal conditions within environmental regulatory limits and environmental effects are within site boundaries. • Reliability: Minor disruptions affecting several parts of one transport mode.
C4 – Moderate	<ul style="list-style-type: none"> • Safety: Loss Time Injury (or restricted injury or occupational illness (recoverable)). • Environment: Short-term and/or well-contained environmental effects. Minor remedial actions probably required. • Reliability: Serious disruptions affecting operation of one complete transport mode.
C3 – Major	<ul style="list-style-type: none"> • Safety: Multiple Injuries or permanent major disabilities of employees, contractors, passengers, and/or the public. • Environment: Impacts external ecosystem and considerable remediation is required. • Reliability: Major disruptions affecting operations of one transport mode with network-wide effects on one or more other modes of transport.
C2 – Severe	<ul style="list-style-type: none"> • Safety: 1 Fatality of employee, contractor, passenger, or a member of the public. • Environment: Long-term environmental impairment in neighbouring or valued ecosystems. Extensive remediation required. • Reliability: Short duration shutdowns or substantial disruptions affecting multiple transport modes with sector-wide cascading effects.
C1 – Catastrophic	<ul style="list-style-type: none"> • Safety: Multiple Fatalities involving employees, contractors, passengers, and/or the public. • Environment: Irreversible large-scale environmental impact with loss of valued ecosystems. • Reliability: Extensive shutdowns or extended disruptions with economy-wide effects.

Category	Definition
Likelihood	
L6 – Almost unprecedented	<ul style="list-style-type: none"> Less than once every 100 years – Not expected to ever occur during time of activity or project.
L5 – Very Unlikely	<ul style="list-style-type: none"> Once every 10 to 100 years – Not expected to occur during the time of activity or project.
L4 – Unlikely	<ul style="list-style-type: none"> Once every 1 to 10 years – More likely not to occur than occur during time of activity or project.
L3 – Likely	<ul style="list-style-type: none"> Once each year – More likely to occur than not occur during time of activity or project.
L2 – Very Likely	<ul style="list-style-type: none"> 1 to 10 times every year – Expected to occur occasionally during time of activity or project.
L1 – Almost Certain	<ul style="list-style-type: none"> 10 times or more every year – Expected to occur frequently during time of activity or project.

Table 3-2 Risk Assessment Outcome

		Consequence					
		C6 - Insignificant	C5 - Minor	C4 - Moderate	C3 - Major	C2 - Severe	C1 - Catastrophic
Likelihood	L1 – Almost Certain						
	L2 – Very Likely						
	L3 – Likely						
	L4 – Unlikely						
	L5 – Very Unlikely						
	L6 – Almost Unprecedented						

3.3 External Reporting

3.3.1 DPIE and ER

The Environment and Sustainability Manager must immediately notify the ER in writing of all environmental incidents and non-compliances. Environmental Incidents must also be immediately reported to the DPIE in writing to compliance@planning.nsw.gov.au. The notification must identify the Project (including the CSSI application number) and set out the location and nature of the incident.

Within one week of notification of an environmental incident to the DPIE, the Environment and Sustainability Manager will submit a report to TfNSW for submission to the DPIE including the time and date of the environmental incident, details of the environmental incident and any consequent non-compliance with the CoA.

All written requirements of the Secretary, which may be given at any point in time, to address the cause or impact of an environmental incident must be complied with, within any timeframe specified by the Secretary or relevant public authority. This may include the outcomes of environmental incident investigations (**Section 3.7.3** of the CEMP).

3.3.2 Notifiable Event

If an environmental incident is a pollution event (as defined in Section 1.4), the Environment and Sustainability Manager will immediately notify the EPA (131 555) and the following agencies:

- Ministry of Health (1300 066 055)
- SafeWork NSW (13 10 50)
- City of Parramatta Council (1300 617 058)
- Fire and Rescue NSW (1300 729 579)

EPL 21347 Condition R2 outlines the requirements for notifications of environmental harm.

Relevant information required to be provided to the EPA as part of the notification is further specified in Section 150 of the POEO Act and detailed as follows:

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

If the information required by (c), (d) or (e) above is not known at the time of initial notification but becomes known afterwards it must be reported to each authority immediately after it becomes known. Verbal notification must be followed by notification in writing within seven days of the date on which the incident occurred.

For notifiable events other than pollution incidents, the TfNSW Environment and Planning Manager will advise on whether external notification is to be made by the Environment and Sustainability Manager.

If an environmental incident occurs or if statutory notification is given to the EPA as required under the EPL in relation to the Infrastructure works, such notification must also be provided to the DPIE within 24 hours after the notification was given to the EPA.

3.3.3 Community Notification

The Community Manager will coordinate all community and stakeholder communications in the event of an environmental incident or emergency. Mechanisms for early warnings, notification of emergency construction works or ongoing regular updates to the community for pollution incidents that have caused or are threatening material harm to the environment may include:

- doorknock of residents, businesses and others (e.g. schools) potentially impacted by the pollution incident
- phone contact/messages
- distribution of advice to residents, businesses and vehicle owners, pedestrians, commuters and schools as required
- publication of information on the TfNSW/project website
- dissemination of information to local and metropolitan media via TfNSW

- liaison with local council and other government stakeholders
- liaison with utilities providers
- installation of temporary directional signage.

In the event of a pollution incident which has the potential to impact the local community, the Environment and Sustainability Manager shall advise the Community Manager. The Community Manager will determine, in consultation with the Project Director and TfNSW, if community notification is required, and the mechanism(s) by which notification shall be made.

Notification to any residents, businesses or other premises that may be affected by the pollution incident will include the following information:

- details of the pollution incident and extent of impact (as known at the time)
- safety warnings and recommendations to prevent/minimise impacts, if required
- potential impacts on the operation of local businesses, if required.

The area which may be affected by a pollution incident is dependent on the transport vector (water, air or land), pollutant (type, concentration and concentration) and meteorological conditions. The Environment and Sustainability Manager, in consultation with the Community Manager, will determine an appropriate geographical extent of the public notification and details to be provided in the notification.

3.4 Environmental Incident Investigations

All environmental incidents logged in the INX system must be investigated with the following information recorded:

- Sequence of events – Provide details of the events or actions that led to the environmental incident.
- Findings – Document the main causes of the environmental incident.
- Management methods – Define the controls to be changed and/or implemented to prevent and/or minimise the risk of recurrence.
- Key learnings – Consider if there are any elements of the environmental incident that can be shared with other projects as an environmental alert or similar.

3.4.1 Root cause analysis

Root cause analysis must be undertaken for environmental incidents with a risk rating of high and above, and for other lower risk environmental incidents where determined by TfNSW. The Root Cause Analysis Checklist is designed to assist in the identification of the causal factors that contributed to the environmental incident and the investigation findings.

3.5 Environmental Incident Simulation Drills

Environmental incident simulation drills may be integrated into other emergency and incident testing and training programs and may include a desktop simulation, practical exercise or drill. The Environment and Sustainability will coordinate delivery of the drill and prepare a brief report on the outcomes and lessons learned. At minimum, environmental incident simulation drills will be undertaken at least once every 12 months. Additional drill may be required at the discretion of the Environment and Sustainability Manager in response to notifiable pollution incidents.

4 Environmental Incident/Emergency Response Procedures

4.1 Potential Environmental Incidents/Emergencies and Response Procedures

Reflecting the Environmental Risk Register, environmental incidents and emergencies have been identified and detailed in **Table 4-1** together with appropriate response actions.

Workers are responsible for responding to environmental incidents under the direction of the Environment and Sustainability Manager (where the consequence is insignificant, minor or moderate, refer to **Table 3-1**).

In the event of an environmental emergency (where the consequence is major, severe or catastrophic, refer to **Table 3-1**), the environmental incident response shall be directed by the JV Project Director or nominated delegate in accordance with the CPBDJV Emergency Response Plan.

Where an environmental incident or other event results on the need for emergency construction works, the Environment and Sustainability Manager must notify the TfNSW Environment and Planning Manager and the ER of the need for those activities or works (SMS or email). The Communications Manager must also use best endeavours to notify all affected sensitive receivers of the likely impact and duration of those works.

Table 4-1 Notifiable events

Type	Description	Response Procedures
Land/ Water	<p>Leak, spill or escape of any substance in a manner that harms or is likely to harm the environment. Examples include:</p> <ul style="list-style-type: none">- Watermain strike (loss of sediment and water to stormwater)- Generator leak- Fuel spill- Spill of NDD material during transfer	<ul style="list-style-type: none">• Contact 000 to mobilise the NSW Fire Brigade or HAZMAT where the environmental incident cannot be controlled with onsite resources• Contact Sydney Water in the event of a watermain strike and follow instructions• Notify PIC• Establish and/or strengthen controls around stormwater drains including drain wardens and sandbags around the drain perimeter• Mobilise a vacuum truck to remove excess water/liquid from the site and dispose to an appropriately licensed facility.• Deploy spill kit materials to contain and absorb the spill• Remove used spill kit materials from the site and dispose to an appropriately licensed facility• Ensure spill kits are restocked following the event.

Type	Description	Response Procedures
Noise	<p>Excessive or intrusive noise emissions arising from:</p> <ul style="list-style-type: none"> - inadequate controls - poorly maintained plant/equipment - failure to comply with Out of Hours Works Permit 	<ul style="list-style-type: none"> • Cease noise generating activity if an approved Out of Hours Works Permit is not in place • Notify PIC • Review controls and revise as necessary <ul style="list-style-type: none"> - Ensure noise barriers are installed and there are no gaps between barriers. - Switch off any equipment that is not in use for extended periods (e.g. heavy vehicles). - Avoid unnecessary noise (e.g. swearing, shouting, loud stereos/radios, dropping of materials from height, throwing of metal items and slamming of doors). - Avoid simultaneous use of high noise impact equipment • Conduct noise monitoring to determine if noise levels are in accordance with predicted levels • Ensure equipment is adequately maintained.
Air	Gas main strike resulting in loss of gas	<ul style="list-style-type: none"> • Evacuate the worksite and move to a well-ventilated area • Notify PIC • Contact the gas main operator and if required contact the Fire Brigade Service (000); follow instructions of the asset owner • Ensure no naked flames or smoking • Do not touch or operate electrical equipment • Ensure no mobile phones are used in the vicinity of the leak.
Air	Excessive and intrusive dust emissions	<ul style="list-style-type: none"> • Cease dust generating activity • Notify PIC • Apply dust suppression (water cart, hose, etc) • Review the adequacy of controls (e.g. dust suppression, site barriers) • Recommence works following implementation of controls; monitor effectiveness • In the event of high winds, reschedule works if dust cannot be controlled to reasonable levels.

Type	Description	Response Procedures
Flora/ Fauna	Harm or impact to vegetation, fauna, habitat, threatened species, endangered population or endangered ecological community	<ul style="list-style-type: none"> • Remove plant and equipment from the area of impact and establish an exclusion zone • Contact WIRES where animals have been injured <ul style="list-style-type: none"> - Remove any threat to the animal - Do not approach injured snakes, monitor lizards, bats, kangaroos, wallabies or raptors (eagles, falcons or hawks) - If safe to do so, contain the animal in a warm, dark, quiet place - Do not give the animal food or water unless instructed by WIRES.
Heritage	Damage, disturbance or destruction of Non-Aboriginal heritage items/relics or Aboriginal objects/places	<ul style="list-style-type: none"> • Remove plant and equipment from the area of impact and establish an exclusion zone • Contact the Environment and Sustainability Manager who will contact the Excavation Director for specialist advice.

For more information about the Parramatta Light Rail project, visit Parramattalightrail.nsw.gov.au

Call: 1800 139 389

Email: Parramattalightrail@transport.nsw.gov.au



Appendix A6 Environmental Representative Endorsement Letter

Appendix A7 Audit Schedule

Appendix A7

Audit Schedule

Transport for NSW
Infrastructure Package

Parramatta Light Rail – Stage 1

November 2019

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Table A7-1: Audit Program

Category	Audit Type	2019		2020				2021				2022	
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Internal Audit – Compliance	Contract Compliance												
	Waste (including waste facility receipts)												
	Subcontractor compliance												
Internal Audit – System	Construction Environmental Management Plan												
	Site Establishment Management Plan												
	Heritage Management Sub-Plan												
	Noise and Vibration Management Sub-Plan (including monitoring program)												
	Traffic, Transport and Access Management Sub-Plan												
	Flora and Fauna Management Sub-Plan (including monitoring program)												
	Soil and Water Management Sub-Plan (including monitoring program)												
	Air Quality and Dust Management Sub-Plan												
	Waste and Resource Management Sub-Plan												
	Contaminated Land Management Sub-Plan												
	Landscape and Temporary Works Management Sub-Plan												

Category	Audit Type	2019		2020				2021				2022	
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
	Flood Management Sub-Plan												
External Audit	<i>Managed by TfNSW (Refer to PLR-TFNSW-PJT-EE-PRG-000001 for audit timing)</i>												
	Conditions of Approval REMMs EPOs Environmental Performance												
	Road Safety Audits												

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