NORTHWEST RAPID TRANSIT

PROJECT INTEGRATED MANAGEMENT SYSTEM

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

FOR

SYDNEY METRO NORTHWEST OPERATIONS, TRAINS and SYSTEMS PPP

DOCUMENT NUMBER:	NWRLOTS-NRT-PRD-PM-PLN-000817
NRT-PIMS NUMBER:	PIMS-PP-17
REVISION:	06
CONTROL STATUS:	Unmaintained unless stated otherwise

Construction Environmental Management Plan Approval Records

Approval Record

FUNCTION	POSITION	NAME	SIGNATURE	DATE
Reviewed by	Environment and Sustainability Manager	Peter Monsted		12.11.18
Reviewed by	Infrastructure Director	David Jackson		12-11-18
Reviewed by	Trains & Systems Director	Roger Ho		18-11-18
Reviewed by	D&D Director	Malachy Breslin		19/11/18
Reviewed by	MTS CEO	Ivan Iai		28/11/18
Approved by	NRT CEO	Mark Elliott		29/11/18

Amendment Record

Changes made to this document since its last revision, which affect its scope or sense, are marked in the right margin by a vertical bar (|).

DATE	REV	AMENDMENT DESCRIPTION	BY	INITIALS
29/10/2015	03	Updated following TfNSW & IC informal comments	Cameron Newling	CN
25/02/2016	03.01	Updated to include Norwest Pedestrian Link work and33kV Underground Feeder Power Line Installation works	Alex Bamford Cameron Newling	AB CN
04/08/2016	03.02	Updated following TfNSW comments	Cameron Newling	CN
28/11/2016	04	Reviewed and updated to address minor errors and omissions from the IC	Cameron Newling	CN
12/01/2017	04.01	Updated to address comments from TfNSW	Cameron Newling	CN
16/08/2017	05	Updated as part of annual review and recertification	Cameron Newling	CN

DATE	REV	AMENDMENT DESCRIPTION	BY	INITIALS
6/11/2018	06	Updated as part of annual review and recertification	Peter Monsted	PM

Certification Record

DATE	REV	AMENDMENT DESCRIPTION	BY	INITIALS
10/07/2015	00	NWRLOTS-OIC-1NL-PM-CER-000024	OIC	OIC
07/10/2016	01	NWRLOTS-OIC-1NL-PM-CER-000039	OIC	OIC
02/03/2016	03	NWRLOTS-OIC-1NL-PM-CER-000065	OIC	OIC
13/02/2017	04.01	NWRLOTS-OIC-1NL-PM-CER-000122	OIC	OIC
15/11/2017	05	NWRLOTS-OIC-1NL-PM-CER-000151	OIC	OIC

Table of Contents

Table of Tables

Table of Figures

1 Introduction

This *Construction Environmental Management Plan (CEMP)* outlines the construction environmental management arrangements by which Northwest Rapid Transit (NRT), in partnership with Transport for NSW (TfNSW), is delivering the Operations, Trains and Systems (OTS) Public Private Partnership (PPP) component of the North West Rail Link (NWRL) Project, now renamed as 'Sydney Metro Northwest'.

Note: In June 2015, TfNSW changed the project's name to Sydney Metro Northwest (from the North West Rail Link) to reflect its role in Sydney's new railway network. Any references to the North West Rail Link in this plan can be assumed to be referring to the Sydney Metro Northwest. Similarly, the Rapid Transit Rail Facility (RTRF) is now known as the Sydney Metro Trains Facility (SMTF).

1.1 OTS PPP

Sydney Metro is Australia's largest public transport project. Sydney Metro Northwest, formerly known as the North West Rail Link, is the first stage of Sydney's new fully-automated metro system and will open to customers in the first half of 2019.

Stage 2, Sydney Metro City & Southwest, will extend metro rail under Sydney Harbour, through the CBD and southwest to Bankstown.

The $8.3 billion Sydney Metro Northwest will deliver eight new railway stations and 4,000 commuter car parking spaces to Sydney's growing North West. Services will start with a train every four minutes in the peak. The project also includes the upgrade and conversion of five existing railway stations to metro standards.

The OTS contract is a 15-year PPP project – the largest in the history of New South Wales as well as the largest of the three delivery contracts for Sydney Metro Northwest.

Northwest Rapid Transit is delivering Sydney's new generation metro trains; building the new stations and car parks; installing tracks, signalling, mechanical and electrical systems; building and operating the RTRF at Tallawong Road; upgrading and converting the railway between Epping to Chatswood to rapid transit standards; and operating Sydney Metro Northwest – including all maintenance work.

The summary scope of the Project is found in the *Project Management Plan*.

The scope of the Project is further described in the Section 2 of this Plan.

1.2 Purpose

This *Construction Environmental Management Plan (CEMP)* describes how the NRT Consortium will manage environmental performance for the design and construction of the Phase 1 works, Epping to Chatswood Rail Link (ECRL) Conversion Works, Phase 2 works, Norwest Pedestrian Link works, 33kV Underground Feeder Powerline works and Rouse Hill Temporary Bypass Powerline works of the OTS Works for the Public Private Partnership of the NWRL Project (The Project).

The Phase 1 works involve the delivery of the RTRF and Cudgegong Road Precinct enabling works. ECRL Conversion works refer to the conversion of the existing Epping to Chatswood Rail Line to rapid transit. More detail is contained in Section 2.2. The Phase 2 works involve the delivery of the remaining construction works associated with Stage 2b of Project Approval 2 – SSI-5414 which includes construction of remaining stations and train infrastructure. The Norwest Pedestrian Link works refer to the underground pedestrian link and second station entry located on the northern side of Norwest Boulevard at Norwest Station and the 33kV Underground Feeder Powerline works involve the installation of approximately 5.2 kilometres of 33kV underground feeder line and associated infrastructure from Ausgrid's Willoughby STS to the TfNSW Chatswood North Traction Substation to provide bulk power supply for the Sydney Metro Northwest. The Rouse Hill Temporary Powerline works refer to the construction of a temporary powerline between the Rouse Hill Substation and the southern portion of the viaduct at the Windsor Road crossing.

This CEMP and Environmental Sub Plans have been updated for works progressing into Phase 2 where NRT will gradually be handed worksites from other NWRL contracts.

1.3 Scope and Objectives

This *CEMP* has been developed within the framework of the John Holland Propriety Limited (JHPL) and Leighton Contractors Propriety Limited (LCPL) Environmental Management System (EMS). Both EMSs are certified to AS/NZS ISO 14001:2004 and accredited against the NSW Environmental Management Systems Guidelines. The *CEMP* has also been developed to be consistent with the:

- NWRL Construction Environmental Management Framework
- Guidelines for the Preparation of Environmental Management Plans (DIPNR 2004)
- New South Wales Government Environmental Management System Guidelines (3rd Edition) (August 2013).

This Plan will:

- Comply with the relevant conditions of the project approvals
- Identify the environmental obligations and the hazards and risks associated with NRT's construction activities
- Assist in the prevention of unauthorised environmental harm
- Fulfil TfNSW's environmental requirements as defined by the Project Deed
- Minimise negative impacts on the community that relate to the environmental impacts from NRT construction activities
- Identify and outline implementation for feasible opportunities to reduce the environmental impact of NRT construction activities that are beyond contractual and compliance requirements
- Comply with all relevant environmental legislation.

The key objective of this Plan is to set in place an EMS for the Works, which addresses all relevant environmental and planning requirements.

Key environmental targets for the OTS Works are:

- Compliance with the Minister for Planning's Conditions of Approval (CoA)
- Compliance with all permits and licences
- Continual improvement through collaboration with TfNSW, regulatory agencies and other key stakeholders.

1.4 NRT Integrated Management System

In accordance with the *OTS Project Deed, Exhibit 1, Scope and Performance Requirements, Section 5.2* NRT must implement and maintain an effective Management System, which addresses all its obligations under the Deed.

The Management Systems must seamlessly integrate all NRT's systems and processes, including those related to rail safety and rail accreditation quality, environmental, sustainability, health and safety and they must accommodate, coordinate and give effect to the Project Plans.

Details of NRT's Integrated Management System including the integrated relationship of the *CEMP* with the other Project Plans and with the delivery Core Processes are contained in the *Project Management Plan*. As improvements are made to the processes and systems, these will be reflected in updates to the relevant Project Plans. All elements of the Integrated Management System will reside on Aconex as controlled copies. An intranet will contain a front page to the Integrated Management System with links between documents, processes and forms utilising the Aconex search engine.

1.5 Approval Before Submission

The *CEMP* and future updates are to be approved by NRT's CEO before being submitted to TfNSW.

1.6 Certification by Independent Certifier

This updated *CEMP* and any future update is to be submitted, in accordance with the provisions of clause 8 of the Deed to TfNSW for comment and to the OTS Independent Certifier for certification prior to its implementation by NRT.

1.7 Update and Ongoing Development

The *CEMP* is incorporated as Appendix 76 of the Deed.

The *CEMP* will be updated regularly in accordance with the requirements of the *Deed,* clause 8 and annually as required in *Exhibit 1, Scope and Performance Requirements, Appendix 54 – Project Plan Requirements, Table 1*.

NRT will undertake the ongoing development, amendment and updating of the *CEMP*, as a means of continually improving the effectiveness of current and future CEMPs to ensure it remains consistent with Project priorities, risk management, client requirements and Project objectives, taking into account:

- The status and progress of NRT's activities

- Changes in the design, delivery and operations processes and conditions
- Lessons learnt during delivery and operations
- Changes in other related Project Plans
- Requirements and matters not covered by the existing Project Plans
- Changes to Project Plans resulting from any comments from the OTS Independent Certifier
- Changes to Project Plans as directed by TfNSW's Representative under the Deed
- Changes to the environment or generally accepted environmental management practices, new risks to the environment, any pollution, contamination or changes in law
- Modifications
- Any incidents or NCR's arising from NRT's activities
- Issues raised during environmental monitoring, inspections and audits or as directed by the ER (these would be actioned within 7 days)
- Requests or requirements of the Department of Planning and Environment (DP&E) and Environment Protection Authority (EPA) or any other Authority
- Every 6 months by the NRT environmental management team.

Minor amendments to the CEMP will be submitted to the ER and TfNSW for review and approval. These would generally include changes to systems or processes.

Where the change will have the potential to result in an additional environmental or community impact that the ER cannot approve, then the plan would be submitted to DP&E for review and approval.

2 NWRL Project Scope

The NWRL Project is a 23 km heavy rail link between Epping and the RTRF, which includes design, delivery and operation of a rapid transit system and associated transport infrastructure.

- A direct link underground into the Epping to Chatswood rail tunnels
- 15.5 km of twin tunnels between Epping and Bella Vista
- 4.5 km elevated Skytrain structure between Bella Vista and Rouse Hill
- Conversion of the Epping to Chatswood Rail Link to deliver high frequency rapid transit services
- Eight new stations including:
  - Three underground stations at Castle Hill, Showground and Norwest
  - Three stations in cuttings at Cherrybrook, Bella Vista and Cudgegong Road
  - Two elevated stations at Kellyville and Rouse Hill.
- 4000 commuter car parking spaces are planned across Cherrybrook, Showground, Bella Vista, Kellyville and Cudgegong Road stations, with bus, taxi, kiss and ride, pedestrian and cycling facilities at all stations
- A train stabling facility and maintenance depot at Cudgegong Road

Figure 1 below provides an overview of the Project.

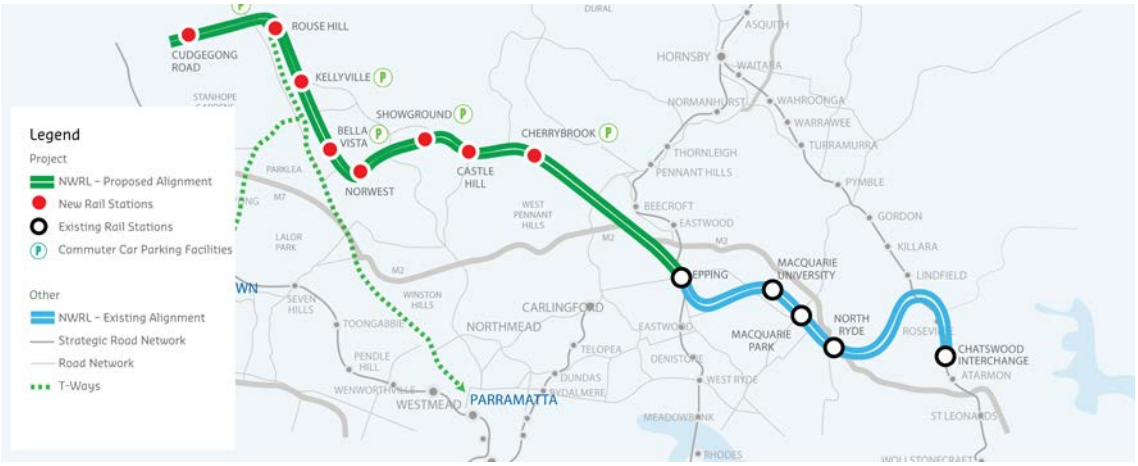


Figure 1 Project Overview

2.1 Staging of Delivery of NWRL

The NWRL Project is currently described by three project approvals and the delivery of the works between the different Packages is described as follows:

- Project Approval 1 (SSI-5100) – Major Civil Construction Works (Stage 1) – delivered under the Early Works Contract and the Tunnels and Stations Civil Works Contract

- Project Approval 2 (SSI-5414) – Stations, Rail Infrastructure and Systems (Stage 2) delivered under the Surface and Viaducts Civil Works Contract (SVC) and OTS Contract. The division of responsibilities for compliance between the contracts is defined in the TfNSW Staging Report (ref *North West Rail Link Stage 2 Infrastructure Approval – Staging Report, Rev 1.0, 22 April 2014) as follows:*
  - Stage 2a – SVC Works
  - Stage 2b – OTS Works
- RTRF Project Approval (SSI-5931) – Rapid Transit Rail Facility delivered under the OTS Contract by NRT
- Epping to Chatswood Rail Link (ECRL) Conversion Part 5 Approval.
- Norwest Pedestrian Link Part 5 Approval
- Sydney Metro Northwest Willoughby to North Chatswood 33kV Underground Feeder Powerline Part 5 Approval
- Sydney Metro Northwest Rouse Hill Temporary Bypass Powerline Part 5 Approval

2.2 Progressive Delivery of this CEMP and Schedule of Works

In accordance with Condition B11(a) of SSI-5414 this CEMP will be prepared progressively and updated in two phases:

- Phase 1 Works
  - Construction of the RTRF in accordance with the RTRF Project Approval (SSI-5931)
  - Enabling works in the Cudgegong Road Precinct (site preparation and bulk earthworks etc.) in accordance with the relevant conditions of Stage 2b of Project Approval 2 (SSI-5414)
- Phase 2 Works
  - All remaining construction works associated with Stage 2b of Project Approval 2 for SSI-5414 (construction of remaining stations, train infrastructure etc.).

This CEMP was also updated to cover construction works as part of the ECRL Conversion Approval (under Part 5 of the *Environmental Planning and Assessment Act 1979* with TfNSW as the determining authority). This CEMP and the Environmental Sub Plans have been further revised to address Phase 2 works. These further revisions focus on the following (in line with the timeframes in Table 1 below):

- The worksites and activities not covered in Phase 1 or ECRL conversion works
- Conditions of approval and Revised Environmental Mitigation Measures specific to Phase 2 Works
- Any additional plans or reports required for Phase 2 Works
- Additional EPL conditions required due to the expansion of the EPL boundary
- Environmental aspect and impacts not covered in Phase 1 or ECRL Conversion works.

This CEMP and the Environmental Sub Plans have been further revised to address the Norwest Pedestrian Link Approval, Willoughby to North Chatswood 33kV Underground Feeder Powerline Approval and the Rouse Hill Temporary Bypass Powerline Approval

all of which were approved under Part 5 of the *Environmental Planning and Assessment Act 1979* with TfNSW as the determining authority.

Figure 2 below illustrates the delineation of the Phase 1, ECRL Conversion and Phase 2 of the OTS Works.

Figure 3 below shows a schematic of the Norwest Station subsurface pedestrian link and northern entry.

Figure 4 below shows the alignment of the 33kV Underground Feeder from Willoughby to North Chatswood.

Figure 5 below shows the alignment of the Rouse Hill Temporary Bypass Powerline.

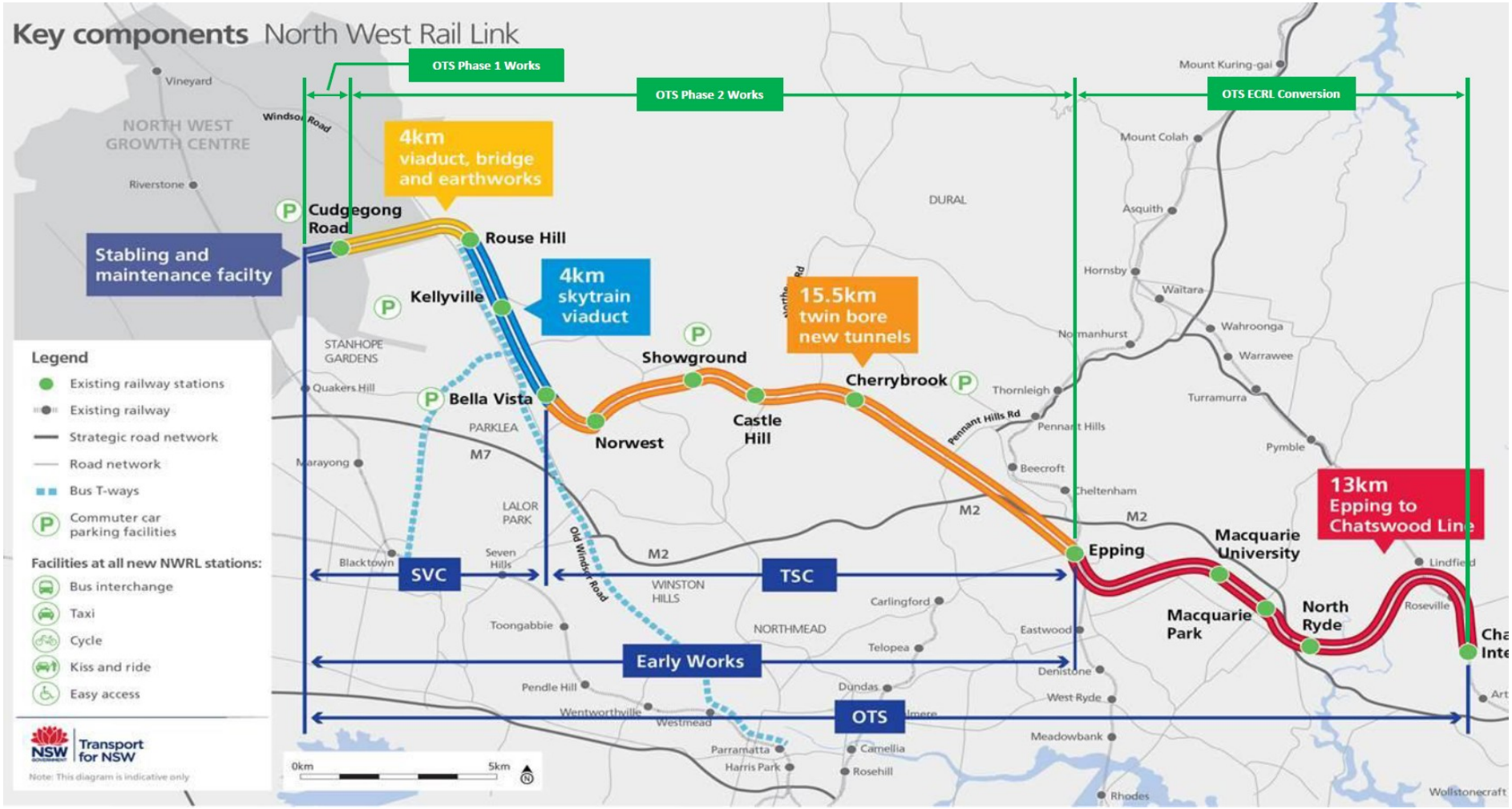


Figure 2 Schematic of NWRL OTS Phase 1, ECRL and Phase 2 Works

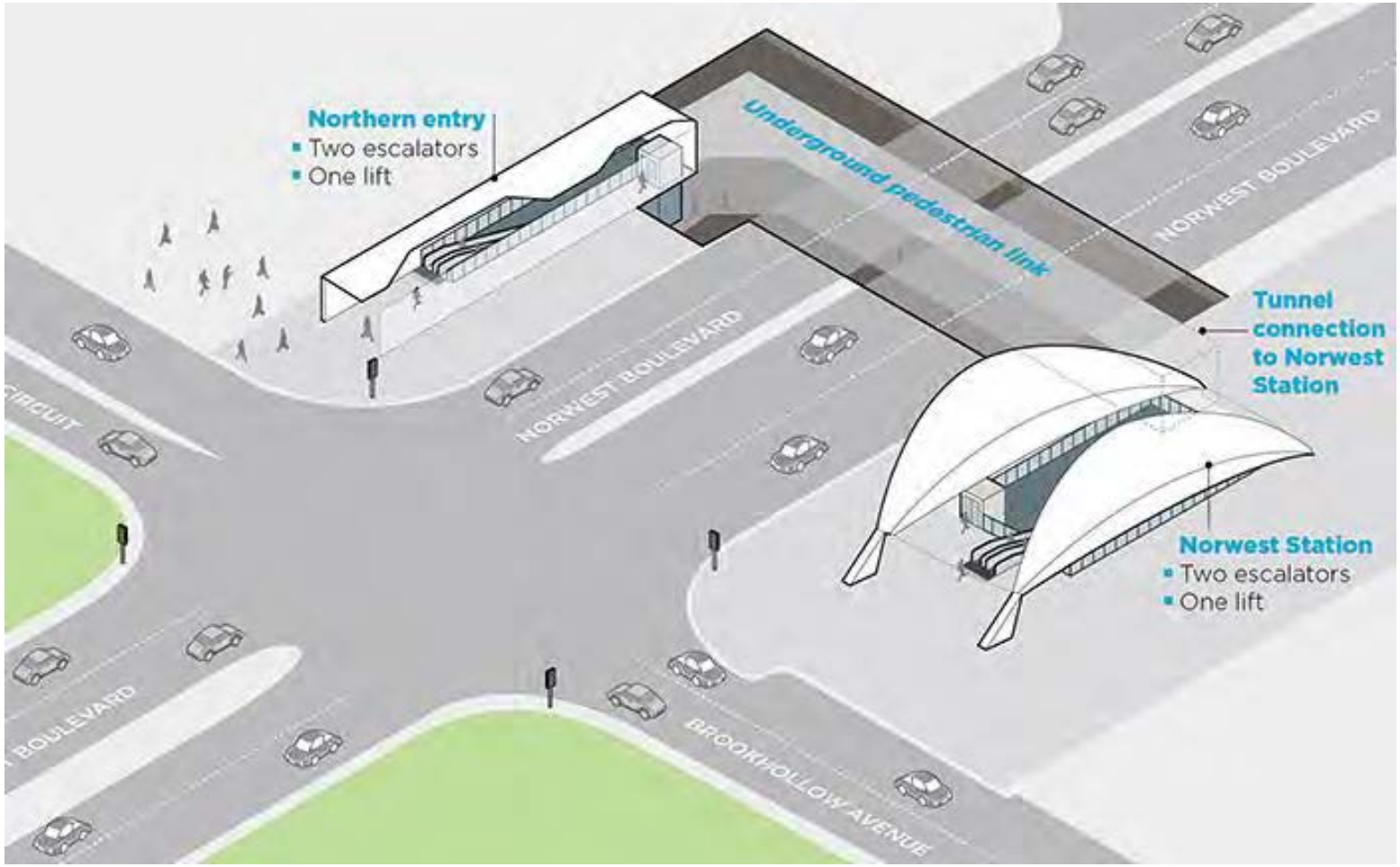


Figure 3 Schematic of Norwest Station Subsurface Pedestrian Link and Northern Entry

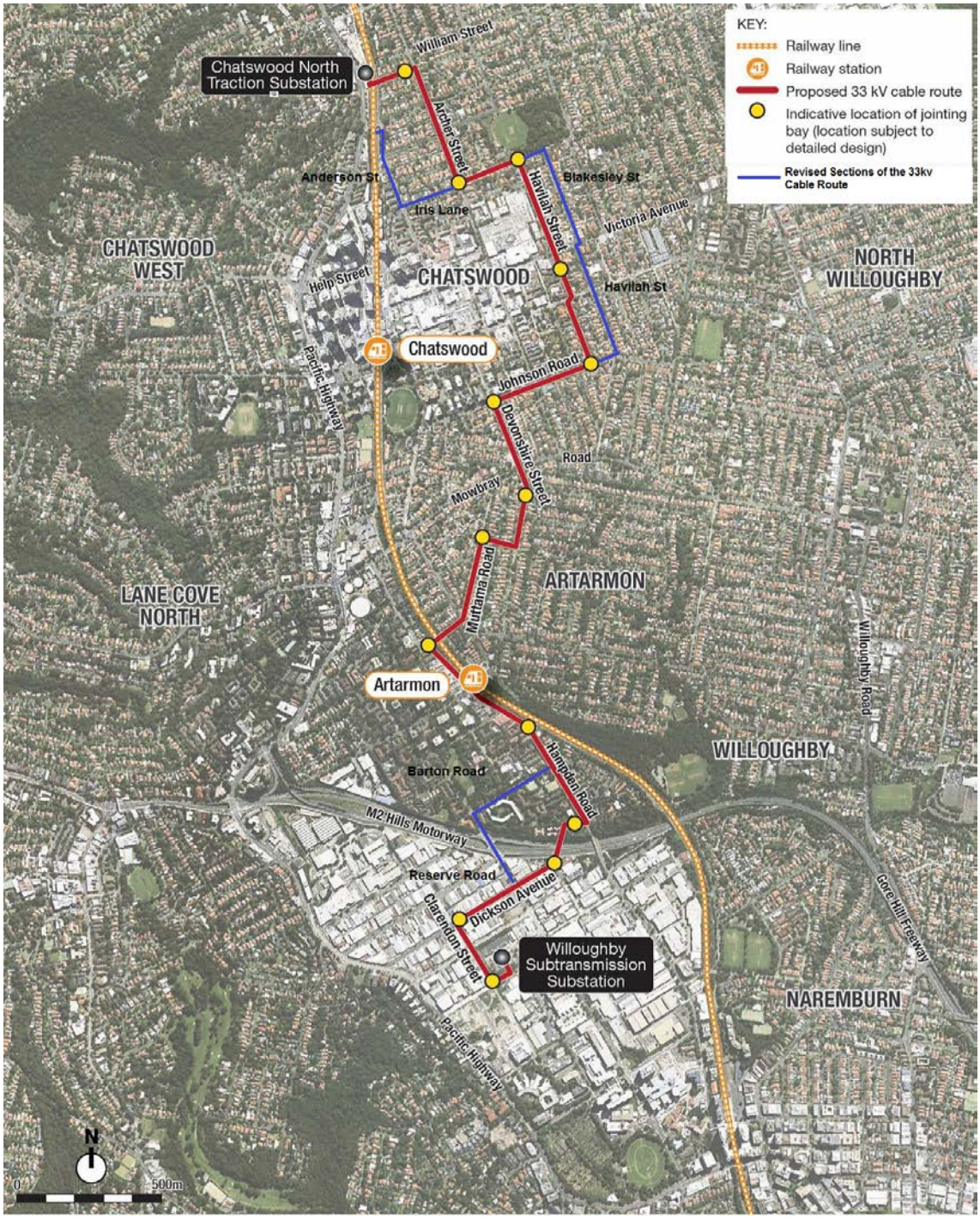


Figure 4 Overview of 33kv Underground Feeder Route

Figure 5 Rouse Hill Temporary Bypass Power Works

Table 1 below provides an overview of Phase 1, ECRL Conversion Works, Phase 2, Norwest Pedestrian Link, 33kV Underground Feeder Powerline and Rouse Hill Temporary Bypass Powerline works.

Table 1 Schedule of Works and Construction Activities

Activity	Details	Timeframes (indicative)
Phase 1		
RTRF Construction	Site Establishment	January 2015 – February 2015
	Clear and grubbing Bulk Earthworks Demolition of existing buildings	February 2015 – August 2015
	Piling works and service installation Installation of pile caps and beams Construction of retaining walls Building construction – substructure, yard structural filling, in ground services, capping layers	August 2015 – March 2016
	Ballasted track install Tamping and track alignment OHW install	March 2016 – August 2016
	Internal road construction Landscaping Building Fit out and commissioning	August 2016 – December 2018
Cudgegong Road Enabling Works	Fill at site laydown area Set up Site Facilities Clear, grub and cut to fill from Cudgegong Road footprint Construct temporary retaining wall at Cudgegong Road to enable excavation of full extent of Cudgegong Road station platform Utilities work on both Cudgegong and Tallawong Roads Construct Precinct roads to base course layer for access Close Tallawong road and detour via Cudgegong Road	February 2015 – July 2015
	Commence piling of retaining walls on up & down sides of the formation Construction of drainage Construct track slab / formation and platform foundation through the station and platform precast units and platform slab	July 2015 – November 2015

Activity	Details	Timeframes (indicative)
	Construct the overbridge and concourse abutments, including piling	
ECRL Conversion Works		
Site Inspections CSR Works Chiller Units Stub Tunnel Works Platform Works Track Works	Install Combined Services Route (CSR) trays/conduits HV cable haul Construct ventilation building extensions Preparation of stub tunnel works, core holing, saw cutting , excavation of stub tunnel slab Spot cooling and ventilation retrofitting works of Epping, Macquarie Uni, Macquarie Park and North Ryde Stations Remove pavers, saw cut rebate and install temporary threshold for PSDs at Epping Station and Macquarie Station Cable joining and local testing of HV cable Form, reo and pour new concrete slab and retaining wall Saw cutting of existing Epping Up track slab in preparation for new turnout. Reinstate track upon completion Fencing Works	November 2015 to August 2018 Some works to be carried out during scheduled possessions
Track works OHW Works Electrical Works Platform works	ECRL Shutdown Remove turnouts Track reconditioning works Substation modifications Install new fire protection system Install PSDs Install new overhead wiring	October 2018 – March 2019
Phase 2 (overview)		
Rouse Hill Station	Site setup: Fencing/Hoarding ensure delineated thoroughfare for pedestrians Commence construction of the Northern bus driver rest facilities. Rouse Hill Drive road works Construction of the station columns, block walls, shear walls, lift shafts, emergency egress structures Soft/hard landscaping for the northern bus driver rest facilities Construct retaining walls, bus stop, landscaping along the western side to allow for the buses to be relocated from Tempus Street. C	October 2016 – February 2019

Activity	Details	Timeframes (indicative)
	Construct station precinct works north of the station to allow for the buses to be relocated from tempus street Whitehart Drive road works Paving works in the station. Install lifts, signage, electrical, lighting, security cameras, fit out of stations service buildings Relocate bus route from Tempus street onto final route along Windsor Road Complete road works/precinct works along Tempus street between Rouse Hill Drive and Rouse Hill market square Complete finishing works for the station Landscaping works in station and precinct areas	
Kellyville Station	Fencing, site office, amenities, site parking, creating access roads into carparks/lay down areas/site, create sediment pond, security access De-vegetate area, removing sections of carpark and trees Utilities relocation Bulk earthworks for the station concourse footprint Bulk earthworks for the southern on-grade carpark Installation of CSR, water, electrical, stormwater, sewer, security, lighting, etc around the station concourse area Excavation and construction of strip footings,lift pits, escalator slabs, column pad footings, piling, pile caps Excavation multi-storey carpark and placement of services Construct superstructure for the pedestrian footbridge off site Construction of the station Construction of the retaining walls around the multi-storey carpark Asphalting, line-marking, curb and guttering precinct roads and southern carpark Landscaping works in station and precinct areas Soft landscaping around footbridge base oneastern side of Old Windsor Road. Samantha Riley Drive road works	October 2016 – January 2019
Bella Vista Station	Site office and amenities setup and fitout	January 2016 - January 2019

Activity	Details	Timeframes (indicative)
	Excavate and remove base slab of station box, retaining and wall base slabs Piling works Construct retaining walls, concourse, Service rooms below ground level, Footbridge, above ground lift shafts, stairs and ramps Station construction works Close the temporary McDonald's/BP entry from Celebration drive to construct the new intersection Landscaping Building Services Demolish any handover items that require removal for station or Precinct works	
Norwest Station	Site office and amenities setup and fitout Excavate around 132kV cable joint pit and construct new joint bay Remove existing roundabout on Brookhollow Ave and install temporary traffic signals for T intersection Station Construction - Station: Detailed Excavation, Platform and Intermediate level construction Building Services Hard and soft landscaping to station precinct	January 2016 – December 2018
Showground Road Station	Site clearing Piling and foundations for Substation Sub structure and superstructure for Substation Tunnel and track fitout back to Norwest Station Site office, car park and laydown area set up Detailed excavation in station box Track form construction city end to Castle Hill Formation of precinct roads Permanent sediment basin Station cast in situ base slab and deflection walls Station precast slabs, beams, columns and walls to mezzanine and plant levels Multi level car park construction to operational condition	January 2016 – December 2018

Activity	Details	Timeframes (indicative)
	Station precast slabs, beams, columns and walls to plant and roof levels Traction substation electrical fitout Road works Landscaping	
Castle Hill Station	Site office, car park and laydown area set up Station: Detailed Excavation, Platform and Intermediate level construction Road works – current bus stop open, water main and gas main relocation, new pavement and kerb & gutter to east bound side, permanent footpath pavement from Terminus St to pedestrian crossing Station: Plant and roof level construction, station fitout New terrace between station and Old Castle Hill Road Earthworks, retaining walls and landscaping details Roadworks Formation, drainage, kerb & gutter and asphalt to widening section for taxi ranks west bound Footpath pavement and hard landscaping	April 2017- December 2018
Cherrybrook Station	Establish site compound and amenities Site clearing and earthworks Tunnel and track install towards Cheltenham Service Facility Station detail excavation Precinct St A formation from Franklin Rd to Concourse entry Roadworks at Franklin Rd Multi level carpark structure Precinct St A formation from Concourse entry to Robert Rd Station construction	August 2016 – February 2019
Cheltenham Services Facility	Clear and grub vegetation Services facility construction works Road works Landscaping works Construction of new Community Facility at Cheltenham Oval Reinstatement of netballs courts	August 2016 – January 2019
Epping Services Facility	Services facility construction works Road works	August 2016 – December 2018

Activity	Details	Timeframes (indicative)
	Landscaping works	
Rail Systems	Track installation (tunnel and above ground) Overhead wiring Combined services route	December 2015 – December 2017
Corridor Works	Landscaping Drainage Cycle and pedestrian links	July 2016 – December 2018
Testing and Commissioning (all areas)	Train testing along the alignment Testing of systems Testing of buildings and stations	September 2017 – May 2019
Norwest Pedestrian Link		
	Site establishment Earthwork and excavation Civil and building work Fit out and furnishing Pre-commissioning and commissioning Post work tie-ins, treatments and vegetation planting Demobilisation	June 2016 – May 2018
33kV Underground Feeder Powerline		
Route Construction	• Survey and service search • Excavation of trench • Removal of spoil • Installation of conduit / pit • Trench fill and reinstatement of road, place lids on pits • Cable bridge construction	April 2016 – February 2017
Cable Installation	• Delivery and set up of cable • Removal of pit lids • Haul cable between pits • Cable cut to length and sealed • Reinstatement of pit lids and site cleared	February – June 2017
Jointing and testing	• Removal of sealing ends • Testing of cable lengths • Joint cable	July – November 2017
Commissioning	• Commissioning of project	July 2017 – November 2018

Activity	Details	Timeframes (indicative)
Rouse Hill Temporary Bypass Powerline		
Route Construction	• Survey and service search • Excavation of trench • Removal of spoil • Vegetation Removal	July 2017 – December 2017
Powerline Construction	• Installation of poles and wires • Installation of cables and conduits	July 2017 – December 2017
Commissioning	• Commissioning and testing of power	October 2017 – March 2018
Deconstruction	• Removal of temporary bypass powerline and poles	September 2018 - October 2018

2.3 Phase 1 OTS Works and Approval Pathways

The Phase 1 OTS Works have been sequenced according to the successful release of project hold points (e.g. contractual, environmental, safety, procurement etc.). A series of key hold points are associated with approval requirements linked to Environmental Planning and Protection Legislation, the key ones being the Minister's Conditions of Approval with respect to approval of this CEMP, Sub Plans and associated preconstruction reports. The sequence of works will be as follows:

- Design Investigation Works
- Pre-Construction Works
- Construction Works.

2.3.1 Design Investigation Works

Design Investigation Works may be undertaken prior to this CEMP's Approval in accordance with the Definitions of Minister's Conditions of Approval (as Minor Works) and may commence prior to this EMP being approved.

Investigation works are required to provide the required inputs to the Environmental Sub Plans and Design Development process including:

- Survey
- Flora and fauna investigations including pre-clearing survey and background ecological monitoring
- Water quality monitoring of surrounding waterways and boreholes
- Geotechnical survey
- Contamination investigation (including but not limited to test pits at construction worksites, and utilising boreholes from geotechnical surveys, where possible).

These investigation works fall within the definition of “pre-construction” works under Schedule A (Definitions) of the applicable Project Approvals and are not deemed to be “scheduled activities” (as defined under Schedule 1 of the *Protection of the Environment and Operations Act 1997* (POEO Act) or “scheduled development work” (as defined under Section 47 of the POEO Act) and as such do not require an Environment Protection Licence (EPL).

To enable the works to commence, the following environmental approval hold points will be released:

- Preparation of the TfNSW “Pre-Construction Minor Works Approval Form, 9TP-FT-202” including Task Risk Assessments (TRA) and Approval from TfNSW and the Environmental Representative.

2.3.2 Pre-construction Works

Pre-construction (site establishment) works to be undertaken prior to the commencement of construction will be in accordance with the definition of works not considered as ‘construction’ in the Schedule A (Definitions) of the applicable Project Approvals (for SSI-5414 and SSI-5931), and activities:

- Endorsed by the ER as having a “minimal environmental impact” or
- Activities which affect heritage, threatened species, populations or endangered ecological communities that the Secretary of the Department of Planning and Environment (DP&E) approves following consultation with the Office of Environment and Heritage (OEH) and/or the Heritage Council of NSW.

Proposed pre-construction activities include (not limited to):

a) Survey, acquisitions, building road dilapidation surveys
b) Investigative drilling, excavation
c) Minor clearing or translocation of native vegetation
d) Establishing ancillary facilities/ construction work sites (in locations meeting the criteria identified in the Conditions of Approval)
e) Installation of environmental impact mitigation measures
f) Fencing, enabling works
g) Other activities determined by the Environmental Representative to have minimal environmental impact (e.g. minor access roads, minor adjustments to services utilities, etc.).

To enable the works to commence, the following environmental hold points will be released:

- Obtain an Environment Protection Licence from Environment Protection Authority (EPA); or where required obtain approval from the EPA if the licence has yet to be granted
- Preparation of the TfNSW “Pre-Construction Minor Works Approval Form, 9TP-FT-202/2.0” (including Task Risk Assessment) and approval from TfNSW and the Environmental Representative.

2.3.3 Construction Works

Construction works associated with the delivery of the Phase 1 OTS Works (RTRF and Cudgegong Road Precinct Enabling works) would include:

- Site preparation works including bulk earthworks, demolition and tree removal
- Up to approximately 23 rail sidings with stabling capacity for 45 trains
- Train wash facility
- Wheel lathe
- Workshop facilities
- Approximately four tracks for infrastructure maintenance trains
- Train delivery track (a section of track to test trains for service)
- Maintenance and infrastructure storage areas
- Administration, staff training and staff amenities buildings
- An Operations Control Centre (within the administration building) to monitor and control operations for the rapid transit network
- Vehicular access, internal roads and staff car parking
- Substations
- Communications tower
- On-site stormwater detention and treatment ponds
- Precinct Streets
- Two primary plazas, two station entries, one covered paid concourse
- Landscaping of the corridor
- Two levels of servicing buildings
- Pedestrian and cycle bridge
- Platforms and track infrastructure
- Bridge over Tallawong Road
- Service Infrastructure.

The work area is shown in Figure 6.

To enable the Phase 1 Works to commence, the following hold points will be released:

- Environment Protection Licence from EPA
- Preparation, consultation and approval (by DP&E) of the documents and plans including the CEMP and Environmental Sub Plans, as specified in Project Approvals (SSI-5414 and SSI-59314)) as being required “prior to construction”
- Other Licences/approvals triggered by activities (refer Section 3).

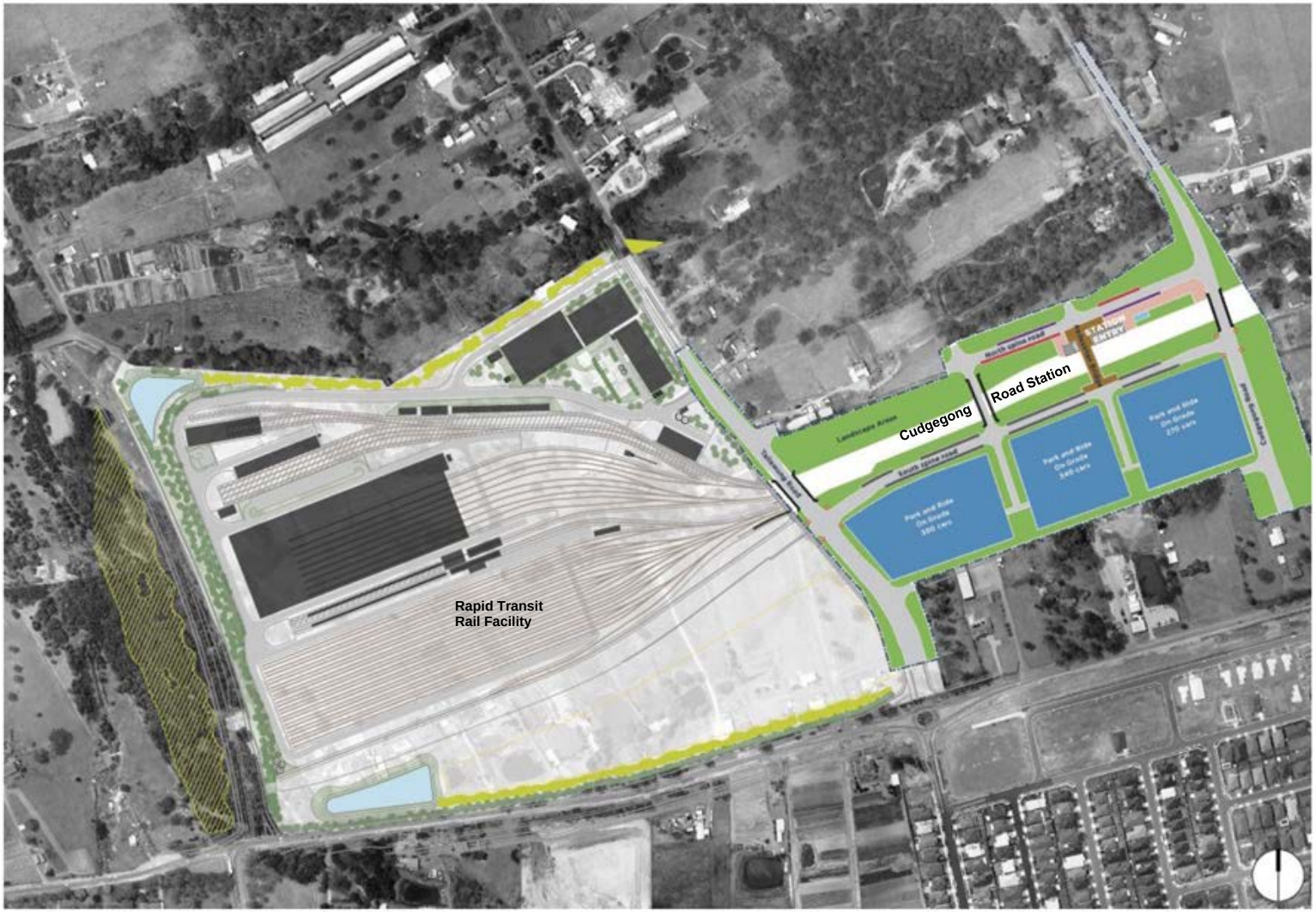


Figure 6 Indicative NWRL OTS Phase 1 Site: RTRF and Cudgegong Road Precinct Enabling Works Site

2.4 ECRL Conversion Works and Approval Pathways

2.4.1 Pre-construction Works

Pre-construction and design investigation works to be undertaken prior to the commencement of construction and would include the following:

- Survey, acquisitions, building road dilapidation surveys
- Investigative drilling, excavation
- Minor clearing or translocation of native vegetation
- Establishing ancillary facilities/ construction work sites (in locations meeting the criteria identified in the Conditions of Approval)
- Installation of environmental impact mitigation measures
- Fencing, enabling works
- Other activities determined by the Environmental Representative to have minimal environmental impact (e.g. minor access roads, minor adjustments to services utilities, etc.).

To enable the works to commence, the following environmental hold points will be released:

- Obtain an Environment Protection Licence from the Environment Protection Authority (EPA) or amend the premises maps for the existing EPL; or obtain approval from the EPA or Sydney Trains where works would be carried out under the existing Sydney Trains EPL
- Preparation of the TfNSW “Pre-Construction Minor Works Approval Form, 9TP-FT-202/2.0” including Task Risk Assessment and approval from TfNSW and the Environmental Representative for works as required.

2.4.2 Construction Works

Construction Works associated with the delivery of ECRL Conversion works would include:

- The removal of existing Epping to Chatswood railway track connections at Epping and Chatswood to achieve operational segregation of the Epping to Chatswood railway from the Sydney Trains network
- Modification to the existing track network to the south of Chatswood station to allow for connection to SRT
- A range of building modifications within the existing stations (Chatswood, North Ryde, Macquarie University, Macquarie Park and Epping) including:
- Modification to platform seating, signage and other infrastructure
- Installation of platform safety screen doors
- Modifications to station rooms, signage and customer information displays.

- Installation of air-control units within the station precincts at Epping, Macquarie University, Macquarie Park and North Ryde
- Removal of equipment in the Epping to Chatswood railway corridor that is no longer required for the future operation of the Epping to Chatswood railway as part of the rapid transit network
- Provision of new cable routes to accommodate rapid transit services and signalling systems
- Modifications to systems including electrical, signalling, communications, fire and life safety, mechanical and fire systems
- Modification to traction power supply
- Segregation of the existing Chatswood North substation, which currently services the Sydney Trains network, for the future operation of the NWRL.

A map of the work areas is contained below in Figure 7.

To enable the ECRL Conversion Works to commence, the following hold points will be released:

- Environment Protection Licence from EPA
- Update the Phase 1 CEMP to include ECRL Conversion Work and submitted to the ER. ER is to be given a minimum period of 7 days to review and endorse the CEMP. The CEMP must be approved by TfNSW at least 14 days prior to the commencement of construction
- Other Licences/approvals triggered by activities (refer Section 3).

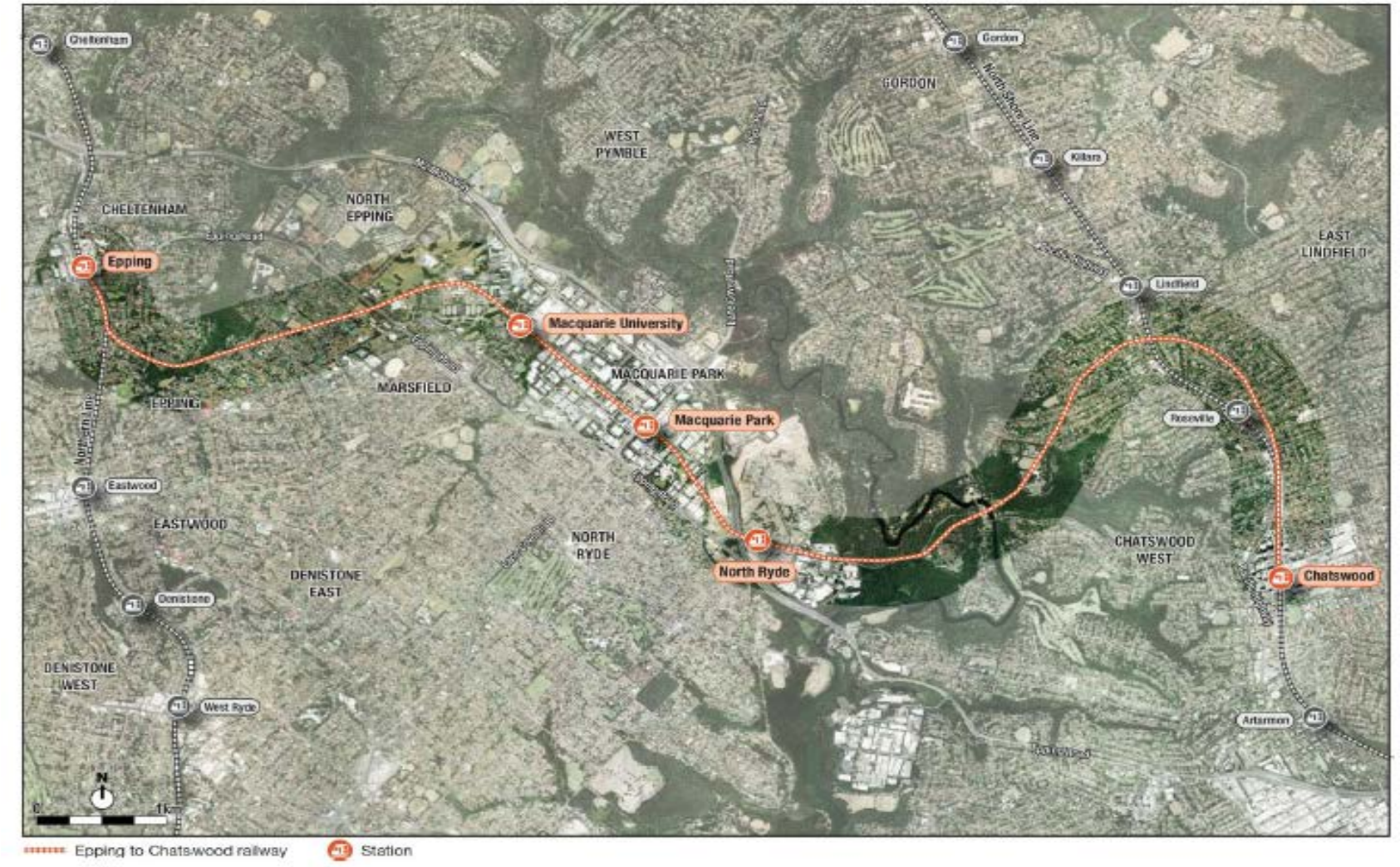


Figure 7 Indicative ECRL Conversion Work Areas

2.5 Phase 2 OTS Works and Approval Pathways

The Phase 2 OTS Works will be sequenced according to the successful release of project hold points (e.g. contractual, environmental, safety, procurement etc.). A series of key hold points are associated with approval requirements linked to Environmental Planning and Protection Legislation, the key ones being the Minister's Conditions of Approval with respect to approval of this CEMP, Sub Plans and associated preconstruction reports. The sequence of works will be as follows:

- Design Investigation Works
- Pre-Construction Works
- Construction Works.

2.5.1 Design Investigation Works

Design Investigation Works may be undertaken prior to this CEMP's Approval in accordance with the Definitions of Minister's Conditions of Approval (as Minor Works) and may commence prior to this CEMP being approved.

Investigation works are required to provide the required inputs to the Environmental Sub Plans and Design Development process and may include:

- Survey
- Flora and fauna investigations including pre-clearing survey and background ecological monitoring
- Water quality monitoring of surrounding waterways and boreholes
- Geotechnical survey
- Contamination investigation (including but not limited to test pits at construction worksites, and utilising boreholes from geotechnical surveys, where possible)

These investigation works fall within the definition of "pre-construction" works under Schedule A (Definitions) of the applicable Project Approvals (for SSI-5414 and SSI-5931) and are not deemed to be "scheduled activities" (as defined under Schedule 1 of the *Protection of the Environment and Operations Act 1997* (POEO Act) or "scheduled development work" (as defined under Section 47 of the POEO Act) and as such do not require an Environment Protection Licence (EPL).

To enable the works to commence, the following environmental approval hold points will be released:

- Preparation of the TfNSW "Pre-Construction Minor Works Approval Form, 9TP-FT-202/2.0" including Task Risk Assessments (TRA) and Approval from TfNSW and the Environmental Representative.

2.5.2 Pre-construction Works

Pre-construction (site establishment) works to be undertaken prior to the commencement of construction will be in accordance with the definition of works not

considered as ‘construction’ in the Schedule A (Definitions) of the applicable Sydney Metro Northwest Project Approvals (for SSI-5414 and SSI-5931), and activities:

- Endorsed by the ER as having a minimal environmental impact” or
- Activities which affect heritage, threatened species, populations or endangered ecological communities that the Secretary of the Department of Planning and Environment (DP&E) approves following consultation with the Office of Environment and Heritage (OEH) and/or the Heritage Council of NSW.

Proposed pre-construction activities include (but are not limited to):

a) Survey, acquisitions, building road dilapidation surveys
b) Investigative drilling, excavation
c) Minor clearing or translocation of native vegetation
d) Establishing ancillary facilities/ construction work sites (in locations meeting the criteria identified in the Conditions of Approval)
e) Installation of environmental impact mitigation measures
f) Fencing, enabling works
g) Other activities determined by the Environmental Representative to have minimal environmental impact (e.g. minor access roads, minor adjustments to services utilities, etc.).

To enable the works to commence, the following environmental hold points will be released:

- Obtain an Environment Protection Licence from Environment Protection Authority (EPA); or where required obtain approval from the EPA if the licence has yet to be granted
- Preparation of the TfNSW “Pre-Construction Minor Works Approval Form, 9TP-FT-202/2.0” (including Task Risk Assessment) and approval from TfNSW and the Environmental Representative.

2.5.3 Construction Works

Construction works associated with the delivery of the Phase 2 OTS Works would include:

Station Works

- Station infrastructure
- Car parking(both at grade and multistorey)
- Bridges

Precinct Works

- New pedestrian and bicycle links
- Road and intersection upgrades
- Drainage and flood mitigation structures

- Bus and taxi layovers and public transport integration works
- Signage and wayfinding
- Landscaping
- Substations and service buildings
- Noise mitigation structures

Rail Infrastructure

- Tunnel systems fit-out
- At-grade surface and viaduct systems fit-out
- Overhead wiring and combined services routes

Corridor works

- Landscaping
- Drainage
- Service infrastructure
- Noise mitigation structures
- Cycle and pedestrian links

Services facility construction and fit-out at Epping and Cheltenham

Testing and commissioning.

A number of construction sites would be required as part of the rail systems and stations construction works. These would include areas to support linear works such as trackwork, signalling and overhead wiring, as well as at each of the future station, service facility and train stabling locations.

The construction works would be conducted in three primary environments depending on the location of the works. This is defined below:

- Epping to Bella Vista Station – predominantly within tunnel.
- Bella Vista Station to Rouse Hill Station – predominantly on viaduct.
- Rouse Hill Station to Cudgegong Road – predominantly at-grade or bridge structures.

The OTS Phase 2 work area is shown in Figure 8.

To enable the Phase 2 Works to commence, the following hold points will be released:

- Environment Protection Licence from EPA
- Update the ECRL Conversion CEMP to include Phase 2 Works and submitted to DP&E for approval
- Other Licences/approvals triggered by activities (refer Section 3).

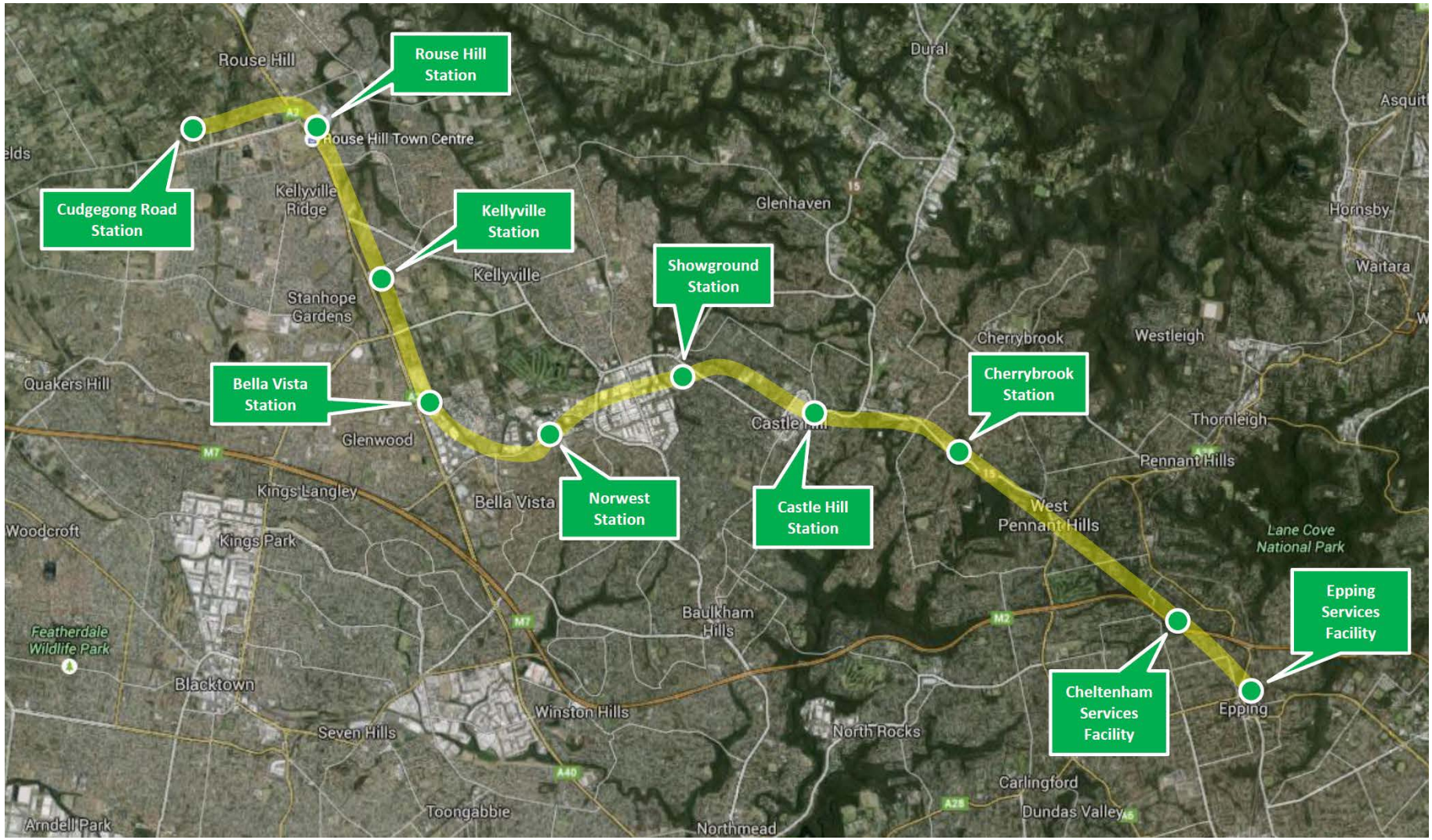


Figure 8 Indicative OTS Phase 2 Works Areas

2.6 Norwest Pedestrian Link Works and Approval Pathways

2.6.1 Construction Works

The Norwest Pedestrian Link would be constructed at the same time as Norwest Station. The work method and program would be reliant on the following:

- Obtaining site access
- Construction start date to link to the Norwest Station site establishment
- The Norwest Pedestrian Link and the southern access to be construction at the same time
- The Norwest Pedestrian Link to be completed before Norwest Station is commissioned.

To enable the works to commence, the following environmental hold points will be released:

- Preparation of the TfNSW "Pre-Construction Minor Works Approval Form, 9TP-FT-202/2.0" including Task Risk Assessment and approval from TfNSW and the Environmental Representative for works as required.

Construction works associated with the Norwest Pedestrian Link Works would include:

- Site establishment, including surface clearance and the demolition of existing structures
- Earthworks and excavation
- Civil and building work
- Fit out and furnishing
- Pre-commissioning and commissioning
- Post work tie-ins, treatments and vegetation planting
- Demobilisation.

The Norwest Pedestrian Link Works area is shown in Figure 9.

To enable the Norwest Pedestrian Link Works to commence, the following hold points will be released:

- Premise map to be updated for works under the Environment Protection Licence from the EPA
- Update this CEMP to include 33kV Underground Feeder Powerline Work and submitted to the ER. ER is to be given a minimum period of 7 days to review and

endorse the CEMP. The CEMP must be approved by TfNSW at least 14 days prior to the commencement of construction

- Other Licences/approval triggered by activities (refer Section 3.2).

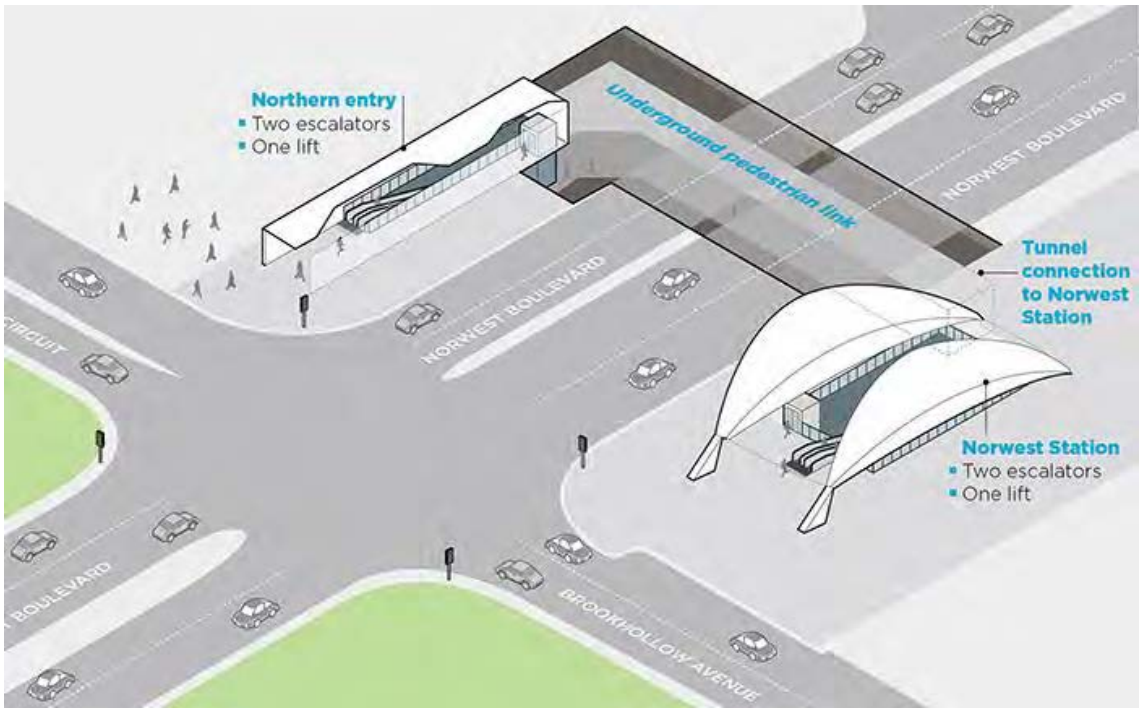


Figure 9Norwest Pedestrian Link Works Site

2.7 33kV Underground Feeder Powerline Works and Approval Pathways

2.7.1 Pre-construction Works

Pre-construction and design investigation works to be undertaken prior to the commencement of construction and would include the following:

- Survey and infrastructure dilapidation surveys
- Establishing ancillary facilities/ construction work sites (in locations meeting the criteria identified in the Conditions of Approval)
- Installation of environmental impact mitigation measures
- Other activities determined by the Environmental Representative to have minimal environmental impact.

To enable the works to commence, the following environmental hold points will be released:

- Preparation of the TfNSW “Pre-Construction Minor Works Approval Form, 9TP-FT-202/2.0” including Task Risk Assessment and approval from TfNSW and the Environmental Representative for works as required.

2.7.2 Construction Works

Key features of the construction works associated with the 33kV Underground Feeder Powerline Works would include:

- Installation of underground conduits and cables. The cabling would be installed generally using a standard trenching methodology for the majority of the alignment, with under-boring being proposed to be utilised for the crossing of the Gore Hill Freeway at Artarmon
- Installation of a cable tray over the North Shore Railway Line to provide a connection between Waratah Street and the Chatswood North Traction Substation
- Installation of cables in up to eight conduits including:
    - Six 200 millimetre diameter conduits
    - Two 63 millimetre diameter conduits
- Installation of associated infrastructure including:
    - Up to 16 jointing bays
    - Approximately 15 feeder pulling pits
    - Approximately 20 communications pits
    - Approximately five ancillary and / or access pits
- Connection of the feeder line to the Willoughby STS and the Chatswood North Traction Substation
- Operation and maintenance of the underground conduits and cables

The Willoughby to North Chatswood 33kV Underground Feeder Powerline alignment is shown in Figure 10.The route was amended via a consistency assessment in 3 locations.

To enable the 33kV Underground Feeder Powerline Works to commence, the following hold points will be released:

- Any works within the rail corridor would completed as per the conditions of Sydney Trains EPL
- Update this CEMP to include 33kV Underground Feeder Powerline Work and submitted to the ER. ER is to be given a minimum period of 7 days to review and endorse the CEMP. The CEMP must be approved by TfNSW at least 14 days prior to the commencement of construction
- Other Licences/approval triggered by activities (refer Section 3.2).

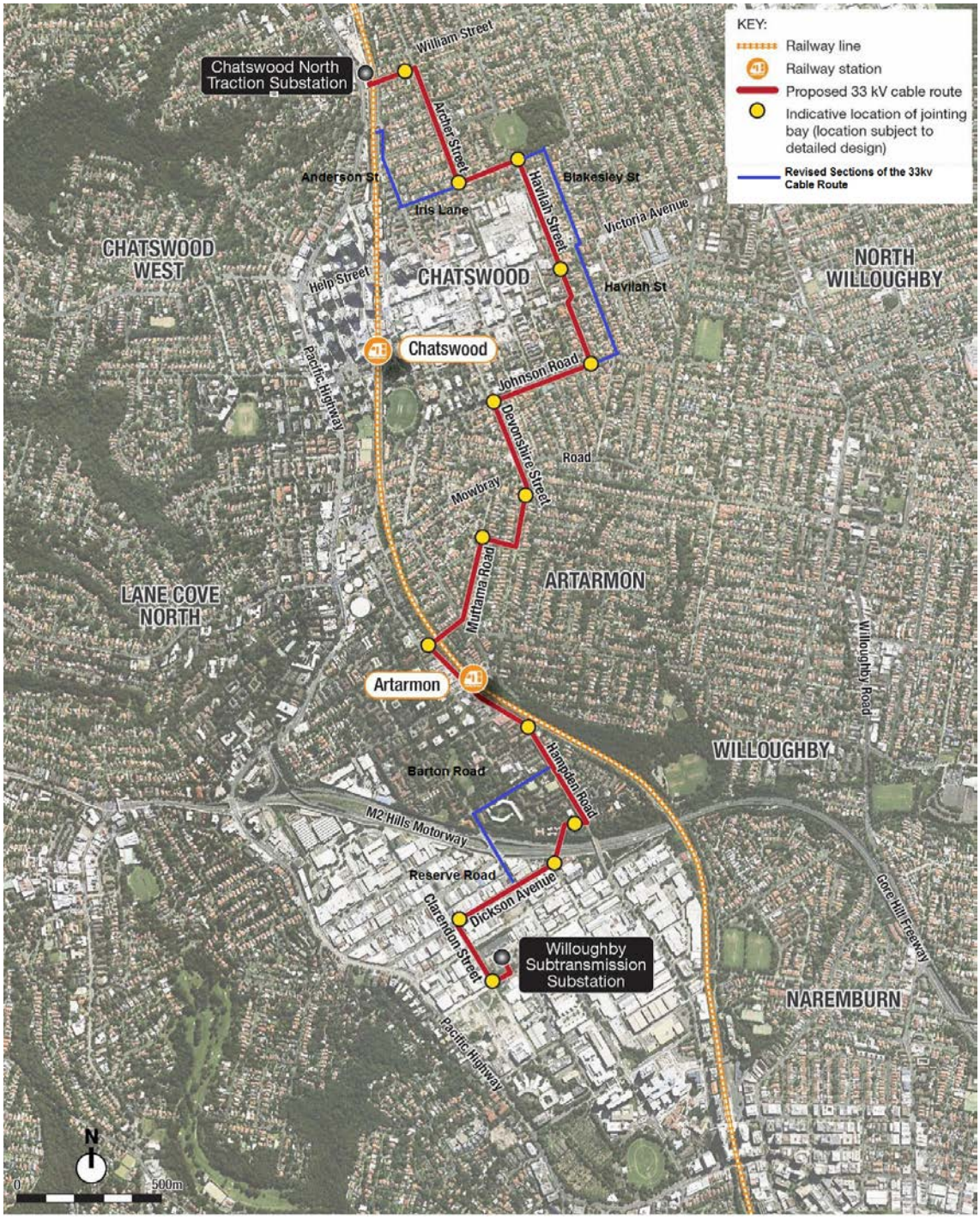


Figure 10 33kV Underground Feeder Powerline Alignment

2.8 Rouse Hill Temporary Powerline Works

Key features of the construction works associated with the Rouse Hill Temporary Bypass Powerline include the following:

- Install, commission, operate, maintain, decommission, remove and rehabilitate land for a temporary combined overhead/underground powerline in Rouse Hill. The powerline would run from the southern side of the Sydney Metro Windsor Road Bridge crossing Schofields Road, running underground through Castlebrook

Memorial Park transitioning back to overhead and crossing Windsor Road to the Rouse Hill traction substation located south of Sanctuary Drive.

- The powerline will have approximately 22 poles, with spans of 6-74m between poles. The pole heights vary from 18.5 – 23m depending on the location to meet vegetation clearance heights. Each pole would have a 33kV line, an 11kV line and communication cables attached.
- Additionally a site compound would be established in the far northern corner of the Castlebrook site. The compound would be used to store equipment, machinery, materials as well as a site shed and amenities.

See Figure 1111 below for a plan of the work area.

Figure 11 Temporary Bypass Powerline work area

The works were originally managed under a standalone CEMP that was endorsed by the ER and TfNSW. These works are now included under Revision 5 of this CEMP.

2.9 Environment and Sustainability Policy

The NRT Environment and Sustainability Policy is the primary governance document of the EMS for the OTS PPP. The Policy is attached in Annexure B of this CEMP. The NRT Environment Policy has been developed to align with the NWRL Environment and Sustainability Policy.

2.10 Key Performance Indicators

Environmental and planning KPIs for the OTS Works are as follows:

- No Class 1 or 2 incidents as (per Section 7.1.3)
- No Environmental Representative Stop Work Recommendations

- Receive no major non-conformances on all compliance audits.

Note incident classifications are set out in the *Emergency Response Process* described in the *Incident Management Plan*.

2.11 Sustainability

Management of Sustainability requirements associated with the design and delivery of OTS Works has been addressed in the *Delivery Phase Sustainability Management Plan* and the *Carbon and Energy Management Plan*. Implementation of the above plans will be managed by the Sustainability Manager. Table 6 outlines the scope and responsibilities of this role.

2.12 Environmental Management System

The NRT Environmental Management System (EMS) for the design and delivery phase of the OTS Works is comprised of a suite of documents and records.

2.13 Interface with Other Project Plans

For the delivery phase, the Management System Interface Matrix in Appendix E of the Project Management Plan displays the integrated relationship between each Project Plan and the NRT-PIMS procedures.

3 Key Legal Approval and Other Requirements

3.1 Project Environmental Approval Process

The North West Rail Link is subject to environmental assessment under the *Environmental Planning and Assessment Act 1979* (EP&A Act). It is classified as Critical State Significant Infrastructure. Under amendments to the EP&A Act, the Concept Plan for the project, which was approved in 2008, is taken to be a Staged Infrastructure Approval under Part 5.1 of the Act.

Before work can commence on the project, detailed environmental assessments have been carried out in order to gain the necessary planning approval. These Planning Approvals for the project are described below:

3.1.1 Major Civil Construction Works Planning Approval SSI-5100

The first Environmental Impact Statement (EIS1) assessed impacts for Major Civil Construction Works. This covered activities including tunnelling and viaduct construction. It was approved by the Minister for Planning and Infrastructure on 25 September 2012. This Approval was modified in April 2013 to incorporate changes to the Showground Station and adjacent precinct.

3.1.2 Stations, Rail Infrastructure and Systems Planning Approval SSI-5414

The second Environmental Impact Statement (EIS2) assessed Stations, Rail Infrastructure and Systems. This covered construction and operation of the railway itself, including stations and stations precincts, rail systems and infrastructure. It was approved by the Minister for Planning and Infrastructure 8 May 2013. This Approval was modified in April 2014 to alter the approved viaduct structure with a cable stayed bridge over Windsor Road, Rouse Hill.

3.1.3 Rapid Transit Rail Facility Planning Approval SSI-5931

With the announcement of Sydney Rail Futures and the future Rapid Transit Network, a Rapid Transit Rail Facility is required. The RTRF provides for a train stabling and maintenance facility, a section of track for testing, administration staff and training facilities including an Operations Control Centre. An EIS was prepared for the construction and operation of the RTRF and approval was granted by the Minister for Planning and Infrastructure on 15 January 2014.

3.1.4 Commonwealth Statutory Requirements

Due to its impact on nationally significant vegetation communities, the project was declared a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth). Approval was granted by the Australian Government Environment Minister on 11 April 2013.

3.1.5 ECRL Conversion Works

To convert the existing suburban line to next-generation metro standards, major upgrades are needed, including overhauling the stations, installing 26 km of cabling, power and signalling systems and customer improvements such as platform screen doors. The Epping to Chatswood Railway Conversion to Rapid Transit Review of Environmental Factors (REF) Report and Temporary Transport Plan were completed in October 2014 and were publicly exhibited between 13 October and 17 November 2014. The determination report and conditions of approval were issued by the Northwest Rail Link - Deputy Project Director-Safety, Environment and Business Systems on 13 February 2015.

3.1.6 Norwest Pedestrian Link Works

Following a NSW Government publication with anticipated forecasts for job and population growth across the Metropolitan region it was identified that the number of people travelling to the Norwest Precinct every day would far exceed the numbers the Norwest Station was designed on. It was concluded that the approved access arrangements at Norwest Station would substantially benefit from providing an additional underground pedestrian link and second station entry located on the northern side of Norwest Boulevard. The Norwest Station Subsurface Pedestrian Link and Northern Entry Review of Environmental Factors (REF) Report were completed in June 2015 and was publicly exhibited between 27 July and 7 August 2015. The determination report and conditions of approval were issued by the Northwest Rail Link – Deputy Project Director – Safety, Environment and Business Systems on 29 October 2015.

3.1.7 33kV Underground Feeder Powerline Works

To provide bulk power supply for the Sydney Metro Northwest the provision of approximately 5.2 kilometres of 33 kilovolt (kV) underground feeder line and associated infrastructure from Ausgrid's Willoughby STS to the TfNSW Chatswood North Traction Substation is required. The Sydney Metro Northwest Willoughby to North Chatswood 33kV Underground Feeder Power Line Review of Environmental Factors was completed in October 2015 and was publicly exhibited between 2 November and 30 November 2015. The determination report and conditions of approval were issued by the Northwest Rail Link – Deputy Project Director – Safety, Environment and Business Systems on 18 March 2016.

3.1.8 Rouse Hill Temporary Bypass Powerline Works

The Rouse Hill Temporary Bypass Powerline Works is required to enable energisation and commissioning of the rail systems associated with the construction of Sydney Metro Northwest. The powerline would run from the southern side of the Sydney Metro Windsor Road Bridge crossing Schofields Road, running underground through Castlebrook Memorial Park transitioning back to overhead and crossing Windsor Road to the Rouse Hill traction substation located south of Sanctuary Drive. The works were assessed under an Environmental Impact Assessment checklist and approved by the

Sydney Metro Northwest – Principal Manager Planning and Sustainability – on the 13th June 2017.

3.2 Approval and Licensing Requirements

In accordance with Condition B1 of SSI-5414 and SSI-5931, Condition 1 of the ECRL Determination report, Condition 1 of the Norwest Pedestrian Link Determination report, and Condition 1 of the 33kV Underground Feeder Powerline Determination report the project would be carried out generally in accordance with the following documents:

- SSI Application SSI-5414:
  - North West Rail Link: Environmental Impact Statement – Stage 2-Stations, Rail Infrastructure and Systems, dated 25 October 2012
  - Submissions Report, Stage 2 – Stations, Rail Infrastructure and Systems, Incorporating Preferred Infrastructure Report, dated March 2012
  - North West Rail Link: Windsor Road Bridge, Rouse Hill – Modification Report, dated February 2014
  - North West Rail Link: Windsor Road Bridge, Rouse Hill – Response to Submissions, dated March 2014
  - Conditions of the approval
- SSI Application SSI-5931:
  - Tallawong Road, Rouse Hill Rapid Transit Rail Facility: Environmental Impact Statement, dated 29 July 2013
  - Tallawong Road, Rouse Hill Rapid Transit Rail Facility: Response to Submissions Report, dated 21 October, 2013
  - Conditions of the approval
- ECRL Determination Report:
  - Conditions of Approval (CoA)
  - Environmental Impact Assessment (EIA) comprising the following documents:
    - Review of Environmental Factors (Parsons Brinckerhoff, 10 October 2014)
    - Submissions Report (Parsons Brinckerhoff, 5 February 2015)
- Norwest Pedestrian Link Determination Report:
  - Conditions of Approval (CoA)
  - Environmental Impact Assessment (EIA) comprising the following documents:
    - Review of Environmental Factors (Parsons Brinkerhoff, 4 June 2015)
    - Submissions Report (Parsons Brinckerhoff, 1 September 2015)
- 33kV Underground Feeder Powerline Determination Report :
  - Conditions of Approval (CoA)
  - Environmental Impact Assessment (EIA) comprising the following documents:
    - Review of Environment Factors (Parsons Brinkerhoff, 20 October 2015)
    - Submissions Report (Parsons Brinkerhoff, 25 February 2016)

- Rouse Hill Temporary Bypass Powerline EIA (June 2017)
- The Construction Environmental Management Framework (Rev 1.4)
- The Overarching Stakeholder and Community Involvement Plan.

NRT are required to provide documents listed in clause 6.1(a)(iv)A-C of the deed to the TfNSW representative.

Additional approval requirements are contained in Table 2.

Table 2 Approvals

Regulatory Authority	Approval/licence required for the OTS Works
Department of Planning and Environment (DP&E)	Project Approval granted under Part 5.1 of the *EP&A Act*. Minister's Conditions of Approval required to be met by TfNSW / NRT.
Department of the Environment (Australian Government)	Applicable to environmental impacts on Commonwealth land and impacts on matters of national significance under the *Environment Protection and Biodiversity Conservation Act 1999*. Controlled Action: Listed threatened species and communities (Section 18 and 18A). Approved 11/04/2013. TfNSW are responsible for the conditions of approval
Environment Protection Authority (EPA)	John Holland has been issued with an Environment Protection Licence (EPL) for construction activities as defined under Clause 33 of Schedule 1 of the *Protection of the Environment Operations Act 1997*. Part 5.7A of the *POEO Act* requires licensees to prepare and implement a *Pollution Incident Response Management Plan (PIRMP)*. The PIRMP is required to be developed, implemented and tested in accordance with the Regulations. The POEO Act requires holders of an environment protection licence to make any pollution monitoring data obtained in compliance with any monitoring conditions attached to their environment protection licence publicly available in a timely manner
Roads and Maritime Services (RMS)	Section 138 of the *Roads Act 1993* requires that a person 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. As required, road occupancy permits will be sought in accordance with the *Construction Traffic Management Plan*. The RMS Works Authorisation Deed (WAD) provides authorisation for RMS to take roads authority powers from relevant local councils for the duration of the OTS construction Works and as such, separate approval from relevant local councils will not be required. Consultation with Councils is still required
Rural Fire Service	Exemption to allow hot works to be undertaken on Total Fire Ban days as detailed under Section 99 of the *Rural Fires Act 1997* will be sought
Transport for NSW	Project Approval granted under Part 5 of the EP&A Act for the following: • ECRL Conversion Works • Norwest Pedestrian Link Works

Regulatory Authority	Approval/licence required for the OTS Works
	• Willoughby to Chatswood 33kV works • Rouse Hill Temporary Bypass Powerline works Conditions of Approval required to be met by TfNSW / NRT

The following authorisations are not required for approved State Significant Infrastructure and therefore not applicable to this project:

(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.

Note that the above clause does not apply to any works approved under Part 5 of the EP&A Act.

All licences required for the project will be maintained (where required) for the life of the project.

3.3 Relevant Legislation

NRT and all its contractors and subcontractors must comply with all applicable laws, in particular those specified in Table 3.

Table 3 Relevant Legislation

Legislation	Key requirements	Relevance to OTS works
NSW Environmental Planning and Assessment Act 1979	Project Approval granted under Part 5.1 of the *EP&A Act* (EIS 2 and the RTRF EIS). Project Approval granted under Part 5 of the *EP&A Act* (ECRL Conversion Works, Norwest Pedestrian Link Works, Willoughby to Chatswood 33kV works and Rouse Hill Temporary Bypass Powerline works).	Governs processes for compliance with and modification to the project approval.

Legislation	Key requirements	Relevance to OTS works
Protection of the Environment Operations Act 1997	Activities as defined under Schedule 1 of the Protection of the *Environment Operations Act, 1997*.equire and Environmental Protection Licence.	A Licence for Railway systems activities (clause 33 of Schedule 1).
Environment Protection and Biodiversity Conservation Act 1999 (Cth)	The Act is when environmental impacts on Commonwealth land and impacts on matters of national significance.	Controlled Action: Listed threatened species and communities (Section 18 and 18A). Approval under the Act was required.
Contaminated Land Management Act 1997	The Act 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. Under this act EPA has the power to: • 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	Contaminated land within the construction impact area must be assessed and managed in accordance with this Act.
Fisheries Management Act 1994	The relevant objectives of this Act are to conserve threatened species, populations and ecological communities and promote sustainable development.	Works Assessed under Part 5.1 of *EP&A Act* therefore permits not required. Required for works assessed under Part 5 of the *EP&A Act.* Note that dredging, removal of marine vegetation and in-stream works are not part of the OTS Works scope.
Heritage Act 1977	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 of *EP&A Act* therefore permits not required. The *Construction Heritage Management Plan* will identify areas of potential impact and mitigation measures. For works under Part 5 of the *EP&A Act* - Under Section 139 of the Heritage Act, approval from OEH is required prior to the disturbance or excavation of land if a project will, or is likely to result in, a relic being discovered, exposed, moved, damaged or destroyed No items or relics were identified in the REF and this would be relevant only for unexpected finds..

Legislation	Key requirements	Relevance to OTS works
National Parks and Wildlife Act 1974	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 OEH to disturb site.	Assessed under Part 5.1 of *EP&A Act* therefore permits not required. *Construction Heritage Management Plan* will identify areas of potential impact and mitigation measures. Permit would be required for works under Part 5 of the *EP&A Act* for any unexpected finds only as no relics were identified in the REF.
National Greenhouse and Energy Reporting (NGER) Act 2007 (Cth)	This Act provides data and accounting in relation to greenhouse gas emissions and energy consumption and production and: • Underpin the carbon price mechanism • Inform policy-making and the Australian public • Meet Australia's international reporting obligations • Provide a single national reporting framework for energy and emissions reporting	NRT will undertake reporting of the OTS Works' greenhouse gas emission and energy production and consumption under the *NGER Act,* inclusive of 'material' Subcontractors. The emissions and energy produced and consumed as part of the OTS Works will be reported in accordance with the Project Deed.
Native Vegetation Act 2003	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.	Works assessed under Part 5.1 of *EP&A Act* therefore approval from Minister of Planning received. For works under Part 5 of the EP&A act: Section 25(g) of the Native Vegetation Act provides that it does not apply to any clearing that is part of an activity that is permissible without consent and is carried out by a determining authority. Furthermore, each of the affected LGAs associated with the proposal are identified in Schedule 1 as land excluded from operation of the Native Vegetation Act. Therefore, the Act therefore does not apply to the proposal.
Noxious Weeds Act 1993	Noxious weeds are to be managed in a way to restrict their dispersal and establishment.	Noxious weeds should be disposed of and managed in accordance with assigned control categories under this Act. Noxious weeds for the Project will be managed in accordance with the *Construction Flora and Fauna Management Plan (FFMP).*
Pesticides Act 1999	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 at the construction worksites as described in the *Construction Flora and Fauna Management Plan.*

Legislation	Key requirements	Relevance to OTS works
Protection of the Environment Administration Act 1991	Outlines principles of Ecologically Sustainable Development.	The Project and all associated activities must be consistent with the principles of Ecologically Sustainable Development – refer to *Sustainability Plan.*
Sydney Water Act 1994	Approval to discharge wastewater to sewer under a Trade Waste Agreement.	NRT obtains prior approval to connect to sewer for any construction site.
Biodiversity Conservation Act 2016	In August 2017, the former NSW *Threatened Species Conservation Act 1995* was repealed and a number of the functions of the Act were replaced by the *Biodiversity Conservation Act 2016.* The *Biodiversity Conservation Act 2016* provides provisions for the listing of Threatened species and ecological communities and clearer framework for biodiversity offsetting.	Works under Part 5.1 of the *EP&A Act* - The Project is located and managed to avoid impacts on threatened species and endangered ecological communities, as necessary. TfNSW is responsible for biodiversity offsetting. Works under Part 5.1 of the EP&A Act: Significance assessments must be completed for all endangered ecological communities, and threatened populations and species listed under the TSC Act that are found to be within the footprint of a proposal, or that are likely to occur and which would be directly or indirectly affected by a proposal. The proposed works to the Epping to Chatswood railway as part of the this REF are mostly confined to the Epping to Chatswood railway corridor and station precincts, an ecological assessment was not considered necessary for the proposed Epping to Chatswood railway conversion to rapid transit works. All others works assessed under Part 5 of the EP&A Act will not impact any threatened species.
Transport Administration Act 1988	Created TfNSW and defines its principal role.	TfNSW is the proponent of the Project under the *EP&A Act.*
Waste Avoidance and Resource Recovery Act 2001	Establishes the waste hierarchy. Promotes waste avoidance and resource recovery by developing waste avoidance and resource recovery strategies	Provides requirements for waste avoidance and resource recovery which are addressed in the *Waste Management and Recycling Plan*

Legislation	Key requirements	Relevance to OTS works
Water Management Act 2000	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	Assessed under Part 5.1 of the EP&A Act, therefore approvals not required under Section 89 for water use, or Section 90 for water management work. In addition, activities generally requiring permits under the Water Management Act are exempt from aquifer interference approval under Section 91. Works assessed under Part 5 of the *EP&A Act* would require water use authorisations where relevant.

3.4 Additional TfNSW Requirements

The Project Deed specifies a number of environmental requirements. The compliance tables in Annexure A identify these requirements and provide references to where they are addressed within this Plan and associated sub plans. Additional environmental requirements from the Deed have been addressed in the relevant aspect specific *Construction Environmental Management Sub Plans*.

3.5 Relevant Guidelines

This plan had been prepared in accordance with:

- ISO 14001 Environmental Management System – Requirements with Guidelines for Use
- Guideline for the Preparation of Environmental Management Plans (Department of Infrastructure, Planning & Natural Resources, 2004)
- NWRL Construction Environmental Management Framework (Rev 1.4)
- New South Wales Government Environmental Management System Guidelines (3rd Edition) (August 2013)
- ECRL Environmental Impact Assessment and the management and mitigation measures therein.

Section 2.4 of the TfNSW Construction Environmental Management Framework (Rev 1.4) contains a table summarising the publications, guidelines codes of practice and standards that are applicable to the Project.

Aspect specific publications, guidelines, codes of practice and standards are included in the relevant aspect specific *Construction Environmental Management Sub Plans*. Where applicable they are also referenced in procedures.

3.6 Environment Protection Licence and Site Handover

Table 3 describes the legislative obligation for NRT (JHPL in this case) to obtain an Environmental Protection Licence (EPL) for the delivery phase OTS Works. The EPL was issued on 19 December 2014 – Licence No. 20544.

NRT will be responsible for holding the EPL for the entire term of the contract from the commencement of construction activities or 'railway systems activities'.

NRT will comply with the conditions of the EPL. If the EPL conditions are not substantially consistent with the approval, then NRT will use best endeavours to make it consistent.

The premises for the OTS Works EPL will encompass all areas where OTS Works will occur and will include all activities and locations associated with delivery of the Project.

The conditions on the licence will form part of the compliance tracking program and will be integrated into the relevant environmental management documents where required.

When the activities of other contractors working in areas that NRT will take over have ceased, the worksite will be handed back to TfNSW, and TfNSW will hand over to NRT. During this process, NRT will amend the existing EPL and premises maps to include these new areas. Works will only occur when the EPA have approved the changes.

3.7 Agency Consultation and Plan Approvals – Phase 1 and Phase 2 Works

For works approved under Part 5.1 of the EP&A Act, The Project Approvals require the preparation of this Plan, Sub Plans and technical studies outlined below in Table 4 Additional Plans and Consultation to be completed prior to construction, and consultation with relevant stakeholders. All relevant plans, Sub Plans and other management documents required by the conditions of approval and relevant to each stage (as identified in the relevant Staging Report) will be submitted to the Secretary no later than one month prior to the commencement of the relevant stages, unless otherwise agreed by the Secretary.

Table 4 Additional Plans and Consultation

Condition of Approval SSI-5931	Condition of Approval SSI-5414	EMP Document	Department of Planning and Environment	Traffic and Transport Liaison Group	Office of Environment and Heritage	Environment Protection Authority	NSW Office of Water	Indigenous Stakeholders	Roads and Maritime Services	Councils	Fisheries NSW
E28	E34	Construction Environmental Management Plan	**A**								
E29(a)	E35(a)	Construction Ancillary Facilities Management Plan	**A**								
E29(b)	E35(b)	Construction Noise and Vibration Management Plan	**A**			●					
E29(c)	E35(c)	Construction Traffic Management Plan	**A**	●					●	●	
E29(d), C10	E35(d), C37	Construction Soil and Water Quality Management Plan (including Water Quality Monitoring Program)	**A**			●	●			●	●
E29(e)	E35(e)	Construction Heritage Management Plan	**A**		●			●			
E29(f), C1	E35(f), C23	Construction Flora and Fauna Management Plan (including Ecological Monitoring Program)	**A**		●					●	
E29(g)	E35(g)	Construction Air Quality Management Plan	**A**								
C9	C35	Soil Salinity Report			●		●				
C14,C15	C42,C43	Contamination Assessment									
E4	C15	Land Use Survey									

Key: A: Approval Required: ● Consultation Required

3.8 Phase 1 Consultation and Approvals Strategy

NRT's Consultation and Approvals Strategy will involve undertaking the following steps to ensure all necessary stakeholder consultation is undertaken and that all approvals are held to permit each activity to commence. The key steps of this strategy for the Phase 1 Works are:

- Requirements identification – NRT identifies relevant environmental and planning requirements from the Project Deed, Project Approval, the Revised Environmental Mitigation Measures and relevant legislation (e.g. POEO Act)
- Document preparation – NRT prepares the document or oversees the preparation where design sub-constructors or specialist consultants are involved
- NRT internal approval – the document is reviewed and approved by relevant NRT personnel
- TfNSW review and agency consultation – NRT provides the document to TfNSW, the Environmental Representative (ER), the Independent Certifier (IC) and other relevant external stakeholders for comment. NRT will:
  - Provide a copy of the 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 NRT 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 evidence provided in Annexure D of this CEMP
  - Annexure D provides details of stakeholder meetings and review outcomes
- DP&E Approval – where a document requires the specific approval of the Secretary of DP&E, NRT will submit the document and cover letter for review and comment to TfNSW and request that TfNSW submits the document to DP&E for approval
- Other Agency Approval – for licences or permits required for works, NRT will submit the application and necessary support documents/fees to the agency for their review and approval.

3.9 ECRL Consultation and Approvals Strategy

NRT's Consultation and Approvals Strategy for ECRL Conversion works would be similar in nature to that required for Phase 1 and 2 works, with the exception that the approval authority for the ECRL CEMP revision would be TfNSW, as opposed to the DP&E.

Section 12(b) of the ECRL Determination report requires that consultation is carried out with other government agencies and utility/service providers. NRT has therefore consulted with the following:

- Willoughby City Council
- Ryde City Council
- Hornsby Shire Council
- Roads and Maritime Services
- Sydney Water

Annexure D details the outcomes of the consultation completed.

3.10 Phase 2 Consultation and Approvals Strategy

NRT's Consultation and Approvals Strategy will involve undertaking the following steps to ensure all necessary stakeholder consultation is undertaken and that all approvals are held to permit each activity to commence. The strategy for Phase 2 is aligned with that for Phase 1. The key steps of this strategy are:

- Requirements identification – NRT identifies relevant environmental and planning requirements from the Project Deed, Project Approval, the Revised Environmental Mitigation Measures and relevant legislation (e.g. POEO Act)
- Document preparation – NRT prepares the document or oversees the preparation where design sub-constructors or specialist consultants are involved
- NRT internal approval – the document is reviewed and approved by relevant NRT personnel
- TfNSW review and agency consultation – NRT provides the document to TfNSW, the Environmental Representative (ER), the Independent Certifier (IC) and other relevant external stakeholders for comment. NRT will:
  - Provide a copy of the 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 NRT 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 evidence provided in Annexure D of this CEMP
  - Annexure D provides details of stakeholder meetings and review outcomes
- DP&E Approval – where a document requires the specific approval of the Secretary of DP&E, NRT will submit the document and cover letter for review and comment to TfNSW and request that TfNSW submits the document to DP&E for approval
- Other Agency Approval – for licences or permits required for works, NRT will submit the application or variation request and necessary support documents and any associated fees to the agency for their review and approval.

3.11 Other Part 5 Approvals Consultation and Approvals Strategy

No further consultation for the CEMP would be completed with the exception of the individual traffic management plans which would be reviewed by the relevant Council and RMS. The plan would be approved and endorsed by the ER and TfNSW.

4 Roles and Responsibilities

4.1 Reporting and Approvals Interrelationships

Figure 12 below describes the relationship between NRT, the Proponent, regulators and independent contractors engaged either under the Project Approval or the contract Deed for the OTS PPP.

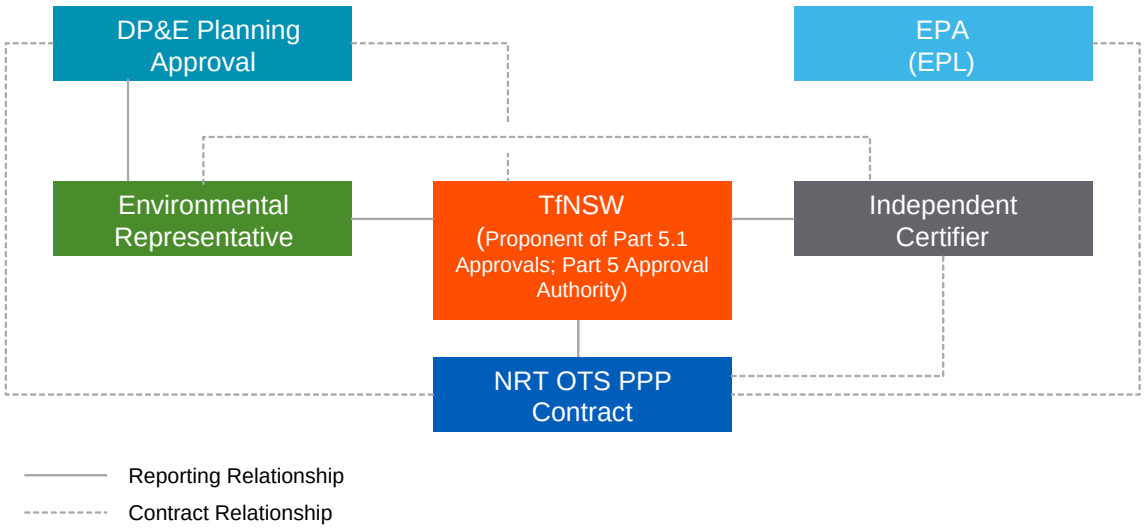


Figure 12 NRT's Relationship with TfNSW, EPA, DP&E, the ER and the IC

4.2 The NRT Environment and Sustainability Teams

During the Delivery Phase, primary responsibility for environment and sustainability performance will sit with the Environment Manager, who will be supported by the Environmental Coordinators across the work areas.

Sustainability performance will be reported at OpCo (Operating Company) level via the OpCo Sustainability Director.

At each level of authority members of the environment and sustainability team have a defined role encompassing specific responsibilities, reporting requirements and lines of communication. The skill set of each team member will be commensurate with their level of responsibility.

Figure 13 illustrates the structure of the Environment and Sustainability teams.

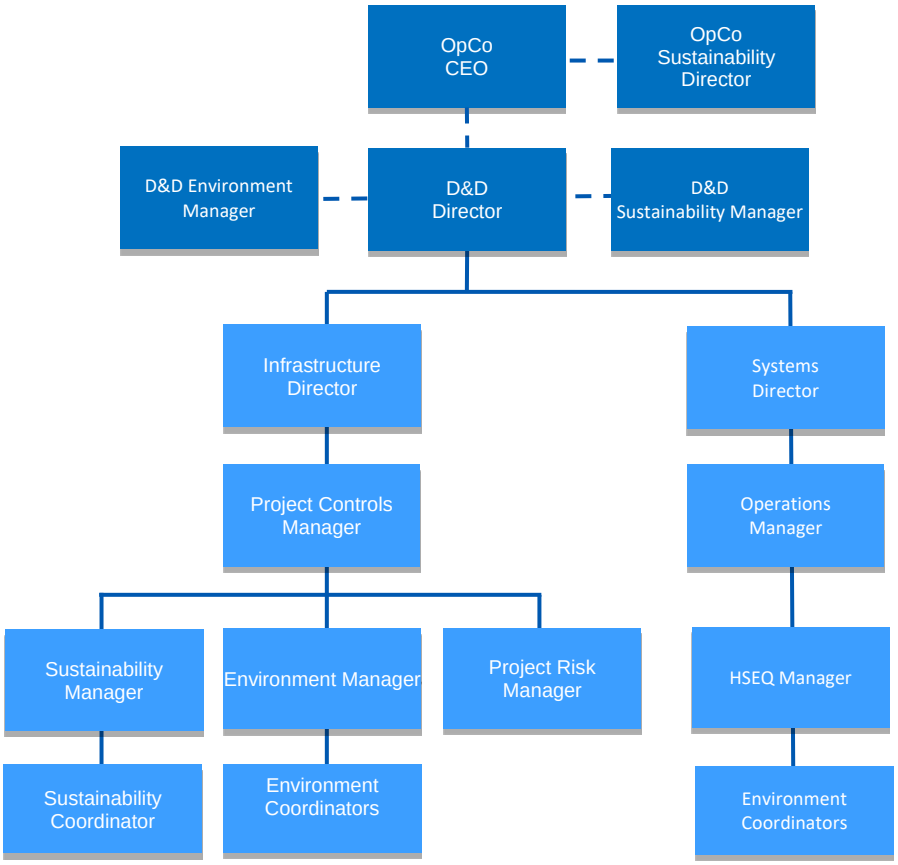


Figure 13 Structure of the Environment and Sustainability Teams

4.3 Environment and Sustainability Personnel Roles and Responsibilities

Table 5 to Table 8 outline the role, responsibility, authority, reporting requirements, minimum skill set and project specific interface of each member of the NRT environment and sustainability team.

Table 5 Environment Manager

Environment Manager	
Role	Accountable for managing all aspects of environment and sustainability management across the OTS PPP
Responsibility	• Work with the NRT Management Team and all staff with regard to environmental outcomes of the Project • Provide specialist environment, planning and sustainability advice to the Project Director and other functional managers to facilitate design and construction • Identify the on-going approvals requirements of OTS PPP and putting in place the relevant documents and assessments to secure those approvals. Lead 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 and specialist consultants that are able and capable of leading contemporary innovative approaches and practices • Prepare the NRT CEMP (including associated documentation) and implement the Project EMS • Provide advice and manage documentation relating to required environmental and planning approvals and licences governing the OTS PPP Works • Prepare environmental assessments on design changes and obtain any necessary planning approvals • Review strategy and policy annually • Liaise and consult with TfNSW, DP&E, regulatory agencies and other relevant stakeholders • Ensure that all NRT environmental licences, statutory obligations and requirements are met • Manage the compliance tracking program including data collection for environmental site monitoring, inspections and audits • Facilitate environmental training/induction • Preparation and Implementation of the *Pollution Incident Response Management Plan (PIRMP)* for any environmental incidents • Manage environmental and sustainability sub-consultants • Prepare documentation to demonstrate compliance and report on compliance • Conduct site inspections and CEMP environmental audits • Ensure corrective actions are implemented • Ensure sustainability initiatives are implemented • Ensure data collection and reporting requirements are met • Secure ongoing environmental approvals • Stop work immediately if an unacceptable impact is likely to occur or to require other reasonable steps to be taken to avoid or minimise any adverse impacts • Reporting of complaints to the EPA

Environment Manager	
Authority	Appointed by the Design and Delivery Director
Lines of communication	• Reports to Design and Delivery Director with functional reporting lines to the Trains and Systems Director as well as the Infrastructure Director • Primary contact for Principal's Environmental Representatives • Independent Certifier's primary contact on environmental matters • Primary government agency contact for planning approvals and environmental management • Coordinates with the Senior Sustainability Manager to ensure the project's sustainability objectives and targets are achieved
Minimum skill levels	• University qualification in environmental science and/or planning discipline • Previous experience in managing planning and assessment, environmental performance, sustainability and regulatory liaison and consultation for major linear civil projects • In depth knowledge of current and emerging environmental issues contemporary environmental management practices and processes • Understand whole-of-business issues as they apply to environmental and sustainability systems at all levels • ISCA IS Accreditation • 10 years professional experience working on major infrastructure projects
Interface with project organisation structure	Situated in the delivery phase organisational structure and a member of the Senior Management Team

Table 6 Senior Sustainability Manager

Senior Sustainability Manager	
Role	Accountable for managing sustainability performance for all OTS PPP works
Responsibility	• Member of the project team that has central responsibility for managing sustainability • Report annually on the implementation of sustainability initiatives and policy to senior management • Respond to legislative changes • Establish program controls and reporting systems across project for performance monitoring against targets • Demonstrate continuous improvement to management systems as a result of senior management reviews • Ensure environmental, social and economic risks and opportunities are assessed and addressed • Ensure sustainability objectives, targets and/or indicators are reflected in project contracts • Report on compliance and assurance including independent peer reviews

Senior Sustainability Manager

	• Provide sustainability training for procurement team and participate in industry engagement: holding forums with key suppliers to discuss the sustainability targets and commitments for the project • Provide advice to the sustainability team on delivery method implications • Provide leadership and technical direction to design, construction, commercial and operational personnel in relation to sustainability issues • Develop and implement the *Sustainability Management Plan* (including the *Carbon and Energy Management Sub Plan*) so that it is consistent with other plans (e.g. the *Construction Environmental Management Plan (CEMP)*) • Develop and deliver the sustainability training program for relevant project personnel and contractors • Interface with, and report to, key project stakeholders in relation to sustainability issues, including TfNSW, ISCA and the GBCA • Manage sustainability performance and reporting, including performance tracking against the ISCA IS Rating Tool, TfNSW Sustainable Design Guidelines and any other relevant sustainability rating tools – see Section 3.3 – Sustainability Rating Management for further detail • Utilise the Active Risk Manager (ARM) as a key opportunity and risk management tool
Authority	Appointed by the Design and Delivery Director
Lines of communication	• Reports to Design and Delivery Director with functional reporting lines to the Trains and Systems Director as well as the Infrastructure Director • Primary contact for Principal's Sustainability Representatives • Independent Certifier's primary contact on sustainability matters • Primary government agency contact sustainability • Coordinates with the Environment and Sustainability Manager to ensure the project's sustainability objectives and targets are achieved
Minimum skill levels	• University qualification in environmental and/or sustainability discipline • Minimum 3 years' experience in managing sustainability for major civil projects • Minimum 8 years' experience in managing sustainability for major property and infrastructure projects • ISCA IS Accredited Professional • Previous experience applying the TfNSW Sustainable Design Guidelines to transport projects • Understanding of life cycle analysis, including life cycle costing • Previous experience applying the ISCA IS Rating tool to infrastructure projects • In depth knowledge of current and emerging sustainability issues, practices and processes • Understand whole-of-business issues as they apply to sustainability systems at all levels
Interface with project organisation structure	Attends environment, sustainability, design and construction meetings as required

Table 7 Environment Coordinators

Environment Coordinators	
Role	Accountable for implementation of all aspects of environmental management across the OTS PPP
Responsibility	• Day-to-day management of all on-site environmental aspects including field testing, site inspections, and any monitoring requirements within their designated areas • Function as a key role as part of the construction team • Practical implementation of on-site environmental controls (e.g. erosion and sedimentation controls, incident response (including spills) and waste/spoil tracking
Authority	Appointed by the Environment and Sustainability Manager
Lines of communication	Reports to Environment and Sustainability Manager
Minimum skill levels	• University qualification in environmental discipline • Previous experience in managing environment for major civil projects • Knowledge of current and emerging environment issues, practices and processes • 5 years professional experience working on major infrastructure projects
Interface with project organisation structure	Attends environment, sustainability, design and construction meetings as required

Table 8 Sustainability Manager and Sustainability Coordinator

Sustainability Manager and Sustainability Coordinator	
Role	Assist in the implementation of all aspects of environmental management across the OTS PPP
Responsibility	Assist the environment and sustainability team in the day-to-day management of all on-site environmental aspects including field testing, site inspections, and any monitoring requirements within their designated areas
Authority	Appointed by the Senior Sustainability Manager
Lines of communication	Reports to Senior Sustainability Manager
Minimum skill levels	Tertiary qualification in environmental discipline
Interface with project organisation structure	Attends environment, sustainability, design and construction meetings as required

4.4 Other Key Personnel Roles and Responsibilities

Table 9 details the roles and responsibilities of other key staff in the implementation of the CEMP and the delivery of environmental outcomes for the Project.

It is noted that NRT is responsible for environmental impacts resulting from the actions of all persons invited onto the site, including contractors, sub-contractors and visitors.

Table 9 Role, Authority and Responsibility of Other Key NRT Personnel with Respect to Environment and Sustainability

Sustainability Director (OpCo)	• Determine any new environment and/or sustainability policies submitted for review by the Board • Annual public report on environment and sustainability performance of NWRL • Ensure at OpCo level that NRT's environmental and sustainability obligations are met throughout the design, delivery and operational phases • Maintain contact between State and OpCo on environmental and sustainability issues • Assess identified sustainability initiatives against 'reasonable and feasible' criteria recommended by the Sustainability Manager for approval • Represent OpCo at sustainability management team meetings, provide leadership and guidance where required • Review environment and sustainability performance quarterly
Design and Delivery Director	• Ensure that NRT meets its environmental and sustainability obligations throughout the design and delivery phases • Consult as required with the Sustainability Director as well as the Environment and Sustainability Manager on environmental and sustainability matters.
Design Manager	• Engage with the Environment and Sustainability team to embed environment and sustainability requirements in design plans and project specifications • Ensure sustainability reviews are undertaken at all design stages and implement agreed actions following each review • Implement management processes to ensure design changes do not compromise sustainability requirements
Safety Manager	• Support the delivery of the *Environment and Sustainability Management Plans* through consideration of environment and sustainability aspects and impacts which may be influenced by the implementation of the safety requirements for the project

Community and Stakeholder Manager	• Gain support from key stakeholders • Assist in implementing initiatives where necessary • Develop the *Community Liaison Implementation Plan* and monitor community input • Promote and influence environment and sustainability targets/initiatives within the NRT team and among the public • Ensure policies and objectives are adhered to in daily activities • Manage processes of consultation and notification with the community (construction updates, notifications); • Report enquiries and complaints and determine mitigations, corrective actions and preventative actions in consultation with Environment Manager
Risk Manager	• Support the delivery of the *Environment and Sustainability Management Plans* through the implementation of the Active Risk Manager Tool
Commercial Manager	• Ensure all supplier agreements incorporate environment and sustainability objectives (including penalties for non-compliance)
Construction Managers	• Engage with the Environment and Sustainability Manager to ensure sustainability requirements are embedded in construction plans and processes • Ensure the selected subcontractors meet project environment and sustainability requirements • Ensure all subcontractors achieve environment and sustainability objectives in the Delivery Phase and direct/oversee corrective actions where appropriate (including instigation of disciplinary action where required)
Superintendent	• Engage with the Environment and Sustainability Manager to ensure sustainability requirements are embedded in construction plans and processes • Ensure the selected subcontractors meet project environment and sustainability requirements • Ensure the Delivery team (staff and subcontractors) achieve environment and sustainability objectives in the Delivery Phase and direct/oversee corrective actions where appropriate (including instigation of disciplinary action where required)
Project Engineers	• Engage with the Environment and Sustainability Manager to ensure environment and sustainability requirements are embedded in construction plans and processes • Ensure the selected subcontractors meet project environment and sustainability requirements
Site Staff, Subcontractors and Visitors	• Engage with the Environment and Sustainability team to ensure environment and sustainability requirements are embedded in plans and processes • Comply with all relevant requirements of the project approval , this CEMP and clause 11.5(b) of the deed

4.5 TfNSW

As discussed in Section 3, the NWRL Project Planning Approval has been broken up into a number of distinct approvals under Part 5.1 of the EP&A Act. While NRT has a role in ensuring compliance with the Planning Approval for the Phase 1 and Phase 2 Works, as the Proponent under the EP&A Act, TfNSW has ultimate responsibility to DP&E for compliance with the OTS Works Project Approvals.

With respect to the ECRL Conversion Approval, Norwest Pedestrian Link Approval, 33kV Underground Feeder Powerline Approval,and Rouse Hill Temporary Bypass Powerline Approval TfNSW are the determining authority under Part 5 of the EP&A Act.

Section 3 of Schedule 5 of the NRT OTS project Deed with TfNSW includes the specific clauses from each of the Planning Approvals that will be the responsibility of TfNSW during the Delivery Phase of the OTS Works.

NRT will regularly report to TfNSW as requested to comply with regulatory approvals, licences and the Deed.

TfNSW will also be responsible for:

- The provision of contracts and procurement of Principal Contractors. The procurement of Contractors will consider past environmental performance and proposed environmental management system.
- Undertaking regular audits of the Contractors against their environmental obligations.

4.6 Environmental Representative

TfNSW will engage the ER in accordance with the Project Approvals. The nominated and approved ER is independent of the design and construction personnel.

The Project Approvals stipulate that the ER shall:

- Be the principal point of advice in relation to the environmental performance of the project
- Monitor the implementation of *Environmental Management Plans* and monitoring programs required under the project approval and advise the Proponent upon the achievement of these plans/programs
- Have responsibility for considering and advising TfNSW on matters specified in the Conditions of this Approval, and other issues and approvals related to the environmental performance and impacts of the project
- Ensure that environmental auditing is undertaken in accordance with TfNSW's Environmental Management System
- Have the authority to approve/reject minor amendments to the project CEMP
- Have the authority witness activities and review plans that may have potentially adverse impacts
- Provide independent advice on reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts

- Be consulted when responding to the community concerning the environmental performance of the Project.
- Be provided with all relevant information and documents.
- Undertake inspections
- Attend relevant meetings
- Will not be interfered with or improperly influenced in the performance of any of its functions.

For ECRL Conversion Works, Norwest Pedestrian Link Works, 33kV Underground Feeder Powerline Works and Rouse Hill Temporary Bypass Powerline works, TfNSW will make available an Environmental Representative (ER) independent of the design and construction personnel of the Project, for the duration of the construction period for the Project.

The ER shall provide advice to TfNSW in relation to the environmental compliance and performance of the Project. The ER shall have responsibility for

- considering and advising the Proponent on matters specified in these conditions and compliance with such
- reviewing and where required by TfNSW, providing advice on the Project's induction and training program for all persons involved in the construction activities and monitoring implementation
- undertaking quarterly reviews of the Project's environmental activities to evaluate the implementation, effectiveness and level of compliance of on-site construction activities with authority approvals and licences, the CEMP and associated plans and procedures, including carrying out site inspections weekly (or as required by TfNSW)
- reporting monthly to TfNSW (or as required by TfNSW)
- issuing a recommendation to the Proponent for work to stop immediately, if in the view of the ER circumstances so require;
- require reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts;
- reviewing corrective and preventative actions to ensure the implementation of recommendations made from the audits and site inspections
- providing reports to the Proponent on matters relevant to the carrying out of the ER role as necessary;
- review and approve updates to the CEMP and other applicable management plans identified in the conditions of this approval; and
- undertaking frequent inspections of site activities as required by TfNSW.

In addition to the conditions set out in the Project Approval, NRT personnel will work with the ER and comply with the reporting, review and inspection requirements outlined in Clause 6.8 of the Project Deed.

5 Project Environmental Management System

5.1 System Overview

The EMS for the OTS PPP Works comprises a combination of governance documentation, including this Plan, Sub Plans as well as and procedures, forms and records as set out in **Error! Reference source not found.**.

The EMS is part of an integrated management system that incorporates Safety Management System in accordance with ISO 4801 and Quality Management in accordance with ISO 9001. The relationship between the EMS and documents and records associated with ISO 4801 and ISO 9001 is described in this Plan.

5.2 Global Mandatory Requirements

The Global Mandatory Requirements (GMRs) outline the control strategies and minimum standards for managing, and where possible, eliminating the key risks across the project.

These standards will assist NRT to:

- Minimise the impact of our activities on the environment and communities
- Reduce our use of natural resources and energy, and the generation of waste.
- Be a reliable and trustworthy partner to our customers, dedicated to providing environmentally sustainable solutions throughout our diverse business.

The GMRs set environmental standards that can be applied across NRT to ensure a consistent approach to environmental management. The three environment GMRs and their intents are outlined below:

	**GMR 9: SITE ENVIRONMENT MANAGEMENT** **Intent:** To prepare the work area, protect the surrounding environment and minimise impacts to the community
	**GMR 10: CLEARING, WATER MANAGEMENT AND EARTHWORKS** **Intent:** To ensure the environment is protected during earthworks and clearing activities

	**GMR 11: RESOURCES, RECYCLING AND WASTE MANAGEMENT** **Intent:** To manage resources efficiently, prevent pollution and minimise waste

5.3 Environmental Risk Identification and Management

Prior to the commencement of works, NRT will identify environmental risks and the basis for instructing the site teams to ensure safety, quality and environmental requirements are fulfilled.

High level risks identified during pre-contract award risk assessments identify using a risk management hierarchy as the best approach to project planning and managing the environmental risks and opportunities.

NRT is committed to effective risk management beginning before commencement of works and well before employees are mobilised to a project. All identified risks are incorporated into normal planning activities and are specifically designed to address risk management throughout the life cycle of works. An initial risk assessment for environmental related risk is contained in Annexure C.

For project delivery the environmental management risk documentation as follows:

1 Workplace Risk Assessment (WRA)
   - All system, procedural and contractual requirements based on legislation and best practice are considered in planning and executing the work related to contract or project.
   - Environmental Risk Assessment and mitigation strategies are considered on a project wide basis.
   - More detailed planning activities required for the project are identified (i.e. AMS).

2 Activity Method Statement (AMS)
   - Links environmental risks to the activity schedule
   - Includes system and procedure requirements
   - Identifies the Site Environment Plan (SEP) requirements for the project

3 Site Environment Plan (SEP)
   - A visual communication tool that illustrates the location of the environmentally sensitive areas to be protected and the environmental controls to be installed prior to and during works. It is the implementation plan for environmental controls.

4 Task Risk Assessment (TRA)
   - Task Risk Assessment (specific task based risk assessment which is facilitated by supervision and involves consultation of workers before the activity is

undertaken). TRAs are also referred to in industry as Job Safety Analysis (JSA), Job Safety and Environmental Analysis (JSEA), Job Hazard Analysis (JHA), and Safe Work Method Statements (SWMS) amongst others.

— The Site Environment Plan will be used to inform the preparation of the TRA.

5.3.2 Ongoing Environmental Risk Review and Assessment

The Environment Manager will be responsible for ensuring that the risk database is reviewed and updated in the Risk Management Plan and the WRA.

As design or construction activities change, additional risk assessments will be completed:

- At specified hold points identified in the relevant procedures
- To identify new environmental aspects and or impacts associated with the specific scope of work or the overall delivery of the works.

Additional environmental risk assessment will be undertaken by the Environment Manager in consultation with the wider project team.

Other forums for undertaking environmental risk assessments during construction include:

- Informal/Formal Site Meetings
- Pre-start Meetings
- Toolbox Talks
- During WRA, AMS and TRA development and review.

The outcome of the environmental risk assessments will identify risk attached to each of the aspects and impacts of the project. Hold points will be identified, which will require authorisation from relevant authorised personnel prior to commencement of certain construction components and activities.

Outcomes from the ongoing risk assessments will be incorporated in the appropriate documents and records within the Environmental Management System.

5.4 Environmental Sub Plans and Other Related Plans

Environmental Sub Plans have been developed as part of this CEMP. While each Sub Plan has been developed as a standalone document, each Sub Plan is also included as an Appendix of the CEMP. Other management plans have been specifically developed to address aspects not contained in the Environmental Sub Plans.

Each of the Sub Plans identifies the potential risks, impacts and mitigation measures associated with a specific environmental aspect during the delivery of the project and provide specific details on the monitoring and performance requirements.

Sub Plans of the CEMP and other related plans and relevant aspects are contained in Table 10. Note that the ECRL Conversion, Norwest Pedestrian Link and the Willoughby to North Chatswood 33kV Underground Feeder Power Line Determination reports

require that all Sub Plans required under the NWRL Construction Environmental Framework (as below) are prepared and submitted for approval to TfNSW prior to construction.

Table 10 Environmental Sub Plans and Other Related Plans

Plan	Requirement	Aspects
Environmental Sub Plans for submission to the DP&E and/or TfNSW for approval		
Construction Compound and Ancillary Facilities Management Plan (CCAMP)	SSI-5414 CoA E34(e)i, E35(a) SSI-5931 CoA E28(e)ii, E29(a)	Ancillary facilities and compound management
Construction Noise and Vibration Management Plan (CNVMP)	SSI-5414 CoA E34(e)ii, E35(b) SSI-5931 CoA E28(e)iii, E29(b) ECRL Determination Report CoA 23 Norwest Pedestrian Link Determination Report CoA 26(d)	Noise and vibration
Construction Traffic Management Plan (CTMP)	SSI-5414 CoA E34(e)iii, E35(c) SSI-5931 CoA E28(e)iv, E29(c) ECRL Determination Report CoA 13 Norwest Pedestrian Link Determination Report CoA 5(a) Willoughby to North Chatswood 33kV Underground Feeder Power Line Determination Report CoA (12a)	Traffic and access
Construction Soil and Water Management Plan (CSWMP)	SSI-5414 CoA E34(e)iv, v,ix, E35(d) SSI-5931CoA E28(e) v,vii,xi, E29(d) ECRL Determination Report CoA 33	Soil and water quality Groundwater management and discharge Soil contamination, groundwater contamination
Construction Heritage Management Plan (CHMP)	SSI-5414 CoA E34(e)viii, E35(e) SSI-5931 CoA E28(e)x, E29(e)	Aboriginal heritage Historic heritage
Construction Flora and Fauna Management Plan (CFFMP)	SSI-5414 CoA E34(e)x, E35(f) SSI-5931 CoA E28(e)xii, E29(f)	Management of ecological impacts
Construction Air Quality Management Plan (CAQMP)	SSI-5414 CoA E34(e)vi, E35(g) SSI-5931 CoA E28(e)viii, E29(g)	Air quality and dust management
Environmental Sub Plans not required to be submitted to the DP&E		
Spoil Management Plan (SMP)	SSI-5414 CoA E34(e)vi	Spoil management
Waste Management and Recycling Plan (WMRP)	SSI-5414 CoA E34(e)ix SSI-5931 CoA E28(e)xi	Waste management

Plan	Requirement	Aspects
	ECRL Determination Report CoA 34	
Visual Amenity Management Plan (VAMP)	SSI-5414 CoA E34(e)vii SSI-5931 CoA E28(e)ix	Visual amenity
Other Management Plans		
Stormwater and Flooding Management Plan	SSI-5414 CoA C34 SSI-5931 CoA C8, E28(i)	Stormwater and flooding management
Risk Management Plan	SSI-5414 CoA E34(e)xi SSI-5931 CoA E28(e)xiii	Hazard and risk management
Workplace Health and Safety Management Plan	SSI-5414 CoA E34(e)ix SSI-5931 CoA E28(e)xi	Hazardous material management
Community Liaison Implementation Plan	SSI-5414 CoA D1 SSI-5931 CoA D1 ECRL Determination Report CoA 3 Norwest Pedestrian Link Determination Report CoA 14(b)	Community and stakeholder engagement and management

5.5 Site Environmental Plans

Site Environmental Plans (SEPs) will be prepared for all work areas and will provide a detailed visual representation of environmental constraints and mitigation measures for the project. The following information will be provided in the SEPs.

- Site Boundaries and clearing limits (as defined by the EPL premises maps and the EIS construction footprint)
- Hold Points for vegetation clearing and water discharge etc.
- No Go Areas (threatened species, ecologically sensitive areas and heritage items)
- Sensitive receivers (including residences, commercial and other premises or areas)
- Potential contamination hotspots
- Proposed compound, lay down, stockpile and storage areas
- Rivers, creeks, watercourses and drainage lines and flooding limits
- Land ownership
- Site access and egress routes
- Location of environmental controls and mitigation measures.

The SEPs will be reviewed by the Environment Manager or delegated environment team member, and approved prior to implementation. The SEPs will be reviewed as construction activities change and updated to reflect the stage of works and site characteristics to ensure environmental protection measures are in place.

All SEPs will be allocated a reference number and listed in a register of site specific SEPs.

5.6 Erosion and Sediment Control Plans

Erosion and Sediment Control Plans (ESCPs) will be prepared for all areas of work which have the potential for sedimentation or erosion as a consequence of the work undertaken. ESCPs will contain site specific details including stockpile locations, erosion risk mitigation measures and sediment control method and volumes of sediment basins. The Primary ESCP will be prepared by appropriately qualified personnel who are Certified Professionals in Erosion and Sediment Control (CPESC).

Information relevant to the preparation and implementation of ESCPs will be obtained from Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2006) ('the Blue Book') Volume 2D Main Roads Construction (DECCW 2008) and site specific soil data.

Environmental Coordinators, Superintendents, Foremen, Project Engineer and the Environment Manager are responsible for the implementation and of review of ESCPs.

Progressive ESCPs will be prepared by the Environment Coordinator for implementation during works and will be produced in conjunction with AMSs, SEPs and/or TRAs. All progressive ESCPs will be allocated a reference number and listed in a register of site specific ESCPs.

5.7 Environmental Procedures, Checklists and Forms

Specific procedures have been developed to guide implementation of risk management processes identified in the Sub Plans and the CEMP.

The procedures have been developed for use on site by the construction workforce and provide step by step instruction for management and mitigation of potential environmental impacts, including hold points and reference to relevant documents and forms required under the EMS. Procedures required under specific conditions of approval are included in the relevant environmental sub plans.

Checklists and forms will be continually developed and implemented to support the monitoring and record keeping requirements of the CEMP. A list of initial forms and procedures are listed below:

- Forms
  - Herbicide and Spray Use
  - Environment Inspection Checklist
  - Noise Monitoring Form
  - Permit to Pump
  - Sediment Basin Discharge Permit
  - Vegetation Clearance and Permit
  - Waste Transfer Form
  - Water Quality Monitoring Form

  - Out of Hours Works Application Form
  - Ancillary Facility Assessment Checklist

- Procedures
  - Air Quality Procedure
  - Contamination Contingency PASS Management Procedure
  - Contingency Groundwater Monitoring Procedure
  - Erosion and Sediment Control Procedure
  - Fauna Handling Procedure
  - Historic and Aboriginal Heritage Procedure
  - Out of Hours Works Procedure
  - Premise Maps Procedure
  - Spill Management Procedure
  - Spoil Classification and Reuse Procedure
  - Vegetation Clearance Procedure
  - Water Reuse and Discharge Management Procedure
  - Weed Management Procedure
  - Worksite Handover Access Procedure
  - Waste Management Procedure.

5.8 Environment and Sustainability Subcontractor Requirements

Subcontractors will be provided with information which will address environmental and sustainability targets and requirements including:

- Subcontractor roles and responsibilities including the requirement for all subcontractors to work under the NRT Environmental Management System for the works
- Reporting requirements including the requirement to immediately report any incidents to NRT and monthly reporting of environment and sustainability data including NGER data.

5.9 Document Control and Record Management

5.9.1 Document and Record Management

All hard copy and electronic documents and records referred to within and required to implement the EMS will be controlled and maintained.

5.9.2 Document Types

The types of documents to be controlled include:

- Approvals and licences
- Environmental Sub Plans
- Procedures
- Forms
- Checklists
- SEPs and ESCPs.

5.9.3 Types of Records

The types of records likely to be generated for the NRT Works that are to be stored and maintained include:

- Environmental monitoring results
- Complaints and enquiries received
- Notifications received by regulators
- Audit reports
- Completed inspection reports
- Waste tracking certificates/load sheets/dockets
- Training records
- Incident and non-conformance reports
- Calibration records for monitoring equipment
- Monthly reports
- Meeting minutes
- Records as required under the *National Greenhouse and Energy Reporting Act 2007*.

The Records Management Plan describes the requirements and timeframes for retaining of records.

5.9.4 Document Control Authorities

This CEMP and Environmental Sub Plans and subsequent revisions, must be authorised by the Environment Manager and approved by the Project Director and the Secretary of the Department of Planning and Environment and/or endorsed by the Environment Representative depending upon the significance of the change (see Section 1.7).

All other new and revised environmental documents and records, including but not limited to, procedures, checklists, forms, etc. must be authorised by the Environment Manager.

- All environmental documents and records generated on the Project will be stored and managed using Aconex
- Environmental monitoring data and inspection reports will be managed and stored on the project system
- Incident reports and corrective actions will be stored and managed using the JHET Reporting System.

5.10 Use of the Site

All activities are to be undertaken in a manner that does not generate or cause site contamination. All hazardous substances are to be appropriately handled, managed and disposed of in accordance with relevant standards so that they do not cause contamination.

Any hazardous substances illegal dumped on the site are to be appropriately disposed of if/where the owner of the substance cannot be ascertained.

No waste materials will be allowed to be brought on to the site.

6 Monitoring, Compliance, Review and Reporting

This section outlines the processes and procedures that will be implemented to monitor and review environmental performance and compliance with environmental requirements.

6.1 Environmental Monitoring and Inspections

Environmental monitoring will be undertaken for the duration of the project. Table 11 provides the general environmental monitoring that will occur, the specifics of monitoring for each environmental element (air quality, noise, water quality etc.) are detailed in the individual sub plans and reflected, as required, in method statements.

Table 11 Environmental Monitoring Program

Activity	Type of monitoring	Frequency	Responsibility
Site inspection	Visual	Daily	Supervisor
Environmental inspection	Visual	Weekly or prior to and following rainfall	Environmental Coordinator / Supervisor
Environmental Representative TfNSW Representative	Visual	Weekly or determined by the nature of activities being undertaken and their associated environmental risks	Environment Manager
Independent Certifier	Visual	As required	Environment Manager
EPA or stakeholder inspection	Visual	As requested	Environment Manager / Project Director

Records of monitoring and inspection will be documented and will be used to:

- Evaluate performance against legal, regulatory, contract, permit, licence and other commitments
- Identify required corrective actions
- Provide input into the process of review and improvement of environmental documents and records
- Track and trend progress against objective and targets
- Inform compliance requirements for environmental reporting.

Regular inspections will be undertaken to identify hazards and potential non-conformance with environmental compliance requirements. Inspections will include works completed by NRT subcontractors and consultants.

Inspections that will be undertaken are described in the following sections.

6.1.1 Site Inspections

Site supervisors will complete a visual inspection of works each day. The inspection will identify any potential or actual environmental impacts associated with construction activities and inform housekeeping requirements. Any potential environmental hazards or risks identified during the inspection will be reviewed by the Environmental Team and included in the environment action register as appropriate.

6.1.2 Environmental Inspections

Environmental Coordinators will conduct environmental inspections of the site and be regularly accompanied by the Environment Manager. The environmental inspection checklist will be used to ensure that all environmental aspects are reviewed during inspection. Actions arising from the inspections will be recorded on the actions register and each action will be allocated to the supervisor for the work area for close-out.

Where relevant, members of the wider project team will participate in environmental inspections.

6.1.3 Environmental Representative and the Independent Certifier

The Environmental Representative (ER) will complete regular site inspections to review environmental aspects. The ER will report on areas visited, performance of mitigations / controls and any issues and actions for improvement. Close-out of actions will be tracked.

The Independent Certifier (IC) will complete site inspections as required. The frequency of site inspections will be determined by the nature of activities being undertaken and their associated environmental risks.

The Environment Manager or delegate will accompany the ER and/or IC on all inspections.

Actions arising from the inspections will be recorded on the actions register. Each action will be agreed at the end of the inspection and allocated to the appropriate member of the project team for close-out.

6.1.4 Agency Inspections

Regulatory representatives will be invited to undertake site visits, and in the event that a regulatory representative request an inspection of the project, the project will provide access to any work area and comply with any direction given. The Environment Manager will accompany any regulatory representative during the inspection.

Outcomes from the inspection will be documented. Actions will be agreed and recorded on the action register. Actions will be allocated to the appropriate member of the project team for close-out.

6.2 Environmental Reporting

The outcome of monitoring, inspections, audits and compliance reviews will be regularly reported and included in environmental reporting. Regular reports will be issued to members of the project team, contractors, the proponent, regulators and other stakeholders. The frequency of reporting will be in accordance with the processes outlined in EMS documents or with compliance requirements listed in the Environmental Documents or the Project Deed.

Environmental performance of the project will be reported monthly to the Project Management Team and TfNSW through the Monthly Environmental Report.

The Report includes:

- Number and type of environmental site inspections
- Environmental training sessions completed
- Summary of environmental incidents and status of corrective actions
- Any non-conformances against Project Approvals
- Status of current environment-related issues
- Summary of performance and current environment undertakings.

The findings of the ER and the IC reports will be incorporated into the Monthly Environmental Report.

Pollution monitoring data, recorded under the EPL for the project, will be published online in accordance with the EPL. NRT will also be responsible for producing and submitting the annual return for the EPL.

Environmental incidents will be reported to the EPA in accordance with the requirements of the *POEO Act*. The *Pollution Incident Response Management Plan* (PIRMP) developed in accordance with the Act, defines incident reporting requirements to the EPA. Environmental incident will be reported to the DP&E in accordance with the relevant Conditions of Approval, and also to TfNSW and the ER.

6.2.1 ECRL Conversion Works

Quarterly environmental reports for ECRL Conversion works would be prepared in accordance with Condition 10 of the ECRL Determination Report. The report would include the following details:

- Compliance with the CEMP and the CoA
- Compliance with any approvals or licences issued by relevant authorities for construction of the Project
- Updates to the existing NWRL Compliance Tracking Program including documentation of evidence of compliance
- Implementation and effectiveness of environmental controls. The assessment of effectiveness should be based on a comparison of actual impacts against performance criteria identified in the CEMP
- Environmental monitoring results, presented as a results summary and analysis

- Details of any review and amendments to the CEMP resulting from construction during the reporting period; and vii) any other matter as requested by TfNSW.

NRT would submit a copy of the Environmental Report to the ER and TfNSW for review and as a minimum submit the report quarterly in line with the existing NWRL Compliance Tracking Program reports and provide 6-monthly summaries of the Environmental Report on the existing website.

6.3 Non-conformances, Corrective and Preventative Actions

6.3.1 Environmental Non-conformances

An environmental non-conformance can generally be defined as a failure to comply with:

- Relevant environmental legislation
- Project Approval
- Environment Protection Licence
- Project Deed.

6.3.2 Corrective and Preventative Actions

Corrective actions will be identified as follows:

- Where an issue is identified and raised, the Environment Manager or delegate will liaise with the appropriate project personnel or qualified person(s), TfNSW and the ER to determine the most appropriate corrective action to implement.
- Where assessed by the Environment Manager to be appropriate, the corrective action will be actioned through the Correct Action Request (CAR).

Preventative actions will be identified as follows:

- Relevant incidents, complaints and non-conformances are discussed at relevant meetings. Trends relating to environmental incidents and non-compliance findings are reviewed at these meetings to identify any reoccurring issues that are indicative of the need to take preventative action. Any member of the NRT team, including subcontractors as well as the ER and TfNSW can contribute and provide suggestion to any required or appropriate preventative action.
- Where assessed by the Environment Manager as necessary, a preventive action will be raised and action undertaken through a Correct Action Request (CAR).

6.3.3 Non-Conformance Reports and Close-out

Where a non-conformance is detected a Non-Conformance Report (NCR) will be raised in the Correct Action Request (CAR) form. NCRs will not be automatically raised as the result of an identified issue from an environmental inspection or audit. Where considered appropriate, by agreement of NRT, 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. Where a non-conformance is a result of a non-compliance with the requirements of any law or Approval regarding the Environment, or any Environmental Document NRT will immediately notify TfNSW in writing as per Clause 11.5(e) of the deed.

In the event that repetitive observations are made i.e. if non-corrected low risk site improvement actions are not corrected within the agreed timing for actions (for more than a month in most cases) the Environment Manager and/or ER will request that a NCR be raised. In the event that the ER requested NCR is disputed, the ER may raise a TfNSW NCR or Correct Action Request (CAR) for action by NRT.

Environmental related non-conformances are raised with the Environment Manager to determine appropriate actions and dates. On completion of agreed actions, the Environment Manager shall sign-off the NCR to signify close-out and provide a copy to TfNSW. Any changes to operations or practices resulting from actions are to be communicated to employees and sub-constructors as required. A register of all NCRs raised on the Project will maintained on the NRT system.

6.4 Audit and Compliance Review

Audits will be completed at regular intervals in accordance with the requirements of the Deed and Conditions of Approval. An audit schedule, developed as part of the EMS, will be used to manage verification of environmental performance and identify opportunities for improvement in accordance ISO 14001 and ISO 9001. The *Audit Plan* is contained within the project's electronic record management system. The *Audit Plan* should be considered a live document that will be reviewed and updated following the outcome of each programmed audit. The scope of each audit will be subject to the findings of the previous audits depending on any actions or issues identified.

Audits that will be undertaken include:

- Audits by TfNSW and/or the ER
- Audits on the suppliers/subcontractors by the Environment Team
- Internal audits by the OTS PPP Contractors
- External audit to assess implementation of NRT EMS.

Audit scope may include (but not be limited to):

- An audit of this CEMP and associated management planning documentation and tools
- CEMP compliance audits
- ISO14001:2004 audits (EMS Audits)
- Approvals, licences and permits
- Construction sites and compliance with associated EMS requirements
- Subcontractors' works
- Community complaints and consultation response.

Details of each audit will be provided in an audit report that includes an audit action register. The audit report and status of required actions will be issued to management

as part of the periodic review process and, where relevant, the compliance tracking program.

6.4.1 Compliance Tracking Program

A project compliance tracking program has been developed by TfNSW to meet the requirements of the project Planning Approval, CoA D5 (a)-(h). NRT will provide relevant information to TfNSW to meet their reporting requirements

Complypro (software package) will be utilised by NRT to monitor and track the progress of compliance with the following:

- Conditions of approval
- EIS environmental management measures
- Deed requirements.

Reviews will occur as per the following timeframes:

- During monthly reporting to senior management to highlight any issues or non-compliance with relevant conditions
- Quarterly to TfNSW in accordance with their compliance tracking requirements
- Design reviews and changes as per Section 1.7.

6.5 Consistency Assessments and Modifications

Changes to the design of elements of the project may require an assessment to determine consistency with the Project Approval and Environmental Documents (EIS and Submissions Report). The assessment will include:

- A description of the existing surrounding environment.
- Details of the ancillary works and construction activities required to be carried out including the hours of works.
- An assessment of the environmental impacts of the works, including, but not necessarily limited to traffic, noise and vibration, air quality, soil and water, ecology and heritage.
- Details of mitigation measures and monitoring specific to the works that would be implemented to minimise environmental impacts.
- Identification of the timing for completion of the construction works, and how the sites would be reinstated (including any necessary rehabilitation).

Potential hazards and risks associated with compliance with the Conditions of Approval and the associated Environmental Documents are identified in the Project Risk Matrix and the Aspects and Impacts Register.

Regular review of the OTS Works will be undertaken to identify scope that may not be consistent with the project approval.

Any design changes, changes in scope of works, project change or environmental finding will be communicated to the Environmental Planning and Approvals Manager as

a part of the change management process. The Environmental Planning and Approvals Manager will coordinate assessment of project changes and manage the consistency review process. Integration of any new statutory approval conditions into the appropriate environmental management documents is also the responsibility of the Environmental Planning and Approvals Manager.

The Environment Manager will consult TfNSW and the ER during the process to determine if a project modification or additional impact assessment is required.

The consistency assessment would be sent to TfNSW once completed for review and endorsement.

Should the consistency assessment determine that a project modification or additional impact assessment is required, appropriate steps will be taken to review requirements for obtaining that approval.

Figure 14 outlines the process that will be implemented to assess and approve works that require a consistency assessment.

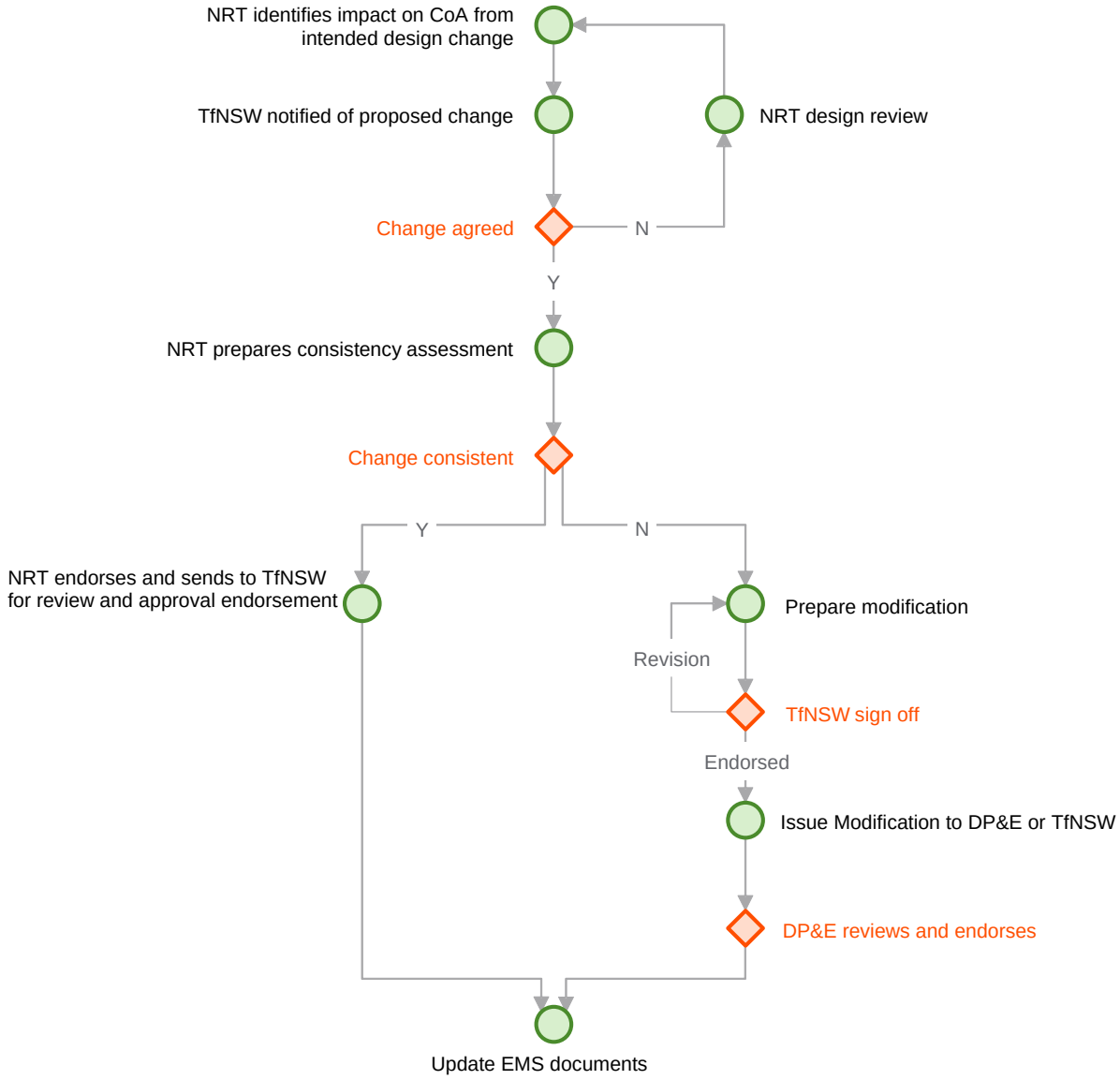


Figure 14 Consistency Assessment Process

7 Incident and Emergency Management

7.1 Incident Management

This section outlines the processes and procedures that will be implemented to manage any incidents and respond in the event of any emergencies.

7.1.1 Incident Response

The immediate response to all incidents is to make the area safe and undertake measures to prevent further environmental harm. An assessment will be made in consultation with the Environment Manager to ensure that responses do not result in further harm. For further details see the Incident Management Plan.

7.1.2 Initial Incident Notification

In accordance with the Incident Notification Matrix, the Environment Manager and Stakeholder and Community Relations Manager are to be notified immediately in the event of any Class 1, 2 and 3 environmental incidents.

Notification to other stakeholders will occur in line with the process outlined in the Incident Notification Matrix

OpCo will notify TfNSW immediately in writing and the ER of any incidents as per Section 11.5(e) of the deed.

The Environment Manager has the responsibility of immediately notifying the EPA and other relevant agencies in accordance with the POEO Act and procedures set out in the Incident Management Plan where there is a risk of material harm to the environment.

The Department of Planning and Environment will be notified of any incidents with significant off-site impacts on people or the biophysical environment (Class 1 incidents) as identified by the Environmental Representative within 48 hours of becoming aware of the incident. NRT will facilitate TfNSW being able to provide full details within 7 days, for those activities associated with NRT OTS works.

Scenes of environmental Class 1 and 2 incidents are to be preserved until the incident investigation team has collected relevant data and evidence.

7.1.3 Incident Classification and Reporting

Environmental incidents will be classified by the Environment Manager in consultation with the Infrastructure Director in accordance with the following classifications in Table 12 below.

Table 12 Environmental Incident Classification

	Report Only	Class 3	Class 2	Class 1
Direct costs including clean up	Negligible	Up to $10,000	$10,000 to $100,000	more than $100,000
Impact Type	Pollution or degradation which is of such a minor nature that has negligible impacts on the community and/or environment in the short-term and is immediately fully reversible with no residual impacts.	Pollution or degradation which has low severity impacts on the community and/or environment in the short-term (<1 month duration) and is fully reversible with no residual impacts.	Pollution or degradation which has moderate severity impacts on the community and/or environment (1-3 months duration) but is fully reversible with no residual impacts.	Pollution or degradation which has high severity impacts on the community and/or environment and may have irreversible residual impacts.

All environmental incidents will be reported in the John Holland Event Tracking (JHET) System.

Full written details of Class 1 and Class 2 incidents will be provided to the Secretary of DP&E within seven days of the date on which the incident occurred for those associated with NRT OTS works.

Class 1, Class 2 and Class 3 incidents will be reported to the EPA in line with the requirements of the project's EPL and in accordance with the Pollution Incident Response Management Plan.

As per the Incident Notification Matrix, initial submissions to TfNSW of Class 1 and 2 incidents will be done via the text message service and all Class 1, 2 and 3 incidents will be reported through the Daily Incident Report.

7.1.4 Incident Investigations

All incidents will be investigated and the level of investigation needed will depend on the incident classification (refer to Emergency Response Process in the Incident Management Plan. Corrective actions, including those required to help prevent future incident occurrences, are a key outcome of incident investigations. Incident investigation reports are to be uploaded to JHET.

7.1.5 Corrective and Preventative Actions

Following an incident, corrective and preventative actions will be identified, assigned to the appropriate person/s and closed out according to set time frames. Time frames are set to ensure damage incurred is rectified and any chance of recurrence is eliminated as soon as practicable.

JHET will be used to assign and track corrective actions.

7.1.6 Review

Periodically, the Environment Manager will identify trends in incidents (as a minimum, all Class 1 and 2 incidents) and trends in root causes to suggest the nature of preventative actions which are warranted. The Infrastructure Director will approve actions to address incident occurrences as well as incident and root cause trends. Actions will be managed using JHET.

7.2 Emergency Planning and Response

Risk assessments conducted in accordance with Section 5.2 are used to identify potential emergencies on the Project.

An Emergency Response Process has been developed as a part of the Incident Management Plan. This process addresses all identified potential high risk environmental emergencies, and incorporates the Pollution Incident Response Management Plan Emergency Response Process in the Incident Management Plan as required under the POEO Act. The Incident Management Plan will be updated in response to audit findings and reviews or when there are significant changes to activities or in response to revised and new risk assessments.

In accordance with the Incident and Emergency Response Process in the Incident Management Plan, emergency response drills will be conducted. The emergency scenario of the drills will include environmental incidents, be rotated to avoid repetition and be relevant to the activities occurring at the time or to commence.

The Safety Manager will keep records of the results of all drills.

Where testing and evaluation shows a deficiency in either emergency preparations or the Emergency Response Process in the Incident Management Plan, appropriate corrective and preventive actions will be raised, implemented and closed out.

All personnel and subcontractors will receive training to inform them of their roles and responsibilities in the event of an emergency. This training and awareness will be provided during Project induction. Visitors are informed of requirements during the visitors' induction.

8 Competence, Training and Awareness

This section identifies the process for ensuring all personnel with influence on environmental performance have the necessary education, skills, experience and knowledge. All employees, contractors and subcontractors will be made aware of and the need to comply with requirements of the conditions of approval relevant to their respective activities.

8.1 Induction

The site induction will include an environmental component informing key messages relevant to all staff on site. Induction will be undertaken prior to any worker commencing on site. The induction will cover:

- Training purpose, objectives and key issues
- NRT's environmental policy and key performance indicators
- Due diligence, duty of care and responsibilities
- Relevant legal requirements including PPA, EPL and the requirements of any other licences or approvals
- Roles and responsibilities of project personnel
- The use of EMS documents and records
- Hours of work, traffic and access arrangements
- Incident response and management including employees responsibilities under the PIRMP
- Reporting procedure for environmental hazards and incidents
- Key environmental aspects and impacts specific to site roles and their role in managing those associated risks and those described in environmental procedures
- Impacts to sensitive receivers and the complaint management processes and communication protocols
- Environment expectations and consequences (for non-compliance)
- Heritage conservation and legislative requirements.
- Sustainability measures, which are required to achieve compliance with the guidelines and rating scheme
- Key project interfaces.

8.2 Competency Training

NRT personnel, subcontractors and visitors will be trained appropriately to manage environmental aspects and potential impacts associated with their works.

A training register and matrix will be maintained by the Human Resources Manager to record training undertaken and verification of attendees' competencies.

The training matrix will be reviewed with any review of the CEMP, and at key milestones, to ensure that appropriate environmental training is provided.

8.3 Pre-starts and Toolbox Talks

The environmental aspects, impacts and required controls and mitigation measures associated with project work activities will be identified in the AMS and the TRA for any scope of work. This information will be referenced during development of pre-start toolbox talks. The pre-starts will be undertaken prior to the start of work and when activities or conditions on site change. The pre-start talks will address the specific environmental aspects and potential impacts relevant to the work to be performed

A weekly integrated toolbox talk will be held for the entire workforce within a project area and incorporate environmental information and issues. The content of each toolbox talk will depend on the nature of the works and the risks associated with that work and would typically cover:

- The scope and requirements of the specific Site Environment Plans
- Noise and vibration goals and specific mitigation measures
- Traffic/access, location of entry/exit points, traffic routes, parking
- Soil and water issues and controls and dewatering and discharge requirements
- Air quality and dust issues and management
- Waste management
- Contamination issues and management
- Sensitive environmental areas and site specific issues such as no-go areas e.g. demarcated areas of threatened species
- Incidents and lessons learnt
- Sensitive receivers such as the local community and appropriate mitigation measures.

Toolbox talks will also be used as a forum for sharing any lessons learned and will be distributed to relevant stakeholders.

8.4 Specialist Training

Members of the NRT Environment and Sustainability Team and other project personnel may require specialist training. Where specialist training is required, the appropriate training course or qualified persons will be sourced and training carried out with the relevant project personnel.

The training matrix identifies the training needs for relevant personnel. Initial specialist training will focus on:

- Soil and Water Management in accordance with the Blue Book
- Spill response
- Operation of water treatment plants

- Use of environmental monitoring equipment

8.5 Training Records

Records of all training activities, including inductions, will be maintained. Records will include the name and role of the attendee, the name of the course and, where applicable, reference to the document controlled version of the material presented, and a copy of the assessment completed.

9 Consultation and Communication

This section identifies the processes for consulting and communicating both internally and externally to the project.

9.1 Internal Consultation and Communication

A key to ensuring compliance with environmental obligations and continual improvement is the ongoing communication to project personnel

The NRT Environment and Sustainability Team will work collaboratively with the commercial, design, construction and communication teams to formulate integrated management strategies through interdisciplinary meetings.

Regular communication around the environmental requirements and performance updates is carried out, for example through training and awareness as described in Section 8.

9.2 Stakeholder and Community Consultation

The Community Liaison and Implementation Plan provides an overview of stakeholder communication and liaison. Generally, it covers the following aspects:

- Procedures, processes and strategies for the management of community liaison issues and dealing with stakeholders
- Community liaison reporting and process
- Development and implementation of community and consultation tools
- Community and stakeholder consultation and the procedures, processes and timeframes for undertaking this consultation
- Processes for the management of enquiries and complaints
- Processes for crisis management.

This plan sits under the TfNSW Stakeholder and Community Involvement Plan.

9.3 Responding to Complaints and Enquiries

The Community Liaison and Implementation Plan defines the policies, protocols, procedures and processes for identifying and managing community specific issues arising from design and construction activities, including complaints relating to environmental issues.

The Environment Manager will assist the Stakeholder and Community Relations Manager in responding to environmental complaints and maintaining a register of Environmental Complaints via Consultation Manager for reporting to the EPA and other relevant agencies.

The EPA will be notified of any complaints in accordance with the conditions of the EPL.

Annexure A Compliance Matrix

ID	Source	No.	Requirement	Reference
Project Approval – Specific Plan Requirements				
1)	SSI-5414	E34	Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall prepare and implement (following approval) a Construction Environmental Management Plan for the SSI. The Plan shall outline the environmental management practices and procedures that are to be followed during construction, and shall be prepared in consultation with the relevant government agencies and in accordance with the Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004). The Plan shall include, but not necessarily be limited to:	This Plan
2)		E34(a)	a description of activities to be undertaken during construction of the SSI (including staging and scheduling);	Section 2.1, 2.3
3)		E34(b)	statutory and other obligations that the Proponent is required to fulfil during construction, including approvals, consultations and agreements required from authorities and other stakeholders under key legislation and policies	Section 3
4)		E34(c)	a description of the roles and responsibilities for relevant employees involved in the construction of the SSI, including relevant training and induction provisions for ensuring that employees, including contractors and sub-contractors are aware of their environmental and compliance obligations under these conditions of approval;	Section 4 Section 8
5)		E34(d)	an environmental risk analysis to identify the key environmental performance issues associated with the construction phase; and	Annexure C
6)		E34(e)	details of how environmental performance would be managed and monitored to meet acceptable outcomes, including what actions will be taken to address identified potential adverse environmental impacts (including any impacts arising from the staging of the construction of the SSI). In particular, the following environmental performance issues shall be addressed in the Plan: (i) stormwater and flooding management; (ii) compounds and Ancillary Facilities management; (iii) noise and vibration;	This Plan and Environmental Sub Plans (refer Section 5.4)

			(¡v) traffic and access; (v) soil and water quality; (vi) spoil management; (vii) groundwater management and discharge; (viii) air quality and dust management; (ix) visual amenity; (x) management of Aboriginal and historic heritage; (x¡) soil contamination, hazardous material and waste management; (xii) management of ecological impacts; and (xiii) hazard and risk management.	
7)	SSI-5931	E28	Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall prepare and implement (following approval) a Construction Environmental Management Plan for the SSI. The Plan shall outline the environmental management practices and procedures that are to be followed during construction, and shall be prepared in consultation with the relevant government agencies and in accordance with the Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004). The Plan shall include, but not necessarily be limited to:	This Plan
8)		E28(a)	a description of activities to be undertaken during construction of the SSI (including staging and scheduling);	Section 2.1, 2.3
9)		E28(b)	statutory and other obligations that the Proponent is required to fulfil during construction, including approvals, consultations and agreements required from authorities and other stakeholders under key legislation and policies	Section 3
10)		E28(c)	a description of the roles and responsibilities for relevant employees involved in the construction of the SSI, including relevant training and induction provisions for ensuring that employees, including contractors and sub-contractors are aware of their environmental and compliance obligations under these conditions of approval;	Section 4 Section 8
11)		E28(d)	an environmental risk analysis to identify the key environmental performance issues associated with the construction phase; and	Annexure C
12)		E28(e)	details of how environmental performance would be managed and monitored to meet acceptable outcomes, including what actions will be taken to address identified potential adverse environmental impacts (including any impacts arising from the staging of the construction of the	This Plan and Environmental Sub

			SSI). In particular, the following environmental performance issues shall be addressed in the Plan: (i) stormwater and flooding management; (ii) compounds and Ancillary Facilities management; (iii) noise and vibration; (¡v) traffic and access; (v) soil and water quality; (vi) spoil management; (vii) groundwater management and discharge; (viii) air quality and dust management; (ix) visual amenity; (x) management of Aboriginal and historic heritage; (x¡) soil contamination, hazardous material and waste management; (xii) management of ecological impacts; and (xiii) hazard and risk management.	Plans (refer Section 5.4)
Project Approval – Specific Conditions				
13)	Project Approval SSI 5414	B1	The Proponent shall carry out the SSI generally in accordance with the: a. SSl Application SSl-5414: b. North West Rail Link: Environmental lmpact Statement - Stage 2-Stations, Rail lnfrastructure and Systems, dated 25 October 2012; c. Submissions Report, Stage 2 - Stations, Rail lnfrastructure and Systems, lncorporating Preferred Infrastructure Report, dated March 2012; and d. North West Rail Link: Windsor Road Bridge, Rouse Hill - Modification Report, dated February 2014; e. North West Rail Link: Windsor Road Bridge, Rouse Hill - Response of Submissions, dated March 2014; and f. conditions of this approval.	Section 3.2

14)		B2	In the event of an inconsistency between: (a) the conditions of this approval and any document listed from condition B1(a) to B1(c) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency; and (b) any document listed from condition B1(a) to B1(c) inclusive, and any other document listed from condition B1(a) to B1(c) inclusive, the most recent document shall prevail to the extent of the inconsistency.	Noted
15)		B3	In the event of an inconsistency between the terms of this approval and the staged infrastructure approval granted in respect of the North West Rail Link on May 6 2008 (MP06_1057), as modified from time to time, the terms of this approval (including the documents listed in B1) shall prevail to the extent of the inconsistency.	Noted
16)		B4	The Proponent shall comply with any reasonable requirement(s) of the Director General arising from the Department's assessment of: (a) any reports, plans or correspondence that are required and/or submitted in accordance with this approval; and (b) the implementation of any actions or measures contained within these reports, plans or correspondence.	Noted
17)		B5	Subject to confidentiality, the Proponent shall make all documents required under this approval available for public inspection on request.	Stakeholder and Community Involvement Plan
18)		B8	The Proponent shall ensure that all licences, permits and approvals are obtained as required by law and maintained as required throughout the life of the SSI. No condition of this approval removes the obligation for the Proponent or its contractors to obtain, renew or comply with such licences, permits or approvals.	Section 3.2
19)		B9	"The Proponent may elect to construct and/ or operate the SSI in stages. Where staging is proposed, the Proponent shall submit a Staging Report to the Director General prior to the commencement of the first proposed stage. The Staging Report shall provide details of: (a) how the SSI would be staged, including general details of work activities associated with each stage and the general timing of when each stage would commence; and (b) details of the relevant conditions of approval, which would apply to each stage and how these shall be complied with across and between the stages of the SSI. Where staging of the SSI is proposed, these conditions of approval are only required to be complied with at the relevant time and to the extent that they are relevant to the specific stage(s).	The Staging Report reflects the delivery strategy for Stage 2b of the NWRL Stage 2 approval only (as defined in TfNSW report "North West Rail Link Staging Report - Stage 2", April 2014).

			The Proponent shall ensure that an updated Staging Report (or advice that no changes to staging are proposed) is submitted to the Director General prior to the commencement of each stage, identifying any changes to the proposed staging or applicable conditions."	
20)		B10	The Proponent shall ensure that all plans, sub-plans and other management documents required by the conditions of this approval and relevant to each stage (as identified in the Staging Report) are submitted to the Director General no later than one month prior to the commencement of the relevant stages, unless otherwise agreed by the Director General. Note: These conditions do not relate to staged infrastructure within the meaning of section 115ZD of the EP&A Act.	Section 3.7
21)		B11	With the approval of the Director General, the Proponent may: (a) submit any strategy, plan, program (or the like) required by this approval on a progressive basis; (b) combine any strategy, plan, program (or the like) required by this approval; and (c) update corresponding strategies, plans and programs prepared to meet the requirements of State Significant Infrastructure Approval SSI-5100 for the purposes of meeting the requirements of the SSI. Notes: • While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times; and • If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.	Section 2.2 Staging Report
22)		B12	The Proponent shall ensure that any strategy, plan, program (or the like) incorporates mitigation measures identified in the documents listed in condition B1, as relevant, and as modified by this approval.	Refer to Environmental Sub Plans
23)		B13	The Proponent shall ensure that employees, contractors and sub-contractors are aware of, and the need to comply with, the conditions of this approval relevant to their respective activities.	Section 8
24)		B14	The Proponent shall be responsible for environmental impacts resulting from the actions of all persons that it invites onto the site, including contractors, subcontractors and visitors.	Section 5.8 Section 8

25)		D5	The Proponent shall develop and implement a Compliance Tracking Program to track compliance with the requirements of this approval. The Program shall be submitted to the Director General for approval prior to the commencement of construction and operate for a minimum of one year following commencement of operation. The Program shall include, but not necessarily be limited to: (a) provisions for the notification of the Director General prior to the commencement of construction of the SSI (including prior to each stage, where works are being staged); (b) provisions for periodic review of the compliance status of the SSI against the requirements of this approval; (c) provisions for periodic reporting of compliance status to the Director General, including a Pre-Construction Compliance Report, during construction reporting, and a Post-Construction Compliance Report; (d) a program for independent environmental auditing in accordance with ISO 19011:2003 - Guidelines for Quality and / or Environmental Management Systems Auditing; (e) mechanisms for recording environmental incidents during construction and actions taken in response to those incidents; (f) provisions for reporting environmental incidents to the Director General and relevant public authorities during construction; (g) procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management; and (h) provisions for ensuring all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities	Section 6.4.1 Compliance Tracking Program
26)		D6	The Proponent shall notify the Director General of an incident with significant off-site impacts on people or the biophysical environment as identified by the Environmental Representative within 48 hours of becoming aware of the incident. The Proponent shall provide full written details of the incident to the Director General within seven days of the date on which the incident occurred.	Section 7.1.3
27)		E33	Prior to the commencement of construction of the SSI, or as otherwise agreed by the Director General, the Proponent shall nominate for the approval of the Director General a suitably qualified and experienced Environment Representative(s) that is independent of the design and construction personnel. The Proponent shall employ the Environmental Representative(s) for the duration of construction, or as otherwise agreed by the Director General. The Environment Representative(s) shall: (a) be the principal point of advice in relation to the environmental performance of the SSI;	Section 4.6

			(b) monitor the implementation of environmental management plans and monitoring programs required under this approval and advise the Proponent upon the achievement of these plans/ programs; (c) have responsibility for considering and advising the Proponent on matters specified in the conditions of this approval, and other licences and approvals related to the environmental performance and impacts of the SSI; (d) ensure that environmental auditing is undertaken in accordance with the Proponent's Environmental Management System(s); (e) be given the authority to approve/ reject minor amendments to the Construction Environment Management Plan. What constitutes a "minor" amendment shall be clearly explained in the Construction Environment Management Plan (condition E33); (f) be present on site during certain activities that could result in potential adverse environmental impacts such as dewatering activities. If the ER is unable to attend then as a minimum, he/she should review the assessment and plans of proposed works prior to commencement of these works on site; (g) be given the authority and independence to advise on reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts; and (h) be consulted in responding to the community concerning the environmental performance of the SSI where the resolution of points of conflict between the Proponent and the community is required."	
28)	Project Approval SSI 5931	B1	"The Proponent shall carry out the SSI generally in accordance with the: (a) SSI Application SSI-5931; (b) Tallawong Road, Rouse Hill Rapid Transit Rail Facility: Environmental Impact Statement, dated 29 July 2013; (c) Tallawong Road, Rouse Hill Rapid Transit Rail Facility: Response to Submissions Report, dated 21 October, 2013; and (d) conditions of this approval."	Section 3.2
29)		B2	In the event of an inconsistency between: (a) the conditions of this approval and any document listed from condition B1(a) to B1(c) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency; and (b) any document listed from condition B1(a) to B1(c) inclusive, and any other document listed from condition B1(a) to B1(c) inclusive, the most recent document shall prevail to the extent of the inconsistency.	Noted

30)		B3	In the event of an inconsistency between the terms of this approval and the staged infrastructure approval granted in respect of the North West Rail Link on May 6 2008 (MP06_1057), as modified from time to time, the terms of this approval (including the documents listed in B1) shall prevail to the extent of the inconsistency.	Noted
31)		B4	The Proponent shall comply with any reasonable requirement(s) of the Director General arising from the Department's assessment of: (a) any reports, plans or correspondence that are required and/or submitted in accordance with this approval; and (b) the implementation of any actions or measures contained within these reports, plans or correspondence.	Noted
32)		B5	Subject to confidentiality, the Proponent shall make all documents required under this approval available for public inspection on request.	Stakeholder and Community Involvement Plan
33)		B7	The Proponent shall ensure that all licences, permits and approvals are obtained as required by law and maintained as required throughout the life of the SSI. No condition of this approval removes the obligation for the Proponent or its contractors to obtain, renew or comply with such licences, permits or approvals.	Section 3.2
34)		B8	Any changes to the scope of the infrastructure activity shall be subject to a consistency review. Should the review identify activity scope and environmental impacts inconsistent with the assessed infrastructure activity, a modification to the infrastructure activity approval would be required.	Section 6.5
35)		B10	The Proponent shall ensure that all plans, sub-plans and other management documents required by the conditions of this approval and relevant to each stage (as identified in the Staging Report) are submitted to the Director General no later than one month prior to the commencement of the relevant stages, unless otherwise agreed by the Director General. Note: These conditions do not relate to staged infrastructure within the meaning of section 115ZD of the EP&A Act.	Section 3.7
36)		B11	With the approval of the Director General, the Proponent may: (a) submit any strategy, plan, program (or the like) required by this approval on a progressive basis;	Section 2.2 Staging Report

			(b) combine any strategy, plan, program (or the like) required by this approval; and (c) update corresponding strategies, plans and programs prepared to meet the requirements of State Significant Infrastructure Approval SSI-5100 for the purposes of meeting the requirements of the SSI. Notes: • While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times; and • If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.	
37)		B12	The Proponent shall ensure that any strategy, plan, program (or the like) incorporates mitigation measures identified in the documents listed in condition B1, as relevant, and as modified by this approval.	Refer to Environmental Sub Plans
38)		B13	The Proponent shall ensure that employees, contractors and sub-contractors are aware of, and the need to comply with, the conditions of this approval relevant to their respective activities.	Section 8
39)		B14	The Proponent shall be responsible for environmental impacts resulting from the actions of all persons that it invites onto the site, including contractors, subcontractors and visitors.	Section 5.8 Section 8
40)		D5	The Proponent shall develop and implement a Compliance Tracking Program to track compliance with the requirements of this approval. The Program shall be submitted to the Director General for approval prior to the commencement of construction and operate for a minimum of one year following commencement of operation. The Program shall include, but not necessarily be limited to: (a) provisions for the notification of the Director General prior to the commencement of construction of the SSI (including prior to each stage, where works are being staged); (b) provisions for periodic review of the compliance status of the SSI against the requirements of this approval; (c) provisions for periodic reporting of compliance status to the Director General, including a Pre-Construction Compliance Report, during construction reporting, and a Post-Construction Compliance Report;	Section 6.4.1 Compliance Tracking Program

			(d) a program for independent environmental auditing in accordance with ISO 19011:2003 - Guidelines for Quality and / or Environmental Management Systems Auditing; (e) mechanisms for recording environmental incidents during construction and actions taken in response to those incidents; (f) provisions for reporting environmental incidents to the Director General and relevant public authorities during construction; (g) procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management; and (h) provisions for ensuring all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities	
41)		D6	The Proponent shall notify the Director General of an incident with significant off-site impacts on people or the biophysical environment as identified by the Environmental Representative within 48 hours of becoming aware of the incident. The Proponent shall provide full written details of the incident to the Director General within seven days of the date on which the incident occurred.	Section 7.1.3
42)		E27	Prior to the commencement of construction of the SSI, or as otherwise agreed by the Director General, the Proponent shall nominate for the approval of the Director General a suitably qualified and experienced Environment Representative(s) that is independent of the design and construction personnel. The Proponent shall employ the Environmental Representative(s) for the duration of construction, or as otherwise agreed by the Director General. The Environment Representative(s) shall: (a) be the principal point of advice in relation to the environmental performance of the SSI; (b) monitor the implementation of environmental management plans and monitoring programs required under this approval and advise the Proponent upon the achievement of these plans/ programs; (c) have responsibility for considering and advising the Proponent on matters specified in the conditions of this approval, and other licences and approvals related to the environmental performance and impacts of the SSI; (d) ensure that environmental auditing is undertaken in accordance with the Proponent's Environmental Management System(s); (e) be given the authority to approve/ reject minor amendments to the Construction Environment Management Plan. What constitutes a "minor" amendment shall be clearly explained in the Construction Environment Management Plan (condition E33); (f) be present on site during certain activities that could result in potential adverse environmental impacts such as dewatering activities. If the ER is unable to attend then as a minimum, he/she	Section 4.6

			should review the assessment and plans of proposed works prior to commencement of these works on site; (g) be given the authority and independence to advise on reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts; and (h) be consulted in responding to the community concerning the environmental performance of the SSI where the resolution of points of conflict between the Proponent and the community is required."	
NWRL Construction Environmental Management Framework				
43)	Construction Environmental Framework	2.2	The NWRL meets the definition of a number of scheduled activities under Schedule 1 of the Protection of the Environmental Operation Act 1997 (POEO Act) and as such must obtain an Environment Protection Licence (EPL).	Section 3.2
44)		2.2(a)	Where required NWRL Principal Contractors will be required to: • Hold an EPL which covers their scope of works as necessary under the POEO Act • Undertake their scope of works in accordance with the conditions of the applicable EPL/s as issued by the EPA	Section 3.6
45)		2.3	The NWRL has submitted a referral under the Environment Protection and Biodiversity Conservation Act 1999 to the Commonwealth Department of Sustainability, Environment, Water, Population and Communities as it may have an impact on [several] Matters of National Environmental Significance… If the NWRL is determined to be a controlled action, TfNSW and the Principal Contractors will comply with the conditions of any approval issued under the Environment Protection and Biodiversity Conservation Act 1999	Section 3.1.4
46)		2.4	Numerous environmental publications, standards, codes of practice and guidelines are relevant to the NWRL construction and are referenced throughout this Construction Environmental Management Framework. A summary of these applicable standards and guidelines is provided in Table 1.3 [of the Construction Environmental Management Framework (Revised)].	Section 3.5
47)		3.1(a)	All NWRL Principal Contractors will be required to have a corporate environmental management system certified under ISO 14001.	Section 1.3, 3.5
48)		3.1(b)	All NWRL Principal Contractors will be required to develop an environmental and sustainability management system for the project. The E&SMS must:	This Plan

			(i)be consistent with the principles of ISO 14001 Environmental Management Systems – Requirements with Guidelines for Use; (ii)be consistent with the NWRL Sustainability Strategy and NWRL Environment and Sustainability Policy; (iii)include specific procedures to address the following: – Identification of and compliance with legal and regulatory obligations, environmental provisions of the contract documentation, relevant approval documentation, their own corporate requirements and this Construction Environmental Management Framework. – Identification and assessment of environmental aspects. – Identification of environmental risks and development of appropriate control measures to be implemented to provide environmental protection. – Tracking and monitoring of design and construction sustainability targets. – Assurance frameworks to audit the sustainability program (iv) include provision to produce monthly reports.	Sustainability Management Plan
49)		3.1(c)	All sub-contractors engaged by the Contractor will be required to work under the Principal Contractor's E&SMS	Section 5.8
50)		3.1(d)	Environment and Sustainability Management System and the Principal Contractor's Environment and Sustainability Management System is shown in Figure 2 [of the Construction Environmental Management Framework (Revised)]. Notably: (i) The Construction Environment Management Plan and its sub plans will capture the construction environmental requirements emerging from the EISs, subsequent planning approvals and the NWRL Sustainability Strategy. (ii) The Sustainability Management Plan and its sub plans will capture governance and design requirements as well as social sustainability initiatives are required by the NWRL Sustainability Strategy. (iii) These plans will vary in scope across different delivery packages.	Section 5.4 Section 1 Sustainability Management Plan
51)		3.2(a)	All NWRL Principal Contractors will be required to prepare and implement a Construction Environmental Management Plan (CEMP) relevant to the scale and nature of their scope of works.	This Plan

52)		3.2(b)	The CEMP will cover the requirements of the relevant planning approval documentation, the project approval conditions, the conditions of all other permits and licences, the Contractor's corporate EMS, the environmental provisions of the contract documentation and this Construction Environmental Management Framework.	This Plan
53)		3.2(c)	The purpose of the CEMP will be to detail how the project will deliver the environmental requirements and how issues that arise are handled. As a minimum the CEMP will include: (i)Project specific environmental policy, key performance indicators, objectives and targets. (ii)Identification of legislative and other requirements. (iii)Procedures to identify project specific environmental risks. (iv)Resource requirements, roles and responsibilities, including those of sub-contractors. (v)Communication requirements, including liaison with stakeholders and the community. (vi)Induction and training requirements. (vii)Identification of project specific environmental risks. (viii)Identification of appropriate control measures. (ix)Procedures for monitoring and evaluating environmental performance. (x)Reporting requirements. (xi)Procedures for emergency and incident management. (xii)Procedures for non-conformance control, corrective and preventative actions. (xiii)Procedures for audit and review. (xiv)Procedures for the control of environmental records. (xv)Development and maintenance of Environmental Management Sub-Plans and site / activity specific environmental procedures.	This Plan
54)		3.2(d)	The CEMP and associated sub-plans will require the approval of TfNSW prior to any construction works commencing. Depending on the conditions of approval the CEMP and certain sub-plans may also require the approval of Department of Planning and Infrastructure (DP&I), and other government agencies	Plans will be submitted to TfNSW for review prior to submission to the DP&E.
55)		3.3(a)	Where required, the Principal Contractor will prepare issue-specific environmental sub-plans to address each of the relevant environmental impacts at a particular site or stage of the project. Issue specific sub-plans will include:	Section 5.4

			(i)Spoil management. (ii)Groundwater management (iii)Soil and water management (iv)Traffic and transport management. (v)Noise and vibration management. (vi)Heritage management. (vii)Flora and fauna management. (viii)Visual amenity management. (ix)Carbon and energy management. (x)Air quality management. (xi)Waste management.	
56)		3.4(a)	The Principal Contractor will prepare and implement site and / or activity specific environmental procedures. These procedures may include method statements, control maps or other documents as required by the Principal Contractor.	Section 5.5, 0, 5.7
57)		3.4(b)	The procedures will include: (i)A breakdown of the work tasks relevant to the specific site and / or activity. (ii)Potential impacts associated with each task. (iii)A risk rating for each of the identified potential impacts. (iv)Mitigation measures relevant to each of the work tasks. (v)Responsibility to ensure the implementation of the mitigation measures. (vi)Constraints maps and / or drawings as appropriate to each site and / or activity.	Section 5.5, 0, 5.7
58)		3.4(c)	Relevant workers will be trained in the requirements of and will sign off the procedures prior to commencing works on the specific site and / or activity.	Section 5.2, 8
59)		3.5	A number of works may require additional environmental assessment to be undertaken, e.g. the provision of high voltage power supply to a number of the construction sites. a. Where the requirement for an additional environmental assessment is identified, this will be undertaken prior to undertaking any physical works. The environmental assessment will include: (i) A description of the existing surrounding environment.	Section 6.5

			(ii) Details of the ancillary works and construction activities required to be carried out including the hours of works. (iii) An assessment of the environmental impacts of the works, including, but not necessarily limited to, traffic, noise and vibration, air quality, soil and water, ecology and heritage. (iv) Details of mitigation measures and monitoring specific to the works that would be implemented to minimise environmental impacts. (v) Identification of the timing for completion of the construction works, and how the sites would be reinstated (including any necessary rehabilitation).	
60)		3.6(a)	Principal Contractors will offer condition surveys, in writing, to all relevant land and infrastructure owners (those where the works have potential to cause cosmetic or structural damage). If accepted, the Principal Contractor must produce a comprehensive written and photographic condition report prior to relevant works commencing.	Table 15 of the Construction Noise and Vibration Management Plan
61)		3.7(a)	TfNSW and NWRL Principal Contractors will identify hold points, beyond which approval is required to proceed with a certain activity. Examples activities include vegetation removal and water discharge. Hold points will be documented in relevant CEMPs	Section 5.7
62)		3.7(b)	Table 1.4 [of the Construction Environmental Management Framework (Revised)] provides the structure for the register of hold points as well as a preliminary list of hold points which will be implemented	Environmental Hold Points
63)		3.8(a)	NWRL Principal Contractors will be responsible for determining the training needs of their personnel. As a minimum this will include site induction, regular toolbox talks and topic specific environmental training as follows: (i)The site induction will be provided to all site personnel and will include, as a minimum: (ii)Training purpose, objectives and key issues. — Contractor's environmental policy and key performance indicators. — Due diligence, duty of care and responsibilities. — Relevant conditions of any environmental licence and the relevant conditions of approval. — Site specific issues and controls including those described in the environmental procedures. — Reporting procedure for environmental hazards and incidents. — Communication protocols.	Section 8

			iii) Toolbox talks will be held on a regular basis in order to provide a project or site wide update, including any key or recurring environmental issues	
64)		3.9(a)	NWRL Principal Contractors will develop and implement a Pollution Incident Response Management Plan, in accordance with the requirements of the POEO Act. Contractors' emergency and incident response procedures will be in accordance with any TfNSW procedures and will include: (i)Categories for environmental emergencies and incidents. (ii)Notification protocols for each category of environmental emergency or incident, including notification of TfNSW and notification to owners / occupiers in the vicinity of the incident. This is to include relevant contact details. (iii)Procedures for the immediate notification of each relevant authority when the incident results in material harm to the environment. (iv)Identification of personnel who have the authority to take immediate action to shut down any activity, or to affect any environmental control measure (including as directed by an authorised officer of the EPA). (v)On-site rectification actions.	Section 7 Emergency Response Plan
65)		3.9(b)	The Contractor will make all personnel aware of the plan and their responsibilities	Section 8
66)		3.10(a)	TfNSW will be the proponent of the works and will retain responsibility for: (i)The provision of contracts and procurement of Principal Contractors. The procurement of Contractors will consider past environmental performance and proposed environmental management system. (ii)Undertaking regular audits, of the Contractors against their environmental obligations.	Section 4.5
67)		3.10(b)	Additionally TfNSW will engage independent Environmental Representatives (ERs) to undertake the following, along with any additional roles as required by the project approval conditions: (i)Review, provide comment on and endorse (where required) any relevant environmental documentation to verify it is prepared in accordance with relevant environmental legislation, planning approval conditions and relevant standards. (ii)Monitor and report on the implementation and performance of the above mentioned documentation and other relevant documentation. (iii)Provide independent guidance and advice to TfNSW and the Contractors in relation to environmental compliance issues and the interpretation of planning approval conditions.	Section 4.5, 4.6

			(iv)Be the principal point of advice for the DP&I in relation to all questions and complaints concerning the environmental performance of the project. (v)Ensure that environmental auditing is undertaken in accordance with all relevant project requirements. (vi)Recommend reasonable steps, including 'stop works', to be taken to avoid or minimise adverse environmental impacts.	
68)		3.10(c)	NWRL Principal Contractors will be responsible for all aspects of environmental management relevant to their scope of works. This will include: (i)Development and implementation of the Environmental Management and Sustainability System, Construction Environmental Management Plan, sub-plans and procedures. (ii)Compliance with the environmental considerations of the contract and this Construction Environmental Management Framework. (iii)Obtaining all necessary approvals, permits and licences required for its works (in addition the planning approval). (iv)Compliance with relevant approval, permit, licence and legislative conditions.	This Plan
69)		3.10(d)	Principal Contractors must employ an Environmental Manager with relevant experience	Section 4.2
70)		3.10(e)	All sub-contractors engaged by the Principal Contractor will be required to operate within the EMS documentation of that Principal Contractor.	Section 5.8
71)		3.11(a)	NWRL Principal Contractors will develop and implement procedures to ensure the works are compliant with the environmental considerations of the contract documentation, the project approval, and all other permits and licences	This Plan
72)		3.11(b)	Issue specific environmental monitoring will be undertaken as required by the subsequent sections of this Construction Environmental Management Framework or as additionally required by approval, permit or licence conditions	Section 6.1
73)		3.11(c)	The results of any monitoring undertaken as a requirement of the EPL will be published on the Principal Contractor's, or a project specific, website within 14 days of obtaining the results.	Section 6.2
74)		3.11(d)	Environmental inspections will include: (i)Surveillance of environmental mitigation measures by the Site Foreman. This will be documented in the Foreman's Site Diary.	Section 6.1.1, 6.1.2, 6.1.3

			(ii)Periodic inspections by the Principal Contractor's Environmental Manager (or delegate) to verify the adequacy of all environmental mitigation measures. This will be documented in a formal inspection record. (iii)Regular site inspections by the ERs at a frequency to be agreed with the Principal Contractor.	
75)		3.11(e)	NWRL Principal Contractors will be required to undertake internal environmental audits of their EMS. Internal audits will include: (i)Compliance with approval, permit and licence conditions. (ii)Compliance with the Contractor's EMS, CEMP, sub-plans and procedures. (iii)Community consultation and complaint response. (iv)Environmental training records. (v)Environmental monitoring and inspection results.	Section 6.4
76)		3.11(f)	TfNSW (or its representative) will also undertake periodic audits of the Principal Contractors' EMS and compliance with the environmental aspects of contract documentation, including this Construction Environmental Management Framework. As a minimum this will occur annually.	Section 6.4
77)		3.11(g)	Mandatory audits may also be required by the EPA if the EPA reasonably suspects that an activity has been or is being carried out by the EPL holder in an environmentally unsatisfactory manner.	Noted
78)		3.12(a)	NWRL Principal Contractors will document and detail any non-conformances arising out of the above monitoring, inspections and audits. TfNSW will be made aware of all non-conformances in a timely manner	Section 6.3
79)		3.12(b)	Principal Contractors will develop and implement corrective actions to rectify the non-conformance and preventative actions in order to prevent the re-occurrence of the non-conformance. Contractors will also maintain a register non-conformances, corrective actions and preventative actions	Section 6.3
80)		3.13(a)	NWRL Principal Contractors will maintain appropriate records of the following: (i)Site inspections, audits, monitoring, reviews or remedial actions. (ii)Documentation as required by performance conditions, approvals, licences and legislation. (iii)Modifications to site environmental documentation (e.g. CEMP, sub-plans and procedures). (iv)Other records as required by this Construction Environmental Management Framework.	Section 5.9

81)		3.13(b)	Records will be retained onsite for the duration of works.	Section 5.9
82)		3.13(c)	Additionally records will be retained by the Principal Contractor for a period of no less than 7 years in total. Records will be made available in a timely manner to TfNSW (or their representative) upon request.	Section 5.9.3
83)		3.13(d)	Compliance reports regarding each internal and external audit (refer to Section 3.113.11) will be undertaken. Compliance reports will be produced by the Principal Contractor's Environmental Manager or delegate and submitted to TfNSW.	Section 6
84)		3.14(a)	NWRL Contractors will ensure the continual review and improvement of the CEMP, sub-plans and procedures. This will generally occur in response to: (i)Issues raised during environmental monitoring, inspections and audits. (ii)Significant environmental incidents. (iii)Environmental non-conformances	Section 1.7
85)		3.14(b)	A formal review of the CEMP and sub-plans by the Principal Contractor's management team will also occur on a six monthly basis, as a minimum.	Section 1.7
Project Deed Requirements				
86)		6.2	Approvals (a) TfNSW has obtained and provided, or must obtain and provide, to OpCo the Planning Approvals. (b) OpCo must: (i) obtain and maintain, and ensure that OpCo's Contractors obtain and maintain, all Approvals required to perform OpCo's Activities (other than those Approvals which this deed expressly states that TfNSW has obtained or requires TfNSW to obtain or maintain); (ii) subject to clause 6.10, except to the extent otherwise expressly specified in Schedule 5: A. comply with, carry out and fulfil, and ensure that OpCo's Contractors comply with, carry out and fulfil; and B. ensure that the OTS Works, the Temporary Works and, after the Date of Completion, the NWRL, comply with, the conditions and requirements of all Approvals (including those which TfNSW is expressly or impliedly under the terms of the Approval required to comply with, carry out or fulfil);	Section 3.1, 3.2

			(iii) except to the extent prohibited by law, indemnify TfNSW against any Loss suffered by TfNSW arising out of or in any way in connection with a failure by OpCo to comply with its obligations under clauses 6.2(b)(i) and 6.2(b)(ii); (iv) except to the extent otherwise expressly specified in clause 38.1(a) and Schedule 5, pay all fees, effect all insurances, provide any bonds and execute any undertakings or agreements or any other document required by any relevant Authority in respect of any Approval which OpCo must obtain or comply with (and ensure that OpCo's Contractors do likewise in relation to any Approvals which they must maintain or comply with in connection with OpCo's Activities); and (v) without limiting clause 6.2(b)(ii), provide TfNSW with such assistance as may reasonably be required by TfNSW to enable it to obtain or satisfy or fulfil the conditions and requirements in respect of any: A. Approvals which are obtained by TfNSW after the date of this deed; or B. conditions and requirements of Approvals which are required to be satisfied or fulfilled by TfNSW pursuant to Schedule 5.	
87)		6.3	Modifications to Planning Approvals Notwithstanding clause 35, if, arising out of or in connection with a Modification requested by OpCo (other than a request made in response to a Compensable Change in Law) or any failure by OpCo to comply with its obligations under this deed or any other Project Agreement: (a) any further environmental impact assessment is required under Part 4 or Part 5.1 of the EP&A Act (or their equivalents) in connection with the OTS PPP; (b) TfNSW determines that it is necessary to carry out any further environmental impact assessment under Part 5 of the EP&A Act (or its equivalents) in connection with the OTS PPP; (c) a Planning Approval is modified and/or amended under the EP&A Act or the EPBC Act; (d) a new Approval is issued under the EP&A Act or the EPBC Act in respect of the NWRL, either in substitution for or replacement of a Planning Approval, the Parramatta Rail Link Approval or otherwise; or (e) any such new Approval is modified under the EP&A Act or the EPBC Act, then any such events and any actions or additional work arising out of or in connection with any such events will be at OpCo's cost and risk, irrespective of who is required to, or does, carry out any such assessment.	Section 6.5
88)		6.6	Environment Protection Licence (a) Subject to clause 6.6(b), OpCo must ensure that OpCo or the Core Contractors: (i) obtain an Environment Protection Licence:	Section 3.6

			A. in respect of OpCo's Activities; and B. which includes all parts of the Construction Site in respect of which the Construction Site Licence has commenced, from the first date on which OpCo undertakes: C. construction activities; D. "railway systems activities" within the meaning of the Protection of the Environment Operations Act 1997 (NSW); or E. any other activity which triggers an obligation for an Environment Protection Licence to be obtained, on any part of the Construction Site; and (ii) ensure that, from each date after the date referred to in clause 6.6(a)(i) on which the Construction Site Licence commences in accordance with clause 12.1(b) in respect of a part or parts of the Construction Site, OpCo's Environment Protection Licence is varied so as to include each such part of the Construction Site to which OpCo has been given access; and (iii) hold an Environment Protection Licence in respect of OpCo's Activities until the end of the Term. (b) OpCo must ensure that any application for an Environment Protection Licence which is required in respect of the development which is the subject of: (i) Project Planning Approval 1; (ii) Project Planning Approval 2; (iii) Parramatta Rail Link Planning Approval; (iv) ECRL Conversion Planning Approval; or (v) Rapid Transit Rail Facility Planning Approval, is substantially consistent with that approval. (c) In the event that an Environment Protection Licence is not substantially consistent with any such approval, OpCo must use its best endeavours to procure that the Environment Protection Licence be amended to achieve substantial consistency. (d) To the extent that OpCo's Activities are such that they are controlled by an Environment Protection Licence held by a person other than OpCo, OpCo must comply with the terms of that Environment Protection Licence.	
89)		6.8	Environmental Representative (a) TfNSW must engage the Environmental Representative as required by the Planning Approvals.	Section 4.6

			(b) OpCo acknowledges that the Environmental Representative: (i) is independent of the parties; (ii) is required to discharge certain functions as identified in the Planning Approvals; (iii) is required to oversee the implementation of all environmental management plans and monitoring programs required under the Planning Approvals and shall advise TfNSW upon achievement of the outcomes contemplated in the Planning Approvals; and (iv) is required to advise TfNSW and TfNSW's Representative on OpCo's compliance with the Planning Approvals. (c) OpCo must co-operate with the Environmental Representative and provide the Environmental Representative with: (i) all information and documents (including licences and approvals relating to environmental performance and environmental impacts); and (ii) allow the Environmental Representative: A. to attend meetings; and B. access to such premises, all as may be: (iii) necessary or reasonably required by the Environmental Representative or TfNSW's Representative to allow the Environmental Representative to perform its functions in connection with this deed; or (iv) lawfully requested by the Environmental Representative or directed by TfNSW's Representative. (d) OpCo must: (i) comply with the lawful requirements of the Environmental Representative, including so as to allow the Environmental Representative to discharge any functions of the Environmental Representative provided for in the Planning Approvals; and (ii) not interfere with or improperly influence the Environmental Representative in the performance of any of its functions in connection with this deed. (e) Nothing that the Environmental Representative does or fails to do pursuant to the purported exercise of its functions in connection with this deed will entitle OpCo to make any Claim against TfNSW	
90)		8.1	Project Plans The intended purposes of the Project Plans include:	This Plan

			(a) to demonstrate to TfNSW that OpCo has the understanding, capacity and capability at all times to perform OpCo's Activities safely and in accordance with the requirements of this deed; (b) to ensure that the NWRL and, to the extent applicable, the ETS Equipment comply with the requirements of this deed; (c) to define responsibilities, resources and processes for planning, performing and verifying that OpCo's Activities satisfy the requirements of this deed; and (d) to allow TfNSW to understand how OpCo will achieve the performance outcomes specified in this deed, the objectives set out in clauses 4.1 and 4.2 and otherwise fulfil its obligations under this deed.	
91)		8.3	Updated Project Plans OpCo may update its Project Plans. OpCo must: (a) review and, if necessary, update each Project Plan to take account of events or circumstances which will, or may, affect OpCo's Activities relevant to the Project Plan, including: (i) Modifications; (ii) Service Changes; (iii) Additional Planned Service Disruptions; (iv) changes in law; (v) the commencement of new phases or stages of design, construction, testing, commissioning or operations; and (vi) any breach or potential breach of the warranty in clause 8.4; (b) without limiting clause 8.3(a), update each Project Plan at the times required by SPR Appendix 54; (c) promptly submit each updated Project Plan to TfNSW's Representative (and, during the Delivery Phase, to the OTS Independent Certifier); (e) ensure that any updated Project Plans:(iii) certified by the OTS Independent Certifier under clause 8.5(a)(ii)B.2); or (iv) submitted to TfNSW's Representative and the time specified in clause 8.5(b) has expired without TfNSW's Representative having issued a notice under that clause during that time,	Section 1.7
92)		8.7	Implementation and compliance (a) OpCo must implement and comply with each Project Plan which has been:	Section 6

			(i) during the Delivery Phase, certified by the OTS Independent Certifier under clause 8.5(a)(ii)B.2); or (ii) during the Operations Phase, submitted to TfNSW's Representative and the time specified in clause 8.5(b) has expired without TfNSW's Representative having issued a notice under that clause during that time, (as applicable). (b) During the Delivery Phase, if the OTS Independent Certifier does not, in respect of a Project Plan referred to in clause 15.1(b)(i), either certify or reject the Project Plan within the 20 Business Day period referred to in clause 8.5(a)(ii), OpCo may use the Project Plan at OpCo's own risk.	
93)		11.5	Environmental compliance OpCo must: (a) (no improper use of NWRL Site or Extra Land): not use the NWRL Site or Extra Land, or allow OpCo's Contractors to use the NWRL Site or Extra Land, so that: (i) any hazardous substance is abandoned or dumped on the NWRL Site or Extra Land; (ii) any hazardous substance is handled in a manner which is likely to cause an Environmental Hazard; or (iii) any other substance is released from, deposited to, or emanates from, the NWRL Site or Extra Land such that a state of Contamination occurs; (b) (be environmentally responsible): at all times carry out, and ensure that OpCo's Contractors carry out, OpCo's Activities in an environmentally responsible manner, in accordance with Good Industry Practice, and so as to protect the Environment and keep the NWRL Site in a good and safe condition; (c) (comply with Environmental laws): without limiting clause 6 (Law and Approvals): (i) comply with, and ensure that OpCo's Contractors in performing OpCo's Activities comply with: A. all laws relating to the Environment; B. the Planning Approvals; and C. all Environmental Notices; and (ii) obtain and comply with all requirements of, and ensure that OpCo's Contractors in performing OpCo's Activities obtain and comply with all requirements of, any Approvals required in order to release or emit anything from the NWRL Site into the air or water or onto the ground or otherwise into the Environment or to emit any substantial noise or vibrations; (d) (Corporate Environmental Management System): have a Corporate	Section 6 Section 5.10 Section 4.4

			Environmental Management System which complies with the law and is otherwise in accordance with the New South Wales Government Environmental Management System Guidelines (3rd Edition) (August 2013); (e) (notification): immediately notify TfNSW in writing as soon as OpCo: (i) becomes aware of any non-compliance with the requirements of any law or Approval regarding the Environment, or any Environmental Document, in the performing of OpCo's Activities; (ii) becomes aware of any information, fact or circumstance where, if TfNSW were to be aware of such information, fact or circumstance, TfNSW would be required to notify any Authority of that information, fact or circumstance pursuant to any law relating to the Environment (without limiting any other obligation of OpCo in relation to the information, fact or circumstances); or (iii) notifies any Authority of any matter pursuant to any law relating to the Environment, in which case OpCo must provide to TfNSW a copy of such notification and of any subsequent correspondence with the Authority in relation to the subject of the notification; and (f) (indemnity): indemnify TfNSW against any Loss incurred by TfNSW arising out of or in any way in connection with an Environmental Notice received by TfNSW to the extent that it arises out of or in connection with any Contamination: (i) for which OpCo is responsible under this deed; or (ii) that occurs as a result of a breach by OpCo of this deed.	Section 6.3 and 7.1.2
94)		11.7	OpCo: (a) must prepare the Environmental Management Plans in accordance with the requirements applicable to an "Environmental Management Plan" set out in the New South Wales Government Environmental Management System Guidelines (3rd Edition) (August 2013); (b) must comply with, and ensure that OpCo's Contractors in performing OpCo's Activities comply with, the Environmental Management Plans; and (c) will not be relieved from compliance with any of its obligations under this deed or from any of its liabilities whether under this deed or otherwise according to law as a result of: (i) compliance with the Environmental Management Plans; (ii) any audits or other monitoring by TfNSW's Representative of OpCo's compliance with the Environmental Management Plans; or	Section 1.3 Section 5.8 Section 6

			(iii) any failure by TfNSW's Representative, or anyone else acting on behalf of TfNSW, to detect any non-compliance including where any failure arises from any negligence on the part of TfNSW's Representative or other person.	
95)	Exhibit 1 - SPR Main Body	5.7(c)	OpCo must develop, implement and maintain a Construction Environmental Management Plan and an Operations Phase Environmental and Sustainability Plan	This Plan
96)	Exhibit 1 - SPR App 54	3.17(a)	The Construction Environmental Management Plans must identify how OpCo will comply with the environmental management requirements of the deed.	This Plan and Table
97)		3.17(b)	Further to the requirements of clause 8.3 of the Operative Provisions, OpCo must undertake the ongoing development, amendment and updating of the Construction Environmental Management Plan throughout the Term, taking into account: (i)changes to the Environment or generally accepted environmental management practices, new risks to the Environment, any pollution, Contamination or Changes in Law; (ii)changes in the design and construction process; (iii)design and construction processes which the existing Construction Environmental Management Plan does not address; (iv)any incidents arising from OpCo's Activities; and (v)requests or requirements of the Department of Planning and Infrastructure, Environment Protection Agency or any other Authority.	Section 1.7
98)		3.17(c)	The Construction Environmental Management Plan must consider and address the environmental issues, objectives and requirements that are identified in the TfNSW NWRL Construction Environmental Management Framework	Section 1.3
99)		3.17(d)	The Construction Environmental Management Plan must, as a minimum, address and detail	Note
100)			(i)the environmental management team structure, including key personnel, authority and roles of key personnel, lines of responsibility and communication, minimum skill levels of each role and interfaces with the overall project organisational structure;	Section 4
101)			(ii)management strategies for environmental compliance and review of the performance of environmental controls;	Section 6
102)			(iii)processes and methodologies for surveillance and monitoring;	Section 6.1
103)			(iv)processes for incident and emergency response	Section 7

104)			(v)a schedule of the environmental issues for each part of the Construction Site	See Construction Compound and Ancillary Facilities Management Plan
105)			(vi)processes for the development of environmental construction method statements;	Section 5.3
106)			(vii)processes and methodologies for monitoring, auditing, corrective action and reporting on environmental performance including environmental compliance tracking	Section 6
107)			(viii)processes for identifying the need for, and undertaking consistency assessments against Environmental Documents, including the role of TfNSW;	Section 6.5
108)			(ix)site induction information to be provided to the Civil Works Contractor's personnel and OpCo Staff	Section 8.1
109)			(x)mechanisms, timing and processes for obtaining and managing Environment Protection Licenses in relation to those already obtained by the Civil Works Contractors; and	Section 3.6
110)			(xi)interfaces with other Project Plans	Section 1
111)		3.17(e)	(e)The Construction Environmental Management Plan must include, as sub-plans, the following plans that are required by the Environmental Documents: (i)Construction Compound and Ancillary Facilities Management Plan; (ii)Construction Noise and Vibration Management Plan; (iii)Construction Traffic Management Plan; (iv)Construction Soil and Water Management Plan; (v)Construction Heritage Management Plan; (vi)Construction Flora and Fauna Management Plan; and (vii)Construction Air Quality Management Plan.	Refer to Environmental Sub Plans and Section 5.4
ECRL Conversion Determination Report				
112)	Conditions of Approval	1	Terms of Approval a) The Project shall be carried out generally in accordance with the: i) Conditions of Approval (CoA); ii) Environmental Impact Assessment (EIA); iii) The Construction Environmental	Section 3.2

			Management Framework v1 .4; and iv) The Overarching Stakeholder and Community Involvement Plan. b) In the event of an inconsistency, the document hierarchy listed above will prevail to the extent of the inconsistency. The Environmental Impact Assessment for this Project comprises the following documents: • Review of Environmental Factors (Parsons Brinkerhoff, 10 October 2014) • Submissions Report (Parsons Brinkerhoff, 5 February 2015)	
113)		2	Statutory Requirements These CoA do not relieve the Proponent of the obligation to obtain all other licences, permits, approvals and landowner permissions from all relevant authorities or landowners as required under any other Act for the Project. The Proponent shall comply with the terms and conditions of such licences, permits, approvals and permissions	Section 3.2 Section 3.3
114)		9	a) Prior to the commencement of construction, Transport for NSW (TfNSW) shall make available an Environmental Representative (ER) independent of the design and construction personnel of the Project, for the duration of the construction period for the Project. b) The ER shall provide advice to TfNSW in relation to the environmental compliance and performance of the Project. The ER shall have responsibility for: i) considering and advising the Proponent on matters specified in these conditions and compliance with such; ii) reviewing and where required by TfNSW, providing advice on the Project's induction and training program for all persons involved in the construction activities and monitoring imp1ementation; iii) undertaking quarterly reviews of the Project's environmental activities to evaluate the implementation, effectiveness and level of compliance of on-site construction activities with authority approvals and licences, the CEMP and associated plans and procedures, including carrying out site inspections weekly (or as required by TfNSW); iv) reporting monthly to TfNSW (or as required by TfNSW); v) issuing a recommendation to the Proponent for work to stop immediately, if in the view of the ER circumstances so require; vi) require reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts; vii) reviewing corrective and preventative actions to ensure the implementation of recommendations made from the audits and site inspections; viii) providing reports to the Proponent on matters relevant to the carrying out of the ER role as necessary; ix) review and approve updates to the CEMP and other applicable management plans identified in the conditions of this approval; and x) undertaking frequent inspections of site activities as required by TfNSW.	Section 4.6
115)		10	a) The Proponent shall prepare an Environmental Report which addresses the following matters: i) compliance with the CEMP and these CoA; ii) compliance with any approvals or licences issued by relevant authorities for construction of the Project; iii) updates to the existing NWRL Compliance Tracking Program including documentation of evidence of compliance; iv)	Section 6.2

			implementation and effectiveness of environmental controls. The assessment of effectiveness should be based on a comparison of actual impacts against performance criteria identified in the CEMP; v) environmental monitoring results, presented as a results summary and analysis; vi) details of any review and amendments to the CEMP resulting from construction during the reporting period; and vii) any other matter as requested by TfNSW. b} The Proponent shall: i) submit a copy of the Environmental Report to the ER and TfNSW for review; and ii) as a minimum submit the report quarterly in line with the existing NWRL Compliance Tracking Program reports; and iii) provide 6-monthly summaries of the Environmental Report on the existing website.	
116)		11	Environmental Induction Prior to the commencement of construction, all contractors shall be inducted by the Proponent on the key project interfaces and associated environmental risks and procedures.	Section 8.1
117)		12a	Construction Environmental Management Plan a) Prior to commencement of construction the Proponent shall prepare and implement a CEMP that shall: i) comply with the conditions of this approval, conditions of any licences, permits or other approvals issued by government authorities for the Project, all relevant Acts and Regulations and accepted best practice management. A compliance matrix must be Included that lists all relevant requirements and references where in the CEMP they are addressed;	This Plan Section 3 Annexure A
118)			ii)be prepared in accordance with: • the EIA and the management and mitigation measures therein; • the Guideline for Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2004); and • the Construction Environmental Management Framework v1.4 (TfNSW).	Section 3.5
119)			iii) references any sub-plans which are required by this approval or which are identified as being required under the Construction Environmental Framework v1 .4 (TfNSW).	Section 5.4
120)		12b	The Proponent shall: i) consult with government agencies and relevant service/utility providers as part of the preparation of the CEMP;	Section 3.9
121)			ii) submit a copy of the CEMP and associated sub-plans to the ER for review. The ER is to be given a minimum period of 7 days to review and endorse the CEMP	Section 2.4.2

122)			iii) review and update the CEMP at a minimum of 6-monthly intervals, and in response to any actions identified as part of the ER's activities; and	Section 1.7
123)			iv) updates to the CEMP and associated sub-plans shall be made within 7 days of the completion of the review or receipt of actions identified by the ER review of the document	Section 1.7
124)		12c	The CEMP and associated sub-plans must be approved by TfNSW at least 14 days prior to the commencement of any construction work associated with the Project.	Section 2.4.2
Norwest Pedestrian Link Determination Report				
125)	Conditions of Approval	1	Terms of Approval a) The Project shall be carried out generally in accordance with the: • Environmental Impact Assessment; • Conditional of Approval; • The Construction Environmental Management Framework v1.3; and • The Overarching Stakeholder and Community Involvement Plan b) In the event of an inconsistency between the Conditions of Approval (CoA) and the Environmental Impact Assessment (EIA), the CoA will prevail to the extent of the inconsistency. The Environmental Impact Assessment for this Project comprises the following documents: • *Review of Environmental Factors (Parsons Brinckerhoff – 4 June 2015)* • *Submissions Report (Parsons Brinckerhoff – September 2015)*	Section 3.2
126)		2	Statutory Requirements These CoA do not relieve the Proponent of the obligation to obtain all other licences, permits, approvals and landowner permissions from all relevant authorities or landowners as required under any other Act for the Project. The proponent shall comply with the terms and conditions of such licences, permits, approvals and permissions.	Section 3.2 Section 3.3
127)		3	Compliance a) The Proponent shall ensure that construction works and operation will be undertaken in accordance with the management plans developed for the Operations, Trains and Systems (OTS) Contract as relevant;	

			b) Any strategy, plan, program (or the like) incorporates mitigation measures identified in the documents listed in Condition 1, as relevant; c) The Proponent shall ensure that employees, contractors and sub-contractors are aware of, and the need to comply with, the conditions of this approval relevant to their respective activities; d) The Proponent shall development and implement a program for independent environmental auditing in accordance with ISO 09011:2003 – Guidelines for Quality and / or Environmental Management Systems Auditing	Refer to Environmental Sub Plans Section 8.1 Section 6.4
128)		19	Environmental Representative Prior to the commencement of construction, TfNSW shall make available an Environmental Representative (ER) independent of the design and construction personnel of the Project, for the duration of the construction period for the Project	Section 4.6
129)		20	Construction Environmental Management Plan The Project will be incorporated into and managed in accordance with the existing Construction Environmental Management Plan (CEMP) for the OTS Contract of Sydney Metro Northwest. The ER will monitor compliance against the CEMP.	This Plan Section 4.6
130)		21	Environmental Induction Prior to the commencement of construction, all contractors shall be inducted by the Proponent on the key project interfaces and associated environmental risks and procedures	Section 8.1
131)		31	Incident Reporting The Proponent shall manage and report upon any incidents in accordance with the existing TfNSW Incident Management Plans	Section 7.1
33kV Underground Feeder Powerline Determination Report				
132)	Conditions of Approval	1	Terms of Approval The Project shall be carried out generally in accordance with the: • SSI-5414 and associated conditions of approval; • The Willoughby to North Chatswood 33kV underground power line Review of • Environmental Factors; • The Willoughby to North Chatswood 33kV underground power line Submissions • Report – specifically Table 6.1 mitigation measures;	Section 3.2

			• The Willoughby to North Chatswood 33kV underground power line Conditions of • Approval (this document); • The Construction Environmental Management Framework; and • The Overarching Stakeholder and Community Involvement Plan.	
133)		2	Terms of Approval In the event of an inconsistency between the Conditions of Approval (CoA) and the Review of Environmental Factors (REF), the CoA will prevail to the extent of the inconsistency. The Review of Environmental Factors for this Project comprises the following documents: • Review of Environmental Factors (Parsons Brinckerhoff – October 2015) • Submissions Report (Parsons Brinckerhoff – March 2016)	Section 3.2
134)		3	Statutory Requirements These CoA do not relieve the Proponent of the obligation to obtain all other licences, permits, approvals and landowner permissions from all relevant authorities or landowners as required under any other Act for the Project. The Proponent shall comply with the terms and conditions of such licences, permits, approvals and permissions.	Section 3.2 Section 3.3
135)		4	The Proponent shall ensure that construction works and operation will be undertaken in accordance with the management plans developed for the Operations, Trains and Systems (OTS) Contract as relevant;	Refer to Environmental Sub Plans
136)		5	Any strategy, plan, program (or the like) incorporates mitigation measures identified in the documents listed in Condition 1, as relevant;	Refer to Environmental Sub Plans
137)		6	The Proponent shall ensure that employees, contractors and sub-contractors are aware of, and the need to comply with, the conditions of this approval relevant to their respective activities;	Section 8.1
138)		7	The Proponent shall develop and implement a program for independent environmental auditing in accordance with ISO 19011:2003 - Guidelines for Quality and / or Environmental Management Systems Auditing.	Section 6.4

Annexure B NRT Environment and Sustainability Policy

Environmental & Sustainability Policy

northwest rapid transit

Northwest Rapid Transit's (NRTs) policy is to integrate governance, environmental, social and economic sustainability considerations into decision-making at every level of the Project.

NRT staff and contractors will be empowered to, and held accountable for, enhancing positive environmental, social and economic outcomes wherever possible, while minimising adverse impacts, resource use and embodied impacts.

NRT will be proactive in identifying and implementing value for money opportunities that will ensure that NRT delivers sustainable outcomes throughout the design, procurement, construction and operations phases of the Project.

NRT is committed to

- Demonstrating sustainability leadership in rail infrastructure
- Building in resilience to potential climate change impacts
- Minimising operational, construction and embodied carbon emissions
- Promoting the liveability benefits of urban renewal and consolidation
- Stimulating community and economic benefits of residual land development
- Improving public transport patronage by leveraging connectivity and interchange capabilities
- Delivering enhanced urban design and passenger comfort
- Providing community benefits through transport amenity and reliability, healthy living, community safety, community engagement, accessible design and social inclusion
- Optimising above and below ground land take requirements
- Minimising potable water consumption
- Minimising materials use and waste.
- Protecting and promoting local heritage through appropriate design, planning and management controls
- Minimising pollution and environmental harm
- Influence contractors, subcontractors and suppliers to adopt sustainable practices
- Achieving Excellent ratings under the ISCA IS Rating Tool for Design, As-Built and Operations
- Maximising the recyclability of the Rolling Stock
- Refining NRT systems and processes to ensure that sustainability is integrated into day-to-day operations
- Periodically reviewing and evaluating NRT Sustainability and Management Systems to ensure continual improvement
- Implementing a sustainability education and capacity building program for employees, contractors and delivery partners to increase the understanding of sustainability issues, facilitate the achievement of sustainability objectives and promote behavioural change.
- Working proactively with key Government Regulatory Agencies, TfNSW, Business, Community Stakeholders to identify sustainability issues and opportunities, including ways to future-proof the Project in the face of a changing climate and a growing population.
- Drawing on international best practice through global industry and professional network.

Mark Elliott
Chief Executive Officer
Northwest Rapid Transit

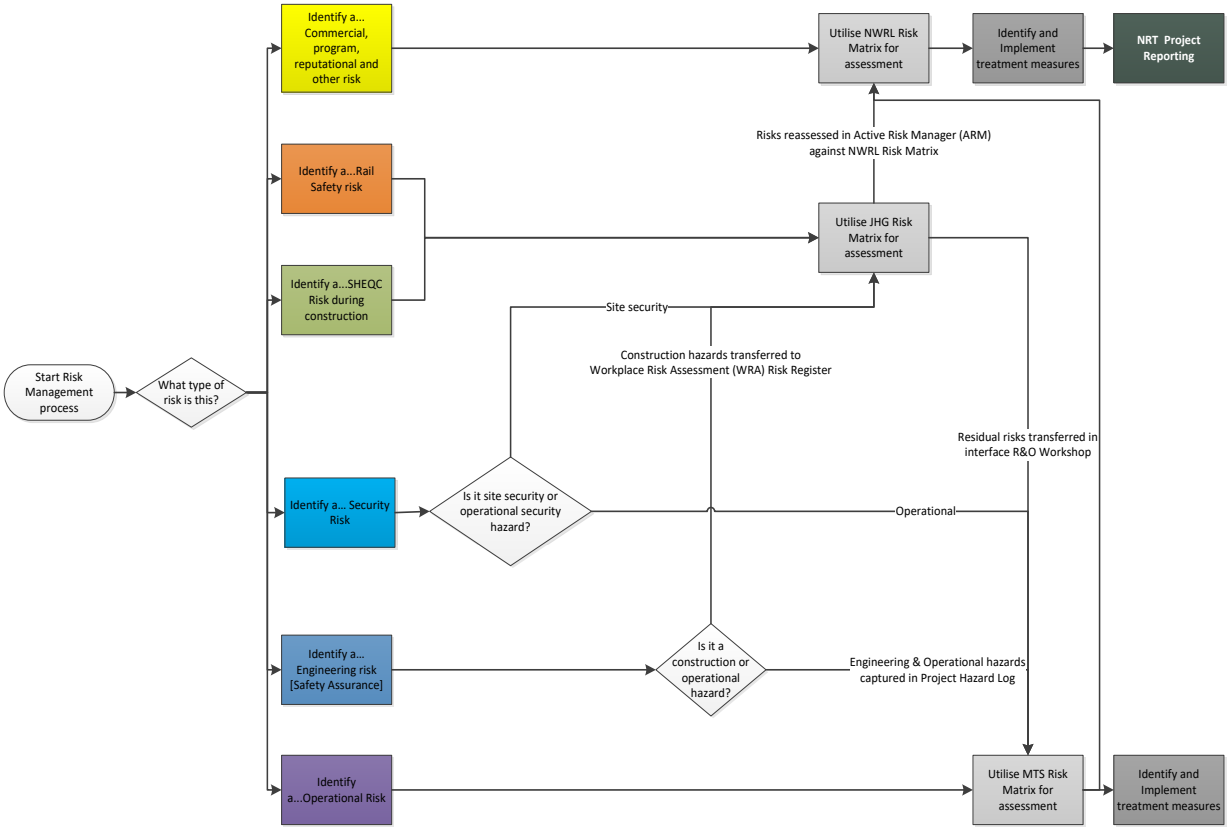
April 2015

NRT Ref: PIMS No: PIMS-PO-05

Aconex No: NWRL-OTS-NRT-PRD-PM-POL-910147

Annexure C Environmental Risk Register

Flowchart



Requirements

As John Holland Propriety Limited (JHPL) are Principal Contractor during Delivery Phase of the project, there is a requirement to utilise the JHPL Risk Matrix.

To meet risk reporting requirements in Appendix 53 and 54, NRT will utilise the risk matrix from the NWRL Risk Standard.

MTS are required to develop their own risk matrix, based around the MTR risk matrix.

Description

Due to the requirements outlines above, NRT has a requirement to maintain a number of risk matrices. To avoid a process risk (i.e. “what template and risk matrix am I [NRT staff member] meant to use?”); NRT has developed a simple flowchart for NRT staff. The first stage of the process is vital – this is ensuring that the user clearly identifies the correct categorisation of the risk. This identifies what risk matrix to be used and if the risk will be reassessed and reported using the NWRL Risk Matrix in the Monthly Progress Report. By developing a clear set of rules, the reassessment process becomes a simple task performed by the risk management software system (Active Risk Manager). A description of the risk categories are defined as:

- For any operational or security risk, NRT will utilise the MTS risk matrix across the life of NRT – from delivery and operations phases.

- For Engineering & Operational risks identified through the Safety Assurance process, the risks will be assessed against the MTS risk matrix. Where a Safety Assurance workshop identifies a construction risk, this will be transferred to the Workplace Risk Assessment (WRA) and assessed against the JHPL Risk Matrix.
- For Rail Safety and Safety Health Environment Quality & Community (SHEQC) risks during construction, this will be assessed against the JHPL Risk Matrix.

NWRL Risk Matrix

Any risk assessed using the JHPL Risk Matrix will be reassessed in ARM against the NWRL Risk Matrix. This is to ensure consistent reporting of risk to senior management and to allow NRT to meet its reporting obligations. The conversion rules in Table 13

NWRL RISK EVALUATION MATRIX							
Risk Ratings **A - Very High** **B - High** **C - Medium** **D - Low**			**CONSEQUENCE**				
			Insignificant	Minor	Moderate	Major	Severe	Catastrophic
			C6	C5	C4	C3	C2	C1
LIKELIHOOD	Almost Certain	L1	C	B	B	A	A	A
	Very Likely	L2	C	C	B	B	A	A
	Likely	L3	D	C	C	B	B	A
	Unlikely	L4	D	D	C	C	B	B
	Very Unlikely	L5	D	D	D	C	C	B
	Almost Unprecedented	L6	D	D	D	D	C	C

JHPL Risk Matrix

Likelihood rating						
	Almost Certain	D	C	B	A	A
	Likely	D	D	C	B	A
	Possible	E	D	C	C	B
	Unlikely	E	E	D	C	B
	Rare	E	E	D	D	C
		1	*2*	*3*	*4*	*5*
		Consequence rating				

MTS Risk Matrix

					CONSEQUENCE						
					7	6	5	4	3	2	1
					Trivial	Negligible	Marginal	Serious	Critical	Catastrophic	Disastrous
		Staff/Contractor Safety	Fatality						<5	5 or more	
			Major Injury					<5	5 or more		
			Minor Injury	with ≥ 3 days sick leave			<5	5 or more			
				with < 3 days sick leave		<5	5 or more				
		Passenger/Public Safety	Fatality						<5	5-50	51-500
			Major Injury					<5	5-50	51-500	501 - 5000
			Minor Injury				<5	5-50	51-500	501 - 5000	>5000
FREQUENCY	A	Few times per week or more	≥ 100 /year		R3	R1	R1	R1	R1	R1	R1
	B	Few times per month	≥ 10 - <100 /year		R4	R2	R1	R1	R1	R1	R1
	C	Few times per year	≥ 1 - <10 /year		R4	R2	R2	R1	R1	R1	R1
	D	Few times in 10 years	≥ 0.1 - <1 /year		R4	R3	R2	R1	R1	R1	R1
	E	Once since operation	≥ 1E-2 - <1E-1 /year		R4	R3	R3	R2	R1	R1	R1
	F	Unlikely to occur	≥ 1E-3 - <1E-2 /year		R4	R4	R3	R3	R2	R1	R1
	G	Very unlikely to occur	≥ 1E-4 - <1E-3 /year		R4	R4	R4	R3	R3	R2	R1
	H	Remote	≥ 1E-5 - <1E-4 /year		R4	R4	R4	R4	R3	R3	R2
	I	Improbable	≥ 1E-6 - <1E-5 /year		R4	R4	R4	R4	R4	R3	R3
	J	Incredible	< 1E-6 /year		R4	R4	R4	R4	R4	R4	R3

Table 13 JHPL to NWRL Conversion Matrix

Rating	Occup Health &		Budget AU$		Time Schedule		Environment & Heritage""		Quality		Reputation and Community		Regulatory		Management Impact		Customer Experien	
	JHG	NWRL	JHG	NWRL	JHG	NWRL	JHG	NWRL	JHG	NWRL	JHG	NWRL	JHG	NWRL	JHG	NWRL	JHG	NWRL
6		Multiple fatalities and/or >20 major injuries/permanent disabilities/chronic disorder.		$100M+		18+		Irreversible large-scale environmental impact with loss of valued ecosystems.				Outrage – Material change in the public perception of the organisation.		Prosecution leading to imprisonment of TfNSW executive. Loss of operating licence		Catastrophic event with the clear potential to lead to the collapse of the organisation.		Extensive shutdowns or extended disruptions with economy-wide effects.
5	• Single fatality and/or • Serious or permanent injury to one or more people	Single fatality and/or 10-20 major injuries/permanent disabilities/chronic disorder.	• $<enter> (>10%) over project budget	$50M - $100M	• <enter> days/weeks/months (>5% program) over the critical path program	12	• Detrimental offsite impact with functional recovery in 5 to 10 years • Detrimental impact on one or more protected/endangered flora or fauna with functional recovery	Long-term environmental impairment in neighbouring or valued ecosystems. Extensive remediation required.	• Rework Costs greater than 5% of contract value		• National press reporting for a day • Consistent and extreme local negative media attention (month) • Significant adverse community impact & condemnation • Stakeholder action will prevent	Disclosure – Extended negative state/national media coverage. Confidence and trust are damaged but recoverable at considerable cost, time and staff effort.	• Major breach of regulation with punitive fine. • Significant litigation involving many weeks of senior John Holland management time. • Shut down of whole project for short period due to regulatory breach.	Substantial breach resulting in prosecution, fines and/or litigation. Licence or accreditation restricted or conditional affecting ability to operate.	• Major event that requires the implementation of crisis and contingency plans at a project level. • Will require the involvement of John Holland managers and will take up the time	Severe event which requires extensive management effort but can be survived.		Short duration shutdowns or substantial disruptions affecting multiple transport modes with sector-wide cascading effects.
4	• Serious or permanent injury	1-10 major injuries requiring hospitalisation and numerous days lost, or medium-term occupational illness.	• $<enter> to $<enter> (5% to 10%) over project budget	$10M - $50M	• <enter> to <enter> days/weeks/months (3% to 5% of program) over the critical path program	4	• Detrimental offsite impact with functional recovery in 1 to 5 years • Detrimental impact on one or more protected/endangered flora or fauna with functional recovery in 1 to 5 years	Impacts external ecosystems and considerable remediation is required.	• Rework Costs less than or equal to 5% contract value but greater than 250K		• Consistent local negative media attention (weeks) • Considerable and prolonged adverse community impact and dissatisfaction publicity expressed. • Stakeholder action will prevent achievement of major elements of the Project. • Disciplinary action likely	Concern – Short-term negative state/national media coverage. Confidence and trust are diminished but are recoverable with time, staff effort and additional funding.	• Breach of regulation with investigation or report to authority with prosecution and/or moderate fine possible. • Shut down of part of a project due to regulatory breach	Major breach resulting in enforcement action and/or prohibition notices. Substantial fine and no disruption to services.	• Significant event that can be managed with careful attention. Will take some project managers much time over several weeks. • Local operational emergency and crisis response plan implemented	Major event which can be absorbed, but substantial management effort is required.		Major disruptions affecting operations of one transport mode with network-wide effects or one or more other modes of transport.
3	• Alternate work or lost time injury	Single recoverable lost time injury or illness, alternate/restricted duties injury, or short-term occupational illness.	• $<enter> to $<enter> (3% to 5%) over project budget	$1M - $10M	• <enter> to <enter> days/weeks/months (2% to 3% of program) over the critical path program	2	• Detrimental offsite impact with functional recovery within 1 year. • Detrimental impact on a protected/endangered flora or fauna with functional recovery within 1 year • Significant irreversible detrimental impact that is contained on-site	Short-term and/or well-contained environmental effects. Minor remedial actions probably required.	• Rework Costs less than or equal to 250K but greater than 100K		• Negative local media attention (days) • Sectional community impacts and concerns publicly expressed (days) • Stakeholder action will disrupt planned project activities. • Disciplinary action may be taken	Disappointment – Extended negative local/state media coverage. Confidence and trust dented but are quickly recoverable at modest cost within existing budget and resources.	• Legal issues due to non-compliances and breaches of regulation.	Moderate non-compliance. Subject to comment and monitoring from applicable regulator. Small fine and no disruption to services	• Local operation of contingency plan. • Will require some local management attention over several days.	An event, the impact of which can be absorbed but much broader management effort is required.		Serious disruptions affecting operation of one complete transport mode.
2	• Medical treatment	Illness or minor injuries requiring medical treatment.	• $<enter> to $<enter> (1% to 3%) over project budget	$100K - $1M	• <enter> to <enter> days/weeks/months (1% to 2% of program) over the critical path program	1	• Significant detrimental impact that is contained on-site and is fully reversible	Change from normal conditions within environmental regulatory limits and environmental effects are within site	• Rework Costs less than or equal to 100K but greater than 20K		• Brief negative local media coverage • Minor stakeholder complaints resolved by initial contact. • Employees warned only	Unease – Series of negative articles in local/state media. Confidence remains with some minor loss of goodwill or trust. Recoverable with little effort or cost. Some continuing scrutiny/attention.	• Technical breach of regulation.	Minor non-compliance with legal and/or regulatory requirement or duty. Investigation and/or report to authority.	• Will require some attention by local management.	An event, the impact of which can be absorbed but some additional management effort is required.		Minor disruptions affecting several parts of one transport mode.
1	• First aid injury	Illness, first aid or injury not requiring medical treatment.	• <$<enter> (<1%) over project budget	$0 - $100k	• <<enter> days/weeks/months (<1% of program) over the critical path program	<1	• Negligible detrimental impact that is contained on-site and is fully reversible	No appreciable changes to environment and/or highly localised event	• Rework Costs less than or equal to 20K		• No negative coverage • Complaints but no action required	Negative article in local media. No discernible reaction/apprehension. Goodwill, confidence and trust retained.	• Non compliant action	Low-level non-compliance with legal and/or regulatory requirement or duty by individuals or TfNSW.	• Impact of event absorbed through normal activity	An event, the impact of which can be absorbed as part of normal activity		Short duration disruptions affecting part of one transport mode.

Rating	JHG
Almost Certain	• >99% probability,
Likely	• 50 – 99% probability, or
Possible	• 20 – 50% probability,
Unlikely	• 1 – 20% probability, or
Rare	• <1% probability

Rating	NWRL
Almost	90% – 100%
Very likely	75% – 90%
Likely	50% – 75%
Unlikely	25% – 50%
Very Unlikely	10% – 25%
Almost Unprecendented	<10%

Resolution: percentage mid point of bands chosen and ARM to reassess.

NRT Evaluation and Rule

Impact	Assessment	Rule
Occup Health & Safety	JHG & NWRL aligned. Requirement to note if a 5 impact is selected if it is a fatality or multiple.	1 – 4 is the same for each matrix. A 5 on JHG will be a 5 or 6 in NWRL
Budget AU$	no concern	Dollar value inserted into either for reassessment.
Time Schedule	no concern	Day impact imported into either matrix for reassessment.
Environment & Heritage	Some clarification on JHG asssessment on impact band 2 to ensure consistency. A 5 to hold notes if irreversable.	1 – 4 is the same for each matrix. A 5 on JHG will be a 5 or 6 in NWRL
Quality	Not referenced in NWRL.	Will not be reassessed against NWRL matrix
Reputation and	Some discrepencies in impact band 4 or 5. If assessed, Project Risk Manager to review with the risk owner.	1 – 3 is the same for each matrix. Risk owner and risk manager to discuss JHG impacts 3, 4 or 5
Regulatory	JHG & NWRL aligned. Requirement to note if a 5 impact is selected if it is a fatality or multiple.	1 – 4 is the same for each matrix. A 5 on JHG will be a 5 or 6 in NWRL
Management Impact	JHG & NWRL aligned. Requirement to note if a 5 impact is selected if it is a fatality or multiple.	1 – 4 is the same for each matrix. A 5 on JHG will be a 5 or 6 in NWRL
Customer Experience	Not referenced in JHG.	If noted in effect (qualititative description) Project Risk Manager to review with risk owner.

MTS to NWRL Conversion Matrix

Impact and Probability

Rating	Band	NWRL
Almost Certain	6	90% – 100%
Very likely	5	75% – 90%
Likely	4	50% - 75%
Unlikely	3	25% – 50%
Very	2	10% – 25%
Almost Unprecedented	1	<10%

Rating		MTS Risk Matrix
Few times	A	≥ 100 /year
Few times per month	B	≥ 10 - <100 /year
Few times per year	C	≥ 1 - <10 /year
Few times in 10 years	D	≥ 0.1 - <1 /year
Occurrence operation	E	≥ 1E-2 - <1E-1 /year
Unlikely to occur	F	≥ 1E-3 - <1E-2 /year
Very unlikely to occur	G	≥ 1E-4 - <1E-3 /year
Remote	H	≥ 1E-5 - <1E-4 /year
Improbable	I	≥ 1E-6 - <1E-5 /year
Incredible	J	< 1E-6 /year

MTS	NWRL
A	6
B	6
C	6
D	5
E	4
F	3
G	3
H	2
I	1
J	1

Staff/Contractor

MTS	NWR
Disastrous	----
Catastrophic	6
Critical	6
Serious	4
Marginal	3
Negligible	3
Trivial	----

Passenger/Public

MTS	NWR
Disastrous	6
Catastrophic	6
Critical	6
Serious	5
Marginal	4
Negligible	----
Trivial	-----

Service

MTS	NWR
Disastrous	6
Catastrophic	6
Critical	5
Serious	4
Marginal	3
Negligible	2
Trivial	1

There is also a requirement to transfer Residual SHEQC and Rail Safety risks to MTS and for key operational risks to be included in the Key Risk Report in the Monthly Progress Report. Therefore, at a relevant point, an interface risk workshop will occur to transfer the risks into the MTS Risk Matrix. Where discrepancies between the two risks matrices occurs, like in the reassessment process from the JHPL Risk Matrix to the NWRL Risk Matrix, the Project Risk Manager and/or the relevant Safety Manager and risk owner will review the risk to ensure it is properly reassessed.

Table 14 Environmental Risk Register

ASPECT	KEY IMPACTS	CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES	RISK RATING AFTER MITIGATION
Planning and Approvals						
Breach of EPL and Planning Conditions	Regulatory action (prosecution, pins) Breach of deed requirements Reputation Non-compliance with sustainability certification Inflexibility in subsequent approval requests Delay to program	4	Likely	B	CEMP Training Suitably qualified Environment and Sustainability Team	C
Commencing work without approvals	Regulatory action (prosecution, pins) Breach of deed requirements Inflexibility in subsequent approval requests Delay to program	4	Likely	B	Approvals on master program Minor works approval and ER sign off Approvals strategy Suitably qualified Environment and Sustainability Team	D
Unforseen approvals requirements due to scope change	Delay to program Cost impact of program delay Non-compliance with sustainability certification	5	Possible	B	Approvals on master program Approvals strategy E&S involvement in design review	C
Biodiversity and Ecology						
Clearing without a permit and /or preclearance survey	Regulatory action (prosecution, pins) Breach of deed requirements Reputation Non-compliance with sustainability certification Impact to existing flora and fauna communities	4	Likely	B	Sensitive area maps Pre clearing checklist and survey Flora and Fauna Management Plan Inductions and Training Suitably qualified Environment and Sustainability Team Engagement of Ecologist	C

ASPECT	KEY IMPACTS	CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES	RISK RATING AFTER MITIGATION
Weed Management	Damage to EEC Additional weed management Unusable topsoil and mulch	2	Likely	D	Pre clearing checklist and survey Waste Management Plan Source segregation Weed management procedure	E
Damage to existing flora and fauna	Regulatory action (prosecution, pins) Breach of deed requirements Reputation Non-compliance with sustainability certification Impact to existing flora and fauna communities	2	Likely	D	Fencing and signage Sensitive area maps Inductions and training Ecological assessment	E
Grass fire	Damage to existing environment	2	Possible	D	Emergency Response Plan Hot work restrictions Keep appropriate buffer zones	E
Unexpected flora and fauna finds	Impact to flora and fauna communities	2	Possible	D	Inductions and training Unexpected finds procedure Regular inspections to identify any habitats	D
Transport and Traffic						
Traffic entering / leaving construction sites and compounds.	Air quality and noise impacts Increased local traffic Changes to local traffic conditions	2	Likely	D	Traffic Management Plan / TCP's Community consultation Inductions/training ROL's	E
Haulage	Air quality and noise impacts Increased local traffic Changes to local traffic conditions	2	Likely	D	Designated haulage routes Traffic Management Plan / TCP's Community consultation Truck driver induction ROL's	E

ASPECT	KEY IMPACTS	CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES	RISK RATING AFTER MITIGATION
Road closure	Changes to local traffic conditions Increased local traffic Community complaints	2	Likely	D	Traffic Management Plan / TCP's Detour signage Community consultation Inductions/training ROL's	D
Noise and Vibration						
Unapproved works outside hours	Regulatory action (prosecution, pins) Breach of deed requirements Reputation Community complaints	3	Likely	C	Approvals on master program OOHW procedure EPL and DP&E conditions Construction Noise and Vibration Management Plan Suitably qualified Environment and Sustainability Team	D
Cumulative / daytime construction noise	Community complaints Reputation	2	Possible	D	Coordination with other developments Community Consultation Noise Monitoring to confirm modelling	D
Vibration impacts of heavy plant	Community complaints	1	Unlikely	E	Coordination with other developments Community Consultation Vibration Monitoring as needed	E
Non-Indigenous heritage and archaeology						
Unexpected archaeological finds	Delay to program Damage to relics	3	Rare	D	Construction Heritage Management Plan Inductions/Training Unexpected finds procedure EIS assessment	E

ASPECT	KEY IMPACTS	CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES	RISK RATING AFTER MITIGATION
Indigenous heritage and archaeology						
Impact with known Indigenous Heritage Sites	Delay to program Damage to relics	3	Rare	D	Construction Heritage Management Plan Inductions/Training TfNSW additional assessments	E
Unexpected finds	Delay to program Damage to relics	3	Rare	D	Construction Heritage Management Plan Inductions/Training Unexpected finds procedure EIS assessment Further assessments on 6 properties not completed during EIS	E
Further assessment at RTRF site	Delay to program due to salvage and process (i.e. consultation, process)	3	Rare	D	Construction Heritage Management Plan Engagement of experienced Heritage Consultant Further consultation with aboriginal groups Unexpected finds procedure EIS assessment Further assessments on 6 properties not completed during EIS	E
Soil and Water						
Sediment Runoff	Pollution of water Impact on aquatic ecology Sedimentation of waterways Regulatory action Community impacts	3	Almost certain	B	Soil and Water Management Plan Erosion and Sediment Control Plans Training / Inductions Inspection and maintenance of controls Suitably qualified Environment and Sustainability Team	C

ASPECT	KEY IMPACTS	CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES	RISK RATING AFTER MITIGATION
Unapproved discharge of water from site	Pollution of water Impact on aquatic ecology Sedimentation of waterways Regulatory action Community impacts	3	Almost certain	B	Discharge permit Sediment basin design / maintenance Soil and Water Management Plan Erosion and Sediment Control Plans Training / Inductions Inspection and maintenance of controls Suitably qualified Environment and Sustainability Team Reuse water on site	C
Unexpected finds of contaminated soil or hazardous materials	Unsuitable for use as fill material Disposal costs Program delay Air quality impacts on community	2	Possible	D	Preparation of contamination assessment Soil and Water Management Plan Waste Management Plan Spoil Management Plan	E
Chemical / hazardous materials storage/ use	Pollution of water Pollution of soil	4	Almost Certain	B	Designated storage areas with bunding Refuelling procedures Spill kits Training and induction Emergency Response Plan Signage and MSDS	C
Interception of groundwater	Pollution of water Impact on groundwater dependent ecosystems Drawdown Increased salinity	1	Unlikely	E	Station boxes and tunnels are fully tanked Groundwater monitoring Minimize deep excavation works	E

ASPECT	KEY IMPACTS	CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES	RISK RATING AFTER MITIGATION
Visual Amenity						
Visual Impacts	Light pollution Temporary hoarding Land clearing Land use change from rural to a construction site Graffiti	1	Almost Certain	D	Site hoarding Directional lighting Landscaping Retaining vegetation where possible Community Liaison Plan	D
Social and Economic impacts						
Local economy	Impact on businesses Local employment	2	Unlikely	D	Sustainability Management Plan Sustainable Workforce Targets Source materials locally	E
Greenhouse Gas & climate change						
Increased energy usage	Increased costs Increased greenhouse GHG emissions contributing to climate change	3	Almost Certain	B	Construction programming (e.g. cut to fill) Plant maintenance and service Energy efficient plant and equipment Use of local suppliers Alternative fuel use Efficient and optimised design Offsetting electricity use by 20%	D
Air Quality						
Dust generation	Community impacts Regulatory action Air pollution Costs of cleaning cars, houses, pools, etc.	2	Almost Certain	C	Air Quality Management Plan Inductions/training Dust suppression (water carts etc.) Road / hardstand design and maintenance Street sweepers	D

ASPECT	KEY IMPACTS	CONSEQUENCE	LIKELIHOOD	RISK RATING	MITIGATION MEASURES	RISK RATING AFTER MITIGATION
Exhaust emissions	Community impacts Air pollution	1	Possible	E	Inductions/training Turn off vehicles when not being used	E
Waste						
Incorrect disposal	Regulatory action (prosecution, pins)	4	Possible	C	Waste classification procedure Environment Manager/coordinator to review licence of receiving facilities All waste to be classified (where applicable) prior to disposal	E
Excess waste generation	Non-compliance with sustainability certification	3	Possible	C	Waste reduction initiatives to be implemented as per the sustainability management plan Provision of bins to segregate waste streams Training and toolbox talks on waste reduction practices	D

Annexure D Consultation Record

Phase 1 Works CEMP

Condition of Approval SSI-5931	Condition of Approval SSI-5414	CEMP Document	Agency Consultation	Status	Comments
E29(b)	E35(b)	Construction Noise and Vibration Management Plan	Environment Protection Authority	Response received 15 January 2015	EPA has notified by email (15/1/15) that they do not review and endorse management plans and as such will not be providing comment on the plan.
E29(c)	E35(c)	Construction Traffic Management Plan	Roads and Maritime Services	Submitted 28 November 2014	No comment received as at 12/02/15.
			Blacktown City Council	Submitted 3 December 2014	Council has notified verbally that this plan went to their 3 February 2015 Traffic Committee Meeting and would be forwarded to the full Council meeting for approval on the 18 February 2015.
			Traffic and Transport Liaison Group	Submitted 12 December 2014	No comment received from the Group as at 12/02/15. Hills Shire Council comments have been included in the CTMP and nominated to be addressed in the revised version of the CEMP that will address Phase 2 works.
E29(d), C10	E35(d), C37	Construction Soil and Water Quality Management Plan (including Water Quality Monitoring Program)	Environment Protection Authority	Response received 15 January 2015	EPA has notified by email (15/1/15) that they do not review and endorse management plans and as such will not be providing comment on the plan.
			NSW Office of Water	Response received 16 December 2014	The Office of Water has reviewed these plans and is satisfied that they adequately address potential impacts to water resources from the proposed activities
			Blacktown City Council	Submitted 3 December 2014	No comment received as at 12/02/15.
			DPI (Fishing and Aquaculture)	Response received 1 December 2104	DP&I Fishing and Aquaculture has reviewed these plans and supports what is proposed with no suggested changes
E29(e)	E35(e)	Construction Heritage Management Plan	Office of Environment and Heritage	Submitted 9 December 2014	OEH have notified that they will undertake a review of the Plan and reply by 9 January 2015. No comment received as at 12/02/15
			Blacktown City Council	Submitted 3 December 2014	No comment received as at 12/02/15
			Indigenous Stakeholders	Response received 18 December 2015	Comments received have been detailed in the Construction Heritage Management Plan
E29(f), C1	E35(f), C23	Construction Flora and Fauna Management Plan (including Ecological Monitoring Program)	Office of Environment and Heritage	Submitted 9 December 2014	OEH have notified that they will undertake a review of the Plan and reply by 9 January 2015. No comment received as at 12/02/15
			Blacktown City Council	Response received 15 December 2014	Comments received have been detailed in the Construction Flora & Fauna Management Plan
C9	C35	Soil Salinity Report	NSW Office of Water	Report submitted to Office of Water on 9 February 2015	No comment received as at 12 February 2015
			Office of Environment and Heritage	Report submitted to OEH on 9 February 2015	No comment received as at 12 February 2015

ECRL Conversion CEMP Revision

Condition of Approval ECRL Determination Report	CEMP Document	Agency Consultation	Status	Agency Comments	NRT Response
12(b)i	Construction Environmental Management Plan and sub plans	Ryde Council	Comment received 10th August 2015	**Compounds** The plans suggest that it is not proposed at this stage to establish any ancillary work sites in Ryde though some potentials site have been identified if needed. Conditions require that the sites are re-instated to their previous condition prior to being set up and that contamination will be minimised. The plans should be clear that should any ancillary sites be established and are then used for potentially contaminating material, spoil or equipment that as a part of the decommissioning process the site is validated to ensure that no contamination remains	Noted. It is proposed to utilise the existing Epping Services Facility Compound which would be rehabilitated in accordance with the requirements in the Construction Compound and Ancillary Facility Management Plan
				Traffic Council supports the Traffic Management Plan (sub-plan) aspects of the Construction Environmental Management Plan on the following proviso: •That any action to enact the following traffic control plans associated with “Chiller” installations (in particular transportation to site) shall be undertaken when traffic impacts along the local roads are at the minimum, that is out of hours and this will be usually 9pm to 5am (except Thursday nights due to late night trading). On Thursdays only the hours of work should be 10pm to 5am. •That if requested by Council a workshop be undertaken for the purposes of informing Ryde Councillors of the key project milestones, likely challenges and how the plan (CEMP) manages the associated risks with its sub-plans.	Noted. Any out of hours deliveries would be carried out in accordance with the construction noise and vibration management plan and out of hours procedure where permitted by the EPL for oversize deliveries or for safety reasons. Agreed. NRT would brief the council if requested on these issues.
				Heritage: In summary, no issues are raised with regards to heritage for those portions of the project situated within the City of Ryde LGA. The Heritage Management Plan makes reference to the principles of the Australia ICOMOS Burra Charter, which is widely accepted as the foundation for all assessments of Aboriginal and historic heritage places. In reviewing the HMP, it is apparent that the principles of the Burra Charter have been applied and the project will be guided by well-founded conservation principles. This proposal can be grouped into two categories; works above ground and works below ground. It is noted that the bulk of the proposed above-ground works are located within the Blacktown LGA and only below-ground works are proposed within the Ryde LGA. The below-ground works within the Ryde LGA are understood to essentially involve the refurbishment and conversion of the existing Epping to Chatswood Rail tunnel to accommodate the new Northwest Rapid Transit. Whilst no design documentation has been supplied at this stage, it is understood that these works will largely maintain the ‘status quo’ with regards to the existing tunnelling, stations and above-ground access points to stations at Macquarie Park and North Ryde. Section 6.2 identifies heritage items which will be potentially affected by the ECRL Conversion Works. Within the City of Ryde, only two items of heritage significance have been identified, including: Macquarie University (ruins) Northern Suburbs Cemetery. With regards to the Macquarie University Ruins, the assessment states that the ruins are located ‘outside the 250m buffer zone and there are therefore no constraints on the fabric of the heritage item or archaeological potential of the heritage item’. With regards to the Northern Suburbs Cemetery, the assessment states that there are no anticipated or foreseen constraints, and that ‘there is no potential for non-indigenous archaeological remains pre-dating the cemetery with the 250m buffer. There are clear visual links between the cemetery and the concourse of the railway station, although this is screened in places by vegetation.’	Noted.

Condition of Approval ECRL Determination Report	CEMP Document	Agency Consultation	Status	Agency Comments	NRT Response
				In principle, it is agreed that the proposed Conversion Works would have little or no visual or physical impacts on these heritage items.	
	Construction Environmental Management Plan and sub plans	Sydney Water	Comment received 4th August, 2015	Sydney Water advised that they have no further comment on the CEMP.	
	Construction Environmental Management Plan and sub plans	Roads and Maritime Services	Submitted 27th July, 2015	No response received as at 26th August, 2015	
	Construction Environmental Management Plan and sub plans	Hornsby Council	Submitted 27th July, 2015	No response received as at 26th August, 2015	
	Construction Environmental Management Plan and sub plans	Willoughby Council	Submitted 27th July, 2015	No response received as at 26th August, 2015	

Phase 2 Works CEMP Revision

Condition of Approval SSI-5414	CEMP Document	Agency Consultation	Status	Comments
E35(b)	Construction Noise and Vibration Management Plan	Environment Protection Authority	Response received 12 October 2015	EPA has notified by email on 12 October 2015 that they do not approve or endorse management plans and as such will not be providing comment on the plan.
E35(c)	Construction Traffic Management Plan	Roads and Maritime Services	Comments received 30th October, 2015	Comments were reviewed and no further amendments of the CTMP were required.
		The Hills Shire Council	Comments received 16th October, 2015	The TMP's are satisfactory. No objections or comments
		Hornsby Shire Council	Comments received 16th October, 2015	Comments were addressed in the CTMP. Refer to the plan for details.
		Traffic and Transport Liaison Group	Sent on the 2nd October 2015.	No comments received as at the 30th October 2015. Note that the two affected councils and RMS provided comments on the plan.
E35(d), C37	Construction Soil and Water Quality Management Plan (including Water Quality Monitoring Program)	Environment Protection Authority	Response received 12 October 2015	EPA has notified by email on 12 October 2015 that they do not approve or endorse management plans and as such will not be providing comment on the plan
		NSW Office of Water	Sent on the 1st October, 2015.	No comments received as at the 30th October 2015. Verbal discussions with the NOW regarding groundwater monitoring is currently in progress.

Condition of Approval SSI-5414	CEMP Document	Agency Consultation	Status	Comments
		The Hills Shire Council	Comments received on the 20th October, 2015.	Officer advised he had been on leave and would not have time to review the plan. Council officers will review the documents but acknowledge that any comments will have to considered as part of the regular 6 monthly review process.
		Hornsby Shire Council	Comments received on the 16th October, 2015	No issues for the CEMP, Flora and Fauna Management Plan and Soil and Water Management Plan. Generally supportive of the controls, monitoring and reporting included.
		NSW Fisheries	Comment received 6th October, 2015	Please be advised that Fisheries NSW has reviewed the NRT Construction Environment Management Plan and NRT CEMP Sub Plan Construction Soil and Water Management Plan and has no objections or suggested changes to make to this document.
E35(e)	Construction Heritage Management Plan	Office of Environment and Heritage	Comments received 15th October, 2015	No specific comments on the CHMP.
		Indigenous Stakeholders	Comments received 28th October, 2015	Refer to register in the CHMP.
E35(f), C23	Construction Flora and Fauna Management Plan (including Ecological Monitoring Program)	Office of Environment and Heritage	Comments received 15th October, 2015	Refer to register in the CFFMP.
		The Hills Shire Council	Comments received on the 20th October, 2015.	Officer advised he had been on leave and would not have time to review the plan. Council officers will review the documents but acknowledge that any comments will have to considered as part of the regular 6 monthly review process.
		Hornsby Shire Council	Comments received on the 16th October, 2015	No issues for the CEMP, Flora and Fauna Management Plan and Soil and Water Management Plan. Generally supportive of the controls, monitoring and reporting included.
		Office of Environment and Heritage	Response received 3 April 2018	Consultation for the incorporate the Cheltenham Community Facility. Refer to register in the CFFMP for changes made.

Annexure E Environmental Hold Points

Hold Point	Release of Hold Point	By Who	Procedure / Reference Doc
Visible dust leaving site	Appropriate dust mitigation enforced Completion of Inclement Weather Form	Environmental Coordinator Site Supervisor	Air Quality and Dust Management Procedure
Evidence of contamination	Further assessment Appropriate remediation works completed if required	Contamination consultation Area Manager	Contamination and Contingency Acid Sulfate Soils Management Procedure
Unexpected flora or fauna encountered	Relocation of fauna Assessment of flora and approval remove, or protect Update of SEP	Ecologist or qualified handler Ecologist, relevant regulatory authority	Ecological Unexpected Finds Procedure
Excavation works (including change in current works, rainfall over 10mm in 24 hours)	Review ESCP and update if necessary	Environment Coordinator	Erosion and Sediment Control Procedure
Unexpected heritage finds or skeletal material	Inspection and assessment Approval to remove, destroy or remain insitu	Heritage Consultant NSW Police OEH / TfNSW / NSW Police	Historic and Aboriginal Heritage Procedure
Out of hours works	Out of Hours Approval Form Acoustic Assessment EPL Licence Variation	Environment Manager EPA	Out of Hours Works Procedure
Offsite Disposal of Spoil	Waste Classification Review of licence of waste facility	Environmental Consultant Environment Coordinator	Spoil Classification, Reuse and Recycling Procedure
Importation of fill or recycled materials	VENM or ENM Report Consultant Report determining the material meets the appropriate EPA exemption and is free of ACM	Environment Coordinator	Construction Soil and Water Management Plan
Removal of Vegetation	Pre clearance Survey Vegetation Clearance Permit	Ecologist Environment Coordinator	Vegetation Clearance Procedure
Pumping of water (on and offsite)	Permit to Pump Water tested for offsite discharge	Environment Coordinator	Water Reuse and Discharge Procedure

Hold Point	Release of Hold Point	By Who	Procedure / Reference Doc
Working outside the approved footprint Scope changes from the EIS (e.g. additional clearing, new access points etc.)	Environmental Consistency Assessment	Environmental Planning and Approvals Manager	CEMP
New Compound or Ancillary Facility	Ancillary Facility Checklist	Environmental Planning and Approvals Manager	Construction Compound and Ancillary Facilities Management Plan

Annexure F Glossary

Term	Definition
AEC	Areas of Environmental Concern
AHIMS	Aboriginal Heritage Information Management System
AMS	Activity Method Statement
ANZECC	Australian and New Zealand Environment Conservation Council
ARI	Average Recurrence Interval
ARMCANZ	Agriculture and Resources Management Council of Australia and New Zealand
ASS	Acid Sulfate Soil
BC Act	Biodiversity Conservation Act 2016
Blue Book	Managing Urban Stormwater: Soils and Construction (Landcom 2004)
BOM	Bureau of Meteorology
CAQMP	Construction Air Quality Management Plan
CBD	Central Business District
CCAMP	Construction Compounds and Ancillary Facilities Management Plan
CEEC	Critically Endangered Ecological Community
CEMF	Construction Environmental Management Framework
CEMP	Construction Environmental Management Plan
CFFMP	Construction Flora and Fauna Management Plan
CHMP	Construction Heritage Management Plan
CNVIS	Construction Noise and Vibration Impact Statement
CNVMP	Construction Noise and Vibration Management Plan
CoA	Condition of Approval
CoPC	Contaminants of Potential Concern
CPESC	Certified Professional in Erosion and Sediment Control
CSWMP	Construction Soil and Water Management Plan
DACHA	Darug Aboriginal Cultural Heritage Assessments
DACHi	Darug Aboriginal Land Care Inc.
DCAC	Darug Custodian Aboriginal Corporation

Term	Definition
DECC	Department of Environment and Climate Change (now OEH and EPA)
DECCW	Department of Environment, Climate Change and Water (now OEH and EPA)
DLALC	Darkinjung Local Aboriginal Land Council
DLO	Darug Land Observations
DLWC	Department of Land and Water Conservation (now NSW Office of Water)
DP&E	Department of Planning and Environment
DPI	Department of Primary Industries
DTAC	Darug Tribal Aboriginal Corporation
E&SM	Environment Manager
EC	Environmental Coordinator
ECRL	Epping to Chatswood Rail Link
EEC	Ecologically Endangered Community
EIA	Environmental Impact Assessment
EIL	Ecological Investigation Levels
EIS	Environmental Impact Statement
EIS 1	EIS for SSI-5100 – NWRL Early Works and Major Civil Construction Works (Incorporating Staged Infrastructure Modification Assessment)
EIS 2	EIS for SSI-5414 – NWRL works associated with the construction and operation of stations and wider precincts, service facilities, rail infrastructure and systems
EMS	Environmental Management System
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
EPA	Environment Protection Authority
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999 (Cth)*
EPL	Environment Protection Licence
EPM	Environmental Planning and Approvals Manager
ER	Environmental Representative
ERP	Emergency Response Plan
ESCP	Erosion and Sediment Control Plan
GDE	Groundwater Dependant Ecosystems

Term	Definition
IC	Independent Certifier
IFD	Intensity-Frequency-Duration
IJV	Infrastructure Joint Venture (of NRT)
ITP	Inspection and Test Plan
JHET	John Holland Event Tracking
JHPL	John Holland Propriety Limited
LCPL	Leighton Contractors Propriety Limited
LOR	Limits of Reporting
MLALC	Metropolitan Local Aboriginal Land Council
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
NOW	NSW Office of Water
NPW Act	*National Parks and Wildlife Act 1974*
NPWS	National Parks and Wildlife Service
NRT	Northwest Rapid Transit
NTU	Nephelometric Turbidity Units
NWRL	North West Rail Link (now Sydney Metro Northwest)
OEH	Office of Environment and Heritage
OpCo	OTS Operating Company
OTS	Operations, Trains and Systems
PAD	Potential Archaeological Deposit
PASS	Potential Acid Sulfate Soil
PIMS	Project Integrated Management System
PIRMP	Pollution Incident Response Management Plan
PMF	Probable Maximum Flood
POEO Act	*Protection of the Environment Operations Act 1997*
PPP	Public Private Partnership
Project	Sydney Metro Northwest OTS Project

Term	Definition
Project Approval	Minister for Planning and Infrastructure's Approval for SSI-5414, SSI-5931 and TfNSW's Approval for the ECRL Conversion Works
RAP	Registered Aboriginal Parties
REF	Review of Environmental Factors
REMM	Revised Environmental Mitigation Measures
RFP	Request for Proposal
RFT	Request for Tender
RMS	Roads and Maritime Services
RTRF	Rapid Transit Rail Facility (now Sydney Metro Trains Facility)
RTRF EIS	EIS for SSI-5931 – Rapid Transit Rail Facility
SDS	Safety Data Sheet
SEP	Site Environment Plan
SEPP	State Environmental Planning Policy
SES	State Emergency Service
SEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now Department of the Environment)
SM	OTS Sustainability Manager
SMP	Spoil Management Plan
SMTF	Sydney Metro Trains Facility (formerly the Rapid Transit Rail Facility)
Spoil	Material generated by excavation into the ground
SPR	Scope and Performance Requirements
SQERM	Safety, Quality and Environment Risk Management
SSI	State Significant Infrastructure
SVC	Surface and Viaduct Civil Works
SWTC	Scope of Works and Technical Criteria
TBM	Tunnel Boring Machine
TDS	Total Dissolved Solids
TfNSW	Transport for New South Wales
TRA	Task Risk Assessment
TSC	Tunnels and Station Civil Works

Term	Definition
TSC Act	*Threatened Species Conservation Act 1995*
TSS	Total Suspended Solids
VAMP	Visual Amenity Management Plan
VENM	Virgin Excavated Natural Material – natural material (such as clay, gravel, sand, soil and rock) that is not mixed with any other type of waste and/or has been excavated from areas of land that are not contaminated
WAD	Works Authorisation Deed
WBNM	Watershed Bound Network Model
WM Act	*Water Management Act 2000*
WMRP	Waste Management and Recycling Plan
WRA	Workplace Risk Assessment
WRAPP	Waste Reduction and Purchasing Policy
WTP	Water Treatment Plant