

Sydney Metro North West

Design and Construction of Surface
and Viaduct Civil Works



Construction Environmental Management Plan

NWRLSVC-ISJ-SVC-PM-PLN-120200

Revision 12.0

20 November 2017

Document Control

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Document Revision History

Doc No **NWRLSVC-ISJ-SVC-PM-PLN-120200**

Revision	Description	Prepared by	Reviewed by	Approved by	Date
1.0	Issued for TfNSW Comment	A Northey	S Fermio	S Turnbull	31 March 2014
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12.0	Revised in response to TfNSW comments	B.Tucker	B.Tucker	G.Perdikaris	20 November 2017

Signature

A handwritten signature in blue ink, appearing to read 'B. Tucker' followed by 'G. Perdikaris'.

Plan Compliance

Cl.	Description	Where Addressed
SVC Project Deed, Exhibit 1 – SWTC Appendix 24.4		
24.4(f)	The Construction Environmental Management Plan must, as a minimum, address and detail:	CEMP
	(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;	Sections 4.3, 4.4
	(ii) management strategies for environmental compliance and review of the performance of environmental controls;	Section 5
	(iii) processes and methodologies for surveillance and monitoring;	Section 6
	(iv) processes for incident and emergency response;	Section 5
	(v) a schedule of the environmental issues for each part of the Construction Site;	Construction Compound & Ancillary Facility Mgmt Plan, and ECMs
	(vi) processes for the development of environmental construction method statements;	Section 5
	(vii) processes and methodologies for monitoring, auditing, corrective action and reporting on environmental performance including environmental compliance tracking;	Section 6
	(viii) site induction information to be provided to the SVC Contractor's personnel and the Subcontractors' personnel; and	Section 5.8
	(ix) interfaces with other Project Plans.	Section 1.7
Planning Approvals SSI-5100, SSI5414		
E45/E33	Prior to commencement of construction, or as otherwise agreed by the Director General, the Proponent shall prepare and implement (following approval) a Construction Environmental Management Plan. 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:	CEMP
	(a) a description of activities to be undertaken during construction of the SSI (including staging and scheduling);	Section 2
	(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
	(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;	Sections 4 & 5

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Cl.	Description	Where Addressed
	(d) an environmental risk analysis to identify the key environmental performance issues associated with the construction phase; and	Appendix 5
	(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:	Sections 1.7, 5 & 6
	(i) Ancillary Facilities management; (ii) noise and vibration; (iii) traffic and access; (iv) soil and water quality and spoil management; (v) groundwater management and discharge; (vi) air quality and dust management; (vii) visual amenity; (viii) management of Aboriginal and historic heritage; (ix) soil contamination, groundwater contamination, hazardous material and waste management; (x) management of ecological impacts; and (xi) hazard and risk management.	CEMP and related environmental management plans

Compliance with other requirements are listed in CEMP Appendices 2 to 4.

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1 INTRODUCTION

1.1 Purpose

This Construction Environmental Management Plan (CEMP) provides specific management measures to ensure that design and construction works have minimal environmental impact and risk, and where possible, enhanced environmental outcomes. The CEMP:

- captures environmental issues and mitigation measures identified and assessed through the EISs, Submissions Reports and Minister's Conditions of Approval (MCoA) relating to the project;
- captures requirements of the CEMF, Deed, SWTC, licencing and other relevant documents;
- incorporates these measures into a comprehensive framework to facilitate and ensure their appropriate management throughout the project;
- includes management measures, procedures, monitoring, auditing and reporting and allocates responsibilities;
- provides ISJV with measures that will be used to manage environmental risks and opportunities;
- fulfils the requirement of the MCoA E45 (SSD-5100) and MCoA E33 (SSD-5414) which state: '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.'

1.2 Scope

This CEMP addresses environmental issues and risks associated with design and construction of the SVC works. It covers all areas where physical works will occur, or areas that may be impacted by works, apart from off-site spoil receipt locations and facilities, which are undertaken in accordance with approvals/or licences applying to these locations or facilities.

This CEMP and related environmental management plans form part of the staging of the project, as per the Staging Report prepared by TfNSW.

A suite of environmental management plans to address specific significant environmental issues associated with the project, and specific conditions of approval, are discussed further in Section 5.5. Figure 2 below shows the structure of the various environmental management plans.

All ISJV staff and sub-contractors are required to operate fully in accordance with this plan and related environmental management plans, over the full duration of the SVC construction program.

1.3 CEMP Objectives

The objectives of this CEMP are that:

- environmental requirements contained in statutory approvals, licences, agreements, and other controls relevant to SVC works are clearly defined, and mechanisms for implementation specified;
- processes for resourcing and implementing this plan are set to provide certainty of delivery;
- processes for auditing, monitoring and reporting on performance and effectiveness of the CEMP are defined; and
- other objectives identified within environmental documents are met.

Environmental objectives and targets have been developed and are described in Section 5.3 and Appendix 7. These are based on environmental aspects, impacts and risk as identified in a risk assessment in Appendix 5.

1.4 Definitions and Abbreviations

Ambient Level	Existing level of a phenomenon without the influence of construction activities
ANZECC	Australian and New Zealand Environment Conservation Council
BMS	Salini Impregilo– Business Management System
CEMF	Construction Environmental Management Framework (Submissions Report, Section 3)
CEMP	Construction Environmental Management Plan (this plan)
MCoA	Minister's Conditions of Approval
DP&E	NSW Department of Planning and Environment (formerly DP&I)
DP&E Secretary	Formerly DP&E Director General
DSEWPC	Commonwealth Department for Sustainability, Environment, Water, Population & Communities (now Department of Environment)
ECM	Environmental Control Maps
EIS	Environmental Impact Statement
EM	Environment Manager (ISJV)
Emission	A discharge of a substance (e.g. dust) into the environment
EMS	Environmental Management System
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	NSW Environment Protection Authority
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)
EPL	Environment Protection Licence
ER	Environmental Representative
ESCP	Erosion and Sediment Control Plan
IC	Independent Certifier
Incident	Any unplanned or undesired event which results in or has potential to result in injury, ill health, damage, or loss of property, interruption to operations or environmental impairment. An incident also includes a near miss, breach of procedure, quality failure, injuries to workers or members of the public and any other reportable occurrence.
ISJV	Impregilo S.p.A. (Australia) and Salini (Australia) Joint Venture / Principal Contractor
Mitigation Measures	Measures employed to reduce (mitigate) an impact
NOW	NSW Office of Water, Department of Primary Industries
OEH	NSW Office of Environment and Heritage
PIRMP	Pollution Incident Response Management Procedure
POEO Act	Protection of the Environment Operations Act 1997
Project Deed	Part of the contract between TfNSW and ISJV to carry out the SVC works
Pollution	The alteration of air, soil, or water as a result of human activities such that it is less suitable for any purpose for which it could be used in its natural state
RAP	Remedial Action Plan
REMM	Revised Environmental Mitigation Measures (Submissions Report, Section 7)
RMS	NSW Roads and Maritime Service (formerly RTA)
SMNW	Sydney Metro North-west
SSI	State Significant Infrastructure
SVC Works	Surface Viaducts and Civil Works, for the North West Rail Link Project
SWTC	Scope of Work and Technical Criteria
TfNSW	Transport for New South Wales

1.5 Plan Preparation and Review

This CEMP has been designed to address authority expectations and requirements, and adequately address risks and stakeholder concerns. All environmental management requirements specified as being relevant to the SVC works have been considered and addressed in preparing this plan, as have requirements of the Salini Impregilo Business Management System (BMS), accredited to AS/NZS ISO14001.

This plan draws on the extensive knowledge of ISJV and its subcontractors, acquired from successful environmental management of multiple and varied projects in a range of locations.

Consultation with all stakeholders will be undertaken as per requirements in each Minister's Conditions of Approval (MCoA) and in particular for the environmental management plans required under the relevant MCoA. The requirements for consultation with these agencies, and incorporation of their reasonable requirements, are discussed in Section 4.2. The other environmental management plans were submitted to stakeholders as per Table 4-1.

The CEMP was submitted to the Principal's Representative and IC (as required by Project Deed 2.14(c)), ER (as required by Project Deed 2.9(a)) for review and then finally the Department of Planning & Environment (DP&E) for approval as required by MCoA SSI-5100 E45 & SSI-5414 E33. Further revision of this CEMP may be undertaken if required following its review by DP&E or if other agencies/stakeholder's comments on the other environmental management plans (Table 4-1) necessitate changes to this CEMP.

The final CEMP was issued to DP&E for approval by the Secretary at least one month prior to construction. This approval was granted 8 July 2014, Documentation as to how ISJV addressed agency/stakeholder comments during consultation are included as appendices in the relevant environmental management plans.

Construction works did not commence until:

- written approval of the CEMP was received from the Secretary, and a copy of the approval has been provided to the Principal's Representative; and
- the CEMP and relevant plans were submitted in accordance with Deed clause 2.14(c), and 15 business days (as per Deed clause 2.14(d)(ii)) has expired without Principal's Representative having issued the relevant notice under that clause during that time.

The CEMP was prepared and initially submitted to the Principal's Representative and Independent Certifier as required within 60 Business Days of the date of the deed.

The CEMP will be revised and updated during the course of the project as per Section 4.2.3.

1.6 Project Environmental Policy

The Salini Impregilo Environmental Policy is included in Appendix 1. This policy has been formally approved by Salini Impregilo, and will be revised to be project specific throughout the project, if required.

1.7 Relationship to Other Plans

The position of the Construction Environmental Management Plan to other plans within the ISJV Management System and overarching documentation framework is shown in Figure 1.

Construction Environmental Management Plan

SMNW – Surface and Viaduct Civil Works

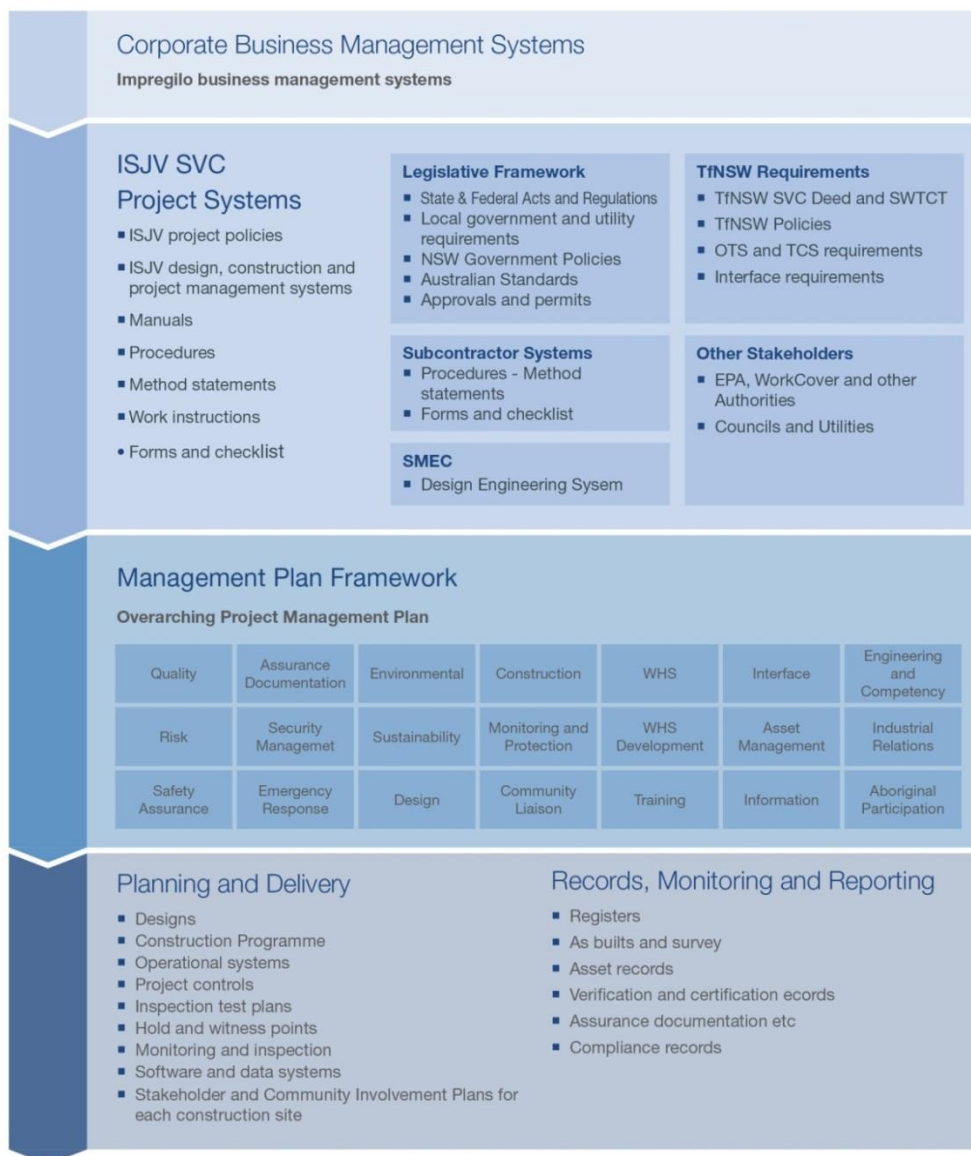


Figure 1 - ISJV SVC Management Systems and Document Framework

The Construction Environmental Management Plan interfaces with other ISJV project management plans. The hierarchy of this plan to other ISJV management plans is indicated in Figure 2. The interfaces between the CEMP and other management plans are shown in Figure 3.

Construction Environmental Management Plan

SMNW – Surface and Viaduct Civil Works



Project Management Plan			
Risk Management Plan	Design Plan	Construction Plan	Construction Environmental Management Plan
Technical Risk Management Plan	Engineering and Competency Management Plan	Earthworks Plan	inputs to Compliance Tracking Procedure
Safety Assurance Plan	Engineering Plan	Monitoring and Protection Plan	Construction Compound Ancillary Facilities Management Plan
Assurance Documentation Management Plan	Engineering Project Management Plan	Community Liaison Implementation Plan	Construction Noise and Vibration Management Plan
Requirements Management	Engineering Quality Management Plan	Stakeholder and Community Involvement Plan	Construction Traffic Management Plan Including
Reliability, Availability & Maintainability Management Plan	Engineering Governance Plan	Business Management Plan	Construction Soil and Water Management Plan
Quality Plan	Requirements Management Plan	Security Management Plan	Soil Salinity Management Plan
Project Records Management Plan	Configuration Management Plan	Project Emergency Plan	Water Quality Monitoring Program
Project Purchasing Management Plan	Technical Maintenance Plan	Pollution Incident Response Management Plan	Construction Heritage Management Plan
Project Training Management Plan	Competency Plan	Sustainability Plan	Construction Flora and Fauna Management Plan
Industrial Relations Plan	Technical Data Management Plan	Carbon and Energy Management Plan	Nest Box Management Plan
Project Aboriginal Participation Plan		Spoil Management Plan	Ecological Monitoring Program
Project WHS Management Plan		Waste Management and Recycling Plan	Construction Air Quality Plan
Project WHS Development Plan			Visual Amenity Management Plan
	Asset Management Information Delivery Plan		Stormwater and Flooding Management Plan
	Interface Management Plan		

KEY:

Plan	Sub Plan	This Plan
TfNSW Plan	Sub - Sub Plan	

Figure 2 - Hierarchy of SVC Management Plans

Construction Environmental Management Plan

SMNW – Surface and Viaduct Civil Works

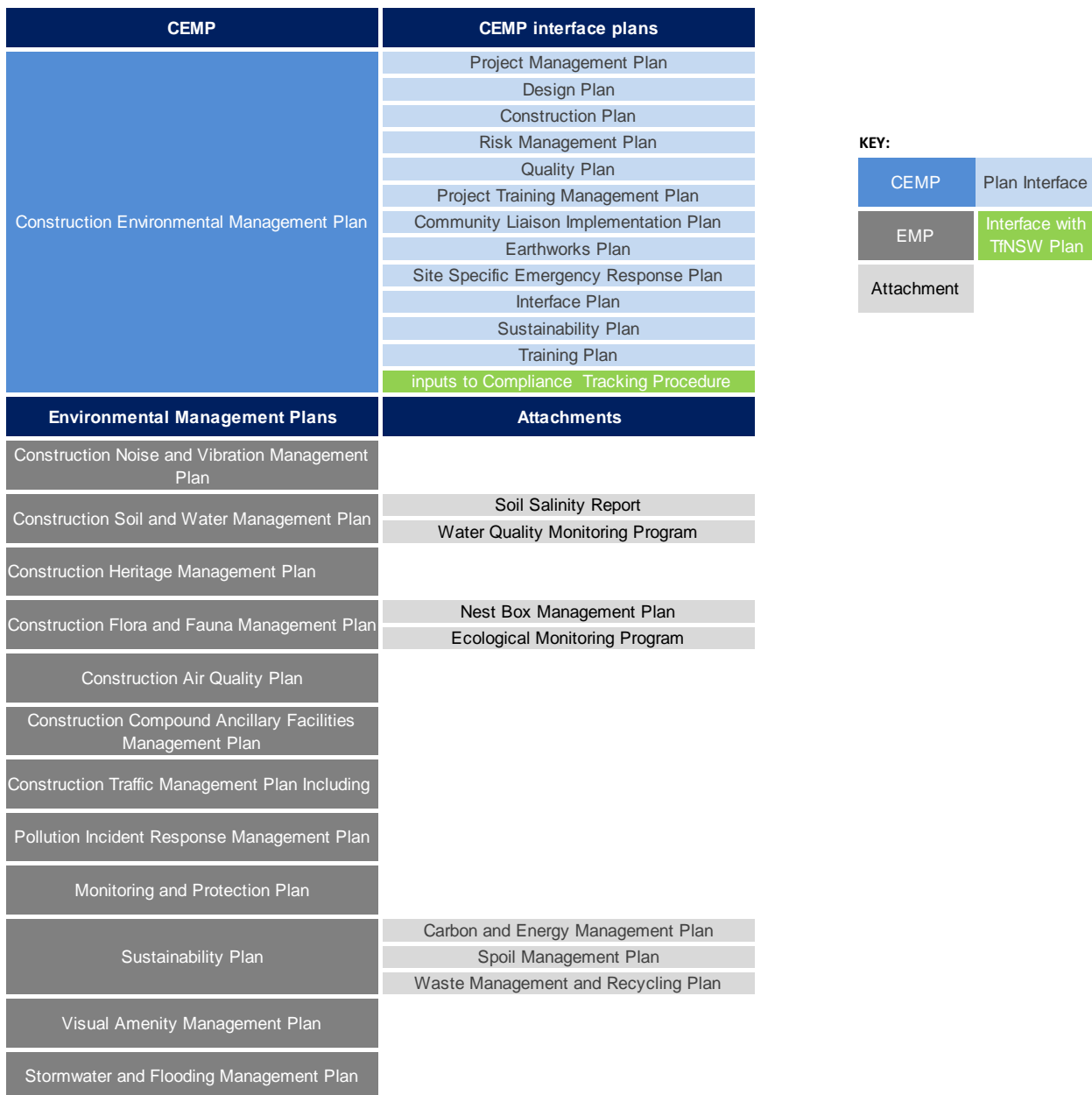


Figure 3 – CEMP Structure

Note: Site Specific Emergency Plan has been renamed to Project Emergency Plan

2 Project Description

2.1 Description of Sydney Metro Northwest Project

The Sydney Metro Northwest (SMNW) project is a key priority for the NSW Government. The SMNW will deliver a new high frequency single deck train system initially operating as a shuttle between Cudegong Road and Chatswood. The project includes eight new stations, approximately 15.5km of tunnels from Epping to Bella Vista, a 4.5km elevated 'skytrain' (viaduct) between Bella Vista and Rouse Hill, and conversion of the Epping to Chatswood Rail Link to deliver high frequency rapid transit services.

Stations are planned at Cherrybrook, Castle Hill, Showground, Norwest, Bella Vista, Kellyville, Rouse Hill and Cudegong Road. Bus, pedestrian, cycling and easy access facilities will be provided at all stations, with approximately 4000 'Park and Ride' spaces spread across five sites.

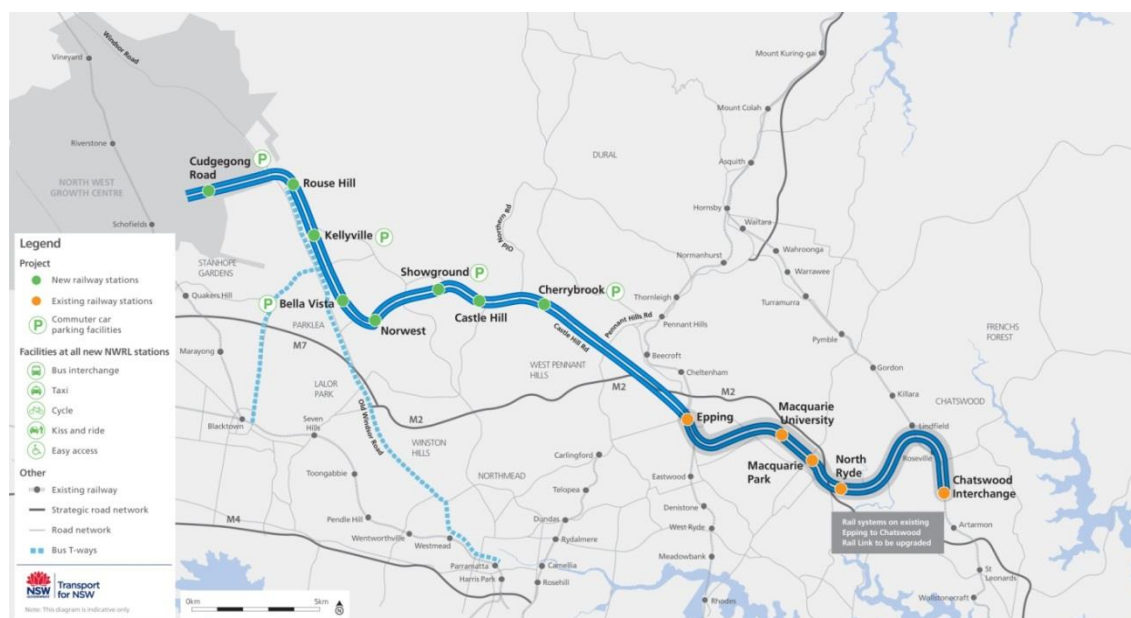


Figure 4: The North West Rail Link service proposed alignment

2.2 Description of the SVC Project works

The scope of the SVC Project works consists of the detailed design, construction and handover of the viaducts, bridges and associated civil works required for the SMNW between Bella Vista and Cudegong Road and includes establishment and reinstatement of worksites, spoil removal and disposal and all required utility relocations and adjustments at construction worksites.

The permanent infrastructure to be delivered includes:

- Approximately 4.5 km of viaduct between Balmoral Road and Rouse Hill Station including crossings over Memorial Avenue, Samantha Riley Drive, Windsor Road, Sanctuary Drive and White Hart Drive.
- Bulk earthworks requirements including all cut, fill and embankments between Balmoral Road and Cudegong Road.
- A bridge over Windsor Road / Rouse Hill.
- A bridge over Second Ponds Creek.
- Allowance for station structures to be incorporated onto the viaduct at the Kellyville and Rouse Hill station sites.

- Adjustments to existing infrastructure and roads within the construction site and / or otherwise affected by ISJV activities.
- Safe, secure personnel access / egress into site areas including necessary temporary support services and site facilities, with hoardings, fencing and so on around worksites to be left in place upon completion.
- Construction traffic and transport management including temporary and permanent traffic management works.
- Removal of all temporary work and site facilities not otherwise required for handover to subsequent contractors.

Activities associated with the temporary and SVC Contractor works required in order to complete construction include:

- Construction of temporary T-way car parking at Rouse Hill and Kellyville.
- Construction, removal and transportation of the gantry along the SVC construction zone
- Temporary changes to site personnel access/egress.
- Signage, fencing and hoarding.
- Construction environmental management activities.
- Construction traffic management activities.
- Interface and communications within SVC Contractor team and across SMNW team.
- Stakeholder liaison activities.
- Adherence to SMNW protocols and procedures.

2.3 Project Statutory Approval and Environmental Assessment

This project is based on concept designs described in EISs prepared by TfNSW from 2008 to date.

The then NSW Minister for Planning granted concept approval under Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act) for the North West Rail Link in May 2008, subject to a number of Minister's Conditions of Approval. When Part 3A of the EP&A Act was repealed in October 2011, the concept approval was changed into a State Significant Infrastructure (SSI) approval under Part 5.1 of the EP&A Act.

TfNSW subsequently undertook two further detailed environmental impact assessments of the project which were approved in September 2012 and May 2013. These are outlined further in Section 3.1.

Conditions of Approval have been taken into account during preparation of this plan – Appendix 2 identifies where each condition has been addressed in this plan and related environmental plans. Similarly, Appendix 3 identifies where commitments in Submissions Reports and related documents have been addressed. TfNSW have retained responsibility for some of these conditions.

If design or construction methods involve substantial changes to that described in EISs or Submissions Reports, modification applications will be prepared for approval by DP&E. Any conditions from modification approvals will then be added to this CEMP and related environmental management plans.

At the Commonwealth level, the Department for Sustainability, Environment, Water, Population and Communities (DSEWPC) determined in May 2012 that the Project is a Controlled Action and therefore required assessment and approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). TfNSW undertook a separate assessment to meet the requirements of the EPBC Act. In April 2013 the Commonwealth Minister for DSEWPC granted approval under the EPBC Act. TfNSW retain responsibility for conditions under the EPBC Act approval.

2.4 Schedule of Construction Activities

Table 2-1 below indicates the planned SVC construction components, along with indicative commencement and completion dates for each component which may be subject to change due to delays in design development, modifications to design, wet weather impacts etc.

Table 2-1 - Indicative SVC Construction Schedule Summary

Work component	Main work activities	Contractor	Planned start	Planned completion*
Project – Portion 1	Portion 1 -Construction Viaduct and associated works from Memorial Ave to Cudgegong Rd.	ISJV	December 14	October 17
Segment Fabrication	Fabricate concrete Viaduct Segments for the Viaduct Structure at a rate of approximately 90 deck units per month over a 14 months period.	ISJV	January 15	January 17
Piling Construction	Construct piles from each end of the project working towards the middle. The production will use 1 piling rig for each end and they should each complete piles beneath 5 pier locations per month.	ISJV	August 14	July 16
Pile Cap Construction	Construct piles from each end of the project working towards the middle. The production will use 2 crews for each end and they should each complete pile caps beneath 4 to 5 pier locations per month.	Daracon	September 14	September 16
Deck Erection	Construct decks using two gantries. Commencing from each end of the project and working towards the middle. The production rate should achieve 4 to 5 decks per month from each end depending if they are constructed as Continuous decks or in Tandem (2 at a time).	ISJV	July 15	May 17
Pier 001 (Bella Vista End) to Pier 065	Construct piers from each end of the project working towards the middle. The production will use 2 crews for each end and they should each complete 4 to 5 piers per month.	Daracon	October 14	August 16
Pier 106 (Second Ponds Creek End) to Pier 110	Construct piers from each end of the project working towards the middle. The production will use 2 crews for each end and they should each complete 4 to 5 piers per month.	Daracon	October 14	April 16
Bella Vista Dive – Portion 2	Portion 2 - Construct the dive structure & associated overbridges between the Viaduct and Tunnel.	ISJV	January 16	June 17

* Indicative dates only..

With SVC construction completion expected in November 2017 this will be the final revision of the CEMP for the project. TSC works commenced in late 2013, and were completed in 2016.

Station construction, fitout, ventilation and precinct works are scheduled to commence in mid-2017, with trains operational in 2019.

2.5 Risks and Opportunities

A project environmental risk assessment has been prepared and is included in Appendix 5. The methodology for the risk assessment and its use in project delivery are discussed in Section 5.4.

Separately, opportunities for enhanced environmental outcomes for the project have been identified and incorporated into the suite of environmental management plans and the *Sustainability Management Plan*.

2.6 Sustainability and Resource Conservation Initiatives

TfNSW and ISJV have identified initiatives that enhance the environmental outcomes of the construction phase of this project, or provide positive environmental offsets. These initiatives are listed in the *Sustainability Management Plan*. The Sustainability Manager and Environment Manager are responsible for implementation of these measures.

2.7 Handover Process and Construction Completion

The handover process for the Project has been carried out in accordance with the Sydney Metro North West Project Completion and Handover Management Plan (NWRLSVC-ISJ-SVC-PM-PLN-122200 Rev 02, dated 15 Feb 2016). The aim of the process is to ensure the successful completion and handover of the SVC Works within the agreed delivery program. The SVC works have been undertaken by ISJV on behalf of TfNSW and are being handed over in separate Portions.

The process involved the compilation and submission of the following documentation identified in the Deed to be submitted to TfNSW and the IC prior to Construction Completion through Team Binder:

Asset Management Information:

- Assurance Documentation
- Other Deed specified documentation

The handover documentation is tracked and submissions monitored using the following registers and schedules:

- NWRLSVC-ISJ-SVC-CG-REG-290301 SVC Works Asset Register
- NWRLSVC-ISJ-SVC-CG-REG-290302 Asset Management Information (AMI) Register
- NWRLSVC-ISJ-SVC-DN-REG-290303 SVC WAE Drawing Register

ISJV has managed the completion and handover of SVC Works, in conformance with the requirements under the Deed, including (but not limited to) the:

- Project Deed
- Schedules to the Deed (Schedule 4 SVC Contractors Certificate)
- Schedules to the Deed (Schedule 6, 10, 21, 22 and 30 Quality Managers Certificates)
- Schedules to the Deed (Schedule 7, 11, 23, 24, 31 and 32 Independent Certifiers Certificates)
- Schedules to the Deed (Schedule 20, 26, 29, 24, 34 and 37 Other Certificates)
- Exhibit A STWC
- Exhibit A STWC – Appendix 5 Handover Works

Revision 10 of the CEMP provides a general update relevant to close out the project and achieve construction completion of all portions. Construction completion of the final portions is expected in November 2017 and the CEMP and associated sub-plans become obsolete. The EPL will also be surrendered once the scheduled activity is completed.

3 CEMP INPUTS

3.1 Statutory Requirements

There are a number of statutory inputs to the project that are the responsibility of ISJV to implement. These are described further below.

3.1.1 NSW Planning Approvals

The SMNW project was identified by the NSW Government as a key priority railway transport infrastructure project. On 6 May 2008 Concept Plan approval was granted for the western section of the North West Metro (MP 06_0157). This Concept Plan was assessed and approved under Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act).

On 1 October 2011, Part 3A of the EP&A Act was repealed. Accordingly, under clause 5 of Schedule 6A of the EP&A Act, the Concept Plan approval was transitioned to a State Significant Infrastructure (SSI) approval under Part 5.1 of the Act. The SMNW project is being assessed and delivered through a two stage process with separate applications (EISs and Submissions Reports) and approvals. These approvals for the project have been as SSI under Part 5.1 of the EP&A Act.

On 25 September 2012, the application for the SMNW Stage 1: Major Civil Construction Works was approved. Stage 1 includes excavation of tunnels and underground station boxes, construction of above ground infrastructure including viaduct spans and bridges, and related earthworks.

A modification to the Stage 1 approval (SSI-5100), associated with altering the Showground Station site, was approved on 18 April 2013.

On 8 May 2013, the application for the SMNW Stage 2: Stations, Rail Infrastructure & Systems was approved. Stage 2 relates to construction works and operation of the railway, including stations and associated precincts, services facilities, a train stabling facility at Tallawong Road, and rail infrastructure and systems.

A modification to the Stage 2 approval (SSI-5414), associated with altering the approved viaduct structure with a cable stayed bridge over Windsor Road, Rouse Hill has been approved by DP&E. The modification includes alterations to design, appearance, bridge spans and height of the bridge towers, and integration with viaduct at Rouse Hill Station.

Early works were separately undertaken between late 2012 and early 2014, under the project approval SSI-5100.

A summary of project applications and approvals to date relating to SMNW are outlined in Table 3-1 below. Applications relating to SVC works are highlighted in bold text.

Table 3-1 - Planning Approvals and Submissions

Project Application	Approval No.	Proponent	Approval Date
SMNW: Concept Plan	06_0157	TfNSW (TIDC)	06/05/2008
SMNW Stage 1: Major Civil Construction Works	SSI-5100	TfNSW	25/09/2012
• Modification to Showground Station Site	MOD-5645	TfNSW	18/04/2013
SMNW Stage 2: Stations, Rail Infrastructure & Systems	SSI-5414	TfNSW	08/05/2013
• Modification to Windsor Road Bridge	SSI-5414 MOD1	TfNSW	20/05/2014

3.1.2 NSW Ministers Conditions of Approval

Minister's Conditions of Approval (MCoA) have been issued as part of the project approvals. These conditions specify a number of measures for implementation during the design, construction and operation phases.

Appendix 2-1 tabulates construction stage environment-related MCoA requirements from SSI-5100 (Stage 1), and shows where each requirement is addressed in this plan or other documents.

Similarly, Appendix 2-2 tabulates construction stage environment-related MCoA requirements from SSI-5414 (Stage 2), and shows where each requirement is addressed in this plan or other documents.

These appendices include changes made to the MCoA via modifications, and items that TfNSW have retained responsibility for, as outlined in Project Deed Schedule 16.

3.1.3 Commonwealth Consent

As per Section 2.3, Commonwealth consent has also been granted for the project under the Environment Protection and Biodiversity Conservation Act 1999 in April 2013. TfNSW retain responsibility for conditions under the EPBC Act approval.

3.1.4 EIS and Submissions Reports

EIS documents, Submissions Reports and subsequent modification submissions specify a number of commitments in the form of 'Revised Environmental Mitigation Measures' (REMMs).

Appendix 3-1 tabulates these commitments related to SSI-5100 (Stage 1), where each is addressed in this plan and related environmental documents.

Appendix 3-2 tabulates these commitments related to SSI-5414 (Stage 2), where each is addressed in this plan and related environmental documents.

These appendices include changes made to the REMMs via modifications, and items that TfNSW have retained responsibility for, as outlined in Project Deed Schedule 16.

3.2 Client Requirements

3.2.1 Project Deed

Appendix 4-1 tabulates relevant Project Deed requirements and where each is addressed in this plan or related environmental plans. Relevant Deed schedules and exhibits are also included, being:

- Schedule 16 - responsibilities relating to MCoA and REMMs,
- Schedule 19 - Environment Manager's certification;
- Schedule 28 - Environment Manager's qualifications;
- Exhibit A – Scope of Work and Technical Services (SWTC);
- Exhibit D – NSW planning approvals 5100, 5414;
- Exhibit N – EPBC Act approval.

3.2.2 Scope of Work and Technical Services

The Scope of Work and Technical Services (SWTC) forms Exhibit A of the Project Deed. Sections of the SWTC specifically relating to environmental works or management are:

- main SWTC document;
- SWTC Appendix 4 – Early Works;

- SWTC Appendix 7 – Additional Environmental Requirements;
- SWTC Appendix 23 – SVC Contractor Documentation Schedule;
- SWTC Appendix 24 – Project Plan Requirements;
- SWTC Appendix 33 – Initial Construction Environmental Management Plan.

Appendix 4-1 tabulates SWTC requirements and where each is addressed in this plan or related environmental plans.

3.2.3 Construction Environmental Management Framework

The Construction Environmental Management Framework (CEMF) prepared by TfNSW provides a linking document between planning approvals and this CEMP and related environmental management plans for SVC works. Appendix 4-2 tabulates CEMF requirements and where each is addressed in this plan or related environmental plans.

3.2.4 Remedial Action Plans

Any Remedial Action Plans (RAPs) that were prepared by TfNSW during the Early Works stage, or prepared by ISJV prior to construction. Completed RAPs are provided to TfNSW for information. Completed RAPs to date include:

- Amber Tiles (SVC Corridor Section); and
- Knights Quarry (Area K15).

3.3 Environmental Management System

Salini Impregilo has an ISO14001:2004 certified environmental management system as part of the Business Management System (BMS), and the project will operate in compliance with this management system.

Salini Impregilo BMS policies and procedures are fully described in the 'Business Management System Manual'. The Manual describes processes for Salini Impregilo's integrated Work Health Safety, Environment, Quality and Resources Management System.

Procedures from the BMS that are relevant to the CEMP and related environmental management plans are listed in Table 3-2 below.

Table 3-2 – ISJV BMS Procedures

BMS General Procedures	BMS Environmental Procedures
MSP03 Objectives, Targets & Programs	MSP22H Hazardous Substances Risk Management
MSP15 Training Management	MSP22P Water Quality
MSP16 Communication	MSP22Q Soil Conservation
MSP18 Document & Data Control	MSP22R Air Quality
MSP22C Contaminated Materials Risk Management	MSP22S Noise and Vibration (Environmental)
MSP24 Procurement	MSP22T Flora and Fauna
MSP25 Suppliers Management	MSP22V Indigenous & European Heritage
MSP28 Monitoring & Measurements of Processes & Products	MSP22W Waste Management
MSP34 Emergency Planning	MSP22X Contaminated Land
MSP41 Monitoring & Measurement	
MSP42 Incidents Management	
MSP43 SHE Inspections	
MSP48 Management Review	
MSP49 Management Reporting	
MSP51 Auditing	

3.4 Legislation

A comprehensive register of environmental legislation and regulations relevant to the SVC works is attached in Appendix 6. The register provides key requirements of relevant legislation and regulation, relevance to the project and mechanisms for compliance. The register will be reviewed and updated during each CEMP revision by the Environment Manager.

3.5 Approvals, Permits, Licences

A number of approvals, permits and licences are required for the project. These are described in Table 3-3 below. Once licences and approvals shown in Table 3-3 are approved for the project, the Environmental Licence, Approval and Permit Register in Appendix 8 will be used.

The Environment Manager is responsible for maintenance of this register, renewal and surrendering of licences and permits where relevant. Status of approvals, permits and licences, and compliance with each, will be monitored on a monthly basis and results included in monthly reports.

Table 3-3 - Approvals, Licences, Permits

Approval/Licence/Permit	Relevant Authority	Details	Responsibility
Environment Protection Licence under the <i>Protection of the Environment Operations Act 1997</i>	Environment Protection Authority (EPA)	As required by Sections 2.6(a) and (b) of the Project Deed.	ISJV
Planning modifications under the <i>Environmental Planning & Assessment Act 1979</i>	NSW Department of Planning & Environment (DP&E)	Additional approvals required for any altered or additional environmental impacts if any alternate designs are incorporated during design development, or construction methods are varied.	ISJV TfNSW
Permits under the <i>Roads Act 1993</i>	RMS	Consent under Section 138 is required for any works or activities in the public reserve or in public road way.	ISJV

3.6 Environmental Due Diligence

Environmental due diligence is the systematic identification of the environmental risks and liabilities associated with an organisation's sites and operations.

The principles of environmental due diligence have been applied throughout the preparation of this plan and related environmental documents. Due diligence principles are included in the development of all other environmental management procedures or changes to plans.

3.7 Standards

Relevant policies, guidelines, Australian Standards that relate to the project are specified in the 'References' section of relevant environmental management plans. Under the Heavy Vehicle National Law, ISJV will comply with its Chain of Responsibility obligations by taking all steps that are reasonably practical to prevent a breach of the Heavy Vehicle National Law.

4 ENVIRONMENTAL MANAGEMENT DELIVERY

4.1 Environmental Management Components

This plan is the key management tool and lead environmental management document in relation to the environmental performance during the design and construction phases. In addition to this plan, there are a number of other documents and plans that provide more specific environmental management detail. Figure 5 outlines the key environmental management inputs, documents and processes.

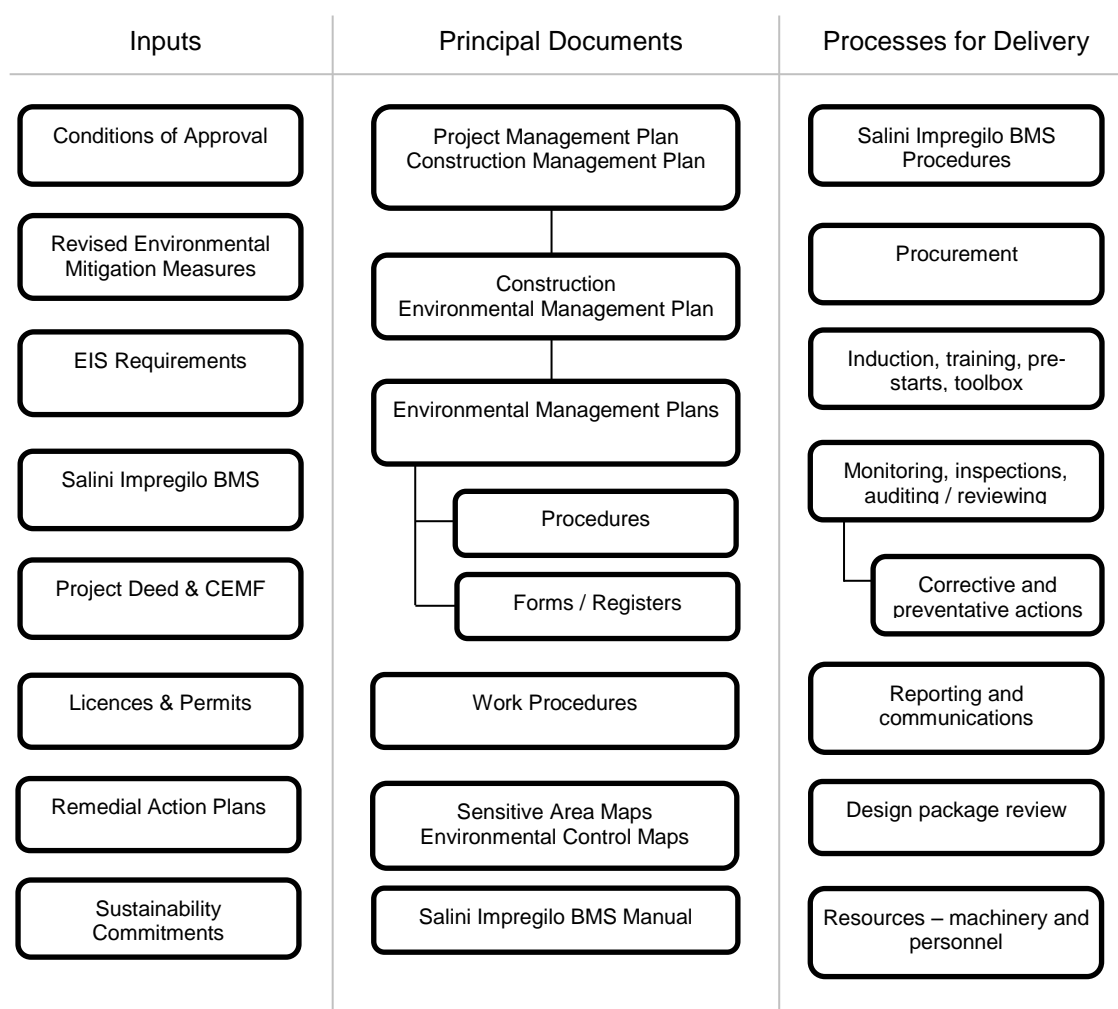


Figure 5 - Environmental Management Components

Construction activities and associated impacts occur progressively and change over time as different works are carried out and different locations impacted. Due to the staged construction approach along the SVC alignment, environmental protection measures are progressively implemented. This plan identifies upfront the desired environmental outcomes and the systems and processes in place to achieve these outcomes. Environmental management plans and related procedures provide direction on implementation of measures to mitigate impacts. This plan therefore provides the strategic framework for managing environmental impacts associated with construction.

The environmental management plans have been designed to address authority expectations and requirements, and adequately address risks and stakeholder concerns.

4.2 Consultation and Approval Requirements

4.2.1 CEMP Consultation

The MCoAs require consultation with specific authorities and stakeholders in the preparation of the environmental management plans. Table 4-1 indicates approval (A) and consultation (C) required for each environmental management plan. These stakeholders have been and will continue to be consulted during the finalisation/revision of these plans. There is no specific agency/stakeholder consultation requirement for this CEMP.

Note that all plans, apart from the Pollution Incident Response Management Plan, require approval from the Principal's Representative, and review by the Independent Certifier (IC) & Environmental Representative (ER).

4.2.2 CEMP Submission

The draft final CEMP was submitted to the Principal's Representative and IC (as required by Project Deed 2.14(c)), ER (as required by Project Deed 2.9(a)) for review and finally the DP&E (as required by MCoA SSI-5100 E45 & SSI-5414 E33) for review and approval.

Relevant environmental management plans have been submitted to stakeholders for review and comment as per Table 4-1. Agency / stakeholder comments have been appended to the relevant environmental management plans along with details as to how / where these have been addressed.

The CEMP and environmental management plans were issued to DP&E for approval by the Secretary at least one month prior to construction. Construction works did not commence until:

- written approval of the CEMP was received from the Secretary, and a copy of the approval had been provided to the Principal's Representative.
- the CEMP and relevant plans were submitted in accordance with Deed clause 2.14(c), and the time specified in Deed clause 2.14(d)(ii) has expired without Principal's Representative having issued the relevant notice under that clause during that time;

4.2.3 CEMP Revision

The CEMP and relevant environmental management plans will be revised:

- six monthly as required by Section 3.14 of the CEMP;
- in response to future project approvals or modifications;
- in response to changes in law, risks or accepted practices;
- in response to major changes in site conditions or work methods, or due to incidents;
- commencement of new phases or stages of design and construction;
- in response to the findings, recommendations or outcomes of a planned management review, audit or risk assessment;
- requests or requirements of DP&E, EPA or other Authority; or
- in support of planning approvals or licence variations, as necessary.

Significant revisions of this CEMP will be submitted to DP&E for review and comment. Significant revisions of relevant environmental management plans will also be submitted to relevant authorities as per Section 4.2.1. The CEMP and environmental plans will be updated to account for any comments.

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Table 4-1 - Consultation undertaken for the CEMP and environmental management plans

Environmental Management Plan	Primarily required by	EPA	OEH	NOW	Fisheries	RMS	Aboriginal stakeholders	Heritage Office	Councils	DP&E (land release)	DP&E
CEMP	SSI-5100 CoA E45 SSI-5414 CoA E34										A
Construction Compound & Ancillary Facilities Mgmt Plan	SSI-5100 CoA E46 SSI-5414 CoA E35										A
Construction Noise & Vibration Management Plan	SSI-5100 CoA E46 SSI-5414 CoA E35	C									A
Construction Traffic Management Plan	SSI-5100 CoA E46 SSI-5414 CoA E35					C			C		A
Construction Soil & Water Management Plan (incl. Groundwater Management Plan)	SSI-5100 CoA E46 SSI-5414 CoA E35 CEMF 7.2	C		C							A
Construction Heritage Management Plan	SSI-5100 CoA E46 SSI-5414 CoA E35						C	C			A
Construction Flora & Fauna Management Plan	SSI-5100 CoA E46 SSI-5414 CoA E35		C	C	C				C		A
Construction Air Quality Management Plan	SSI-5100 CoA E46 SSI-5414 CoA E35										A
Ecological Monitoring Program	SSI-5100 CoA C1 SSI-5414 CoA C23		C						C		A
Stormwater & Flooding Management Plan	SSI-5100 CoA C8 SSI-5414 CoA C34		C						C	C	C
Soil Salinity Report	SSI-5100 CoA C9 SSI-5414 CoA C35		C	C							A
Water Quality Monitoring Program	SSI-5100 CoA C11 SSI-5414 CoA C37	C		C	C				C		A
Urban Design & Corridor Landscape Plan	SSI-5414 CoA C44					C			C	C	C
Nest Box Management Plan	SSI-5100 CoA E11		C						C		A
Spoil Management Plan	SWTC App 24.4, App 24.7(h)(vi)(xiii)										
Visual Amenity Plan	SWTC App 24.4										
Visual Impact Strategy	SSI-5414 CoA C27										A
Carbon & Energy Mgmt Plan	SWTC App 24.4										
Waste & Recycling Plan	SWTC App 24.4										
Sustainability Plan	SWTC App 24.5										
Pollution Incident Response Management Plan	EPL	C									

The *Operational Noise & Vibration Review*, under SSI-5414 CoA C20, may also be required prior to operation.

The ER has authority to approve/ reject minor amendments to this Plan in accordance with the provisions of E45(e) / E32(e). The scope of minor amendments is subject to the discretion of the ER, but could include:

- Typographical or cross-referencing errors;
- Updates to reflect changes to the Environment Protection Licence and/or other approvals;
- Updates to reflect audit findings.

If the ER is unsure as to whether a proposed amendment can be categorised as minor, the ER will seek advice from DP&E prior to endorsing the CEMP amendments. A copy of any CEMP or management plan revised in this manner will be forwarded to the DP&E for information.

4.3 Organisational Structure

Environmental management during construction is the responsibility of each and every member of the ISJV project team. Management and supervisory personnel lead environmental management by example, through provision of suitable resources to implement and monitor environmental measures, identify and correct any non-conforming conditions or behaviours, and actively promote environmental awareness and individual environmental responsibility.

Personnel have clearly defined objectives as well as roles and responsibilities that are specified in the Salini Impregilo BMS.

4.3.1 Organisational Structure

The project organisation structure is outlined in the *Project Management Plan*, and is summarised in Figure 6.

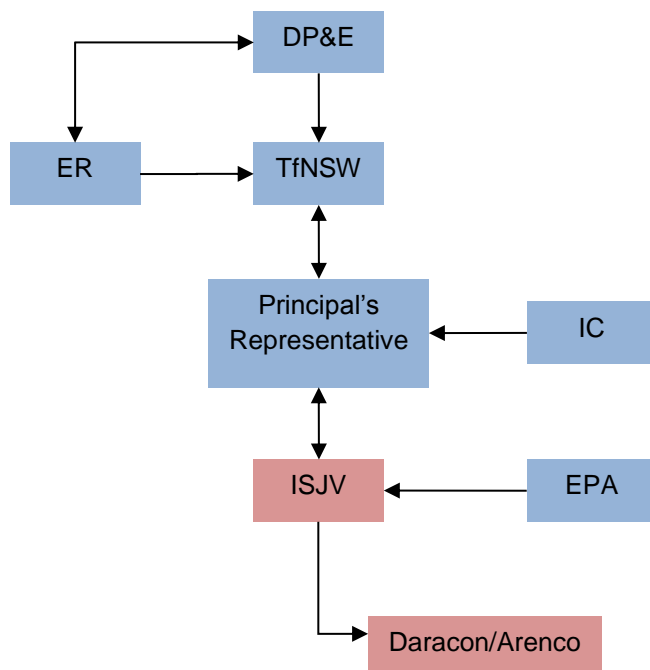


Figure 6 - Organisational Structure

The project environmental management structure incorporates the following site personnel:

- Environment Manager responsible for overall management of the CEMP and environmental management plans; and
- Environment Co-ordinator to assist in implementing and monitoring measures in the CEMP and environmental management plans.

Additional support, if required, is available to the Project. A number of specialists will be available throughout the SVC works, as described in Section 4.5.

The basic environmental management organisational structure within ISJV is outlined in Figure 7.

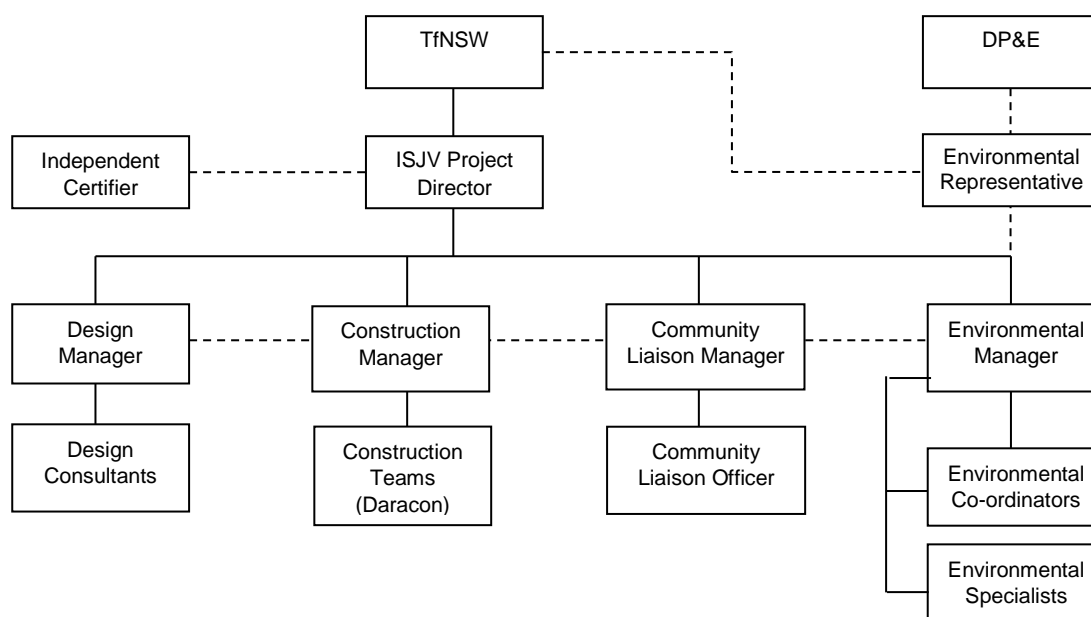


Figure 7 - Environmental Management Structure

The ER has been appointed by TfNSW to independently oversee compliance with the Project Approvals and be the principal point of advice in relation to the environmental performance of the SVC Works. ISJV will provide information and documents, as required, and allow the ER to attend meetings and access the site, as necessary or reasonably required to allow the ER to perform its functions in relation to the Project Deed and MCoAs. ISJV will comply with lawful requests and requirements of the ER.

The role of the ER is specified in Project Deed Clause 2.9, SWTC Clauses 2.2, 3.2.2, 3.2.4, 3.2.6, 3.6 (b), 3.13, SSI-5100 MCoA clauses D1(d), D6 and E44, and as follows:

- Review and endorse environmental risk assessments on design investigation works and initial site establishment works to ensure that only those works assessed to be of low environmental risk and within the definition of pre-construction activities are undertaken prior to DP&E's approval of this CEMP and relevant environmental management plans;
- Monitor implementation of environmental management plans and monitoring programs required under the Project Approvals;
- Considering and advising TfNSW and ISJV on matters specified in the MCoAs, and other licences and approvals related to the environmental performance and impacts of the SVC Works;
- Ensure that environmental auditing is undertaken in accordance with this CEMP;
- Have the authority to approve/ reject minor amendments to this CEMP as per Section 4.2.3;

- Have authority and independence to advise on reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts - directions issued to ISJV will be in writing addressed to the Contractor's Representative;
- Be consulted in responding to the community concerning environmental performance of SVC Works where the resolution of points of conflict between the Proponent and the community is required;
- Discuss or provide feedback to community and business stakeholders in relation to environmental management and delivery of SVC Works;
- Review hold and witness points specified in the environmental management plans and identify any additional hold and witness points considered necessary to ensure compliance;
- Raise observed or identified non-conformances against this CEMP; and
- Identify incidents with significant off-site impacts on people or the biophysical environment, relating to reporting requirements to the DP&E Secretary,

The IC will be provided with information and documents as required, and allowed to attend design meetings and access the site as necessary or reasonably required to allow the IC to perform its obligations under the Independent Certifier Deed. The IC may also insert Hold Points or Witness Points in the environmental management plans, and nominate an authority to release the Hold Points.

4.3.2 Project Specific Groups

The Environmental Manager is part of the Management Review Group, which involves key management personnel from TfNSW and ISJV as per Deed requirements, and meets on a monthly basis during construction, or as otherwise required.

A Transport and Traffic Liaison Group meets monthly in relation to the SMNW. The Group includes the TSC and SVC contractors, Councils, the RMS, T Way & local bus operators, TfNSW, and emergency services. This Group will focus on cumulative construction impacts on traffic and noise generated by overlapping tunneling contractor and SVC contractor works (for example at Balmoral Rd and Memorial Ave).

In addition, under the Interface Agreement between TSC & SVC contractors there will be regular meetings to deal with interface issues, such as scheduling of works to minimise impacts on local traffic and the community from construction activities including noise and out of hours works.

ISJV meets with the ER, IC, and TfNSW specifically regarding environmental and planning issues throughout construction in weekly, (or as otherwise required, Environment and Approval Meetings-

4.4 Roles and Responsibilities

The following roles and responsibilities for key personnel relate to role descriptions in the Salini Impregilo BMS.

4.4.1 Environment Manager

The Environment Manager is full-time for the duration of project construction to oversee environmental management, be the main point of contact for all environmental issues and be accountable for environmental management for SVC works. The Environment Manager must have skills and experience as specifically required by Project Deed Schedule 28.

Responsibilities of the Environment Manager include:

- Advising designers, as required, to confirm consistency of any proposed changes to reference design with relevant environmental requirements.
- Ensuring provision of adequate resources to achieve environmental objectives.

- Being the primary contact point for the Principal's Representative, ER, IC, EPA and other external agencies in relation to environmental performance of construction phase.
- Attend management review group meetings.
- Establishing and updating environmental management plans, procedures and work procedures, and ensuring that they are in accordance with environmental requirements.
- Accountability for all environmental management plans and monitoring programs.
- Considering and advising on matters specified in licences and approvals relating to environmental performance and impacts of construction.
- Having authority and independence to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts, and direct relevant actions to stop immediately should an adverse impact be likely to occur.
- Discussing environmental issues with key stakeholders, and assisting the Community Liaison Manager to resolve environment-related complaints and inquiries.
- Ensuring environmental risks and issues, and obligations and commitments, are identified and effectively communicated to project staff.
- Undertaking at least weekly inspections of all works.
- Maintaining an environmental audit program and undertaking audits in accordance with it.
- Providing an executed Environmental Manager Certificate in the form required by project deed schedule 19 every 3 months from the date of the project deed until completion of the project.
- Producing and submitting environmental reports.

4.4.2 Environment Co-ordinator

The Environment Co-ordinator undertakes environmental duties and assists the Environment Manager. The Environmental Coordinator has +5 years relevant experience in a similar project. Responsibilities of the Environment Co-ordinator include:

- Prepare and update environmental documents such as plans and reports;
- Undertake the environmental management induction and training programs;
- Provide support and guidance to the construction team in adhering to the Salini Impregilo BMS;
- Assist in site inspections, including the close out of actions resulting from the inspections;
- Conduct regular reviews of work activities against Work Procedures, and assist Foremen and Construction Managers in identifying any shortfalls or changes required;
- Monitor the implementation of environmental requirements for the project;
- Assist the Environment Manager with managing incidents; and
- Assist the Environment Manager in the identification of environmental considerations and the implementation of resulting actions.

4.4.3 Environment Specialists

Environmental specialists are external to ISJV and engaged for specialist studies / tasks, such as ecological monitoring, water laboratory analysis, vibration monitoring and heritage assessment, as required.

4.4.4 Other Environmental Resources

All members of the ISJV project team have environmental responsibilities. In general, staff are required to:

- Undertake activities in accordance with environmental management plans and the BMS Manual;
- Report any activity that has resulted, or has potential to result, in an environmental incident; and
- Ensure that they attend environmental induction and task-specific training provided.

Responsibilities and minimum skill level of project team members are outlined in Table 4-2 below.

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Table 4-2 - Environmental Responsibilities and Minimum Skill Levels of Team Members

Team Member	Responsibilities	Minimum Skills Level
Project Director	<ul style="list-style-type: none"> ensuring that environmental requirements are not secondary to other construction requirements, and actively promoting environmental management; ensuring that all project staff have a clear understanding of the environmental management requirements relevant to their area/scope of work; supporting the Environment Policy in Appendix 1; providing adequate resources (personnel, financial and technological) to ensure effective development and implementation of this CEMP and related plans; ensuring that work is undertaken in line with legal and contractual requirements. 	<ul style="list-style-type: none"> + 15 years in similar project
Construction Managers	<ul style="list-style-type: none"> participating and providing guidance in management review of this CEMP and associated documents; ensuring all Site/Project Engineers are familiar with this CEMP and environmental management plans and procedures, and responsibilities within them; implementing this CEMP, environmental management plans and procedures; allocating resources to meet the environmental requirements; ensuring that all personnel receive appropriate induction training, including details of environmental and community requirements; and ensuring that complaints are promptly investigated to ensure effective resolution. 	<ul style="list-style-type: none"> + 15 years in similar project
Design Manager	<ul style="list-style-type: none"> ensuring detailed design progressively addresses all relevant requirements of the MCoA, REMMs and the Project Deed & SWTC; ensuring works are designed to fulfil the requirements and objectives of this CEMP; liaising with the Principal's Representative, Construction Manager, Environmental Manager, and design consultants on environmental issues. 	<ul style="list-style-type: none"> + 15 years in similar project
Community Liaison Manager	<ul style="list-style-type: none"> act as SMNW's primary point of contact with ISJV on stakeholder & community relations matters; prepare, implement and monitor community involvement plans and communications; consult with TfNSW representatives, stakeholders and local communities; ensure community requirements and needs are integrated into design and construction phases; manage emergency communications and incident response. 	<ul style="list-style-type: none"> + 10 years in respective discipline
Training Co-ordinator	<ul style="list-style-type: none"> coordinate training and competency assessments for ISJV project personnel in consultation with subcontractors. report on monthly statistics for the client in terms of workforce development and sustainability. maintains a competency and training matrix. 	<ul style="list-style-type: none"> + 5 years in respective discipline
Project Managers	<ul style="list-style-type: none"> implementing environmental controls contained in environmental management plans and procedures; 	<ul style="list-style-type: none"> + 5 years in respective discipline

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Team Member	Responsibilities	Minimum Skills Level
	<ul style="list-style-type: none"> ensuring that environmental considerations are incorporated into construction plans as required; ensuring that instructions are issued and adequate information provided to employees which relate to environmental risks on site; identifying environmental risks; identifying resource requirements for implementation of controls required by environmental management plans; ensuring that complaints relating to their sites or activities are promptly investigated and resolved; maintaining all necessary monitoring records and reports; taking action in the event of an emergency and allocating the required resources to minimise environmental impact; reporting any activity that has resulted, or has the potential to result, in an environmental incident to the Project Director or Environment Manager. 	
Project and Site Engineers	<ul style="list-style-type: none"> incorporating environmental requirements into method statements; ensuring that instructions are issued and adequate information provided to employees which relate to environmental risks on site; implementation of all environmental controls in environmental management plans and procedures; identifying any additional or changed environmental risks to those in this CEMP; ensuring that complaints relating to their sites or activities are investigated and resolved; maintaining all necessary records and reports; taking action in the event of an emergency and allocating the required resources to minimise environmental and other impacts; and reporting any activity that has resulted, or has the potential to result, in an environmental incident to the Construction Manager or Environmental Manager. 	<ul style="list-style-type: none"> + 10 years in similar project
Super-intendents	<ul style="list-style-type: none"> communicating with all personnel and subcontractors regarding compliance with site specific environmental issues; undertaking site inspections; undertaking toolbox talks; co-ordinating implementation and maintenance of environmental protection measures; co-ordinating action in emergency situations and allocating required resources. 	<ul style="list-style-type: none"> + 10 years in similar project
Foremen	<ul style="list-style-type: none"> undertaking any environmental duties as defined by Site Superintendents or Engineers; attending to any spills, or environmental incidents that may occur on site; reporting any activity that has resulted, or has the potential to result, in an environmental incident immediately to the site superintendent; where necessary, ensuring environmental monitoring or inspections are undertaken and any environmental records are filled in as defined by method statements and work instructions. 	<ul style="list-style-type: none"> + 5 years in similar project

4.5 Specialist and Other Environmental Resources

Specialist consultants and subcontractors are engaged for environmental support roles, such as:

- Acid sulfate soil specialist, if required, for review of management and monitoring techniques;
- Archaeologists for review of the Construction Heritage Management Plan, and to provide advice if heritage items are uncovered during excavations for SVC works;
- Contamination specialist for any Stage 2 investigations and subsequent works or ad hoc advice required;
- Ecologist for review of the Construction Flora & Fauna Management Plan, preparation and implementation of the Ecological Monitoring Program, and ongoing advice throughout construction;
- Noise and vibration specialist for review of the Construction Noise & Vibration Management Plan, preparation of Construction Noise & Vibration Impact Statements, noise modelling, establishment and maintenance of monitoring equipment, and ongoing advice throughout construction;
- Soil Conservationist for review of the Construction Soil & Water Management Plan, preparation of Erosion and Sediment Control Plans (ESCP), preparation of the Soil Salinity Report, preparation of a water quality monitoring program, assistance with implementation of erosion and sediment control measures, and ongoing inspections and advice throughout construction;
- Visual amenity consultants to prepare the Visual Amenity Plan;
- NATA-certified laboratories for water quality analysis;
- GIS, database and other software as required during the course of the project;
- Environmental monitoring hardware; and
- Other resources as required during the course of the project.

Personnel, plant and equipment are also specified in the 'resources' section of environmental management plans.

4.6 Sub-contractors and Suppliers

All sub-contractors are engaged and managed in accordance with relevant procedures defined in the *Project Management Plan*.

Sub-contractors are required to carry out their work in accordance with contract instructions and in an environmentally sound manner. All sub-contractors will work under the ISJV environmental management plans and procedures in the Salini Impregilo BMS.

All sub-contractor personnel are required to attend a project induction, which includes an environmental component and task-specific training (if relevant) before they commence any work on any site. Contracts, Engineering, Construction and Environment to confirm and implement requirements for effective subcontractor control based on known project risks and demonstrated subcontractor performance or the contrary.

4.7 Authorities and Stakeholders

4.7.1 Regulatory Authorities

Regulatory authorities that have a direct interest in environmental issues relating to the project's licences, permits and approvals are:

- DP&E;
- EPA, and OEH;
- Roads & Maritime Services;

- NOW;
- Fisheries;
- Aboriginal stakeholders;
- Heritage Office;
- Councils.

ISJV will maintain open communications with regulatory authorities identified and meet their reasonable requirements.

4.7.2 Other External Stakeholders

Stakeholders and community groups with an interest in environmental issues relating to the project are listed in the Site-specific Stakeholder and Community Involvement Plans. These plans outline how consultation with stakeholders and community groups will take place.

4.7.3 Ongoing Consultation

ISJV will meet with TfNSW, authorities and stakeholders throughout construction.

5 ENVIRONMENTAL ISSUES AND CONTROLS

5.1 Overview

As required by the MCoAs, this plan is the overarching plan for environmental management during construction. Under this plan, environmental management plans have been developed where an environmental issue requires complex and detailed environmental management, or to address specific significant environmental issues associated with the project as required by EISs, Submissions Reports, or the Project Deed.

A number of environmental management plans and procedures support the CEMP. Construction-related work procedures, ESCP, and Environmental Control Maps (ECM) are the means by which specific requirements are addressed at an operational level.

5.2 Environmental Aspects and Impacts

Environmental activities and their corresponding aspects and impacts have been developed according to Salini Impregilo BMS procedures, and in particular MSP01 *Planning of Risk/Hazard Identification Management System Procedure*.

Aspects and impacts are included in the Project Environmental Risk Assessment in Appendix 5.

5.3 Construction Environmental Objectives and Targets

5.3.1 Objectives and Targets

Environmental objectives and targets are set out in Appendix 7, and have been developed based on:

- requirements in statutory approvals and Environmental Documents;
- Schedule 35 (Table 35.1 Environmental KPIs) of the Deed;
- legislative requirements identified in Appendix 6;
- the CEMF;
- Salini Impregilo BMS MSP03 *Objectives, Targets & Programs Management System Procedure*; and
- significant environmental aspects and impacts.

Project objectives and targets are consistent with the Project Environmental Policy in Appendix 1. Objectives and targets may be amended as a result of new or revised operations, activities, and/or regulations.

Environmental management plans include sections describing goals and intended outcomes for each topic area.

5.3.2 Consistency Reviews

The process for ensuring the design of the project is developed consistent with the design and scope of the project as defined in the relevant Planning Approvals and conditions, EISs and Submissions Reports, is outlined in the *ISJV Design Plan*.

Section 9 of the *Design Plan* sets out the process for ensuring any modifications or changes to the design of the project are, wherever possible, consistent with the approved Project. The identification of any proposed modification to the design that may not be consistent with the approved Project will be highlighted by the Design Manager to the Environment Manager at the earliest opportunity for a formal Consistency Review to be prepared under the direction of the Environment Manager.

The Consistency Review process, for design or construction method changes, will determine:

- Whether the introduction of the proposed change, either by itself or in association with any other proposed change, result in any Condition of Approval not being met;
- If the proposed changes, considered together; result in a radical change to the approved project as a whole and if the environmental impacts are materially different;
- If the proposed changes, considered together; result in a substantive change to the objectives and functions of the approved project as a whole;
- If any single proposed change considered separately (or, as relevant, in association with any other proposed change) result in a substantive change to the objectives and functions of the approved project which is to be modified; and
- If any single proposed change results in any change in impact of such nature or scale (including impact on different stakeholders to those who were affected by the approved project) that it would be unreasonable not to make public.

If the results of any of these assessments are affirmative then the aim would be to amend the project change so that the assessment was negative. If the project change cannot be so amended, or is clearly inconsistent, then a Modification Report would need to be prepared, and submitted to DP&E via TfNSW. Consistency Review reports and checklists will be forwarded to TfNSW for review.

The process and responsibility for preparation of a Modification Report (if deemed to be required by TfNSW) would need to be determined on a case by case basis. Any application to modify the Planning Approval conditions would be lodged by TfNSW.

5.3.3 Compliance Management

Compliance during construction is managed through a system of monitoring, inspection, auditing and reporting, as set out in Section 6 of this CEMP. Compliance with licences and permits are managed using the Salini Impregilo BMS procedure MSP02 *Legal and Other Requirements Management System Procedure*.

The Environment Manager is responsible for managing compliance tracking schedules relating to MCoA and REMMs, which are based on registers provided by TfNSW as part of their Compliance Tracking Program. TfNSW report compliance six-monthly to DP&E. Schedules are reviewed and updated quarterly as required for reporting, and submitted to TfNSW at an agreed timeframe. Similarly, compliance with licences/permits is undertaken with compliance tracking schedules, to be prepared after licences/permits are issued.

Relevant methods for tracking compliance include:

- Environmental site inspection reports;
- Non-conformance reports;
- TfNSW-supplied MCoA, REMM compliance tracking schedules;
- ISJV-based EPL compliance tracking schedules; and
- Audit reports.

5.4 Environmental Risk Assessment and Control Identification

5.4.1 Environmental Risk Assessment

An environmental risk assessment of construction activities has been undertaken using the TfNSW SMNW Risk Management Standard. The Environmental Risk Assessment is attached in Appendix 5.

The objectives of risk assessment are to:

- identify activities, aspects, events or outcomes that have the potential to adversely affect the local environment;
- qualitatively evaluate and categorise each risk item;
- assess whether risk issues can be managed by environmental protection measures;
- qualitatively evaluate residual risk with implementation of measures.

Relevant risks and measures identified during the risk assessment have been included in each of the environmental management plans. Appendix 5 identifies environmental aspects, impacts and their associated risk or significance. It then identifies measures to reduce risk, and a residual risk after the identified measures have been carried out.

The environmental risk assessment is reviewed by the Environment Manager on a monthly basis. Risk assessment is undertaken for all major activities, new works and activities in environmentally sensitive areas and to identify any project wide or any non-activity related risks. The Environment Manager is responsible for facilitating risk assessment in consultation with construction teams and specific subcontractors.

5.4.2 Work Procedure

The Work Procedure is the day to day process through which environmental risk for a particular activity is managed. The Procedure includes site specific measures to reduce risk and ensure ongoing environmental compliance. These measures are based on relevant measures in environmental management plans.

Work Procedures are prepared by ISJV for each construction activity and provided to the relevant sub-contractor. The ISJV Environment Manager reviews work procedures prior to implementation to ensure that they capture and adequately address requirements in this CEMP and relevant environmental management plans. ISJV will maintain registers of Work Procedures produced during construction.

5.4.3 Environmental Control Maps

Environmental Control Maps are maps developed in GIS format for each construction site and site specific mitigation measures covering all works. ECMs will be used for each site when preparing Work Procedures and any other specific procedures required at construction sites.

The maps will delineate sensitive areas on the basis of ecology, heritage, erosion, landscape and flooding. The individual map layers are provided in each of the relevant environmental management plans under the CEMP (see below). These can be combined to produce consolidated ECMs for a particular site or work area/zone.

Prior to commencement of works ECMs will be:

- provided to the ER (for review, comment and endorsement); and
- approved by ISJV's Environment Manager.

The maps will be used for each site when preparing Work Procedures and any specific procedures required at construction sites. Approaching practical construction completion, the maps will only be updated as required in areas of active construction.

5.5 Environmental Management Plans

The purpose of environmental management plans is to guide construction in a concise manner, by specifying measures to manage environmental impact. These measures are developed from analysis of aspects and impacts in the risk assessment, and statutory requirements as specified in Section 3. Required environmental monitoring is defined in environmental management plans, to quantify any impact and measure compliance with environmental obligations.

Environmental management plans required for SVC works by the Planning Approvals as part of the CEMP are listed in Figure 2 and Table 4-1, and include:

- Construction Compound & Ancillary Facilities Management Plan;
- Construction Noise & Vibration Management Plan;
- Construction Traffic Management Plan;
- Construction Soil & Water Management Plan, including the Water Quality Monitoring Program, and Salinity Assessment and Management Report;
- Construction Heritage Management Plan;
- Construction Flora & Fauna Management Plan, including the Ecological Monitoring Program and Nest Box Plan; and
- Construction Air Quality Management Plan.

These plans are in a tabular format to provide a concise and comprehensible document for construction personnel. Wherever possible, duplication has been minimised and details such as aspects and impacts used to develop measures have been retained in appendices to the CEMP or separate documents.

Each environmental management plan addresses management of their respective issues with the following minimum content:

- goals and intended outcomes;
- legal & environmental obligations, guidelines and licence, permit and notification requirements;
- relevant environmental mitigation measures, procedures and systems;
- responsibilities for implementation of measures;
- resources (materials/labour) needed to implement and maintain environmental control measures for all parties involved;
- monitoring procedures and requirements; and
- incident management.

In addition to these plans, a number of Project Deed and Submissions Report requirements are included in other plans (see Figure 3):

- Stormwater & Flooding Management Plan;
- Soil Salinity Report;
- Nest Box Management Plan;
- Spoil Management Plan;
- Visual Amenity Plan, and Visual Impact Strategy;
- Carbon & Energy Management Plan;
- Waste & Recycling Plan;
- Sustainability Plan;
- Pollution Incident Response Management Plan;
- Urban Design and Corridor Landscape Plan;
- Operational Noise and Vibration Review.

5.6 Procurement Processes

All procurement for the project will be conducted in accordance with relevant Salini Impregilo BMS procedures, such as MSP24 Procurement Management System Procedure and MSP25 *Suppliers Management System Procedure*. The key purchasing requirements are:

- procurement and contract documentation include environmental management requirements as applicable to the product or service. Where relevant, product or service guarantees are obtained; and
- products, suppliers and sub-contractors are evaluated as to their capability to meet specified environmental requirements for the project.

5.7 Communication

While community and stakeholder issues are addressed in the ISJV Community Liaison Implementation Plan, and TfNSW's Overarching Stakeholder and Community Involvement Plan, Figure 8 summarises the approach adopted by the project. This is based on CEMF Appendix 4.2, Section 4.2.

A number of community members, interest or action groups, stakeholders and the general public have been identified as key interested parties in relation to the construction phase of this project. Communication objectives and methods for consulting with these groups are described in the site-specific Stakeholder and Community Involvement Plans (SCIPs).

The SCIPs identify affected residents and stakeholders within each construction zone and provide an overview of management strategies to inform, consult with and assist residents and stakeholders who are adversely impacted during the construction of the SVC works.

TfNSW and ISJV are required by SSI-5100 MCoA B5 to make all documents required under the planning approval available for public inspection on request. These will be made available on the SMNW website.

Reactive strategies for dealing with stakeholder and community issues are addressed in the Complaints Management Procedure, in Appendix B of the Community Liaison Implementation Plan. The procedure details the process for receipt, management, addressing and actioning the various forms of communication from stakeholders of the project.



Figure 8 - Community Management Plan Hierarchy

5.8 Project Induction and Training

Training will be undertaken as per the Project Training Management Plan, and Salini Impregilo BMS procedure MSP15 Training Management System Procedure.

5.8.1 Project Induction

The project induction outlines key environmental issues. All personnel directly or indirectly working on the project, including sub-contractors, are required to complete the induction prior to starting work, and will be provided with identification to show they have been inducted. Inductions and site access are managed through the security company DAMSTRA. The environmental induction will be periodically reviewed for adequacy.

The project induction includes the following environmental aspects:

- key issues relating to the project and existing environment, such as ecological and heritage conservation areas;
- relevant environmental requirements and the obligations of all staff in relation to compliance with approvals and licences;
- environmental policy and EMS;
- site specific issues, such as:
 - waste management and minimisation,
 - refuelling and maintenance of vehicles, plant and equipment,
 - efficient use of plant, equipment and materials,
 - minimising potential environmental impacts including noise, air and water quality,
- site-specific erosion and sedimentation controls and use of spill kits to contain spills;
- incident reporting procedures for environmental harm/incidents.

5.8.2 Task-Specific Training

Task-specific training is required before staff and sub-contractors can commence high risk activities. The Environment Manager determines activities and personnel required to have specific instruction, when this training will take place, how it will be delivered and if there is a need to retrain personnel. This includes the following, if required:

- community awareness;
- soil and water management practices;
- working with potentially contaminated soils;
- noise minimisation for staff working out of hours;
- incident management and environmental emergency mock training;
- understanding the BMS procedures and forms;
- heritage awareness;
- any other subjects listed in environmental management plans or the Training Plan.

Additional training requirements are outlined in Section 7 of the environmental management plans.

The Training Co-ordinator maintains a register of formal environmental training carried out including dates, names of people trained and trainer details.

5.8.3 Toolbox Talks

Where deemed necessary, toolbox meetings and builders briefs are used to highlight specific environmental and community issues relevant to site personnel. Toolbox meetings are held weekly for both site and office personnel..

A signoff sheet is completed by all personnel in attendance at toolbox meetings to acknowledge understanding of the information provided.

5.8.4 Pre-start Meetings

Pre-start meetings will be undertaken by Superintendents or Foremen daily with all work team members prior to the commencement of works. Prestart meetings are undertaken to ensure that work team members are informed about work hazards on a specific day and at a specific location, and are based on requirements in relevant Work Procedures. Attendance of all work team members at the meetings is required. Meeting content and any issues raised will be recorded.

5.9 Incident Planning and Management

An incident is an uncontrolled event or violation with serious or potentially serious negative consequences to people, property, reputation or the environment. Under Section 148 of the Protection of the Environment Operations Act 1997 (POEO Act), ISJV has a duty to immediately report pollution incidents causing or threatening material harm to the environment. Material harm is defined in Section 147 of the POEO Act as:

'involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, and this loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment'.

Response to all incidents will be undertaken in accordance with the Pollution Incident Response Management Plan and related procedures, such as TfNSW's Environment Incident Classification and Reporting Procedure. Further information, such as notification of the EPA and other authorities, is provided in these documents.

Following consultation with the ER and ISJV, TfNSW will determine and notify the DP&E Secretary of any incident with significant off-site impacts on people or the biophysical environment within 48 hours of becoming aware of the incident. ISJV will assist TfNSW to provide a report detailing the incident to the Director-General within seven days of the incident, by presenting required information to TfNSW in a report or similar format.

In the case of an incident that has attracted or can be expected to attract the media, the Minister for Transport, a local Member of Parliament, or the broader community, ISJV will notify the Principal's Representative within 10 minutes of the incident occurring, or as reasonably practical. For other incidents, ISJV will notify the Principal's Representative within one hour of the incident occurring, or as reasonably practical.

Key personnel to contact in the event of environmental incidents are contained in the Pollution Incident Response Management Plan. The incident reporting procedures and contact hierarchy in the Project Emergency Plan will be distributed to all project personnel through a number of avenues.

6 MONITORING, INSPECTION & AUDITING ENVIRONMENTAL PERFORMANCE

6.1 Environmental Performance Monitoring

Project environmental performance is measured via regular environmental performance reviews. These are based on the measurable outcomes identified in each environmental management plan. The reviews are used to assess progress in meeting environmental objectives and targets. The reviews are undertaken:

- at each key stage of the works;
- in response to new or revised project approvals; or
- in response to major changes in site conditions or work methods.

6.2 Physical Environment Monitoring

The Environment Manager is responsible for implementing the environmental monitoring program outlined in Section 6 (and related sections) of the following environmental management plans:

- Construction Noise & Vibration Management Plan;
- Construction Soil & Water Management Plan (specifically the Water Quality Monitoring Program);
- Construction Heritage Management Plan;
- Construction Flora & Fauna Management Plan (specifically the Ecological Monitoring Program);
- Construction Air Quality Management Plan; and
- Waste & Recycling Plan.

Monitoring locations are defined in relevant environmental management plans, and are agreed with EPA prior to monitoring commencing.

Monitoring reports required in Appendix 10 will be prepared within one week of monitoring results being available, and are retained by the Environment Manager for the duration of the project construction, and kept for five years after project completion. Monitoring reports indicate:

- date and time of monitoring;
- location of monitoring;
- equipment used and method of monitoring;
- results obtained; and
- comparison of results with criteria in relevant environmental management plan(s).

Environmental monitoring reports required by the EPL will be submitted to the EPA.

Environmental monitoring undertaken as a requirement of the EPL will be published monthly on the project website (www.isjv.com.au).

6.3 Environmental Inspections

The Environment Manager is responsible for ensuring effective environmental inspections are carried out and that environmental inspections are appropriately documented. Environmental inspections will use a weekly site inspection checklist such as the example provided in Appendix 9, which will be updated as needed.

Environmental inspections are to be undertaken weekly at all sites, either by ISJV environment staff, or jointly involving the Environment Manager, ER, IC and TfNSW.

The Environment Manager will track actions using the Environmental Actions Register. Regular review of outcomes will be undertaken to ensure all stakeholders gain value from this approach/reporting. A summary of incidents arising from the weekly site inspections will be provided in monthly reports.

6.4 Environmental Audits

Environmental audits will be conducted and reported in accordance with the Salini Impregilo BMS procedure MSP 51 Auditing Management System Procedure.

Audits will be scheduled mainly based on high risk activities. An integrated Audit schedule will be prepared and maintained and will capture all audits to be conducted on the project activities and management systems either by ISJV, IC or TfNSW for effectiveness and efficiency of the process. The Audit Schedule is updated on a monthly basis during the Compliance Work Group (CWG) meetings and agreed by all stakeholders (ER, IC, ISJV and TfNSW). The frequency of the audits will be reviewed as a result of detected deficiencies including an increase in non-conformances, Principal complaints and as a result of external audits.

The ER will attend audits that relate to the MCoA to provide an independent representative.

6.4.1 Internal Audits

Internal audits are carried out by ISJV auditors as per the Quality Management Plan. Auditors are to be at least second party auditors, and not directly responsible for performance in areas being audited.

Audits are planned based on the project phase and the associated environmental risk. Timing of audits are documented in the internal audit schedule. Internal audits typically cover:

- compliance with approval, permit and licence conditions;
- compliance with the Contractor's EMS, CEMP, plans and procedures;
- community consultation and complaint response;
- environmental training records; and
- environmental monitoring and inspection results.

Results of internal audits are distributed to the Project Director, Construction Managers, Environment Co-ordinators, Environment Manager, TfNSW, ER and the IC..

6.4.2 External Audits

TfNSW (or its representative) will undertake audits at least annually of the ISJV EMS and environmental compliance with the Project Deed, SWTC and CEMF. An independent audit program will be established by TfNSW as required by Section D5 of the SSI-5100 MCoA. ISJV will provide relevant information to TfNSW, as required, during the audit process.

External audits may be undertaken by 3rd party auditors such as government authorities or accreditation agencies. Audits would be likely to cover compliance with project approvals, the environment protection licence, and / or ISO 14001:2004.

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.

The results of external audits will be distributed to the Project Director, Construction Managers, Environment Co-ordinators, Environment Manager, TfNSW, ER and the IC.

6.4.3 Auditor Competency

Auditors must demonstrate compliance with the qualification criteria in AS/NZS ISO 19011:2002 Guidelines for quality and/or environmental management systems auditing.

6.4.4 Sub-Contractor Audits

Sub-contractor audits will take place as per the Project Management Plan. Audits can include the entire subcontract scope of works, or some elements of it. The Environment Manager may initiate audits at a greater frequency if performance is not in keeping with project objectives. Environment Manager or other qualified staff to undertake or facilitate subcontractor audits (or equivalent systematic process) to demonstrate understanding and implementation of environmental related plans, procedures and practices by high risk contractors. This will be facilitated through the CWG process.

6.5 Management Review

The project will be reviewed at least annually as per the MSP48 *Management Review Management System Procedure*. Additional unscheduled management review meetings may be held at any time in circumstances such as:

- major restructuring of operations or management responsibilities;
- new processes /aspects that introduce significant new health, safety or environmental risk/hazard;
- major external concerns arising and potentially affecting interested parties or legal obligations

Project reviews assess the status/progress of the project and the plans, controls and tools being utilised to effectively progress the project, including:

- Site walk and project overview.
- Client issues.
- Stakeholder engagement.
- Design & authorities issues.
- Programme & procurement.
- Workplace management plan.
- Administration & financials.
- Post-construction / finalisation including lessons learnt.
- Review minutes.

The following people are typically required to attend project reviews:

- Construction Manager, Project Managers.
- General Foreman, Senior Project Engineer, Site Engineer, Project Engineer where required.
- Key support staff including Environment Manager, Sustainability Manager, as required.
- Other site staff as a training opportunity.

6.6 Non-Conformance, Corrective and Preventive Action

All corrective and preventative actions are undertaken in accordance with the Salini Impregilo BMS procedures MSP44 *Non-Conformance Management System Procedure*, MSP45 *Improvement Opportunities, Corrective & Preventive Action Management System Procedure* and MSP42B *Environmental Incident Management Procedure*.

Non-conformances with internal procedures, systems or approved design and their rectification are recorded in iTWOCx. Non-conformances relating to legislation, approvals or Environmental Documents are classified

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as Non-Compliances in the Incident reporting procedures, and are communicated to TfNSW in writing or electronically as Incident Reports by ISJV as it becomes aware of them, in a timely manner.

Corrective actions will be undertaken to rectify non-conformances and preventative actions are undertaken to prevent the re-occurrence of the non-conformance or non-compliance.

6.7 Documentation and Record Control

6.7.1 Documentation

Project documents will be maintained on the web-based document control system 'Teambinder'. ISJV's document control system iTWOcx is used to control the version and distribution of environment and related documentation including documentation required by sub-contractors.

Revisions to this plan, environmental management plans and related documents are made as per MSP18 *Document and Data Control Management System Procedure*, in accordance with planning approvals and changes in the project. The Environment Manager reviews any outstanding issues and comments provided by the ER, IC, Principal's Representative or authorities, or that have arisen during construction, and addresses these either:

- in time to be endorsed by the IC and reviewed by the Principal's Representative prior to commencement of any related activities or work; or
- at the next Management Review of the plan as outlined in the Project Management Plan.

6.7.2 Record Control

The Environment Manager is responsible for maintaining legible environmental records to demonstrate compliance with Salini Impregilo BMS procedure MSP50 Control of Records and Archiving Management System Procedure, including:

- monitoring and inspection reports;
- internal and external audit reports;
- reports of pollution incidents, environmental non-conformances and responses;
- documentation required by conditions, approvals, licences or legislation;
- reports of environmental complaints and follow-up action;
- site inspections;
- records of monitoring of subcontractors.

Records are filed electronically on a web-based document control system, and/or the project's shared drive, during construction. Environmental records are held for at least seven years after construction completion, and are accessible on request to authorised EPA officers.

7 REPORTING

Reporting will be undertaken as per the Salini Impregilo BMS procedure MSP49 *Management Reporting Management System Procedure*.

The Environment Manager is responsible for managing the environmental reporting program and arranging specialist consultants to prepare reports, as required.

The environmental reporting program is attached in Appendix 10.

ISJV will provide a monthly environmental report to the Principal's Representative, the ER and the IC by the seventh day of the following month. The reports will be suitable for publication on the Principal's project website.

Appendix 1. PROJECT ENVIRONMENTAL POLICY

Our Principals

Salini Impregilo is committed to the principles of ecological sustainable development likewise continuous improvement and pollution prevention on all its current processes and activities.

We strive to balance our economic and operational requirements with our social responsibilities to minimise impact on the environment and surrounding communities.

Our Objectives

In applying those principals, we aim to:

- Comply where reasonably practicable with all statutory, clients, licence/permits, other requirements and obligations with respect to the environment aspects to which we subscribe.
- Promote a culture of innovation and participation engaging our employees to contribute to the continuous improvement of our company's environmental performance.
- Encourage ethical environmental practice and behaviour including respect for cultural and community values.
- Promote the efficient use of energy, reduction of waste and recycling of materials in all of our business processes and activities.
- Maintain our certification to ISO 14001 and accreditation to the relevant Federal, State/Territories guidelines and schemes.
- Develop awareness of our environmental management processes, risk and responsibilities among our employees, suppliers and other stakeholders.
- Establish and communicate measurable objectives, targets and performance measures relating to the main environmental aspects/risk of the corporate & workplaces activities and processes.
- Implement environmental management system and workplaces environmental management plans that is documented, practical, working effectively and relevant to our processes and activities.

Our Approach

To assist us in achieving our environmental objectives we will undertake the following:

- Monitor compliance with all statutory, clients, licence/permits and other requirements
- Regularly review objectives & targets performance against the actual performance set as a minimum on annual basis.
- Provide sufficient resources for the implementation of the corporate business management system and management plans.
- Planning & coordination of environmental training programs to all our employees and suppliers.
- Assess environmental risks and implement appropriate risk management programs to continually improve environmental performance throughout our processes, activities and workplaces.
- Report monthly on our environmental performance to senior management and take remedial action where performance does not meet expectation.
- Conduct planned and risk based internal workplaces audits and inspections in order to monitor compliance with statutory, clients, licence/permits and our business management system.
- Communicate this 'Policy' to all our employees, suppliers and clients through induction, training and by displaying it throughout our establishment to promote environmental responsibility and obligations.

Our Senior Management will endeavour to review the 'Policy' and business management system for continuing suitability on an annual basis as part of corporate and projects management reviews and communicate outcomes to various company levels and function.

Marco Alpini
Country Manager Australia
Review Date: February 2014

Appendix 2. ENVIRONMENTAL REQUIREMENTS – MCOA

Appendix 2-1. Environmental Requirements – SSI-5100 MCoA

Appendix 2-1: Environmental Requirements – SSI-5100 Conditions of Approval

SSI-5100 SCHEDULE B - ADMINISTRATIVE CONDITIONS

	CONDITION	CEMP REFERENCE
B1	The Proponent shall carry out the SSI generally in accordance with the: (a) SSI Application SSI-5100; (b) North West Rail Link: Environmental Impact Statement -Stage 1-Major civil Construction Works, dated 26 March 2012; (c) Submissions Report, Stage 1 -Major Civil Construction Works, Incorporating Preferred Infrastructure Report, dated July 2012; and (d) conditions of this approval.	CEMP Section 3.1
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.	CEMP
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.	CEMP
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 submitted in accordance with this approval; and (b) the implementation of any actions or measures contained within these reports, plans or correspondence.	CEMP
B5.	Subject to confidentiality, the Proponent shall make all documents required under this approval available for public inspection on request.	Community Liaison Implementation Plan
	LIMITS OF APPROVAL	
B6.	This approval shall lapse 10 years after the date on which it is granted, unless the works the subject of this SSI approval are physically commenced on or before that date.	N/A – TfNSW responsibility
	STATUTORY REQUIREMENTS	
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 to obtain, renew or comply with such licences, permits or approvals.	CEMP Section 3
B8.	This approval does not apply to the operation of off-site spoil receipt locations and facilities. The receipt of spoil at these locations shall be undertaken in accordance with approvals/or licences applying to these locations or facilities.	CEMP Section 1

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	CONDITION	CEMP REFERENCE
	STAGING	
B9.	<p>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:</p> <p>(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</p> <p>(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.</p> <p>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).</p> <p>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.</p>	N/A – TfNSW responsibility
B10.	<p>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.</p> <p><i>Note: These conditions do not relate to staged infrastructure within the meaning of section 115Z0 of the EP&A Act.</i></p>	CEMP Section 4.2
B11.	<p>With the approval of the Director General, the Applicant may:</p> <p>(a) submit any strategy, plan, program (or the like) required by this approval on a progressive basis; and</p> <p>(b) combine any strategy, plan, program (or the like) required by this approval.</p> <p><i>Notes: While any strategy, plan or program may be submitted on a progressive basis, the Applicant will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times; and</i></p> <p><i>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.</i></p>	CEMP Section 4.2
	COMPLIANCE	
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.	CEMP Section 3
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.	CEMP Section 5
B14.	The Proponent shall be responsible for environmental impacts resulting from the actions of all persons that it invites onto the site, including contractors, sub-contractors and visitors.	CEMP Section 5

SSI-5100 SCHEDULE C - ENVIRONMENTAL PERFORMANCE

	CONDITION	CEMP REFERENCE
	Ecological Monitoring	
C1.	<p>An Ecological Monitoring Program shall be developed to monitor the effectiveness of the biodiversity mitigation measures implemented as part of construction of the SSI. The Program shall be developed by a suitably qualified and experienced ecologist in consultation with OEH and relevant Councils and shall include, but not necessarily be limited to:</p> <p>(a) an adaptive monitoring program to assess the effectiveness of the mitigation measures. The monitoring program shall nominate performance parameters and criteria against which effectiveness of the mitigation measures will be measured;</p> <p>(b) mechanisms for developing additional monitoring protocols to assess the effectiveness of any additional mitigation measures implemented to address additional impacts in the case of design amendments or unexpected threatened species finds during construction (where these additional impacts are generally consistent with the biodiversity impacts identified for the SSI);</p> <p>(c) provision for the assessment of data to identify changes to habitat usage and whether this can be directly attributed to construction of the SSI;</p> <p>(d) details of contingency measures that would be implemented in the event of changes to habitat usage patterns directly attributable to the construction of the SSI; and</p> <p>(e) provision for annual reporting of monitoring results to the Director General, OEH and relevant Councils, or as otherwise agreed by those agencies.</p> <p>Monitoring shall be undertaken during construction and until such time as the effectiveness of mitigation measures can be demonstrated to have been achieved over a minimum of three successive monitoring periods, unless otherwise agreed by the Director General. The monitoring period may be reduced with the agreement of the Director General in consultation with OEH and relevant Councils depending on the outcomes of the monitoring.</p> <p>The Program shall be submitted to the Director General for approval no later than one month prior to the commencement of construction that would result in the disturbance of ecological communities, unless otherwise agreed by the Director General.</p>	Ecological Monitoring Program
	Riparian and Aquatic Ecology	
C2.	Riparian Buffer Widths for waterways which are affected by the SSI are to be managed for a Total Riparian Buffer Width of between 10m to 50m where feasible and reasonable, dependant on the Category of Watercourse determined by the Riparian Assessment for the North West Rail Link (Ecological Australia, 2011)	Construction Flora and Fauna Management Plan
C3.	Watercourses affected by the proposal shall, where feasible and reasonable, be rehabilitated to emulate a natural stream system. The rehabilitation of watercourses shall be consistent with the <i>Guidelines for Controlled Activities</i> (DWE, 2008) and stream armouring should be minimised to the greatest extent practicable.	Construction Flora and Fauna Management Plan
C4.	Riparian vegetation in and around watercourses affected by the SSI shall be restored and rehabilitated in consultation with NOW and DPI (Fisheries) and with the relevant Council/s. Restoration and rehabilitation measures, including timeframes and reporting on completion of	Construction Flora and Fauna Management Plan

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	CONDITION	CEMP REFERENCE
	works, shall be included in the Construction Flora and Fauna Management Plan (condition E46(f)).	
	Biodiversity Offset Package	
C5.	<p>Within twelve months of the commencement of construction, or as otherwise agreed to by the Director General, the Proponent shall develop and submit a Biodiversity Offset Package for the approval of the Director General. The Package shall detail how the ecological values lost as a result of the SSI will be offset. The Package shall be developed in consultation with OEH and the Department (Strategies and Land Release) and shall (unless otherwise agreed by the Director General) include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> a) the identification of the extent, types and condition of habitat that shall be lost or degraded as a result of the SSI, including the consideration of indirect impacts on adjacent retained vegetation and impacts caused through weed incursion and other potential edge effects; b) the objectives and outcomes necessary to address impacts on all native flora and fauna species and vegetation communities located in the North West Growth Centre, but not certified under the Biodiversity Certification Order, or located on land outside of the North West Growth Centre; c) the final suite of the biodiversity offset measures selected and secured in accordance with the Biodiversity Offset Strategy; d) the management and monitoring requirements for compensatory habitat works and other biodiversity offset measures proposed to ensure the outcomes of the package are achieved, including: <ul style="list-style-type: none"> i) monitoring of the condition of species and ecological communities at offset locations; ii) methodology for monitoring program(s), including number and location of offset monitoring sites, and the sampling frequency at these sites; iii) provisions for the annual reporting of the monitoring results for a set period of time as determined in consultation with the OEH; and e) timing and responsibilities for the implementation of the provisions of the Package. <p>Land offsets shall be consistent with the <i>Principles for the use of Biodiversity Offsets in NSW</i>. Notwithstanding, in relation to areas of non-certified ENV within the North West Growth Centre, offset requirements must be consistent with the <i>Growth Centres Biodiversity Certification Order</i> (December, 2007). Any land offset shall be enduring and be secured by a conservation mechanism which protects and manages the land in perpetuity. Where land offsets cannot solely achieve compensation for the loss of habitat, additional measures shall be provided to collectively deliver an improved or maintained biodiversity outcome for the region.</p> <p>Where possible, specific priority shall be given to securing offset sites as near to the location of the impact/loss as possible to assist with the preservation of the specific endemic community of the area and assure that the ecological and amenity benefits of retaining endemic vegetation remain within the Local Government Area.</p> <p>Where monitoring referred to in condition C1 indicates biodiversity outcomes are not being achieved, remedial actions, (such as improved land management measures or changes to the size and/or location of the offset area), shall be developed in consultation with OEH and the Department (Strategies and Land Release). Such remedial actions shall be documented under an addendum to the Biodiversity Offset Package and the addendum be submitted for the approval of the Director-General, prior to the implementation of that addendum.</p>	<p>N/A – TfNSW responsibility</p> <p>Limited information from ISJV is required for TfNSW to prepare the Biodiversity Offset Package.</p>
	SOIL, WATER QUALITY AND HYDROLOGY	
C6.	Except as may be provided by an EPL, the SSI shall be constructed and operated to comply with section 120 of the Protection of the Environment Operations Act 1997, which prohibits the pollution of waters.	Construction Soil and Water Management Plan

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	CONDITION	CEMP REFERENCE
	Flooding	
C7.	<p>The SSI shall be designed, to the extent that it is feasible and reasonable, to not worsen existing flood characteristics in the vicinity of the SSI. Not worsen is defined as:</p> <ul style="list-style-type: none"> (a) a maximum increase flood levels of 20mm in a 100 year Average Recurrence Interval (ARI) flood event; and (b) a maximum increase in flood levels of 50mm in a probable maximum flood; and (c) a maximum increase in time of inundation of one hour in a 100 year ARI flood event; and (d) any increase in flow velocity in a 100 year ARI flood event should not increase the potential for soil erosion and scouring. 	<p>Stormwater and Flooding Management Plan</p> <p>Design Packages</p>
	Flood Risk Management Plan	
C8.	<p>A Stormwater and Flooding Management Plan(s) shall be prepared in consultation with the Department (Strategies and Land Release), OEH, and relevant Councils during detailed design of the SSI and prior to relevant construction, or as otherwise agreed by the Director General.</p> <p>The Plan shall identify actions to ensure that the SSI addresses existing flooding characteristics within the vicinity of the SSI for a full range of flood sizes up to and including the probable maximum flood.</p> <p>The Plan(s) shall be prepared by appropriately qualified person(s) and facilitate a holistic approach to detailed hydrologic assessment and stormwater management, which gives consideration to the impacts associated with construction and operation, and shall include but not be limited to: a) the design of temporary works and compensatory measures that would be implemented during construction to not worsen, to the extent that it is feasible and reasonable, existing and known future flooding characteristics; b) the identification of flood risks to the SSI and adjoining areas, including the consideration of local drainage catchment assessments, and climate change implications on rainfall and drainage characteristics; c) identification of design and mitigation measures that would be implemented to protect proposed construction activities and not worsen existing flooding characteristics during construction, including soil erosion and scouring; d) identify flood risk, potential for inflows, potential consequences and required mitigation measures for each tunnel entrance; and e) a flood / emergency response / management plan.</p> <p>For surface components of the SSI located on floodplains, flood impacts shall be confirmed in accordance with the <i>Floodplain Development Manual</i> (2005), and other relevant NSW Government Guidelines.</p>	<p>Stormwater and Flooding Management Plan</p> <p>Design Packages</p>
	Salinity	
C9.	<p>A Soil Salinity Report detailing the outcomes of geotechnical investigations and groundwater monitoring, to determine the presence, extent and severity of soil salinity within the SSI area and impacts to groundwater resources and hydrology, shall be prepared and submitted to the Director General prior to the commencement of bulk earth activities, or as otherwise agreed by the Director General.</p> <p>The report shall be prepared in consultation with OEH and NOW and detail, where relevant, that the SSI minimises, avoids and/or mitigates impacts on local/regional salinity processes, impacts on groundwater systems, and receiving environments.</p> <p>The recommendations of the Soil Salinity Report shall be incorporated into the Construction Soil and Water Quality Management Plan (condition E46(d)).</p>	<p>Soil Salinity Report</p> <p>Construction Soil & Water Management Plan</p>
	Watercourse crossings	

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	CONDITION	CEMP REFERENCE
C10.	Watercourse crossings (temporary and permanent) shall be designed in consultation with NOW, and where feasible and reasonable, be consistent with the <i>Guidelines for Controlled Activities, Policy and Guidelines for Fish Friendly Waterway Crossings</i> (NSW Fisheries, 2004) and <i>Policy and Guidelines for Design and Construction of Bridges, Roads, Causeways, Culverts and Similar Structures</i> (NSW Fisheries, 1999). Where multiple cell culverts are proposed for creek crossings, at least one cell shall be provided for fish passage, with an invert or bed level that mimics creek flows.	Design Packages Construction Flora and Fauna Management Plan
	Water Quality Monitoring Program	
C11.	<p>A Water Quality Monitoring Program shall be prepared and implemented to monitor impacts on surface and groundwater quality resources and wetlands. The Program shall be developed in consultation with the EPA, DPI (Fisheries) and NOW and shall include but not necessarily be limited to:</p> <ul style="list-style-type: none"> (a) identification of surface and groundwater quality monitoring locations which are representative of the potential extent of impacts from the SSI; (b) identification of the water quality parameters to be monitored at each location; (c) identification of works and activities during construction of the SSI, including emergencies and spill events, that have the potential to impact on surface water quality of potentially affected waterways; . (d) presentation of parameters and standards against which any changes to water quality will be assessed, having regard to the principles of the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000</i> (ANZECC, 2000), and identification of 'trigger points' for further investigation or action to be taken; (e) representative background monitoring of surface and groundwater quality parameters, to establish baseline water conditions, unless otherwise agreed by the Director General; (f) identification of the frequency of water sampling during background, and construction monitoring periods; (g) a minimum monitoring period of three years following the completion of construction or until the affected waterways and/ or groundwater resources are certified by an independent expert as being rehabilitated to an acceptable condition; (h) contingency and ameliorative measures in the event that adverse impacts to water quality relevant to the SSI are identified; and (i) reporting of the monitoring results to the Department, EPA, DPI and NoW. <p>The Program shall be submitted to the Director General for approval prior to the commencement of construction of the SSI, or as otherwise agreed by the Director General. A copy of the Program shall be submitted to the EPA, DPI (Fishing and Aquaculture) and NOW prior to its implementation.</p>	Water Quality Monitoring Program
	Groundwater	
C12.	The Proponent shall design and construct the SSI, as far as is feasible and reasonable, in a manner that minimises impacts to groundwater hydrology including capture, drawdown and quality.	Construction Soil and Water Management Plan Design Packages

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	CONDITION	CEMP REFERENCE
	Contamination	
C15.	<p>The following documents shall be submitted to the Director General, within the identified timeframes, unless otherwise agreed by the Director General:</p> <p>(a) reports detailing Stage 2 Contamination Site Investigations in areas identified as having a moderate to high risk of contamination, and a Site Auditor endorsed Remediation Action Plan (or similar), where required, prior to site preparation or construction; and</p> <p>(b) Certification by a Site Auditor that any contaminated land and/or groundwater, identified in (a) has been remediated to a standard consistent with the intended land use, prior to the use of the land.</p> <p>Note: Terms used in this condition have the same meaning as in the <i>Contaminated Land Management Act 1997</i>.</p>	<p>Design Packages for any contamination (stage 2 investigations) unless addressed by TfNSW as part of Early Works.</p> <p>Construction Soil and Water Management Plan</p>
C16.	Where the investigations identify that the site is suitable for the intended operations and that there is no need for a specific remediation strategy, measures to identify, handle and manage potential contaminated spoils, materials and groundwater shall be incorporated into the Construction Environmental Management Plan (condition E46).	Construction Soil and Water Management Plan
	HAZARDS AND RISK	
C21.	<p>Dangerous goods, as defined by the <i>Australian Dangerous Goods Code</i>, shall be stored and handled strictly in accordance with:</p> <p>a) all relevant Australian Standards;</p> <p>b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; and</p> <p>c) the Environment Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin (EPA, 1997).</p> <p>In the event of an inconsistency between the requirements listed from (a) to (c) above, the most stringent requirement shall prevail to the extent of the inconsistency.</p>	Construction Soil and Water Management Plan
	WASTE MANAGEMENT	
C22.	Waste generated outside the site shall not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the <i>Protection of the Environment Operations Act 1997</i> , if such a licence is required in relation to that waste.	Waste & Recycling Plan
	UTILITIES AND SERVICES	
C23.	Utilities, services and other infrastructure potentially affected by construction shall be identified prior to construction effecting the item, to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the SSI shall be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The Proponent shall ensure that disruption to any service is minimised and shall be responsible for advising local residents and businesses affected prior to any planned disruption of service.	Construction Plan
C24.	The Proponent shall prepare dilapidation surveys and reports (including movement prediction studies) on the condition of roads, footpaths, services and utilities affected by construction. The Proponent shall carry out rectification work at the Proponent's expense and to the reasonable requirements of the owners.	Construction Plan
C25.	All excavations adjacent to RMS road infrastructure shall meet the requirements of RMS Technical Direction GTD 2012/0001 "Excavation"	Construction Plan

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	CONDITION	CEMP REFERENCE
	<i>adjacent to RMS infrastructure".</i>	
C26.	The Proponent shall consult with relevant Councils regarding the use of any weight restricted road by heavy construction vehicles if required.	Construction Plan
	TRANSPORT AND ACCESS	
C27.	The SSI shall be designed and constructed with the objective of minimising adverse changes to the efficiency, accessibility and safety of the road and associated transports networks, and where feasible and reasonable, facilitate an improved level of service, in relation to permanent changes. Detailed design and assessment of related traffic and accessibility impacts and changes shall be undertaken: (a) in consultation with, and to the reasonable requirements of, the relevant road authority and transport operator; (b) in consideration of existing and future demand (in relation to permanent changes), performance and safety requirements; and (c) to meet relevant design, engineering & safety guidelines, including Austroads, Australian Standards, RMS (RTA) requirements and the like. Changes shall be certified by an appropriately qualified person(s) and certified copies of civil, structural and traffic signal design plans shall be submitted to the relevant road authority for consideration and acceptance prior to the commencement of the relevant works.	Design Packages Construction Traffic Management Plan
C28.	A Traffic and Transport Liaison Group shall be established by the Proponent to inform the detail design of temporary and permanent traffic and transport measures and to inform ongoing management measures prior to and during construction of the SSI. The Group shall be chaired by the Proponent and shall comprise representatives from relevant road authorities (including the RMS and councils), transport operators, and emergency services. The Group shall be consulted on and shall inform the preparation of the Construction Traffic Management Plan (condition E46(c)) and associated plans.	N/A – TfNSW responsibility ISJV is to provide a Traffic & Transport Representative
C29.	The Proponent shall undertake supplementary analyses as required by the Traffic and Transport Liaison Group and, where relevant, detailed modelling of traffic changes and impacts that have the potential to have a significant impact on traffic flow efficiency with the objective of informing and improving traffic management measures. The requirement for, and details of, the modelling shall be undertaken in consultation with the Traffic and Transport Liaison Group. The revised traffic management measures, including changes to the pedestrian, bicycle and public transport networks, shall be incorporated into the Construction Traffic Management Plan (condition E46(c)).	Design Packages Construction Traffic Management Plan
C30.	Without limiting the outcomes of the Construction Traffic Management Plan for the SSI, construction traffic shall be scheduled, where feasible and reasonable, to outside of AM and PM peak traffic periods, and also during special events. Methods used to limit construction traffic outside of peak traffic periods shall be incorporated into the Construction Traffic Management Plan (condition E46(c)).	Construction Traffic Management Plan
C31.	Bridgeworks and other structures in the proximity of the road and associated transport networks shall be designed to ensure the efficient and safe operation of the networks.	Construction Traffic Management Plan
C32.	Permanent road works, including vehicular access, signalised intersection works, and works relating to pedestrians, cyclists, and public transport users will be subject to safety audits demonstrating consistency with relevant design, engineering and safety standards and guidelines. Safety audits shall be submitted to the Traffic and Transport Liaison Group prior to the use of the subject infrastructure and shall be made available to the Director General upon request.	Construction Traffic Management Plan
	URBAN DESIGN	
C33.	The Proponent shall design and construct the SSI in a manner that minimises the visual and heritage setting impacts of the viaduct and bridge structures, and other permanent hard landscaping elements, and shall have consideration of the <i>Bridge Aesthetics Design guidelines to</i>	Visual Amenity Plan

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	CONDITION	CEMP REFERENCE
	<i>improve the appearance of bridges in NSW (RTA, 2003).</i>	

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SSI-5100 SCHEDULE D - COMMUNITY INFORMATION, REPORTING AND AUDITING

	CONDITION	CEMP REFERENCE
	COMMUNITY INFORMATION, CONSULTATION AND INVOLVEMENT	
D1.	<p>A Stakeholder and Community Involvement Plan shall be prepared and implemented to provide mechanisms to facilitate communication between the Proponent (and its contractor(s)), the ER (condition E44), the relevant council and community stakeholders (particularly adjoining landowners) on the construction environmental management of the SSI. The Strategy shall include, but not be limited to:</p> <ul style="list-style-type: none"> (a) identification of community and business stakeholders to be consulted as part of the Strategy, including affected and adjoining landowners; (b) procedures and mechanisms for the regular distribution of information to community and business stakeholders on construction progress and matters associated with environmental management; (c) the formation of community/business-based forums that focus on key environmental management issues for the SSI. The Strategy shall provide detail on the structure, scope, objectives and frequency of the forums; (d) procedures and mechanisms through which community and business stakeholders can discuss or provide feedback to the Proponent and/or Environmental Representative in relation to the environmental management and delivery of the SSI; (e) procedures and mechanisms through which the Proponent can respond to enquiries or feedback from community and business stakeholders in relation to the environmental management and delivery of the SSI; and (f) procedures and mechanisms that would be implemented to resolve issues/ disputes that may arise between parties on the matters relating to environmental management and delivery of the SSI. This may include use of an appropriately qualified and experienced independent mediator. <p>Issues that shall be addressed through the Stakeholder and Community Involvement Plan include construction traffic and access arrangements, construction noise and vibration, impacts to local businesses, land uses and community facilities, and other construction generated impacts.</p> <p>The Proponent shall maintain and implement the Plan throughout construction of the SSI. The Plan shall be approved by the Director General prior to the commencement of construction, or as otherwise agreed by the Director General.</p>	See Community Liaison Implementation Plan – shared responsibilities between TfNSW and ISJV.
	Complaints and Enquiries Procedure	
D2.	<p>Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall ensure that the following are available for community enquiries and complaints for the duration of construction:</p> <ul style="list-style-type: none"> (a) a 24 hour telephone number(s) on which complaints and enquiries about the SSI may be registered; (b) a postal address to which written complaints and enquires may be sent; (c) an email address to which electronic complaints and enquiries may be transmitted; and (d) a mediation system for complaints unable to be resolved. <p>The telephone number, the postal address and the email address shall be published in newspaper(s) circulating in the local area prior to the commencement of construction. This information shall also be provided on the website (or dedicated pages) required by this approval.</p>	See Community Liaison Implementation Plan – shared responsibilities between TfNSW and ISJV.
D3.	<p>Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall prepare and implement a Construction Complaints Management System consistent with AS 4269: <i>Complaints Handling</i> and maintain the System for the duration of construction and up to 12 months following completion of the SSI.</p>	See Community Liaison Implementation Plan – shared responsibilities between TfNSW

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	CONDITION	CEMP REFERENCE
	Information on all complaints received, including the means by which they were addressed and whether resolution was reached, with or without mediation, shall be maintained in a complaints register and included in the construction compliance reports required by this approval. The information contained within the System shall be made available to the Director General on request.	and ISJV. ISJV is to maintain a complaints register
	Provision of Electronic Information	
D4.	<p>Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall establish and maintain a new website, or dedicated pages within an existing website, for the provision of electronic information associated with the SSI, for the duration of construction and for 12 months following completion of the SSI. The Proponent shall, subject to confidentiality, publish and maintain up-to-date information on the website or dedicated pages including, but not necessarily limited to:</p> <ul style="list-style-type: none"> a) information on the current implementation status of the SSI; b) a copy of the documents referred to under condition B1 of this approval, and any documentation supporting modifications to this approval that may be granted from time to time; c) a copy of this approval and any future modification to this approval; d) a copy of each relevant environmental approval, licence or permit required and obtained in relation to the SSI; e) a copy of each current strategy, plan, program or other document required under this approval; f) the outcomes of compliance tracking in accordance with condition D5 of this approval; and g) details of contact point(s) to which community complaints and enquiries may be directed, including a telephone number, a postal address and an email address. 	<p>See Community Liaison Implementation Plan – shared responsibilities between TfNSW and ISJV.</p> <p>ISJV is to maintain a complaints register</p>
	COMPLIANCE MONITORING AND TRACKING	
	Compliance Tracking Program	
D5.	<p>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:</p> <ul style="list-style-type: none"> (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 EMS 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. 	<p>N/A – TfNSW responsibility</p> <p>ISJV is to provide information to TfNSW</p>
	Incident Reporting	

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	CONDITION	CEMP REFERENCE
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.	CEMP Section 5

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SSI-5100 SCHEDULE E - CONSTRUCTION ENVIRONMENTAL MANAGEMENT

	CONDITION	CEMP REFERENCE
	AIR QUALITY	
E1.	The SSI shall be constructed in a manner that minimises dust emissions from the site, including wind-blown and traffic-generated dust and tracking of material onto public roads. All activities on the site shall be undertaken with the objective of minimising visible emissions of dust from the site. Should such visible dust emissions occur at any time, the Proponent shall identify and implement all feasible and reasonable dust mitigation measures, including cessation of relevant works, as appropriate, such that emissions of visible dust cease.	Construction Air Quality Management Plan
	VISUAL AMENITY	
E2.	The SSI shall be constructed in a manner that minimises visual impacts resulting from construction sites, including retaining, where feasible and reasonable, existing vegetation around the perimeter of construction sites, providing temporary landscaping where appropriate to soften views of the construction sites, minimising light spillage, and incorporating architectural treatment and finishes within key elements of temporary structures that reflect the context within which the construction sites are located.	Visual Amenity Plan
	BIODIVERSITY	
E3.	The clearing of native vegetation shall be minimised with the objective of reducing impacts to any threatened species or EECs to the greatest extent practicable. In particular, consideration of measures to reduce the impacts of clearing good condition vegetation at the Cheltenham Services Facility and associated access. points, shall be undertaken.	Construction Flora and Fauna Management Plan
E4.	Where the clearing of bush land occurs within or in close proximity to areas currently subject to bush land restoration works, consultation shall be undertaken with the relevant council and other relevant stakeholders including bushcare groups, regarding the management of current restoration works areas. The re-routing of walking tracks and associated signage shall be implemented to reflect construction works within these bush regeneration and restoration areas.	Construction Flora and Fauna Management Plan
	Pre clearing surveys	
E5.	Prior to construction, pre clearing surveys and inspections for threatened flora and fauna species and habitat features shall be undertaken. The surveys and inspections, and any subsequent relocation of species, shall be undertaken under the guidance of a qualified ecologist and the methodology incorporated into the Construction Flora and Fauna Management Plan (condition E46(f)).	Construction Flora and Fauna Management Plan
	Nest Box Plan	
E6.	Prior to the commencement of construction work that would result in the disturbance of native vegetation (or as otherwise agreed by the Director General), a Nest Box Plan to provide replacement hollows for displaced fauna shall be prepared in consultation with the OEH and relevant Council(s). The Plan, to be incorporated into the Biodiversity Offset Package (condition C5), shall detail the number and type of nest boxes to be installed, which shall be justified based on the number and type of hollows removed (based on pre clearing surveys), the density of hollows in the area to be cleared and in adjacent areas, and the availability of adjacent food resources. The Plan shall also consider the relocation of any hollows removed from the site to provide for potential nesting habitat. The Plan shall also provide details of maintenance protocols for the nest boxes installed including responsibilities, timing and duration.	Construction Flora and Fauna Management Plan

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	CONDITION	CEMP REFERENCE
	HERITAGE	
E7.	During detailed design and construction of the SSI, impacts to heritage items shall, where feasible and reasonable, be avoided and minimised, under the guidance of an appropriately qualified heritage specialist. Where impacts are unavoidable, works shall be undertaken in accordance with the strategy outlined in the Construction Heritage Management Plan (condition E46)).	Construction Heritage Management Plan
E8.	Archival recording of affected heritage items shall be undertaken in accordance with the NSW Heritage Council guidelines.	Construction Heritage Management Plan
E9.	Prior to the commencement of pre-construction and/ or construction activities that will impact the Aboriginal archaeological sites identified in table 7.3 of the North West Rail Link EIS: Technical Paper 4 -Indigenous Heritage, dated March 2012, the Proponent shall undertake an archaeological salvage program using a methodology prepared in consultation with the registered Aboriginal stakeholders, and to the satisfaction of the Director-General. This work shall be undertaken by an appropriately qualified archaeological heritage consultant. Within 2 years of completing the salvage, unless otherwise agreed by the Director General, the Proponent shall submit a report containing the findings of the salvage, including artefact analysis, and the identification of a final repository for any Aboriginal objects, prepared in consultation with the Aboriginal stakeholders and to the satisfaction of the Director-General.	N/A – TfNSW responsibility
E10.	Prior to the commencement of pre-construction and/ or construction activities that will impact the historical archaeological sites identified in identified in table 4.2 of the North West Rail Link EIS: Technical Paper 3, -European Heritage, dated March 2012, the Proponent shall undertake an archaeological excavation program in accordance with the Heritage Council of NSW Archaeological Assessments Guideline (1996) using a methodology prepared in consultation with the Heritage Council of NSW, and to the satisfaction of the Director-General. This work shall be undertaken by an appropriately qualified archaeological heritage consultant. Within 2 years of completing the above work, unless otherwise agreed by the Director General, the Proponent shall submit a report containing the findings of the excavations, including artefact analysis, and the identification of a final repository for any finds, prepared in consultation with the Heritage Council of NSW and to the satisfaction of the Director-General.	N/A – TfNSW responsibility
	NOISE AND VIBRATION	
	Land Use Survey	
E11.	Prior to construction, a detailed land use survey to identify potentially critical areas that are sensitive to construction vibration and construction ground-borne noise impacts, shall be undertaken. The results of the survey shall be incorporated into the Construction Noise and Vibration Management Plan (condition E45 (b)).	Construction Noise and Vibration Management Plan
	Construction Hours	
E12.	Construction activities associated with the SSI shall be undertaken during the following standard construction hours: a) 7:00am to 6:00pm Mondays to Fridays, inclusive; and b) 8:00am to 1:00pm Saturdays; c) at no time on Sundays or public holidays.	Construction Noise and Vibration Management Plan

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	CONDITION	CEMP REFERENCE
E13.	Notwithstanding condition E12, tunnelling and associated activities may be undertaken 24-hours, seven days per week. This condition does not relate to any other activities associated with the SSI, including works associated with the viaduct.	N/A – TSC responsibility
E14.	Except as permitted by an EPL, activities resulting in impulsive or tonal noise emissions shall only be undertaken: (a) between the hours of 8:00 am to 5:00 pm Monday to Friday; (b) between the hours of 8:00 am to 1 :00 pm Saturday; and (c) in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block. For the purposes of this condition 'continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition.	Construction Noise and Vibration Management Plan
E15.	Notwithstanding conditions E12 to E14, construction activities outside of the prescribed construction hours may be undertaken in any of the following circumstances: (a) construction works that generate air-borne noise that is: (i) no more than 5 dB(A) above rating background level at any residence in accordance with the <i>Interim Construction Noise Guideline</i> (DECC, 2009); (ii) no more than the noise management levels specified in Table 3 of the <i>Interim Construction Noise Guideline</i> (Department of Environment and Climate Change, 2009) at other sensitive receivers; (b) construction works that generate continuous or impulsive vibration values, measured at the most affected residence, that are no more than those for human exposure to vibration, specified for residences in Table 2.2 of <i>Assessing Vibration: a technical guideline</i> (DEC, 2006); (c) works that generate intermittent vibration values, measured at the most affected residence, that are no more than those for human exposure to vibration, specified for residences in Table 2.4 of <i>Assessing Vibration: a technical guideline</i> (DEC, 2006); (d) where a negotiated agreement has been reached with affected receivers, where the prescribed noise and vibration levels cannot be achieved; (e) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; (f) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; and (g) works approved through an EPL, including for works identified in an out of hours procedure.	Construction Noise and Vibration Management Plan
E16.	In relation to construction hours, including for standard and out of hours activities, the SSI shall be constructed to comply with an EPL applying to the SSI, including all relevant noise mitigation and management measures. In the event of a dispute between the Proponent (including its contractors) and the EPA, in relation to construction hours, either party may refer the matter to the Director-General for resolution.	Construction Noise and Vibration Management Plan
	Construction Noise and Vibration	
E18.	The SSI shall be constructed with the aim of achieving the construction noise management levels detailed in the <i>Interim Construction Noise Guideline</i> (DECC, 2009). All feasible and reasonable noise mitigation measures shall be implemented and any activities that could exceed the construction noise management levels shall be identified and managed in accordance with the Construction Noise and Vibration Management Plan (condition E46 (b)).	Construction Noise and Vibration Management Plan

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	CONDITION	CEMP REFERENCE
	Note: The <i>Interim Construction Noise Guideline</i> identifies 'particularly annoying' activities that require the addition of 5dB(A) to the predicted level before comparing to the construction Noise Management Levels.	
E19.	The SSI shall be constructed with the aim of achieving the following construction vibration goals: (a) for structural damage, the vibration limits set out in the German Standard <i>DIN 4150-3: Structural Vibration -effects of vibration on structures</i> ; (b) for human exposure, the acceptable vibration values set out in the <i>Environmental Noise Management Assessing Vibration: A Technical Guideline</i> (Department of Environment and Conservation, 2006).	Construction Noise and Vibration Management Plan
E22.	Wherever feasible and reasonable, piling activities shall be undertaken using quieter alternative methods than impact or percussion piling, such as bored piles or vibrated piles.	Construction Noise and Vibration Management Plan
E23.	The Proponent shall consult with potentially-affected community, religious, educational institutions and vibration-sensitive businesses and critical working areas (such as theatres, laboratories and operating theatres) to ensure that noise generating construction works in the vicinity of the receivers are not timetabled during sensitive periods, unless appropriate other arrangements are made.	Community Liaison Implementation Plan
E24.	During construction, Proponents of other construction works in the vicinity of the SSI shall be consulted, and reasonable steps taken to coordinate works to minimise impacts on, and maximise respite for, affected sensitive receivers.	Community Liaison Implementation Plan
	PROPERTY AND BUSINESS IMPACTS	
E25.	The Proponent shall design and construct the SSI with the objective of minimising impacts to, and interference with, third party property and infrastructure, and that such infrastructure and property is protected during construction and operation.	Design Packages
	Impacts to Third Party Property and Structures	
E26.	The Proponent shall, prior to the commencement of construction (including demolition and excavation works), or each part of the SSI that may impact on surrounding properties at risk from damage: (a) where agreed with the property owner, undertake independent inspections of these properties prior to construction in accordance with AS 4349.1 ' <i>Inspection of Buildings</i> '. This inspection shall be undertaken by appropriately qualified and experienced geotechnical and construction engineering experts, and report on property features that may be affected by construction; (b) contact the owners of all buildings on which property inspections are to be conducted before the inspection, or as otherwise agreed by the affected property owner, and advise of the scope and methodology for the inspection, and of the process for making a property damage claim; (c) provide a copy of the property inspection report to the owner of each property inspected prior to construction that could affect the property; (d) determine an appropriate property vibration criteria and management and protection measures to ensure that property damage (including cosmetic damage) will be avoided; and (e) maintain a register of all properties inspected by the Proponent, indicating whether the owner accepted or refused the property inspection offer, and provide a copy of the register to the Director General upon request. Reports from the geotechnical engineer advising on the risk of damage to properties shall be made available upon request to the Director General and the Independent Property Impact Assessment Panel (condition E29).	Construction Plan

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	CONDITION	CEMP REFERENCE
E27.	For the purpose of condition E26 properties at risk from damage include, but are not necessarily limited to: (a) buildings and structures determined following geotechnical and vibration analysis as certified by a qualified geotechnical engineer; and (b) other sensitive structures within 60 metres from the edge of the works unless otherwise determined following geotechnical and vibration analysis as certified by a qualified geotechnical engineer as not likely to be adversely affected.	Construction Plan
E29.	The Proponent shall establish an Independent Property Impact Assessment Panel prior to relevant construction or demolition works commencing. The Panel shall be approved by the Director General and comprise geotechnical and engineering experts independent of the design and construction team, unless otherwise agreed by the Director General. The Panel shall be responsible for independently verifying assessments undertaken under conditions C17 and E26, the resolution of property damage disputes and the establishment of ongoing settlement monitoring requirements. Either the affected property owner or the Proponent may refer unresolved disputes arising from potential and/or actual property impacts to the Panel for resolution. All costs incurred in establishing and implementing the Panel shall be borne by the Proponent.	Monitoring & Protection Plan
E31.	Any damage caused to property as a result of the SSI shall be rectified or the property owner compensated, within a reasonable timeframe, with the costs borne by the Proponent. This condition is not intended to limit any claims that the property owner may have against the Proponent.	Construction Plan
	Business Impacts	
E32.	The Proponent shall prepare and implement a Business Management Plan to minimise impacts on business adjacent to major construction sites and activities during construction of the SSI. The Plan shall include measures to minimise business related impacts, maintain vehicular and pedestrian access during business hours, and maintenance of visibility of the business appropriate to its reliance on such. The Plan shall include, but not necessarily be limited to: (a) a Business Consultation forum linked with the Community Construction Strategy as required by condition D1; (b) Business Management Strategies for each construction site (and/ or activity), identifying affected businesses and associated management strategies, including the employment of place managers and specific measures to be put in place to assist small business owners adversely impacted by the construction of the SSI; (c) a monitoring program to assess the effectiveness of the measures including the nomination of performance parameters and criteria against which effectiveness of the measures will be measured; and (d) provision for reporting of monitoring results to the Director General, as part of the Compliance Tracking Program (condition D5).	Business Management Plan
	SOIL, WATER QUALITY AND HYDROLOGY	
	Construction Soil and Water Management	
E33.	Soil and water management measures consistent with <i>Managing Urban Storm water Soils and Construction Vo/s 1 and 2, 4th Edition</i> (Landcom, 2004) shall be employed during the construction of the SSI to minimise soil erosion and the discharge of sediment and other pollutants to land and/or waters.	Construction Soil and Water Management Plan
E34.	Where available, and of appropriate chemical and biological quality, subject to a health risk assessment, stormwater, recycled water, groundwater inflows to tunnels or other water sources shall be used in preference to potable water for construction activities, including concrete	Construction Soil and Water Management Plan

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	CONDITION	CEMP REFERENCE
	mixing and dust control.	
	TRANSPORT AND ACCESS	
E35.	Where construction will physically affect or likely impact the efficiency and safety of road and related transport networks (including traffic flow, access, parking and user safety), the Proponent shall develop, assess, and implement appropriate management measures in consultation with the relevant road authority, transport operator(s), and emergency services, as relevant. Such measures shall be addressed in the Construction Traffic Management Plan (condition E46(c)) and shall include but not be limited to:	Construction Traffic Management Plan
E36.	Access to private property shall be maintained during construction unless otherwise agreed with the property owner in advance. A landowner's access that is physically affected by the SSI shall be reinstated to at least an equivalent standard, in consultation with the property owner.	Construction Traffic Management Plan
E37.	Impacts to existing parking (on and off street) should be minimised, including the amount of spaces reduced and the time associated with this reduction. Where parking is impacted, particularly for periods greater than four weeks, the proponent shall identify and implement, where feasible and reasonable, alternate parking arrangements. Displaced vehicles must not be accommodated on the state road network.	Construction Traffic Management Plan
	Road Dilapidation	
E38.	Upon determining the haulage route(s) for construction vehicles associated with the SSI, and prior to use of the haulage route(s) by heavy vehicles, an independent and qualified person or team shall undertake a Road Dilapidation Report on local roads from the construction access/ egress point(s) to the arterial road network. The report shall assess the current condition of the road and describe mechanisms to restore any damage that may result due to traffic and transport related to the construction of the SSI, during construction. The Report shall be submitted to the relevant road authority for review prior to use of the haulage routes(s). Following completion of construction, a subsequent report shall be prepared to assess any damage that may have resulted from the construction of the SSI. Measures undertaken to restore or reinstate roads affected by the SSI shall be undertaken in a timely manner, in accordance with the reasonable requirements of the relevant road authority, and at the full expense of the Proponent.	Construction Traffic Management Plan
	Access	
E39.	Safe pedestrian and cyclist access through or around worksites shall be maintained during construction. In circumstances where pedestrian and cyclist access is restricted due to construction activities, a feasible and reasonable alternate route shall be provided and signposted.	Construction Traffic Management Plan
E40.	Construction vehicles (including staff vehicles) associated with the SSI shall be managed to: <ul style="list-style-type: none"> a) minimise parking or queuing on public roads; b) minimise the use of local roads (through residential streets and town centres) to gain access to construction sites and compounds; c) minimise traffic past schools and child care centres, particularly during opening and closing periods; and d) adhere to the nominated haulage routes identified in the Construction Traffic Management Plan (condition E46c)). 	Construction Traffic Management Plan
	LANDUSE AND COMMUNITY FACILITIES	
E41.	Where community and council facilities are impacted during construction works through temporary or permanent land acquisition, reduced amenity, reduced access, reduced functionality or other impact, the Proponent shall, in consultation with the relevant council, community groups and key stakeholders, address construction impacts and agree on feasible and reasonable mitigation and management measures.	Community Liaison Implementation Plan

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	CONDITION	CEMP REFERENCE
	Where appropriate, the Proponent shall determine viable alternative options for community facilities during the construction phase. Mitigation and management measures shall be implemented, prior to impacts occurring.	
	ANCILLARY FACILITIES	
E42.	<p>Unless otherwise approved by the Director General, the location of Ancillary Facilities shall:</p> <ul style="list-style-type: none"> (a) be located more than 50 metres from a waterway; (b) be located within or adjacent to land where the SSI is being carried out; (c) have ready access to the road network; (d) be located to minimise the need for heavy vehicles to travel through residential areas; (e) be sited on relatively level land; (f) be separated from nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant); (g) not require vegetation clearing beyond that already required by the SSI; (h) not impact on heritage items (including areas of archaeological sensitivity) beyond those already impacted by the SSI; (i) not unreasonably affect the land use of adjacent properties; (j) be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented; and (k) provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours. <p>The location of the ancillary facilities shall be identified in the Construction Environmental Management Plan (condition E46) and include consideration of the above criteria. Where the above criteria cannot be met for any proposed ancillary facility, the Proponent shall demonstrate to the satisfaction of the Director General that there will be no significant adverse impact from that facility's construction or operation. Such assessment(s) can be submitted separately or as part of the Construction Environmental Management Plan.</p>	Construction Compound & Ancillary Facilities Management Plan
E43.	All Ancillary Facilities shall be rehabilitated to at least their pre-construction condition, unless otherwise agreed by the landowner where relevant.	Construction Compound & Ancillary Facilities Management Plan
	ENVIRONMENTAL REPRESENTATIVE	
E44.	<p>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 Environment Representative(s) for the duration of construction, or as otherwise agreed by the Director General. The Environment Representative(s) shall:</p> <ul style="list-style-type: none"> (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; 	N/A – TfNSW responsibility

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	CONDITION	CEMP REFERENCE
	<p>(d) ensure that environmental auditing is undertaken in accordance with the Proponent's Environmental Management System(s);</p> <p>(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 E46);</p> <p>(f) be given authority and independence to advise on reasonable steps to avoid or minimise unintended or adverse environmental impacts;</p> <p>(g) 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.</p>	
	CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN	
E45.	<p>Prior to commencement of construction, or as otherwise agreed by the Director General, the Proponent shall prepare and implement (following approval) a Construction Environmental Management Plan. 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 <i>Guideline for the Preparation of Environmental Management Plans</i> (DIPNR, 2004). The Plan shall include, but not necessarily be limited to:</p>	Construction Environmental Management Plan
	(a) a description of activities to be undertaken during construction of the SSI (including staging and scheduling);	CEMP Section 2
	(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;	CEMP Section 3
	(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;	CEMP Sections 4 & 5
	(d) an environmental risk analysis to identify the key environmental performance issues associated with the construction phase; and	CEMP Appendix 5
	(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:	CEMP Section 1.7 CEMP Sections 5 & 6
	(i) Ancillary Facilities management;	Construction Compound & Ancillary Facilities Mgmt Plan
	(ii) noise and vibration;	Construction Noise and Vibration Management Plan
	(iii) traffic and access;	Construction Traffic Management Plan
	(iv) soil and water quality and spoil management;	Construction Soil and Water Management Plan
	(v) groundwater management and discharge;	Construction Soil and Water Management Plan

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	CONDITION	CEMP REFERENCE
	(vi) air quality and dust management;	Construction Air Quality Management Plan
	(vii) visual amenity;	Visual Amenity Plan
	(viii) management of Aboriginal and historic heritage;	Construction Heritage Management Plan
	(ix) soil contamination, groundwater contamination, hazardous material and waste management;	Construction Soil and Water Management Plan, Waste & Recycling Plan
	(x) management of ecological impacts; and	Construction Flora and Fauna Management Plan
	(xi) hazard and risk management.	CEMP Appendix 5
	The Plan shall be submitted for the approval of the Director General no later than one month prior to the commencement of construction, or as otherwise agreed by the Director General. The Plan may be prepared in stages, however, construction works shall not commence until written approval has been received from the Director General.	CEMP Section 4
	Note: The approval of a Construction Environmental Management Plan does not relieve the Proponent of any requirement associated with this SSI approval. If there is an inconsistency with an approved Construction Environmental Management Plan and the conditions of this SSI approval, the requirements of this SSI approval prevail.	N/A
E46.	As part of the Construction Environmental Management Plan for SSI required under condition E45 the Proponent shall prepare and implement:	N/A
	<p>(a) a Construction Compound and Ancillary Facilities Management Plan to detail the management of Ancillary Facilities associated with the SSI. The Plan shall include but not be limited to:</p> <ul style="list-style-type: none"> i) a description of the facility, its components and the surrounding environment; ii) details of the activities to be carried out at each facility, including the hours of use and the storage of dangerous and hazardous goods; iii) an assessment against the locational criteria outlined in condition E42; iv) details of the mitigation and management procedures specific to the facility that would be implemented to minimise environmental and amenity impacts and an assessment of the adequacy of the mitigation or offsetting measures; v) identification of the timing for the completion of activities at the facility and how the site will be decommissioned (including any necessary rehabilitation); and vi) mechanisms for the monitoring, review and amendment of this Plan. 	Construction Compound and Ancillary Facilities Management Plan
	<p>(b) a Construction Noise and Vibration Management Plan to detail how construction noise and vibration impacts will be minimised and managed. The Plan shall be consistent with the guidelines contained in the <i>Interim Construction Noise Guidelines</i> (DECC, 2009). The plan shall be developed in consultation with the EPA and shall include, but not be limited to:</p> <ul style="list-style-type: none"> (i) identification of sensitive receivers and relevant construction noise and vibration goals applicable to the SSI stipulated in this approval; 	Construction Noise and Vibration Management Plan

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	CONDITION	CEMP REFERENCE
	<p>(ii) details of construction activities and an indicative schedule for construction works, including the identification of key noise and/or vibration generating construction activities (based on representative construction scenarios, including at ancillary facilities) that have the potential to generate noise and/or vibration impacts on surrounding sensitive receivers, particularly residential areas;</p> <p>(iii) identification of feasible and reasonable measures proposed to be implemented to minimise and manage construction noise impacts (including construction traffic noise impacts), including, but not limited to, acoustic enclosures, erection of noise walls (hoardings), respite periods and the limiting of truck movements during night periods;</p> <p>(iv) identification of feasible and reasonable procedures and mitigation measures to ensure relevant vibration and blasting criteria are achieved, including a suitable blast program, applicable buffer distances for vibration intensive works, use of low-vibration generating equipment, vibration dampeners or alternative construction methodology, and pre-and post-construction dilapidation surveys of sensitive structures where blasting and/ or vibration is likely to result in damage to buildings and structures (including surveys being undertaken immediately following a monitored exceedance of the criteria);</p>	
	<p>(v) detailing tunnelling and associated activities described in condition E13 including associated impacts, management, mitigation measures;</p> <p>(vi) if blasting is required, an assessment of the potential noise and vibration impacts, and a strategy to minimise and manage those impacts, including preparation of an appropriate community information program;</p>	<p>N/A</p> <p>N/A</p>
	<p>(vii) a description of how the effectiveness of mitigation and management measures would be monitored during the proposed works, clearly indicating how often this monitoring would be conducted, the locations where monitoring would take place, how the results of this monitoring would be recorded and reported, and, if any exceedance is detected, how any noncompliance would be rectified; and .</p> <p>(viii) mechanisms for the monitoring, review and amendment of this plan.</p>	
	<p>(c) A Construction Traffic Management Plan to manage construction traffic and transport access impacts of the SSI. The plan shall be developed in consultation with and meet the reasonable requirements of the relevant road authority, and/or transport operator ,and shall include but not be necessarily limited to:</p> <p>(i) a traffic route and haulage management plan that identifies:</p> <ul style="list-style-type: none"> i. traffic generation from other major infrastructure developments; ii. construction traffic and haulage routes and associated traffic impacts, iii. types and volumes of construction vehicles and associated route and time restrictions, including details of oversized load movements, iv. potential traffic disruptions and temporary and permanent detours, v. management, mitigation and restoration measures; <p>(ii) a parking management plan that identifies:</p> <ul style="list-style-type: none"> i. parking requirements and on and offsite parking. arrangements and associated impacts, 	<p>Construction Traffic Management Plan</p>

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	CONDITION	CEMP REFERENCE
	<ul style="list-style-type: none"> ii. remote parking arrangements and associated access between sites and public transport nodes, iii. alternate parking arrangements for displaced parking, iv. communication and parking management measures; (iii) site traffic and access management plans that detail: <ul style="list-style-type: none"> i. site access and associated route and turning movements and the design and signalisation of intersections, ii. potential activities that could result in the disruption to traffic and transport networks, including pedestrian, cyclist and public transport networks and during special events, iii. the timing of works to limit disruptions to the road and transport networks, iv. the maintenance of access to and safety of transport networks, parking and property, v. service facilities and station sites, and other locations identified by the relevant road authority or transport operator, (iv) incident response plan detailing responses to management of an event that directly involves or impacts on traffic and transport networks; (v) mechanisms for the monitoring, review and amendment of this plan. 	
	<p>(d) A Construction Soil and Water Management Plan to manage surface and groundwater impacts during construction of the SSI. The plan shall be developed in consultation with the EPA and NOW and include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> (i) details of construction activities and their locations, which have the potential to impact on water courses, storage facilities, stormwater flows, and groundwater; (ii) details of proposed extraction, use and disposal of groundwater, and measures to mitigate potential impacts to groundwater sources, incorporating monitoring, impact trigger definition and response actions for all groundwater sources potentially impacted by the SSI; (iii) surface water and ground water impact assessment criteria consistent with the principles of the ANZECC guidelines; (iv) management measures to be used to minimise surface and groundwater impacts, including identification of water treatment measures and discharge points, details of how spoil and fill material required by the SSI will be sourced, handled, stockpiled, reused and managed; erosion and sediment control measures; salinity control measures and the consideration of flood events; (v) a contingency plan, consistent with the <i>Acid Sulfate Soils Manual</i>, to deal with the unexpected discovery of actual or potential acid sulfate soils, including procedures for the investigation, handling, treatment and management of such soils and water seepage; (vi) management measures for contaminated material and a contingency plan to be implemented in the case of unanticipated discovery of contaminated material during construction; (vii) a description of how the effectiveness of these actions and measures would be monitored during the proposed works, clearly indicating how often this monitoring would be undertaken, the locations where monitoring would take place, how the results of the monitoring would be recorded and reported, and, if any exceedance of the criteria is detected how any non-compliance can be rectified; 	<p>Construction Soil and Water Management Plan</p> <p>Water Quality Monitoring Plan</p>

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	CONDITION	CEMP REFERENCE
	<p>and</p> <p>(viii) mechanisms for the monitoring, review and amendment of this plan.</p>	
	<p>(e) a Construction Heritage Management Plan to detail how construction impacts on Aboriginal and Historic heritage will be minimised and managed. The plan shall include, but not necessarily be limited to:</p> <p>(i) In relation to Aboriginal Heritage:</p> <ul style="list-style-type: none"> I. developed in consultation with registered Aboriginal stakeholders; II. details of further investigation and identification of Aboriginal cultural heritage sites impacted by and within the construction areas except where the requirements of condition E9 have been met; III. details of management measures to be carried out in relation to Aboriginal heritage, including a detailed methodology and strategies for protection, monitoring, salvage, and conservation, of sites and items associated with the SSI and the long term storage and curation of any Aboriginal objects recovered in accordance the section 85A of the <i>National Parks and Wildlife Act</i>; IV. procedures for dealing with previously unidentified Aboriginal objects (excluding human remains) including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified archaeologist in consultation with the Department, OEH and registered Aboriginal stakeholders and assessment of the consistency of any new Aboriginal heritage impacts against the approved impacts of the SSI, and registering of the new site in the OEH's Aboriginal Heritage Information Management System (AHIMS) register; and V. procedures for ongoing Aboriginal consultation and involvement for the duration of the SSI; and <p>(ii) In relation to Historic Heritage:</p> <ul style="list-style-type: none"> I. developed in consultation with the NSW Heritage Council; II. identification of Heritage Items directly and indirectly affected by the SSI; III. details of management measures to be implemented to prevent and minimise impacts on heritage items (including further heritage investigations, archival recordings and/ or measures to protect unaffected sites during construction works in the vicinity); IV. details on how recommendations identified in North West Rail Link EIS: Technical Paper 3 - European Heritage, and Technical Paper 4 - Indigenous Heritage, prepared by Godden Mackay Logan, March 2012 will be implemented, including archaeological research designs for all archaeological sites except where the requirements of condition E10 have been met; V. a detailed plan for the implementation of any measures resulting from further investigations associated with potentially affected heritage items, including Glenhope, Inala School, Windsor Road and Old Windsor Road, and Mungerie House; VI. details of monitoring and reporting requirements for impacts on heritage items; and VII. procedures for dealing with previously unidentified relics, (including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified and experienced archaeologist in consultation with the OEH and the Department, and assessment of the consistency of any 	<p>Construction Heritage Management Plan</p>

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	CONDITION	CEMP REFERENCE
	<p>new heritage impacts against the approved impacts of the SSI..</p> <p>(iii) heritage training and induction processes for construction personnel (including procedures for keeping records of inductions) and obligations under the conditions of this approval including site identification, protection and conservation of Aboriginal and historic heritage;</p> <p>(iv) procedures for dealing with human remains, including cessation of works in the vicinity and notification of the Department, NSW Police Force, OEH and registered Aboriginal stakeholders and not recommending any works in the area unless authorised by the NSW Police Force and/ or the Department; and</p> <p>(v) mechanisms for the monitoring, review and amendment of this plan.</p>	
	<p>(f) a Construction Flora and Fauna Management Plan to detail how construction impacts on ecology will be minimised and managed. The Plan shall be developed in consultation with the OEH and relevant Councils and shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> i. plans for impacted and adjoining areas showing vegetation communities; important flora and fauna habitat areas; locations where threatened species, populations or ecological communities have been recorded; including preclearing surveys to confirm the location of threatened flora and fauna species and associated habitat features; ii. the identification of areas to be cleared and details of management measures (such as fencing, clearing procedures, removal and relocation of fauna during clearing, habitat tree management and construction worker education) to avoid any residual habitat damage or loss and to minimise or eliminate time lags between the removal and subsequent replacement of habitat; iii. vegetation management plan(s) for sites where vegetation is proposed to be retained and for reaches of riparian zones which intersect with the construction footprint; iv. identification of measures to reduce disturbance to bats and nocturnal birds (and other sensitive fauna); v. rehabilitation details, including identification of flora species and sources, and measures for the management and maintenance of rehabilitated areas (including duration of the implementation of such measures); vi. weed management measures focusing on early identification of invasive weeds and effective management controls; vii. a description of how the effectiveness of these management measures would be monitored and linked to the Ecological Monitoring Program required under condition C1; viii. a procedure for dealing with unexpected EEC/ threatened species identified during construction, including cessation of work and notification of the Department, determination of appropriate mitigation measures in consultation with the OEH (including relevant re-location measures) and updating of ecological monitoring and/ or biodiversity offset requirements; and ix. mechanisms for the monitoring, review and amendment of this plan. 	Construction Flora and Fauna Management Plan
	<p>(g) a Construction Air Quality Management Plan to detail how construction impacts on air quality will be minimised and managed. The Plan shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> i. the identification of potential sources of air pollutants of concern, in particular dust and PM10; ii. air quality management objectives; 	Construction Air Quality Management Plan

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	CONDITION	CEMP REFERENCE
	<ul style="list-style-type: none">iii. mitigation measures to be implemented, including measures during adverse weather conditions (such as strong winds in dry weather);iv. a monitoring program to assess compliance with the identified objectives;v. mechanisms for the monitoring, review and amendment of this plan.	
E47.	Following the finalisation of construction activities, or as otherwise agreed by the Director General, the Proponent shall ensure that relevant measures identified within the Construction Environmental Management Plan (conditions E46) continue to be implemented, as required, to manage ongoing environmental impacts.	N/A – TfNSW responsibility

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Appendix 2-2. Environmental Requirements – SSI-5414 MCoA

Appendix 2-2: Environmental Requirements – SSI-5414 Conditions of Approval

SSI-5414 SCHEDULE B - ADMINISTRATIVE CONDITIONS

	CONDITION	CEMP REFERENCE
B1.	B1 The Proponent shall carry out the SSI generally in accordance with: a. SSI Application SSI-5414; b. North West Rail Link: Environmental Impact Statement - Stage 2-Stations, Rail Infrastructure and Systems, dated 25 October 2012; c. Submissions Report, Stage 2 - Stations, Rail Infrastructure and Systems, Incorporating Preferred Infrastructure Report, dated March 2013; 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 to Submissions, dated March 2014; and f. conditions of this approval.	CEMP Section 3.1
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.	CEMP
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.	CEMP
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.	CEMP
B5.	Subject to confidentiality, the Proponent shall make all documents required under this approval available for public inspection on request.	Community Liaison Implementation Plan
	LIMITS OF APPROVAL	
B6.	This approval shall lapse 10 years after the date on which it is granted, unless the works the subject of this SSI approval are physically commenced on or before that date.	N/A – TfNSW responsibility
B7.	This approval does not permit construction of any buildings or undertaking of uses that do not form part of operation or are not ancillary to the SSI. This includes retail and commercial uses at stations and buildings and uses at residual redevelopment sites, unless required by conditions of this approval. Interim and permanent approval of these buildings and uses shall be sought separately in accordance with the requirements of the Act.	CEMP
	STATUTORY REQUIREMENTS	
B8.	The Proponent shall ensure that all licences, permits and approvals are obtained as required by law and maintained as required throughout 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	CEMP Section 3

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	CONDITION	CEMP REFERENCE
	approvals.	
	STAGING	
B9.	<p>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:</p> <p>(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</p> <p>(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.</p> <p>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).</p> <p>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.</p>	N/A – TfNSW responsibility
B10.	<p>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.</p> <p>Note: These conditions do not relate to staged infrastructure within the meaning of section 115ZD of the EP&A Act.</p>	CEMP Section 4.2
B11.	<p>With the approval of the Director General, the Proponent may:</p> <p>(a) submit any strategy, plan, program (or the like) required by this approval on a progressive basis;</p> <p>(b) combine any strategy, plan, program (or the like) required by this approval; and</p> <p>(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.</p> <ul style="list-style-type: none"> 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. 	CEMP Section 4.2 (resubmitted)
	COMPLIANCE	
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.	CEMP Section 3
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.	CEMP Section 5
B14.	The Proponent shall be responsible for environmental impacts resulting from the actions of all persons that it invites onto the site, including contractors, sub-contractors and visitors.	CEMP Section 5

SSI-5414 SCHEDULE C – ENVIRONMENTAL PERFORMANCE

	CONDITION	CEMP REFERENCE
	TRANSPORT AND ACCESS	
	Traffic and related Network Facilities	
C2	<p>The SSI shall be designed and constructed with the objective of integrating with the existing and proposed road and related transport networks and minimising adverse changes to the efficiency, accessibility and safety of the networks, and where feasible and reasonable, facilitate an improved level of service, in relation to permanent and operational changes. Detailed design and assessment of related traffic, parking, pedestrian and cycle accessibility impacts and changes shall be undertaken:</p> <ul style="list-style-type: none"> (a) in consultation with, and to the reasonable requirements of the Traffic and Transport Liaison Group; (b) in consideration of existing and future demand, connectivity (in relation to permanent changes), performance and safety requirements; (c) to minimise and manage regional and local area traffic impacts; (d) to ensure access is maintained to property and infrastructure; and (e) to meet relevant design, engineering and safety guidelines, including Austroads, Australian Standards, and RMS (RTA) requirements. <p>Changes shall be certified by an appropriately qualified person(s) and certified copies of civil, structural and traffic signal design plans shall be submitted to the relevant road authority for consideration and acceptance prior to the commencement of the relevant works.</p>	Design Packages
C3	Bridgeworks (under and over) and other structures in the proximity of the road and associated transport networks shall be designed to ensure the efficient and safe operation of the networks.	Design Packages
C4	<p>Permanent road works, including vehicular access, signalised intersection works, and works relating to pedestrians, cyclists, and public transport users will be subject to safety audits demonstrating consistency with relevant design, engineering and safety standards & guidelines.</p> <p>Safety audits shall be submitted to the Traffic and Transport Liaison Group (condition C8) prior to the completion and use of the subject infrastructure and shall be made available to the Director General upon request.</p>	Design Packages Construction Traffic Management Plan
	Traffic and Transport Liaison Group	
C8	A Traffic and Transport Liaison Group shall be established to inform the detail design of temporary construction and permanent operational traffic and transport measures and to inform ongoing management measures prior to and during construction of the SSI. The Group shall be chaired by the Proponent and shall comprise representatives from the Department (Land Release) relevant road authorities (including the RMS and Councils), transport operators (including bus and taxi operators), and emergency services as required. The Group shall be consulted on and shall inform the preparation of the Construction Traffic Management Plan (condition E34) and Station Access Plan(s) (condition C5).	N/A – TfNSW responsibility
C9	<p>The Proponent shall undertake supplementary analyses as required by the Traffic and Transport Liaison Group and, where relevant, detailed modelling of traffic changes and impacts that have the potential to have a significant detrimental impact on traffic flow efficiency with the objective of informing and improving road network changes and traffic management measures. The requirement for and details of the modelling shall be undertaken in consultation with the Traffic and Transport Liaison Group.</p> <p>The revised traffic management measures, including changes to the pedestrian, bicycle and public transport networks, shall be incorporated into the Construction Traffic Management Plan (condition E34(c)) and Station Access Plan(s) (condition C5).</p>	Design Packages Construction Traffic Management Plan

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	CONDITION	CEMP REFERENCE
	NOISE AND VIBRATION	
	Land Use Survey	
C15	<p>Prior to construction of the SSI, a detailed land use survey to identify potentially critical areas that are sensitive to construction and operational noise (air and ground borne) and vibration impacts, shall be undertaken having regard to the type of land use. The results of the survey shall be incorporated into the Construction Noise and Vibration Management Plan (condition E34(b)) and the Operational Noise and Vibration Review (condition C20).</p> <p>The land survey, prepared to meet condition E11 of State significant Infrastructure Approval SSI 5100, may be revised, if necessary and resubmitted.</p>	Construction Noise and Vibration Management Plan (resubmitted)
	Operational Noise and Vibration	
C16	<p>Rail line components of the SSI shall be designed and operated with the objective of not exceeding the airborne and ground-borne noise trigger levels at existing development, at each stage of the SSI, as presented in the Interim Guideline for the Assessment of Noise from Rail Infrastructure Projects (DECC and DoP, 2007).</p> <p>In particular, final viaduct design shall incorporate feasible & reasonable methods & materials that will reduce radiated noise from the structure.</p> <p>For the purpose of this condition, existing development includes all development that at the date of this approval, has been carried out in the vicinity of the rail corridor and any such development approved prior to the determination of this SSI, but only to the extent that the location of sensitive receivers is known.</p>	Design Packages
C20	<p>The Proponent shall prepare an Operational Noise and Vibration Review (ONVR) within 6 months of commencing construction unless otherwise agreed by the Director-General to confirm noise (air and ground-borne) and vibration control measures that will be implemented for the SSI. The ONVR shall be prepared in consultation with the Department (Land Release), the EPA and relevant Councils and shall:</p> <ul style="list-style-type: none"> (a) identify the appropriate operational noise and vibration objectives and levels for receiving existing development, including sensitive receivers and critical working areas; (b) predict the operational noise and vibration impacts at receiving existing development based on the final design and operation of the SSI (this should include consideration of rail movements associated with future Tier 1 rail operations); (c) examine all feasible and reasonable noise and vibration mitigation measures, with a focus on source control and design; (d) identify specific physical and other mitigation measures for controlling noise and vibration at the source and at the receiver (if relevant) including location, type and timing for the erection of permanent noise barriers and/or other noise mitigation measures; (e) include a consultation strategy to seek feedback from directly affected property owners on the noise and vibration mitigation measures; and (f) include procedures for operational noise and vibration complaints management, including investigation and monitoring (subject to complainant agreement). <p>The ONVR is to be independently verified by a noise and vibration expert. The scope of the verification exercise undertaken by the noise and vibration expert is to be developed by the Proponent in consultation with the EPA. The verification will be undertaken at the Proponent's expense and the independent expert shall be approved by the Director-General. The ONVR and independent review is to be submitted to the Director-General prior to the commencement of the laying of rail track or the construction of physical noise mitigation structures, unless otherwise agreed to by the Director-General.</p>	N/A – TfNSW responsibility ISJV to provide supporting information

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	CONDITION	CEMP REFERENCE
	Where the noise and vibration objectives cannot be achieved, the assessment shall present an analysis of feasible and reasonable noise and vibration mitigation measures, and the 'best practice' achievable noise and vibration outcome for each activity. The Proponent shall implement the identified noise and vibration control measures prior to operation and make it publicly available.	
C21	The Proponent shall consult with the Department (Land Release) and relevant Councils during detailed design of the SSI to facilitate appropriate rail infrastructure and land use planning responses to potential noise and vibration impacts within the NWGC and new development adjacent to the SSI.	N/A – TfNSW responsibility
	Operational Noise and Vibration Compliance	
C22	The Proponent shall undertake a noise and vibration compliance assessment to confirm the predictions of the noise assessment referred to in the ONVR (condition C20). The noise and vibration compliance assessment shall be developed in consultation with the EPA and be undertaken within twelve months of the commencement of operation of the SSI, or as otherwise agreed by the Director-General. The assessment shall include, but not necessarily be limited to: (a) noise and vibration monitoring and compliance assessment, to assess compliance with conditions C15 to C18 of this approval and ONVR; (b) methodology for assessment; (c) details of any complaints received relating to operational noise and vibration impacts; (d) any required recalibration of the noise and vibration model taking into account considerations such as land use change; (e) an assessment of the performance and effectiveness of the applied noise and vibration mitigation measures; and (f) identification, if required, of further noise and vibration mitigation measures to meet the requirements of C15 to C18 of this approval and the objectives identified in the ONVR. A Noise and Vibration Compliance Assessment Report providing the results of the assessment shall be submitted to the Director-General and the EPA within 60 days of its completion. If the assessment indicates an exceedance of the noise and vibration objectives identified in the ONVR, the Proponent shall implement further feasible and reasonable measures (where required) to mitigate these exceedances in consultation with affected property owners.	N/A – TfNSW responsibility
	ECOLOGY	
	Ecological Monitoring	
C23	The Ecological Monitoring Program required under condition C1 of State Significant Infrastructure Approval SSI-5100 shall continue and be updated as necessary during the construction of the SSI, unless otherwise agreed by the Director-General, in consultation with OEH and relevant Council's depending on the outcomes of monitoring.	Ecological Monitoring Program (updated as necessary)
	Riparian and Aquatic Ecology	
C24	Riparian Buffer Widths for waterways which are affected by the SSI are to be managed for a Total Riparian Buffer Width of between 10m to 50m where feasible and reasonable, dependant on the Category of Watercourse determined by the Riparian Assessment for the North West Rail Link (Ecological Australia, 2011)	Construction Flora and Fauna Management Plan
C25	Watercourses affected by the proposal shall, where feasible and reasonable, be rehabilitated to emulate a natural stream system. The rehabilitation of watercourses shall be consistent with the <i>Guidelines for Controlled Activities</i> (DWE, 2008) and stream armouring should be	Construction Flora and

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	CONDITION	CEMP REFERENCE
	minimised to the greatest extent practicable.	Fauna Management Plan
C26	Riparian vegetation in and around watercourses affected by the SSI shall be restored and rehabilitated in consultation with NOW and DPI (Fisheries) and with the relevant Council/s. Restoration and rehabilitation measures, including timeframes and reporting on completion of works, shall be included in the Construction Flora and Fauna Management Plan (condition E34(f)).	Construction Flora and Fauna Management Plan
	HERITAGE	
C27	The Proponent shall prepare and implement a Visual Impact Strategy in consultation with the Department and the NSW Heritage Council to detail and minimise the visual impacts of the SSI on heritage items, including Glenhope, Inala School, Castle Hill Showground, Mungerie House and the former Swann Inn; and the rehabilitation of bushland associated with works at Epping.	Visual Impact Strategy
C28	During detailed design and construction of the SSI, impacts to heritage items shall, where feasible and reasonable, be avoided and minimised, under the guidance of an appropriately qualified heritage specialist. Where impacts identified in the EIS are unavoidable, works shall be undertaken in accordance with the strategy outlined in the Construction Heritage Management Plan (condition E34(e)).	Construction Heritage Management Plan
C29	Archival recording of affected heritage items shall be undertaken in accordance with the NSW Heritage Council guidelines as relevant.	Construction Heritage Management Plan
C30	Prior to the commencement of pre-construction and/ or construction activities that will impact the Aboriginal archaeological sites identified in table 7.3 of the North West Rail Link EIS: Technical Paper - Indigenous Heritage, dated March 2012 and table 12.6 of the North West Rail Link EIS: Volume 1B – Environmental Impact Statement Stage 2 – Stations, Rail Infrastructure and Systems, the Proponent shall undertake an archaeological salvage program using a methodology prepared in consultation with the registered Aboriginal stakeholders, and to the satisfaction of the Director-General. This work shall be undertaken by an appropriately qualified archaeological heritage consultant. Within 2 years of completing the salvage, unless otherwise agreed by the Director General, the Proponent shall submit a report containing the findings of the salvage, including artefact analysis, and the identification of a final repository for any Aboriginal objects, prepared in consultation with the Aboriginal stakeholders and to the satisfaction of the Director-General. If the impacts or works to the Aboriginal archaeological sites identified in table 7.3 of the North West Rail Link EIS: Technical Paper – Indigenous Heritage, dated March 2012 have been addressed in accordance with Condition E9 of State Significant Infrastructure Approval SSI-5100, the requirements of this part of the condition are taken to be fulfilled.	N/A – TfNSW responsibility
C31	Prior to the commencement of pre-construction and/ or construction activities that will impact the historical archaeological sites identified in identified in table 4.2 of the North West Rail Link EIS: Technical Paper – European Heritage, dated March 2012, the Proponent shall undertake an archaeological excavation program in accordance with the Heritage Council of NSW Archaeological Assessments Guideline (1996) using a methodology prepared in consultation with the Heritage Council of NSW, and to the satisfaction of the Director-General. This work shall be undertaken by an appropriately qualified archaeological heritage consultant. Within 2 years of completing the above work, unless otherwise agreed by the Director General, the Proponent shall submit a report containing the findings of the excavations, including artefact analysis, and the identification of a final repository for any finds, prepared in consultation with the Heritage Council of NSW and to the satisfaction of the Director-General. If the impacts or works have been addressed in accordance with Condition E10 of State Significant Infrastructure Approval SSI-5100, the requirements of this condition are taken to be fulfilled.	N/A – TfNSW responsibility

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	CONDITION	CEMP REFERENCE
	SOIL, WATER QUALITY AND HYDROLOGY	
C32	Except as may be provided by an EPL, the SSI shall be constructed and operated to comply with section 120 of the <i>Protection of the Environment Operations Act 1997</i> , which prohibits the pollution of waters.	Construction Soil and Water Management Plan
	Flooding	
C33	The SSI shall be designed, to the extent that it is feasible and reasonable, to not worsen existing flood characteristics in the vicinity of the SSI. Not worsen is defined as: (a) a maximum increase flood levels of 50mm in a 100 year Average Recurrence Interval (ARI) flood event; and (b) a maximum increase in time of inundation of one hour in a 100 year ARI flood event; and (c) any increase in flow velocity in a 100 year ARI flood event should not increase the potential for soil erosion and scouring.	Stormwater and Flooding Management Plan Design (note difference to SSI-5100 MCoA C7).
	Flood Risk Management Plan	
C34	A Stormwater and Flooding Management Plan(s) shall be prepared in consultation with the Department (Strategies and Land Release), OEH, and relevant Councils during detailed design of the SSI and prior to construction, or as otherwise agreed by the Director General. The Plan shall identify actions to ensure that the SSI addresses existing flooding characteristics within the vicinity of the SSI for a full range of flood sizes up to and including the probable maximum flood. The Plan(s) shall be prepared by appropriately qualified person(s) and facilitate a holistic approach to detailed hydrologic assessment and stormwater management, which gives consideration to the cumulative impacts of the SSI associated with its construction and operation, and shall include but not be limited to: (a) the design of temporary works, compensatory and management measures that would be implemented during construction to not worsen, to the extent that it is feasible and reasonable, existing and known future flooding characteristics; (b) the identification of flood risks to the SSI and adjoining areas, including the consideration of local and regional drainage catchment assessments, strategies and guidelines; and climate change implications on rainfall and drainage characteristics; (c) the design and layout of each station precinct and rail service facility to not worsen, to the extent that is feasible and reasonable, existing and known future flooding characteristics; (d) identification of design and mitigation measures that would be implemented to protect proposed construction and operational activities and not worsen existing flooding characteristics, including soil erosion and scouring. Design of mitigation measures should consider more frequent floods besides flood of design; and (e) identify flood risk, potential for inflows, potential consequences and required mitigation measures for each tunnel entrance; (f) specific information related to flood risk in larger floods (for example PMF) and the incorporation of management measures in the flood emergency response planning required under condition F4. For surface components of the SSI located on floodplains, flood impacts shall be confirmed in accordance with the Floodplain Development Manual (2005), and other relevant NSW Government Guidelines.	Stormwater and Flooding Management Plan
	Salinity	
C35	A Soil Salinity Report detailing the outcomes of geotechnical investigations and groundwater monitoring, to determine the presence, extent and severity of soil salinity within the SSI area and impacts to groundwater resources and hydrology, shall be prepared and submitted to the Director	Soil Salinity Report (resubmitted)

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	CONDITION	CEMP REFERENCE
	<p>General prior to the commencement of bulk earth activities, or as otherwise agreed by the Director General.</p> <p>The report shall be prepared in consultation with OEH and NOW and detail, where relevant, that the SSI minimises, avoids and/or mitigates impacts on local/regional salinity processes, impacts on groundwater systems, and receiving environments.</p> <p>The recommendations of the Soil Salinity Report shall be incorporated into the Construction Soil and Water Quality Management Plan (condition E34(c)).</p> <p>The Soil Salinity Report, prepared to meet condition C9 of State Significant Infrastructure approval SSI-5100, may be revised, if necessary and resubmitted.</p>	
	Watercourse crossings	
C36	<p>Watercourse crossings (temporary and permanent) shall be designed in consultation with NOW, and where feasible and reasonable, be consistent with the <i>Guidelines for Controlled Activities, Policy and Guidelines for Fish Friendly Waterway Crossings</i> (NSW Fisheries, 2004) and <i>Policy and Guidelines for Design and Construction of Bridges, Roads, Causeways, Culverts and Similar Structures</i> (NSW Fisheries, 1999). Where multiple cell culverts are proposed for creek crossings, at least one cell shall be provided for fish passage, with an invert/bed level that mimics creek flows.</p>	<p>Design Packages</p> <p>Construction Flora and Fauna Management Plan</p>
	Water Quality Monitoring Program	
C37	<p>A Water Quality Monitoring Program shall be prepared and implemented to monitor impacts on surface and groundwater quality resources and wetlands during construction and operation. The Program shall be developed in consultation with the EPA, DPI (Fisheries), NOW and relevant Councils and shall include but not necessarily be limited to:</p> <ul style="list-style-type: none"> (a) identification of surface and groundwater quality monitoring locations which are representative of the potential extent of impacts from the SSI. This should include representative locations near the discharge point of the Lady Game Drive Water Treatment Plant; (b) identification of the water quality parameters to be monitored at each location; (c) identification of works and activities during construction and operation of the SSI, including emergencies and spill events, that have the potential to impact on surface water quality of potentially affected waterways; (d) presentation of parameters and standards against which any changes to water quality will be assessed, having regard to the principles of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 (ANZECC, 2000), and identification of 'trigger points' for further investigation or action to be taken; (e) representative background monitoring of surface and groundwater quality parameters, to establish baseline water conditions, unless otherwise agreed by the Director General; (f) identification of the frequency of water sampling during background, and construction monitoring periods; (g) a minimum monitoring period of three years following the completion of construction or until the affected waterways and/ or groundwater resources are certified by an independent expert as being rehabilitated to an acceptable condition; (h) contingency and ameliorative measures in the event that adverse impacts to water quality relevant to the SSI are identified; and (i) reporting of the monitoring results to the Department, EPA, DPI, NoW and relevant Councils. <p>The Program shall be submitted to the Director General for approval prior to the commencement of construction of the SSI, or as otherwise agreed by the Director General. A copy of the Program shall be submitted to the EPA, DPI (Fishing and Aquaculture) and NOW prior to its implementation.</p>	<p>Water Quality Monitoring Program (resubmitted)</p>

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	CONDITION	CEMP REFERENCE
	The Water Quality Monitoring Program, prepared to meet condition C11 of State Significant Infrastructure approval SSI-5100, may be revised, if necessary and resubmitted.	
	Groundwater	
C38	The Proponent shall design and construct the SSI, as far as is feasible and reasonable, in a manner that minimises impacts to groundwater hydrology including capture, drawdown and quality.	Design, Construction Soil & Water Management Plan
	Contamination	
C42	The following documents shall be submitted to the Director General, within identified timeframes, unless otherwise agreed by Director General: (a) reports detailing Stage 2 Contamination Site Investigations in areas identified as having a risk of contamination (soil, water and building materials), and a Site Auditor endorsed Remediation Action Plan (or similar), where required, prior to site preparation or construction; and (b) Certification by a Site Auditor that any contaminated land and/or groundwater, identified in (a) has been remediated to a standard consistent with the intended land use, prior to the use of the land.	Design Packages for any contamination (stage 2 investigations)
C43	Where the investigations identify that the site is suitable for the intended operations and that there is no need for a specific remediation strategy, measures to identify, handle and manage potential contaminated spoils, materials and groundwater shall be incorporated into the CEMP.	Design Packages for any contamination (stage 2)
	Urban Design	
C44	<p>The Proponent shall, prior to the commencement of permanent built works and/or landscaping, unless otherwise agreed by the Director-General, prepare and implement an Urban Design and Corridor Landscape Plan for the corresponding permanent built works and/or landscaping. The Plan shall be submitted to the Director-General and made publicly available. In preparing the Plan, the Proponent shall consult with the Department (Land Release), RMS, relevant Councils and the community.</p> <p>The Plan shall be prepared by appropriately qualified person(s) and detail the design initiatives to integrate rail infrastructure, stations and facilities into their existing and proposed settings, and landscaping measures to minimise, mitigate and/or offset the impacts of the SSI (including acoustic barriers and embankments/cuttings) on property and other land uses (such as open space), visual amenity and local vistas and heritage values. The Plan shall include, but not necessarily be limited to:</p> <p>(a) identification of design objectives and standards based on local environmental and heritage values, strategic and statutory planning, future land release form and function, sustainable design and maintenance, transport and land use integration, passenger and community safety and security, community amenity and privacy, and relevant design standards and guidelines;</p> <p>(b) details on plans to provide, mitigate and/or augment landscaped areas & elements, with landscaping works to enhance ecological values, including riparian areas & fauna corridors, the provision of water sensitive urban design initiatives and to mitigate impacts to heritage landscapes;</p> <p>(c) design details of the built elements of the SSI, including retaining walls, embankments, viaducts, culverts, bridges and underpasses, noise barriers, train stabling facility, and substations, and the measures to minimise the impact of these elements, particularly with respect to impacts on adjoining residences, educational facilities, open space areas, heritage items, landscapes, including recommendations of Visual Impact Strategy;</p> <p>(d) specific plans for station precincts to provide high quality sustainable stations that enhance the public domain and provide for active uses, ensure intermodal integration and equitable and safe access, including connectivity of the stations to surrounding precincts and integration into strategic planning directions for these areas consistent with Station Access Plan(s) (condition C5);</p> <p>(e) details on pedestrian and cycle access elements and fixtures, including crossings, secure cycle facilities, and other fixtures such as seating,</p>	Urban Design and Corridor Landscape Plan

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	CONDITION	CEMP REFERENCE
	<p>lighting, fencing and signs etc, to enhance connectivity and the provision of a safe and secure environment consistent with the Pedestrian and Cyclist Network Facilities Strategy (condition C10);</p> <p>(f) details on parking elements and how commuter parking areas at stations shall be designed to minimise amenity impacts and so as not to preclude or prejudice the future functionality of town centres consistent with the Parking Management Strategy (condition C11);</p> <p>(g) details on public art and heritage (indigenous and non-indigenous) interpretation installations;</p> <p>(h) implementation, management and monitoring strategies to ensure the establishment and ongoing maintenance of built elements and landscaped areas, including performance standards; and</p> <p>(i) consideration of relevant design standards, such as Sustainable Design Guidelines for Stations, Commuter Car Parks & Maintenance Facilities (2011), Bridge Aesthetics Design guidelines to improve appearance of bridges in NSW (2012), Guidelines for the Development of Public Transport Interchange Facilities (2008) and Crime Prevention Through Environmental Design Principles, and relevant Agency and Council design standards.</p> <p>The Plan shall be endorsed by an independent Design Review Panel. The Design Review Panel shall consist of appropriately skilled professionals in the fields of architecture, landscape design, transport integration & heritage. The Panel representatives shall be approved by Director-General.</p>	
	HAZARDS AND RISK	
C45	<p>Dangerous goods, as defined by the Australian Dangerous Goods Code, shall be stored and handled strictly in accordance with:</p> <p>(a) all relevant Australian Standards;</p> <p>(b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; and</p> <p>(c) the Environment Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin (EPA, 1997).</p> <p>In event of inconsistency between requirements listed (a)-(c) above, the most stringent requirement shall prevail to the extent of the inconsistency.</p>	Construction Soil and Water Management Plan
	WASTE MANAGEMENT	
C46	<p>Waste generated outside site shall not be received at site for storage, treatment, processing, reprocessing, or disposal on site, except as expressly permitted by a licence under the <i>Protection of the Environment Operations Act 1997</i>, if such a licence is required in relation to that waste.</p>	Waste & Recycling Plan
	UTILITIES AND SERVICES	
C47	<p>Utilities, services and other infrastructure potentially affected by construction shall be identified prior to construction affecting the item, to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the SSI shall be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The Proponent shall ensure that disruption to any service is minimised and shall be responsible for advising local residents and businesses affected prior to any planned disruption of service.</p>	Construction Plan
C48	<p>The Proponent shall prepare dilapidation surveys and reports (including movement prediction studies) on the condition of roads, footpaths, services and utilities affected by construction. The Proponent shall carry out rectification work at the Proponent's expense and to the reasonable requirements of the owners.</p>	Construction Plan
C49	<p>All excavations adjacent to RMS road infrastructure shall meet the requirements of RMS Technical Direction GTD 2012/0001 "<i>Excavation adjacent to RMS infrastructure</i>".</p>	Construction Plan

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	CONDITION	CEMP REFERENCE
C50	The Proponent shall consult with relevant Councils regarding the use of any weight restricted road by heavy construction vehicles if required.	Construction Plan
	CLIMATE CHANGE	
C51	The Proponent shall, where feasible and reasonable, fully offset carbon emissions generated by the operation of the SSI.	N/A – TfNSW responsibility

SSI-5414 SCHEDULE D – COMMUNITY INFORMATION, REPORTING AND AUDITING

	CONDITION	CEMP REFERENCE
	COMMUNITY INFORMATION, CONSULTATION AND INVOLVEMENT	
D1	<p>A Stakeholder and Community Involvement Plan shall be prepared and implemented to provide mechanisms to facilitate communication between the Proponent (and its contractor(s)), the Environmental Representative (condition E32), the relevant Council and community stakeholders (particularly adjoining landowners) on the construction environmental management of the SSI and detailed design elements of the SSI. The Strategy shall include, but not be limited to:</p> <ul style="list-style-type: none"> (a) identification of community and business stakeholders to be consulted as part of the Strategy, including affected and adjoining landowners; (b) procedures and mechanisms for the regular distribution of information to community and business stakeholders on construction progress and matters associated with environmental management; (c) the formation of community/business-based forums that focus on key environmental management issues and design aspects of the SSI. The Strategy shall provide detail on the structure, scope, objectives and frequency of the forums; (d) procedures and mechanisms through which community and business stakeholders can discuss or provide feedback to the Proponent and/or Environmental Representative in relation to the environmental management, design and delivery of the SSI; (e) procedures and mechanisms through which the Proponent can respond to enquiries or feedback from community and business stakeholders in relation to the environmental management, design and delivery of the SSI; and (f) procedures/mechanisms implemented to resolve issues/ disputes that may arise between parties on the matters relating to environmental management, design and the delivery of the SSI. This may include the use of an appropriately qualified and experienced independent mediator. Issues that shall be addressed through the Stakeholder and Community Involvement Plan include (but are not necessarily limited to) traffic and access arrangements, noise and vibration, impacts to local businesses, land uses and community facilities, urban design and landscaping and other construction and design related impacts and management measures. <p>The Proponent shall maintain and implement the Plan throughout construction of the SSI. The Plan shall be approved by the Director General prior to the commencement of construction, or as otherwise agreed by the Director General.</p>	See Community Liaison Implementation Plan – shared responsibilities between TfNSW and ISJV.
	Complaints and Enquiries Procedure	
D2	<p>Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall ensure that the following are available for community enquiries and complaints for the duration of construction:</p> <ul style="list-style-type: none"> (a) a 24 hour telephone number(s) on which complaints and enquiries about the SSI may be registered; (b) a postal address to which written complaints and enquires may be sent; (c) an email address to which electronic complaints and enquiries may be transmitted; and (d) a mediation system for complaints unable to be resolved. <p>The telephone number, the postal address and the email address shall be published in newspaper(s) circulating in the local area prior to the</p>	See Community Liaison Implementation Plan – shared responsibilities between TfNSW and ISJV.

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	CONDITION	CEMP REFERENCE
	commencement of construction. This information shall also be provided on the website (or dedicated pages) required by this approval.	
D3	<p>Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall prepare and implement a Construction Complaints Management System consistent with Customer satisfaction-Guidelines for complaints handling in organisations – ISO 10002:2004, MOD (formerly AS 4269: Complaints Handling) and maintain the System for the duration of construction and up to 12 months following completion of the SSI.</p> <p>Information on all complaints received, including the means by which they were addressed and whether resolution was reached, with or without mediation, shall be maintained in a complaints register and included in the construction compliance reports required by this approval. The information contained within the System shall be made available to the Director General on request.</p>	See Community Liaison Implementation Plan – shared responsibilities between TfNSW and ISJV.
	Provision of Electronic Information	
D4	<p>Prior to the commencement of construction, or as otherwise agreed by the Director General, the Proponent shall establish and maintain a new website, or dedicated pages within an existing website, for the provision of electronic information associated with the SSI, for the duration of construction and for 12 months following completion of the SSI. The Proponent shall, subject to confidentiality, publish and maintain up-to-date information on the website or dedicated pages including, but not necessarily limited to:</p> <ul style="list-style-type: none"> (a) information on the current implementation status of the SSI; (b) a copy of the documents referred to under condition B1 of this approval, and any documentation supporting modifications to this approval that may be granted from time to time; (c) a copy of this approval and any future modification to this approval; (d) a copy of each relevant environmental approval, licence or permit required and obtained in relation to the SSI; (e) a copy of each current strategy, plan, program or other document required under this approval; (f) the outcomes of compliance tracking in accordance with condition D5 of this approval; and (g) details of contact point(s) to which community complaints and enquiries may be directed, including a telephone number, a postal address and an email address. 	N/A – TfNSW responsibility
	COMPLIANCE MONITORING AND TRACKING	
	Compliance Tracking Program	
D5	<p>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:</p> <ul style="list-style-type: none"> (a) provisions for the notification of the D-G prior to the commencement of construction (including prior to each stage, if 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 EMS 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; 	N/A – TfNSW responsibility

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	CONDITION	CEMP REFERENCE
	(g) procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management; (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.	
	Incident Reporting	
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.	CEMP Section 5

SSI-5414 SCHEDULE E – CONSTRUCTION ENVIRONMENTAL MANAGEMENT

	CONDITION	CEMP REFERENCE
	TRANSPORT AND ACCESS	
E1	Where construction will impact the efficiency and safety of road and related transport networks (including traffic flow, access, bus routes, parking and user safety), the Proponent shall develop, assess, and implement appropriate management measures in consultation with the relevant road authority, transport operator(s), and emergency services, and adjoining major land holders, as relevant. Such measures shall be addressed in the Construction Traffic Management Plan (E34(c)) and shall include but not be limited to: (a) construction site access, including the efficient and safe egress and ingress of vehicles, consistent relevant Austroads, Australian Standards and RMS requirements; (b) parking management, including on and off street and remote parking and access; (c) heavy vehicle management, the restriction (unless otherwise approved) of heavy vehicles on certain routes (for example T-Ways and past education facilities) and the minimisation of heavy vehicle traffic in peak traffic periods; (d) bus rerouting and access to bus stops; (e) full and partial road closures and associated restrictions, detours and the like; (f) special event management; (g) the retention and reinstatement of emergency and property access; (h) the retention of user and passenger safety, including pedestrians, cyclists, public transport users, including at stops and related facilities; (i) incident response planning.	Construction Traffic Management Plan
E2	Access to property shall be maintained during construction unless otherwise agreed with the property owner in advance. A landowner's access that is physically affected by the SSI shall be reinstated to at least an equivalent standard, in consultation with the property owner.	Construction Traffic Management Plan
E3	Impacts to existing parking (on and off street) should be minimised, including the amount of spaces reduced and the time associated with this reduction. Where parking is impacted, particularly for periods greater than four weeks, the proponent shall identify and implement, where feasible and reasonable, alternate parking arrangements. Displaced vehicles must not be accommodated on the state road network.	Construction Traffic Management Plan
E4	Without limiting the outcomes of the Construction Traffic Management Plan for the SSI, construction traffic shall be scheduled, where feasible and	Construction Traffic

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	CONDITION	CEMP REFERENCE
	reasonable, to outside of AM and PM peak hours, and also during special events. Methods used to limit construction traffic outside of peak traffic periods shall be incorporated into the Construction Traffic Management Plan (E34(c)).	Management Plan
E5 (as mod)	Any proposed road infrastructure works, restoration works or alterations to signalised intersections located along the classified road system associated with Construction site 15 (as presented within the SSI-5100 EIS), shall meet RMS requirements. The certified copies of civil, structural and traffic signal design plans shall be submitted to RMS prior to commencement of works associated with this construction site.	Construction Traffic Management Plan
	Road Dilapidation	
E6	<p>Upon determining heavy vehicle routes associated with the SSI, and prior to use of these route(s) by heavy vehicles, an independent and qualified person or team shall undertake a Road Dilapidation Report on local roads from the construction access/ egress point(s) to the arterial road network. The report shall assess the current condition of the road and describe mechanisms to restore any damage that may result due to traffic and transport related to the construction of the SSI, during construction. The Report shall be submitted to the relevant road authority for review prior to use of the haulage routes(s).</p> <p>Following completion of construction, a subsequent report shall be prepared to assess any damage that may have resulted from the construction of the SSI.</p> <p>Measures undertaken to restore or reinstate roads affected by the SSI shall be undertaken in a timely manner, in accordance with the reasonable requirements of the relevant road authority, and at the full expense of the Proponent.</p>	Construction Traffic Management Plan
	Access	
E7	Safe pedestrian and cyclist access through or around worksites shall be maintained during construction. In circumstances where pedestrian and cyclist access is restricted due to construction activities, a feasible and reasonable alternate route shall be provided and signposted.	Construction Traffic Management Plan
E8	<p>Construction vehicles (including staff vehicles) associated with the SSI shall be managed to:</p> <ul style="list-style-type: none"> (a) minimise parking or queuing on public roads and non associated sites; (b) minimise the use of local roads (through residential streets and town centres) to gain access to construction sites and compounds; (c) minimise traffic past schools and child care centres, particularly during opening and closing periods; and (d) adhere to the nominated heavy vehicle routes identified in the Construction Traffic Management Plan (E34(c)). 	Construction Traffic Management Plan
	AIR QUALITY	
E9	The SSI shall be constructed in a manner that minimises dust emissions from the site, including wind-blown and traffic-generated dust and tracking of material onto public roads. All activities on the site shall be undertaken with the objective of minimising visible emissions of dust from the site. Should such visible dust emissions occur at any time, the Proponent shall identify and implement all feasible and reasonable dust mitigation measures, including cessation of relevant works, as appropriate, such that emissions of visible dust cease.	Construction Air Quality Management Plan
	VISUAL AMENITY	
E10	The SSI shall be constructed in a manner that minimises visual impacts resulting from construction sites, including retaining, where feasible and reasonable, existing vegetation around the perimeter of construction sites, providing temporary landscaping where appropriate to soften views of the construction sites, minimising light spillage, and incorporating architectural treatment and finishes within key elements of temporary structures	Visual Amenity Plan

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	that reflect the context within which the construction sites are located.	
	BIODIVERSITY	
E11	The SSI shall be constructed with the objective of not clearing additional vegetation beyond that approved under State Significant Infrastructure Approval SSI 5100 or identified in the documents listed in Condition B1.	Construction Flora & Fauna Management Plan
	REHABILITATION	
E12	Where land associated with construction sites are not proposed to be utilised as part of the operational stage of the SSI, the Proponent shall ensure that these sites are fully rehabilitated to either the same level or better than their condition, prior to the construction of Infrastructure Approval SSI-5100, in consultation with relevant Council(s).	Construction Flora & Fauna Management Plan
	NOISE AND VIBRATION	
	Construction Hours	
E13	Construction activities associated with the SSI shall be undertaken during the following standard construction hours: (a) 7:00am to 6:00pm Mondays to Fridays, inclusive; and (b) 8:00am to 1:00pm Saturdays; (c) at no time on Sundays or public holidays.	Construction Noise and Vibration Management Plan
E14	Notwithstanding condition E12, track work, tunnel systems works & fit out works within the tunnel may be undertaken 24 hours, 7 days a week.	N/A – TSC responsibility
E15	Except as permitted by an EPL, activities resulting in impulsive or tonal noise emissions shall only be undertaken: (a) between the hours of 8:00 am to 5:00 pm Monday to Friday; (b) between the hours of 8:00 am to 1:00 pm Saturday; and (c) in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block. For the purposes of this condition 'continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition.	Construction Noise and Vibration Management Plan
E16	Notwithstanding conditions E12 to E14, construction activities outside of the prescribed construction hours may be undertaken in any of the following circumstances: (a) construction works that generate air-borne noise that is: (i) no more that 5 dB(A) above rating background level at any residence in accordance with the ICNG; (ii) no more than the noise management levels specified in Table 3 of the ICNG at other sensitive receivers; (b) construction works that generate continuous or impulsive vibration values, measured at the most affected residence, that are no more than those for human exposure to vibration, specified for residences in Table 2.2 of Assessing Vibration: a technical guideline (DEC, 2006); (c) works that generate intermittent vibration values, measured at the most affected residence, that are no more than those for human exposure to vibration, specified for residences in Table 2.4 of Assessing Vibration: a technical guideline (DEC, 2006);	Construction Noise and Vibration Management Plan

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	(d) where a negotiated agreement has been reached with affected receivers, where the prescribed noise and vibration levels can not be achieved; (e) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; (f) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; and (g) works approved through an EPL, including for works identified in an out of hours procedure.	
E17	In relation to construction hours, including for standard and out of hours activities, the SSI shall be constructed to comply with an EPL applying to the SSI, including all relevant noise mitigation and management measures. In the event of a dispute between the Proponent (including its contractors) and the EPA, in relation to construction hours, either party may refer the matter to the Director-General for resolution.	Construction Noise and Vibration Management Plan
	Construction Noise and Vibration	
E19	The SSI shall be constructed with the aim of achieving the construction noise management levels detailed in the ICNG. All feasible and reasonable noise mitigation measures shall be implemented and any activities that could exceed the construction noise management levels shall be identified and managed in accordance with the Construction Noise and Vibration Management Plan (E34(b)). Note: The ICNG identifies 'particularly annoying' activities that require the addition of 5dB(A) to the predicted level before comparing to the construction Noise Management Levels.	Construction Noise and Vibration Management Plan
E20	The SSI shall be constructed with the aim of achieving the following construction vibration goals: (a) for structural damage, the vibration limits set out in the German Standard DIN 4150-3: Structural Vibration - effects of vibration on structures; (b) for human exposure, the acceptable vibration values set out in the Assessing Vibration: a Technical Guideline (DEC, 2006). Where vibration levels exceed the acceptable vibration dose values, feasible and reasonable mitigation measures shall be considered.	Construction Noise and Vibration Management Plan
E22	Wherever feasible and reasonable, piling activities shall be undertaken using quieter alternative methods than impact or percussion piling, such as bored piles or vibrated piles.	Construction Noise and Vibration Management Plan
E23	The Proponent shall identify and consult with potentially-affected community, religious, educational institutions and vibration-sensitive businesses and critical working areas (such as theatres, laboratories and operating theatres) and where feasible and reasonable ensure that noise generating construction works in the vicinity of the receivers are not timetabled during sensitive periods, unless appropriate other arrangements are made.	Community Liaison Implementation Plan
E24	During construction, Proponents of other construction works in the vicinity of the SSI shall be consulted, and reasonable steps taken to coordinate works to minimise impacts on, and maximise respite for, affected sensitive receivers.	Community Liaison Implementation Plan
	PROPERTY AND BUSINESS IMPACTS	
E25	The Proponent shall design and construct the SSI with the objective of minimising impacts to, and interference with, third party property and infrastructure, and that such infrastructure and property is protected during construction and operation.	Design Packages
E26	Any damage caused to property as a result of the SSI shall be rectified or the property owner compensated, within a reasonable timeframe, with the costs borne by the Proponent. This condition is not intended to limit any claims that the property owner may have against the Proponent.	Construction Plan
	Business Impacts	
E27	The Proponent shall prepare and implement a Business Management Plan to minimise impacts on business adjacent to major construction sites	Business Management Plan

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	<p>and activities during construction of the SSI. The Plan shall include measures to minimise business related impacts, maintain where feasible and reasonable vehicular and pedestrian access during business hours, and the maintenance of visibility of the business appropriate to its reliance on such. The Plan shall include, but not necessarily be limited to:</p> <p>(a) a Business Consultation forum linked with the Community Construction Strategy as required by condition D1;</p> <p>(b) Business Management Strategies for each construction site (and/ or activity), identifying affected businesses and associated management strategies, including the employment of place managers and specific measures to be put in place to assist small business owners adversely impacted by the construction of the SSI;</p> <p>(c) a monitoring program to assess the effectiveness of the measures including the nomination of performance parameters and criteria against which effectiveness of the measures will be measured; and</p> <p>(d) provision for reporting of monitoring results to the Director General, as part of the Compliance Tracking Program (condition D5).</p>	
	SOIL, WATER QUALITY AND HYDROLOGY	
	Construction Soil and Water Management	
E28	Soil and water management measures consistent with <i>Managing Urban Stormwater - Soils and Construction Vols 1 and 2, 4th Edition</i> (Landcom, 2004) shall be employed during the construction of the SSI to minimise soil erosion and the discharge of sediment and other pollutants to land and/or waters.	Construction Soil and Water Management Plan
E29	Where available, and of appropriate chemical and biological quality, subject to a health risk assessment, stormwater, recycled water, groundwater inflows to tunnels or other water sources shall be used in preference to potable water for construction activities, including concrete mixing and dust control.	Construction Soil and Water Management Plan
	LANDUSE AND COMMUNITY FACILITIES	
E30	Where community and Council facilities are impacted during construction works through temporary or permanent land acquisition, reduced amenity, reduced access, reduced functionality or other impact, the Proponent shall, in consultation with the relevant Council, community groups and key stakeholders, address construction impacts and agree on feasible and reasonable mitigation, management and rehabilitation measures. Where appropriate, the Proponent shall determine viable alternative options for community facilities during the construction phase. Mitigation and management measures shall be implemented, prior to impacts occurring.	Community Liaison Implementation Plan
	ANCILLARY FACILITIES	
E31	<p>Unless otherwise approved by the Director General, the location of Ancillary Facilities shall:</p> <p>(a) be located more than 50 metres from a waterway;</p> <p>(b) be located within or adjacent to land where the SSI is being carried out;</p> <p>(c) have ready access to the road network;</p> <p>(d) be located to minimise the need for heavy vehicles to travel through residential areas;</p> <p>(e) be sited on relatively level land;</p> <p>(f) be separated from nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant);</p>	Construction Compound and Ancillary Facilities Management Plan

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	CONDITION	CEMP REFERENCE
	<p>(g) not require vegetation clearing beyond that already required by the SSI;</p> <p>(h) not impact on heritage items (including areas of archaeological sensitivity) beyond those already impacted by the SSI;</p> <p>(i) not unreasonably affect the land use of adjacent properties;</p> <p>(j) be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented; and</p> <p>(k) provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.</p> <p>The location of the ancillary facilities shall be identified in the Construction Environmental Management Plan (E34) and include consideration of the above criteria. Where the above criteria cannot be met for any proposed ancillary facility, the Proponent shall demonstrate to the satisfaction of the Director General that there will be no significant adverse impact from that facility's construction or operation. Such assessment(s) can be submitted separately or as part of the Construction Environmental Management Plan.</p>	
E32	All Ancillary Facilities shall be rehabilitated to at least their pre-construction condition, unless otherwise agreed by the landowner where relevant.	Construction Environmental Management Plan
	ENVIRONMENTAL REPRESENTATIVE	
E33	<p>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 Environment Representative(s) for the duration of construction, or as otherwise agreed by the Director General. The Environment Representative(s) shall:</p> <p>(a) be the principal point of advice in relation to the environmental performance of the SSI;</p> <p>(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;</p> <p>(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;</p> <p>(d) ensure that environmental auditing is undertaken in accordance with the Proponent's Environmental Management System(s);</p> <p>(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);</p> <p>(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;</p> <p>(g) be given authority and independence to advise on reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts; and</p> <p>(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.</p>	N/A – TfNSW responsibility
	CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN	
E34	Prior to 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 environmental management practices and	Construction Environmental

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procedures to be followed during construction, and shall be prepared in consultation with 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:	Management Plan
(a) a description of activities to be undertaken during construction of the SSI (including staging and scheduling);	CEMP Section 2
(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;	CEMP Section 3
(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;	CEMP Sections 4 & 5
(d) an environmental risk analysis to identify the key environmental performance issues associated with the construction phase; and	CEMP Appendix 5
(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:	CEMP Section 1.7 CEMP Sections 5 & 6
(i) ancillary facilities management;	Construction Compound & Ancillary Facilities Mgmt Plan
(ii) noise and vibration;	Construction Noise and Vibration Management Plan
(iii) traffic and access;	Construction Traffic Management Plan
(iv) soil and water quality;	Construction Soil and Water Management Plan
(v) groundwater management and discharge;	Construction Soil and Water Management Plan
(vi) air quality and dust management;	Construction Air Quality Management Plan
(vii) visual amenity;	Visual Amenity Plan
(viii) management of Aboriginal and historic heritage;	Construction Heritage Management Plan
(ix) soil contamination, groundwater contamination, hazardous material and waste management;	Construction Soil and Water Management Plan Waste & Recycling Plan

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	(x) management of ecological impacts; and	Construction Flora and Fauna Management Plan
	(xi) hazard and risk management.	CEMP Appendix 5
	<p>The Plan shall be submitted for the approval of the Director General no later than one month prior to the commencement of construction, or as otherwise agreed by the Director General. The Plan may be prepared in stages, however, construction works shall not commence until written approval has been received from the Director General.</p> <p>Note: The approval of a Construction Environmental Management Plan does not relieve the Proponent of any requirement associated with this SSI approval. If there is an inconsistency with an approved Construction Environmental Management Plan and the conditions of this SSI approval, the requirements of this SSI approval prevail.</p>	CEMP Section 4
E35	<p>As part of the Construction Environmental Management Plan for the SSI required under condition E33, the Proponent shall prepare and implement:</p> <p>(a) a Construction Compound and Ancillary Facilities Management Plan to detail the management of Ancillary Facilities associated with the SSI. The Plan shall include but not be limited to:</p> <ul style="list-style-type: none"> (i) a description of the facility, its components and the surrounding environment; (ii) details of the activities to be carried out at each facility, including the hours of use and the storage of dangerous and hazardous goods; (iii) an assessment against the locational criteria outlined in condition E30; (iv) details of the mitigation and management procedures specific to the facility that would be implemented to minimise environmental and amenity impacts and an assessment of the adequacy of the mitigation or offsetting measures; (v) identification of timing for completion of activities at the facility and how the site will be decommissioned (including any necessary rehabilitation); (vi) mechanisms for the monitoring, review and amendment of this Plan. 	Construction Compound and Ancillary Facilities Management Plan
	<p>(b) a Construction Noise and Vibration Management Plan to detail how construction noise and vibration impacts will be minimised and managed. The Plan shall be consistent with the guidelines contained in the Interim Construction Noise Guidelines (DECC, 2009) and Assessing Vibration: a technical guide (DEC, 2006). The plan shall be developed in consultation with the EPA and shall include, but not be limited to:</p> <ul style="list-style-type: none"> (i) identification of work areas, site compounds and access points; (ii) identification of sensitive receivers and relevant construction noise and vibration goals applicable to the SSI stipulated in this approval; (iii) details of construction activities and an indicative schedule for construction works, including the identification of key noise and/or vibration generating construction activities (based on representative construction scenarios, including at ancillary facilities) that have the potential to generate noise and/or vibration impacts on surrounding sensitive receivers, particularly residential areas; (iv) identification of feasible and reasonable measures proposed to be implemented to minimise and manage construction noise impacts (including construction traffic noise impacts), including, but not limited to, acoustic enclosures, erection of noise walls (hoardings), respite periods and the limiting of truck movements during night periods; (v) identification of feasible and reasonable procedures and mitigation measures to ensure relevant vibration and blasting criteria are achieved, including a suitable blast program, applicable buffer distances for vibration intensive works, use of low-vibration generating equipment/ vibration dampeners or alternative construction methodology, and pre- and post- construction dilapidation surveys of sensitive structures where blasting and/or vibration is likely to result in damage to buildings and structures (including surveys being undertaken immediately following a monitored exceedance of the criteria); (vi) if blasting is required, an assessment of the potential noise and vibration impacts, and a strategy to minimise and manage those impacts, including preparation of an appropriate community information program; 	Construction Noise and Vibration Management Plan

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	<p>(vii) a description of how the effectiveness of mitigation and management measures would be monitored during the proposed works, clearly indicating how often this monitoring would be conducted, the locations where monitoring would take place, how the results of this monitoring would be recorded and reported, and, if any exceedance is detected, how any non-compliance would be rectified; and</p> <p>(viii) mechanisms for the monitoring, review and amendment of this plan.</p>	
	<p>I A Construction Traffic Management Plan to manage construction traffic and transport access impacts of the SSI. The plan shall be developed in consultation with and meet the reasonable requirements of the relevant road authority and transport operator(s), and shall include but not be necessarily limited to:</p> <ul style="list-style-type: none"> (i) a traffic route management plan that identifies: <ul style="list-style-type: none"> i. traffic generation from other major infrastructure developments; ii. construction traffic and heavy routes and associated traffic impacts, iii. types and volumes of construction vehicles and associated route and time restrictions, including details of oversized load movements, iv. potential traffic disruptions and temporary and permanent detours, v. traffic noise impacts, sensitive receivers and times of the day; vi. management, mitigation and restoration measures; (ii) a parking management plan that identifies: <ul style="list-style-type: none"> i. parking requirements and on and offsite parking arrangements and associated impacts, ii. remote parking arrangements and associated access between sites and public transport nodes, iii. alternate parking arrangements for displaced parking, iv. communication and parking management measures; (iii) site traffic and access management plans that detail: <ul style="list-style-type: none"> i. site access and associated route and turning movements and the design and signalisation of intersections, ii. potential activities that could result in the disruption to traffic and transport networks, including pedestrian, cyclist and public transport networks and during special events, iii. the timing of works to limit disruptions to the road and transport networks, iv. the maintenance of access to and safety of transport networks, parking and property, v. service facilities and station sites, and other locations identified by the relevant road authority or transport operator, (iv) an incident response plan detailing responses to management of an event that directly involves or impacts traffic and transport networks; and (v) mechanisms for the monitoring, review and amendment of this plan. 	<p>Construction Traffic Management Plan</p>
	<p>(d) A Construction Soil and Water Management Plan to manage soil surface and groundwater impacts during construction of the SSI. The plan shall be developed in consultation with the EPA and NOW and include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> (i) details of construction activities and locations, having potential to impact on water courses, storage facilities, stormwater flows, groundwater; (ii) details of proposed extraction, use and disposal of groundwater, and measures to mitigate potential impacts to groundwater sources, incorporating monitoring, impact trigger definition and response actions for all groundwater sources potentially impacted by the SSI; (iii) surface water and ground water impact assessment criteria consistent with the principles of the Australian and New Zealand Environment Conservation Council (ANZECC) guidelines; (iv) management measures to be used to minimise surface and groundwater impacts, including identification of water treatment measures and discharge points, details of how spoil and fill material required by the SSI will be sourced, handled, stockpiled, reused and managed; erosion and sediment control measures; salinity control measures and the consideration of flood events; (v) a contingency plan, consistent with the Acid Sulfate Soils Manual, to deal with the unexpected discovery of actual or potential acid sulfate soils, 	<p>Construction Soil and Water Management Plan</p> <p>Water Quality Monitoring Plan</p>

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	CONDITION	CEMP REFERENCE
	<p>including procedures for the investigation, handling, treatment and management of such soils and water seepage;</p> <p>(vi) management measures for contaminated material (soils, water and building materials) and a contingency plan to be implemented in the case of unanticipated discovery of contaminated material, including asbestos, during construction;</p> <p>(vii) a description of how the effectiveness of these actions and measures would be monitored during the proposed works, clearly indicating how often this monitoring would be undertaken, the locations where monitoring would take place, how the results of the monitoring would be recorded and reported, and, if any exceedance of the criteria is detected how any non-compliance can be rectified; and</p> <p>(viii) mechanisms for the monitoring, review and amendment of this plan.</p>	
	<p>I a Construction Heritage Management Plan to detail how construction impacts on Aboriginal and Historic heritage will be minimised and managed. The plan shall include, but not necessarily be limited to:</p> <p>(i) In relation to Aboriginal Heritage:</p> <p>I. developed in consultation with registered Aboriginal stakeholders;</p> <p>II. details of further investigation and identification of Aboriginal cultural heritage sites impacted by and within the construction areas except where the requirements of condition C30 have been met;</p> <p>III. details of management measures to be carried out in relation to Aboriginal heritage, including a detailed methodology and strategies for protection, monitoring, salvage, and conservation, of sites and items associated with the SSI and the long term storage and curation of any Aboriginal objects recovered in accordance the section 85A of the National Parks and Wildlife Act;</p> <p>IV. procedures for dealing with previously unidentified Aboriginal objects (excluding human remains) including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified archaeologist in consultation with the Department, OEH and registered Aboriginal stakeholders and assessment of the consistency of any new Aboriginal heritage impacts against the approved impacts of the SSI, and registering of the new site in the OEH's Aboriginal Heritage Information Management System (AHIMS) register; and</p> <p>V. procedures for ongoing Aboriginal consultation and involvement for the duration of the SSI; and</p> <p>(ii) In relation to Historic Heritage:</p> <p>I. developed in consultation with the NSW Heritage Council;</p> <p>II. identification of Heritage Items directly and indirectly affected by the SSI;</p> <p>III. details of management measures to be implemented to prevent and minimise impacts on heritage items (including further heritage investigations, archival recordings and/ or measures to protect unaffected sites during construction works in the vicinity);</p> <p>IV. details on how the recommendations identified in the North West Rail Link EIS: Technical Paper – European Heritage, prepared by Godden Mackay Logan, dated March 2012 will be implemented, including archaeological research designs for all archaeological sites except where the requirements of condition C31 have been met;</p> <p>V. a detailed plan for the implementation of any measures resulting from further investigations associated with potentially affected heritage items, including Glenhope, Inala School, Windsor Road and Old Windsor Road, and Mungerie House;</p> <p>VI. details of monitoring and reporting requirements for impacts on heritage items; and</p> <p>VII. procedures for dealing with previously unidentified relics, (including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified and experienced archaeologist in consultation with the OEH and the Department, and assessment of the consistency of any new heritage impacts against the approved impacts of the SSI.</p> <p>(iii) heritage training and induction processes for construction personnel (including procedures for keeping records of inductions) and obligations under conditions of this approval including site identification, protection and conservation of Aboriginal and historic heritage;</p> <p>(iv) procedures for dealing with human remains, including cessation of works in the vicinity and notification of the Department, NSW Police Force,</p>	<p>Construction Heritage Management Plan</p>

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	CONDITION	CEMP REFERENCE
	<p>OEH and registered Aboriginal stakeholders and not recommencing any works in the area unless authorised by the NSW Police Force and/ or the Department; and</p> <p>(v) mechanisms for the monitoring, review and amendment of this plan.</p>	
	<p>(f) a Construction Flora and Fauna Management Plan to detail how construction impacts on ecology will be minimised and managed. The Plan shall be developed in consultation with the OEH and relevant Councils and shall include, but not necessarily be limited to:</p> <p>(i) plans for impacted and adjoining areas showing vegetation communities; important flora and fauna habitat areas; locations where threatened species, populations or ecological communities have been recorded;</p> <p>(ii) vegetation management plan(s) for sites where vegetation is proposed to be retained and for reaches of riparian zones, which intersect with the construction footprint;</p> <p>(iii) identification of measures to reduce disturbance to bats and nocturnal birds (and other sensitive fauna);</p> <p>(iv) rehabilitation details, including identification of flora species and sources, and measures for the management and maintenance of rehabilitated areas (including duration of the implementation of such measures);</p> <p>(v) weed management measures focusing on early identification of invasive weeds and effective management controls;</p> <p>(vi) a description of how effectiveness of management measures would be monitored and linked to Ecological Monitoring Program (condition C23);</p> <p>(vii) a procedure for dealing with unexpected EEC/ threatened species identified during construction, including cessation of work and notification of the Department, determination of appropriate mitigation measures in consultation with the OEH (including relevant re-location measures) and updating of ecological monitoring and/ or biodiversity offset requirements; and</p> <p>(viii) mechanisms for the monitoring, review and amendment of this plan.</p>	<p>Construction Flora and Fauna Management Plan</p>
	<p>(g) a Construction Air Quality Management Plan to detail how construction impacts on air quality will be minimised and managed. The Plan shall include, but not necessarily be limited to:</p> <p>(i) the identification of potential sources of air pollutants of concern, in particular dust and PM10;</p> <p>(ii) air quality management objectives;</p> <p>(iii) mitigation measures to be implemented, including measures during adverse weather conditions (such as strong winds in dry weather);</p> <p>(iv) a monitoring program to assess compliance with the identified objectives;</p> <p>(v) mechanisms for the monitoring, review and amendment of this plan.</p>	<p>Construction Air Quality Management Plan</p>
	<p>A Bridge Management Plan to detail the design of the Windsor Road Bridge and how the construction of the Windsor Road Bridge will be managed. This Plan shall include, but not be limited to:</p> <p>a. consultation with Blacktown City Council, owners and managers of Rouse Hill Town Centre, regarding construction of the Windsor Road Bridge. This should include consultation on traffic arrangements and associated way-finding signage during construction. A summary of the outcomes of this consultation shall be provided to the Department;</p> <p>b. consultation with Castlebrook Lawn Cemetery & Crematorium, Historic Houses Trust and any other relevant stakeholders regarding detailed design of Windsor Road Bridge. A summary of outcomes of consultation and any alterations to the design shall be provided to the Department;</p> <p>c. details of management measures to be carried out in relation to alterations to the visual amenity during both construction and operation, including detailed methodology and strategies for maintaining views to items of local and regional significance; and</p> <p>d. a description of how the effectiveness of these actions would be monitored.</p>	<p>Bridge Management Plan</p>

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SSI-5414 SCHEDULE F – OPERATIONAL ENVIRONMENTAL MANAGEMENT

Schedule F is not relevant to ISJV works.

Appendix 3. ENVIRONMENTAL REQUIREMENTS – SUBMISSIONS REPORT

Appendix 3-1. Environmental Requirements – SSI-5100 Submissions Report

Appendix 3-1: Environmental Requirements – SSI-5100 Submissions Report

SSI-5100 SUBMISSIONS REPORT

	CONDITION	Sites	CEMP Reference
	Soils and groundwater		
	Ground movement		
SG3	A detailed geotechnical model for the alignment and its surroundings would be developed and progressively updated during design and construction. The detailed geotechnical model would include: <ul style="list-style-type: none"> - Full details of structures, services, basements and other sub-surface elements that may be impacted by development of SMNW. - Assessment of the predicted settlement and horizontal strain profiles caused by construction. - Assessment of the predicted settlements and strains on buildings and basements. - Condition surveys of buildings and structures in the vicinity of the tunnel and station excavations. - Detailed modelling of identified property and infrastructure at risk from damage 	All	Design Packages
	Soil salinity		
SG8	Appropriate soil salinity mitigation measures would be adopted in accordance with Western Sydney Regional Organisation of Council's Draft Salinity Code of Practice and the former Department of Infrastructure, Planning and Natural Resources' <i>Guidelines to Accompany Map of Salinity Potential in Western Sydney</i> (2002).	All	Soil Salinity Management Plan
SG9	Where appropriate, a soil salinity assessment would be undertaken in accordance with the DLWC <i>Site Investigations for Urban Salinity</i> (2002), including Phase 2 and Phase 3 investigation. This assessment would enable site specific mitigation measures to be developed to ensure saline soils are appropriately managed and damage to the environment and infrastructure is minimised. These investigations would be informed by the completed groundwater monitoring program.	All	Soil Salinity Management Plan
	Contamination		
SG13	An accredited Site Auditor would endorse the documentation of site contamination and any Remediation Action Plan or similar.	All	Construction Soil & Water Management Plan
SG14	In the event of discovery of previously unidentified area(s) of potentially contaminated material, all work would cease in the vicinity of the discovery and not recommence until the extent of contamination has been assessed and if necessary, a Remediation Action Plan or similar has been prepared and endorsed by an accredited Site Auditor.	All	Construction Soil & Water Management Plan
SG15	A Site Auditor would be required to certify that any contaminated areas have been remediated to a standard consistent with the intended land use prior to operation of the remediated site(s).	All	Construction Soil & Water Management Plan
SG16	Bunds around fuel depots and stockpile areas would be installed to minimise the risks of contaminants reaching the water table.	All	Construction Soil & Water Management Plan
	Groundwater management		

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	CONDITION	Sites	CEMP Reference
SG17	A routine groundwater monitoring plan would be established and continue throughout the construction period. Parameters to be monitored would include groundwater levels and groundwater quality with field parameters, laboratory parameters and sample frequency to be developed prior to construction.	All	Water Quality Monitoring Program
SG18	A groundwater monitoring network to monitor groundwater levels and groundwater quality would be established throughout the construction phase. The groundwater monitoring network would contain monitoring wells along the whole SMNW route intersecting groundwater in both Ashfield Shale and Hawkesbury Sandstone.	All	Water Quality Monitoring Program
SG19	Water sampling and testing of groundwater would be undertaken during construction to determine the most suitable treatment processes to meet the required water quality standards.	All	Water Quality Monitoring Program
SG20	Groundwater quality would be subject to testing. Where it does not meet license requirements it would be treated prior to discharge.	All	Construction Soil & Water Management Plan
SG24	A groundwater water supply from the Hawkesbury Sandstone for construction purposes would be used where feasible and reasonable. Negotiations with the NSW Office of Water (NOW) would be undertaken regarding impacts and applicable licenses.	All	Construction Soil & Water Management Plan
SG25	If Acid Sulfate Soils are encountered, they would be managed in accordance with the <i>Acid Sulfate Soil Management Advisory Committee Manual</i> .	All	Construction Soil & Water Management Plan
	Construction traffic and transport mitigation measures		
T1	Directional signage and line-marking would be used to direct and guide drivers and pedestrians past construction sites and on the surrounding network. This would be supplemented by permanent and portable Variable Message Signs, where reasonable and feasible, to advise drivers of any potential delays, traffic diversions, speed restrictions, or alternative routes.	1 – 17	Construction Traffic Management Plan
T2	The public would be notified of proposed traffic changes by newspaper, radio, project web site and other forms of community liaison.	1 – 17	N/A – TfNSW responsibility
T4	Management of pedestrian and vehicular access to and past construction sites would occur to ensure safe entry and exit procedures. Depending on the location, this may require manual supervision, physical barriers, temporary traffic signals and modification to existing signals or, on occasions, police presence.	1 – 17	Construction Traffic Management Plan
T5	Access to existing properties and buildings would be maintained.	1 – 17	Construction Traffic Management Plan
T6	Traffic controllers would manage heavy vehicle movements at worksites, and monitor the need for pedestrian control.	1 – 17	Construction Traffic Management Plan
T7	All trucks would enter and exit the worksites in a forward direction, where feasible and reasonable.	1 – 17	Construction Traffic Management Plan
T8	The management of buses at key transport interchanges, such as Castle Hill and Rouse Hill, would be reviewed during the detailed construction planning to minimise impacts on existing services.	5 & 14	Construction Traffic Management Plan

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	CONDITION	Sites	CEMP Reference
T9	The T-Way operations, including car parking, would be maintained at all times during the construction of the SMNW. This includes maintained existing sight lines to T-Way bus stops and within T-Way car parks, where possible. Where this is not possible, suitable alternative measures would be implemented (eg CCTV with active surveillance) where reasonable and feasible.	9 – 14	Construction Traffic Management Plan
T10	The need for, and provision of, alternative remote parking locations and shuttle bus transfers for daytime and night time construction staff would be considered for all construction sites during detailed construction planning.	1 – 17	Construction Traffic Management Plan
T12	The Traffic and Transport Liaison Group established for the SMNW would consider individual events and any other special event needs and, make reasonable and feasible short-term adjustment to the construction phase activities and / or review and update detailed Traffic Management Plans.	1 – 17	N/A – TfNSW responsibility
T17	If construction of SMNW occurs before the Schofields Road upgrade, interim upgrading of the road would be undertaken (unless otherwise agreed with Roads and Maritime Services) with improved pavement quality and wider sealed shoulders to accommodate heavy vehicle usage.	15 – 17	Construction Traffic Management Plan
T18	A dilapidation report would be prepared prior to construction for all affected local roads from the construction access / egress point to the arterial road.	1 – 17	Construction Traffic Management Plan
T22	Where schools occur in the immediate vicinity of the construction sites, heavy vehicle movements would be minimised (where reasonable and feasible), between 8:00-9:30 am and 2:30-4:00 pm Monday to Friday (on school days).	1 – 17	Construction Traffic Management Plan
	Noise and vibration mitigation measures		
NV1	Noise and vibration mitigation measures described in the Construction Noise and Vibration Strategy would be implemented (refer Appendix E of Technical Paper 2).	All	Construction Noise & Vibration Mgmt Plan
NV4	An acoustic shed would be constructed to reduce impact of concrete pre-cast works during night-time periods.	9 & 10	Construction Noise & Vibration Mgmt Plan
NV5	3m high noise barriers (site hoardings) would be constructed around the perimeter of construction sites.	1–3, 5–7 & 14	Construction Noise & Vibration Mgmt Plan
NV14	No external night-time construction activities (ie forklift, front end loader, or similar activities) would be undertaken at the concrete pre-cast sites.	9 & 10	Construction Noise & Vibration Mgmt Plan
NV15	Noise from conveyors at the concrete pre-cast sites would be assessed during the Construction Noise and Vibration Impact Statements (which would be prepared for each major stage of works or activity) and additional measures implemented if feasible and reasonable (eg improved enclosures, low noise idlers).	9 & 10	Construction Noise & Vibration Mgmt Plan
	European heritage mitigation measures		
	Heritage items		
EH9	Re-establish planted vegetation along the eastern side of the North-West T-Way following completion of the construction works.	11 & 13	Construction Heritage

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	CONDITION	Sites	CEMP Reference
			Mgmt Plan
EH10	The viaduct would be designed and constructed to be as visually light and stream-lined as possible. At Mungerie, the viaduct piers would be spaced widely and, where feasible and reasonable, symmetrically on either side of the carriage loop from Old Windsor Rd.	13	Construction Heritage Mgmt Plan
EH11	A buffer of trees between Mungerie and the rail corridor would be maintained. Any trees removed to facilitate construction would be reinstated on completion of works.	13	Construction Heritage Mgmt Plan
EH12	The area of the Mungerie carriage drive that would be removed during construction works would be reinstated.	13	Construction Heritage Mgmt Plan
	Archaeological sites		
EH13	Further assessment of the archaeological potential and significance of the potential resource (house sites on Franklin Road and Carrington Road at sites 4 and 6 respectively, and an archaeological site south of Samantha Riley Drive at site 11) would be undertaken prior to construction to define specific mitigation measures.	4, 6 & 11	Construction Heritage Mgmt Plan
EH16	Archaeological monitoring of the areas (the house site on Carrington Road at site 6, the archaeological site south of Samantha Riley Drive at site 11, and the remains of track and post holes at site 16 and site 17) that are likely to contain archaeological remains would be undertaken with recording of any identified features and/or deposits associated with the identified buildings in accordance with archaeological best practice.	6, 11, 16 & 17	Construction Heritage Mgmt Plan
EH17	The two identified brick cisterns / wells at the Kellyville Station site would be recorded in detail and retained in situ if feasible and reasonable.	11	Construction Heritage Mgmt Plan
EH18	Further research would be undertaken to assess archaeological potential and significance of the former Swan Inn. Depending on the outcomes of the research archaeological excavation and recording of features and / or deposits would be undertaken if required. Excavation would be undertaken in accordance with archaeological best practice and would occur before or in conjunction with the construction works in this area. Based on the extent and level of significance of discovered features, the preparation of an interpretation plan and strategy could be required.	13	Construction Heritage Mgmt Plan
EH19	If archaeological deposits relating to the Rouse Hill Estate are encountered during construction, recording of the surviving features and deposits would be undertaken in accordance with archaeological best practice. Depending on extent & level of significance of any discovered features, preparation of an interpretation plan and strategy could be required.	16 & 17	Construction Heritage Mgmt Plan
	Indigenous heritage mitigation measures		
IH4	The Indigenous Heritage component of the site induction would include information on: - Aboriginal heritage conservation areas and/or no-go zones for each construction site. - The legislation & penalties for impacting Aboriginal heritage objects would be conveyed to all construction managers & personnel.	1 – 17	Construction Heritage Mgmt Plan
	Local business mitigation measures		
LB1	A business consultation group would be formed to monitor, consider and provide business specific advice to manage impacts during construction. Members of the consultation group may include representatives from local councils, NSW chamber of commerce and industry.	1 – 17	Community Liaison Implementation Plan

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	CONDITION	Sites	CEMP Reference
LB2	The project has employed specialist Place Managers to act as a single, identifiable and direct point of contact for local residents, business people and community groups with the project. Place Managers would work closely with all affected local business to help ensure timely responses to queries.	1 – 17	N/A – TfNSW responsibility
LB3	A business impact risk register would be developed to identify, rate and help manage the specific impacts associated with construction related works for individual businesses.	1 – 17	N/A – TfNSW responsibility
LB4	A toll free number and website would be maintained to enable business owners and/or operators to receive prompt responses to their concerns, access information and view assistance measures in place during construction related works.	1 – 17	N/A – TfNSW responsibility
	Land use and community facilities mitigation measures		
LC1	Liaison would continue with statutory organisations, Department of Planning & Infrastructure (DP&I) and local Councils to ensure the Project is integrated with local and regional land use planning, and that environmental planning instruments reflect the planning, construction and operation of the Project, and include integrated planning provisions to enhance potential future development.	All	N/A – TfNSW responsibility
LC2	Consultation would continue with the community throughout the project planning and construction phases to ensure that community members have adequate information about the project, the timing and scope of activities in their local area and impacts on their local facilities and recreational areas. Area specific Place Managers have been allocated to undertake this ongoing consultation.	All	N/A – TfNSW responsibility
LC10	Consultation with Emmanuel Baptist Church and Anglican Technical College Western Sydney would be undertaken prior to construction to identify specific mitigation measures to reduce operational and amenity impacts.	8	N/A – TfNSW responsibility
LC11	Consultation regarding the implications of the Project in relation to the Balmoral Road Release Area would be undertaken with The Hills Shire Council.	9 – 11	N/A – TfNSW responsibility
LC12	Consultation would be undertaken with relevant stakeholders regarding the implications of the project on the Rouse Hill Town Centre Northern Frame works.	14	N/A – TfNSW responsibility
LC13	Consultation regarding the implications of the project on the proposed land use plan for Area 20 would be undertaken with DP&I, Blacktown City Council and relevant stakeholders.	15 – 17	N/A – TfNSW responsibility
	Ecology mitigation measures		
E1	The ecological component of the site induction would include information on: <ul style="list-style-type: none"> • Sensitivity of surrounding vegetation (particularly threatened vegetation). • Sensitivity of threatened fauna species (birds and bats). • Site environmental procedures (vegetation management, sediment and erosion control, protective fencing, weed control). • Emergency and incident response/ spill management (chemical spills, fire, injured fauna). 	All	Construction Flora & Fauna Management Plan
E2	Pre-clearing surveys would be undertaken to identify the presence of: <ul style="list-style-type: none"> • Emergency and incident response/ spill management (chemical spills, fire, injured fauna). • Threatened flora and fauna 	1 – 17	Construction Flora & Fauna Management Plan
E4	The limits of clearing (ie edge of construction site footprint) would be clearly marked and minimised where feasible and reasonable.	1 – 17	Construction Flora &

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	CONDITION	Sites	CEMP Reference
			Fauna Management Plan
E5	Where native vegetation is to be retained adjacent to or within construction sites, protective fencing and signage would be installed in accordance with Australian Standard 4970 – 2009 <i>Protection of Tree</i> .	1 – 17	Construction Flora & Fauna Management Plan
E6	Trees containing hollows would be felled using “Slow drop” technique (or similar as agreed with DP&I). The slow-drop technique involves nudging and shaking the tree, followed by a controlled lowering of the tree to the ground.	1 – 17	Construction Flora & Fauna Management Plan
E7	Where feasible and reasonable, topsoil and habitat elements (eg logs and felled trees) from sites that have few weed species would be stored and reused onsite.	1 – 17	Construction Flora & Fauna Management Plan
E8	Site offices, stockpiles, machinery wash down areas, and plant storage areas would be located outside of any ecologically sensitive areas being retained onsite.	1 – 17	Construction Flora & Fauna Management Plan
E9	Fuel (or other chemical) storage would be located outside all riparian zones, and at least 10m from any retained ecologically sensitive areas onsite.	1 – 17	Construction Flora & Fauna Management Plan
E10	Construction sites would be revegetated using endemic native plant species where appropriate.	1 – 17	Construction Flora & Fauna Management Plan
E12	To prevent establishment or spread of weeds: - Machinery would be cleaned before entering work sites - Weeds would be removed from within the mapped native vegetation areas at least 10m from the edge of the construction footprint (where access allows). - Cleared weed material would be disposed of at a site licensed to receive green waste.	1 – 17	Construction Flora & Fauna Management Plan
E15	To reduce disturbance to bats and nocturnal birds where reasonable and feasible, a range of measures would be undertaken, such as: Artificial lighting would be directed to where it is needed and in a downwards orientation to avoid light spillage, Artificial light would be positioned to face away from areas of native vegetation. Low-pressure sodium lamps would be used instead of high-pressure sodium or mercury lights. Where mercury lights are used, UV filters would be fitted. The brightness of lights would be reduced to as low as legally possible, and in conformance with workplace health and safety standards. Amplified speakers would be directed downwards and away from areas of native vegetation	1 – 17	Construction Flora & Fauna Management Plan
E16	Biodiversity offsets would be carried out consistent with the <i>Offset Strategy</i> and any conditions of approval.	1, 3, 4, 6, 8-13, 15-17	N/A – TfNSW responsibility
E17	Design of waterway crossings and structures would be undertaken in accordance with relevant guidelines such as <i>Fish and Fauna Friendly Waterway Crossings</i> (Fairfull & Witheridge, 2003) and <i>Fish Passage Requirements of Waterway Crossings</i> (2003). Relevant Government Agencies would be consulted with regard to crossings and waterway structures.	3, 4, 6 & 8 – 17.	Construction Flora & Fauna Management Plan
E18	Any creeks, core riparian zones and vegetated buffers disturbed by the project would be revegetated with the aim of maximising their	1 – 4 &	Construction Flora &

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	CONDITION	Sites	CEMP Reference
	ecological value.	6 – 17	Fauna Management Plan
E19	If feasible and reasonable, the proposed viaduct and bridge structural elements would be placed out of the creek(s) and away from the banks.	11 – 16	Construction Flora & Fauna Management Plan
E20	The areas identified as 'likely' or 'potential' Groundwater Dependent Ecosystems (GDEs) would be considered in the development of the groundwater monitoring plan. Any groundwater monitoring undertaken within these areas would include monitoring of water quality and levels.	3, 6, 9 – 13 & tunnels	Water Quality Monitoring Plan
E21	The potential spread of pathogens such as Phytophthora and Myrtle Rust would be addressed with appropriate mitigation during detailed construction planning.	Jan-17	Construction Flora & Fauna Management Plan
	Visual amenity mitigation measures		
V1	Existing vegetation around the perimeter of the construction sites would be retained where feasible and reasonable to act as a visual screen.	1 – 17	Visual Amenity Plan
V2	Cut-off and directed lighting would be used to ensure glare and light trespass are minimised.	1 – 17	Visual Amenity Plan
V3	Where feasible and reasonable the elements within construction sites would be located to minimise visual impact, eg setting particular equipment/ structures back from the site boundaries to minimise their visual impact.	1 – 17	Visual Amenity Plan
V4	Regular maintenance of site hoarding and perimeter site areas would be undertaken, including the prompt removal of graffiti.	1 – 17	Visual Amenity Plan
V5	Visual mitigation would be implemented as soon as feasible and reasonable, and remain for the duration of the construction period.	1 – 17	Visual Amenity Plan
V6	Monitoring of the effectiveness of mitigation measures would be undertaken by the relevant construction contractor. This would primarily include regular visual inspection of the condition of the various measures.	1 – 17	Visual Amenity Plan
V10	Hoardings would be designed to visually recede in more rural or bushland settings.	3-5, 9-13 15-17	Visual Amenity Plan
	Climate change and greenhouse gas mitigation measures		
	Climate change		
CC1	The detailed design of the drainage system would take account of increased rainfall events through flood modelling with a climate change margin (ie design can't be based on past flood levels of 1 in 100 return interval events). For example design elevation levels for tunnels, stations and transport interchange areas would be based on future climatic conditions at least up to future climate projections for 2070.	All	Sustainability Plan
CC2	The detailed design of the embankments would take into account a changing climate. For example, structures would be designed to reduce water build up behind and under embankments to prevent lubrication and loss of stability.	9 – 17	Sustainability Plan
CC3	Geotechnical materials would be considered in detailed design to address extreme weather related impacts. For example, avoid the use of expansive clays which may develop cracks during drought events causing greater weakness to water access, lubrication and movement during extreme rainfall events.	9 – 17	Sustainability Plan

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	CONDITION	Sites	CEMP Reference
	Greenhouse gas		
GHG1	Spoil management would be undertaken in accordance with the spoil reuse hierarchy.	All	Carbon & Energy Management Plan
GHG2	Where feasible and reasonable local materials would be preferentially used.	All	Carbon & Energy Management Plan
GHG3	If feasible and reasonable low GHG intensive alternative fuels (for example biofuels) would be used in construction equipment and vehicles.	All	Carbon & Energy Management Plan
GHG4	Vehicles with low fuel consumption ratings would be preferentially used where feasible and reasonable.	All	Carbon & Energy Management Plan
GHG5	Construction equipment and vehicle operators would be trained in driving practices which reduce fuel consumption.	All	Carbon & Energy Management Plan
GHG6	Construction equipment and vehicles would be regularly maintained to maximise fuel efficiency.	All	Carbon & Energy Management Plan
GHG9	A minimum of 20% of electricity needs associated with construction works would be offset.	All	Carbon & Energy Management Plan
GHG 11	If feasible and reasonable materials with lower embodied emissions would be preferentially specified for use.	All	Carbon & Energy Management Plan
GHG 12	An updated GHG assessment would be prepared during the detailed design stage of the project.	All	Carbon & Energy Management Plan
	Surface water and hydrology mitigation measures		
	Flooding		
SW1	The need or extent of any obstructions required to be placed within waterway areas would be avoided in the first instance, and minimised if avoidance is not feasible or reasonable.	1 – 4, 6 & 8–17	Stormwater & Flooding Management Plan
SW2	Programming or staging any construction associated with creek/channel works or the temporary transverse culverts would be undertaken to minimise the total time that works are undertaken in the vicinity of watercourses.	1 – 4, 6 & 8–17	Stormwater & Flooding Management Plan
SW3	Construction equipment (or excess material) would be removed from waterway or flood prone areas if wet weather is approaching and at the completion of each day's work activity. The extent of the flood prone area would be defined during detailed construction planning.	1 – 17	Stormwater & Flooding Management Plan
SW4	Temporary levees or bunds would be strategically placed to contain potential flooding impacts resulting from any temporary works on the floodplain and minimise the risk to surrounding properties which might otherwise be affected.	1 – 17	Stormwater & Flooding Management Plan
SW7	Earthworks located within the floodplain would be staged to ensure that the extent of works exposed at any one time is minimised.	8 – 11,	Stormwater & Flooding

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	CONDITION	Sites	CEMP Reference
		16 & 17	Management Plan
SW8	Construction works would be staged to ensure diversion channels are in place and stabilised to enable diversion of external catchment flows around the work site.	8 – 11, 16 & 17	Stormwater & Flooding Management Plan
SW9	For Caddies Creek and Elizabeth Macarthur Creek floodplain, embankments would be limited to 0.5m maximum height for appropriate lengths of floodplain to allow controlled overtopping (subject to confirmation with detailed modelling of final construction layouts during detailed design phase). Consideration may also be given to implementation of additional mitigation measures for the few properties identified as being at increased or greatest risk of affectation. This could include design of viaduct piers and local flood mitigation works such as bunding, temporary levees, regarding overbank areas or flood proofing of properties.	9 – 12	Stormwater & Flooding Management Plan
SW10	Embankments would be limited to 0.5m maximum height (subject to confirmation with detailed modelling of final construction layouts during the detailed design phase) for the construction of bridge piers across the Second Ponds Creek floodplain (Site 16).	15	Stormwater & Flooding Management Plan
SW11	Temporary structures, embankments, haul road and working pads would be removed as soon as feasible after serving their purpose.	9 – 15	Stormwater & Flooding Management Plan
SW12	Stockpile sites would be generally located outside the 20 year ARI flood. The exact level of flood immunity provided to stockpile sites would depend on the duration of stockpiling operations, the type of material stored and the nature of the downstream waterway or any other specified requirements. This would be defined during detailed construction planning.	1 – 17	Stormwater & Flooding Management Plan
SW13	The concrete batch plant and pre-cast facilities at the Balmoral Road and Memorial Avenue sites would be located outside the 100 year flood extent.	9 & 10	Stormwater & Flooding Management Plan
	Water quality		
SW14	Water quality mitigation measures would be implemented in accordance with relevant requirements of: Landcom Managing Urban Stormwater - Soils and Construction Volumes 1 & 2 (often referred to as the Blue Book, 2004 & 2006). NOW Guidelines for Controlled Activities. ANZECC Guidelines for Fresh and Marine Water Quality. ANZECC Guidelines for Water Quality Monitoring and Reporting. Water Management Act 2000. Applicable Environment Protection Licences.	All	Construction Soil & Water Management Plan
SW15	Treatment measures would be applied to water collected in sediment basins, including settling of coarse sediments, the use of flocculation for finer sediments and pH correction.	9–17	Construction Soil & Water Management Plan
SW16	As a first preference, treated surface water collected in sediment basins would be reused onsite, eg for dust suppression. Additional opportunities for re-using water on site or for construction would be investigated and implemented where feasible and reasonable.	9–17 & tunnels	Construction Soil & Water Management Plan
	Erosion and sediment control		
SW17	Exclusion zones would be designated on construction sites to limit disturbance.	1 – 17	Construction Soil & Water Management Plan

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	CONDITION	Sites	CEMP Reference
SW18	Re-vegetating or stabilising disturbed areas would occur as soon as feasible.	1 – 17	Construction Soil & Water Management Plan
SW19	Cleared native vegetation would be mulched for use in erosion and sediment control where feasible and reasonable.	1 – 17	Construction Soil & Water Management Plan
SW20	Prior to commencement of earthworks / construction appropriate erosion control measures would be installed such as sediment fencing, check dams, temporary ground stabilisation, diversion berms or site regrading.	1 – 17	Construction Soil & Water Management Plan
SW21	Clean water runoff would be diverted away from the works or disturbed areas wherever possible.	1 – 17	Construction Soil & Water Management Plan
SW22	Temporary sediment basins would be installed as appropriate. The exact size and layout of sediment basins would be determined as part of the Construction Environmental Management Plan (CEMP) in accordance with the requirements of the relevant Environment Protection Licence.	1 – 17	Construction Soil & Water Management Plan
SW23	Appropriate measures would be implemented where spoil handling occurs outside acoustic sheds. This would include diversion drains and sediment basins.	1 – 17	Construction Soil & Water Management Plan
SW24	Works staging would be undertaken to maintain flows in undisturbed or stable remediated areas.	1 – 17	Construction Soil & Water Management Plan
SW25	Specific activity procedures would be implemented for vegetation clearing and access track creation, such as minimising amount of clearing, all weather access track creation, keeping to formed tracks where feasible and reasonable and fencing of retained vegetation.	1 – 17	Construction Soil & Water Management Plan
SW26	Surface controls to promote ground stability, limit run-off lengths and reduce run-off velocities within the work sites would be implemented.	1 – 17	Construction Soil & Water Management Plan
SW27	Ground stability would be re-established as soon as practicable following the completion of construction.	1 – 17	Construction Soil & Water Management Plan
SW28	Installation of any permanent scour protection measures required for the operational phase would occur as soon as practical.	1 – 17	Construction Soil & Water Management Plan
	Riparian areas		
SW29	The detailed design of viaduct and bridges spanning the waterways of Elizabeth Macarthur Creek, Caddies Creek and Second Ponds Creek would provide for minimal encroachment of piers within the main creek channel to minimise disturbance and impacts to creeks during construction and operation.	8 – 16	Design Packages
SW30	Temporary haul roads required to construct the bridge and viaduct would be designed to minimise the extent of encroachment within creek channels.	8 – 16	Construction Soil & Water Management Plan
SW31	Monitoring of weather forecasts would be undertaken with commencement of in channel works when dry weather is forecasted.	1 – 17	Construction Soil & Water Management Plan

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	CONDITION	Sites	CEMP Reference
SW32	Where water is released into local creeks, outlet scour protection and energy dissipation would be implemented. The discharge point would be at the upstream end of a large pool where feasible and reasonable, to allow for slowing of water.	1 – 4, 6 & 8–17	Construction Soil & Water Management Plan
SW33	Any work platforms or access tracks required through waterway areas would be constructed of large clean rock material wrapped or underlain with geofabric (or equivalent).	4, 6 & 9 – 17	Construction Soil & Water Management Plan
SW34	Temporary waterway crossings would be provided in preference to creek diversions. These temporary waterway crossings within key fish habitat would be designed to allow for the continuance of fish passage.	1 – 4 & 6 - 17	Construction Soil & Water Management Plan
SW35	Temporary waterway crossings and associated scour protection would be installed to control scour to the downstream waterway due to increases in localised water velocity while minimising disturbance within the riparian area.	4, 6 & 9 – 17	Construction Soil & Water Management Plan
SW36	Permanent diversion of small channels in localised areas would be considered for situations where the permanent works (such as bridge piers) may be required to remain adjacent to or partially obstructing the waterway in order to better facilitate construction methods and reduce potential erosion/scour problems.	1 – 17	Construction Soil & Water Management Plan
SW37	Temporary stockpile locations for both site establishment and earthworks operations would be specified prior to the commencement of construction activities. Diversion drains and erosion and sediment control measures would be in place prior to the commencement of any stockpiling activities. Material would only be stockpiled in designated stockpiling areas.	1 – 17	Construction Soil & Water Management Plan
	Contamination and spills		
SW38	Site specific controls would be developed to reduce the potential for environmental releases of potentially harmful chemicals and to reduce the risk of any such releases entering local waterways. Storage of hazardous materials such as oils, chemicals and refuelling activities would occur in bunded areas.	All	Construction Soil & Water Management Plan
SW39	Appropriate mitigation measures including stockpiling and management of potentially contaminated material would be undertaken at building demolition sites to prevent movement of material into receiving waters.	1 – 17	Construction Soil & Water Management Plan
	Monitoring and implementation		
SW40	A qualified environmental officer would be employed to advise on appropriate controls and to monitor the implementation and maintenance of mitigation measures.	All	Construction Soil & Water Management Plan
SW41	All site staff would be engaged through toolbox talks or similar with appropriate training on soil and water management practices.	All	Construction Soil & Water Management Plan
SW42	A surface water quality monitoring program for the construction period would be implemented to monitor water quality upstream and downstream of the construction areas. The monitoring programme would commence prior to commencement of any construction works and would build on available water quality data.	1 – 17	Water Quality Monitoring Program
SW43	Surface water and water quality monitoring would be carried out periodically and after rainfall events. Monitoring would examine a range of appropriate indicators in accordance with standard guidelines.	1 – 17	Water Quality Monitoring Program
SW44	Inspection of water quality mitigation controls (eg sediment fences, sediment basins) would be carried out regularly and following significant	All	Construction Soil &

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	CONDITION	Sites	CEMP Reference
	rainfall to detect any breach in performance.		Water Management Plan
	Air quality mitigation measures		
	General		
A1	Working face and areas of open excavation would be kept to a minimum, where feasible and reasonable.	1 – 17	Construction Air Quality Management Plan
A2	Water suppression would be used for active earthwork areas, stockpiles, gravel roads and loads of soil being transported to reduce wind-blown dust emissions.	1 – 17	Construction Air Quality Management Plan
A3	Waste or any other material would not be burnt on construction sites.	1 – 17	Construction Air Quality Management Plan
A4	The amount of excavated material held on site would be minimised.	1 – 17	Construction Air Quality Management Plan
A5	Areas of exposed earth would be minimised by staging construction activities and progressively landscaping and vegetating completed areas as the construction activities proceed, where feasible and reasonable.	1 – 17	Construction Air Quality Management Plan
A6	Enclosed rubble chutes and conveyors would be used where feasible and reasonable. Drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment would be minimised and/or water used to suppress dust emissions from such equipment.	1 – 17	Construction Air Quality Management Plan
A7	Cutting, grinding or sawing equipment would only be used in conjunction with suitable dust suppression techniques such as water sprays or local extraction.	1 – 17	Construction Air Quality Management Plan
A8	Wind breaks, which may include site hoardings, would be constructed, where construction works are in close proximity to sensitive receptors and where feasible and reasonable.	1 – 17	Construction Air Quality Management Plan
A9	Dust generating activities would be assessed during periods of strong winds and rescheduled, where required.	1 – 17	Construction Air Quality Management Plan
A10	All vehicles carrying loose or potentially dusty material to and/or from the site would be covered.	1 – 17	Construction Air Quality Management Plan
	Spoil stockpiles		
A11	Stockpiles would be located away from sensitive receivers, where feasible and reasonable, and protected from the elements through barriers, covering or establishing a cover crop.	1 – 17	Construction Air Quality Management Plan
	Haul roads		
A12	Longer term and/or heavily used haul roads would generally be sealed. The criteria for sealing haul roads would be defined during detailed construction planning. Sealed haul roads would be regularly cleaned.	1 – 17	Construction Air Quality Management Plan
A13	Unsealed haul roads would be regularly damped down with fixed or mobile sprinkler systems.	1 – 17	Construction Air Quality

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	CONDITION	Sites	CEMP Reference
			Management Plan
A14	Vehicular and foot traffic would be restricted to designated areas.	1 – 17	Construction Air Quality Management Plan
A15	Appropriate site speed limits would be imposed and signed on haul routes.	1 – 17	Construction Air Quality Management Plan
A16	Wheel-wash facilities or rumble grids would be provided and used near site exit points, and a street-cleaning regime would be implemented to remove any dirt tracked onto roads.	1 – 17	Construction Air Quality Management Plan
	Demolition		
A17	Water suppression would be used during demolition as required.	1 – 17	Construction Plan
A18	The insides of buildings would be stripped where feasible and reasonable, before demolition.	1 – 17	Construction Plan
A19	Biological debris (such as bird nests and droppings) would be bagged and removed or damped down prior to building demolition.	1 – 17	Construction Plan
A20	Debris screens or sheeting would be used to screen buildings, where dust-producing activities are taking place.	1 – 17	Construction Plan
A21	An asbestos survey would be undertaken of buildings that would be demolished as part of the SMNW construction works. The survey would be conducted by a suitably qualified person.	1 – 17	Construction Plan
A22	Asbestos handling and management would be in accordance with: <ul style="list-style-type: none"> - NSW Occupational Health & Safety Act 2000. - NSW Occupational Health & Safety Regulation 2001. - Code of Practice for the Safe Removal of Asbestos 2nd edition (NOHSC, 2005). - Code of Practice for the Management and Control of Asbestos in Workplaces (NOHSC, 2005). - NSW Protection of the Environment Operations (Waste) Regulation 2005: 'Section 42 Special Requirements Relating to Asbestos Waste'. - AS2601:1991 Demolition of Structures. 	1 – 17	Construction Plan
	Vehicles and equipment		
A23	Engines of onsite vehicles and plant would be switched off, if left idling for extended periods of time.	1 – 17	Construction Air Quality Management Plan
A24	Low emission vehicles and plant fitted with catalysts, diesel particulate filters or similar devices would be used, where feasible and reasonable.	1 – 17	Construction Air Quality Management Plan
A25	Plant would be well maintained and serviced in accordance with manufacturers' recommendations.	1 – 17	Construction Air Quality Management Plan
A26	Haul routes and plant (including generators) would be sited away from sensitive receivers, such as dwellings and schools, where feasible and reasonable.	1 – 17	Construction Air Quality Management Plan

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	CONDITION	Sites	CEMP Reference
A27	Vehicle emissions would be minimised through methods such as using alternative modes of transport, such as encouraging car pooling by construction workers, and maximising vehicle utilisation by ensuring full loading and efficient routing.	1 – 17	Construction Air Quality Management Plan
A28	Precautions would be implemented to prevent the occurrence of smoke emissions or fumes from site plant or stored fuel oils.	1 – 17	Construction Air Quality Management Plan
	Concrete batch plant and pre-cast facilities		
A31	Truck unloading activities at concrete batching plants would be carried out in a way that minimises potential fugitive dust emissions, such as a silo or two sided enclosure.	9 & 10	Construction Air Quality Management Plan
A32	Water sprays would be utilised in concrete batch plants to reduce the emissions from the dumping of aggregate into the storage bins.	9 & 10	Construction Air Quality Management Plan
A33	Bulk cement and other bulk fine powder materials would be stored in silos with dust filters and suitable emission control systems to prevent escape of material and overfilling during delivery.	9 & 10	Construction Air Quality Management Plan
A34	Sand and aggregate stockpiles at concrete batch plants would be stored in hoppers, bunkers, storage bins or similar which shields the materials from winds.	9 & 10	Construction Air Quality Management Plan
	Waste management mitigation measures		
W1	All waste would be assessed, classified, managed and disposed of in accordance with the <i>Waste Classification Guidelines</i> (DECC, 2008).	All	Waste & Recycling Plan
W2	All waste materials removed from the sites would only be directed to a waste management facility lawfully permitted to accept the materials.	All	Waste & Recycling Plan
W3	Excavated material and spoil would be beneficially reused on the project site or other sites, where feasible and reasonable, in accordance with the spoil reuse hierarchy.	All	Waste & Recycling Plan
W4	Appropriate storage, treatment and disposal procedures would be implemented for any contaminated spoil.	1 – 17	Waste & Recycling Plan
W5	Cleared site vegetation would be mulched for reuse in rehabilitation and landscaping works. Topsoil generated during site preparation activities would be stockpiled for reuse in landscaping activities.	1 – 17	Waste & Recycling Plan
W6	Initial and ongoing education would be provided to staff and sub-contractors regarding the importance of appropriately managing waste.	1 – 17	Waste & Recycling Plan
W7	Recyclable wastes, including paper at site offices, would be stored separately from other wastes. Storage facilities would be secure and recyclables collected on a regular basis.	1 – 17	Waste & Recycling Plan
W8	Reusable materials would be stored separately, in secure facilities.	1 – 17	Waste & Recycling Plan
W9	Worksites would be free of litter and good housekeeping would be maintained.	1 – 17	Waste & Recycling Plan
W10	Vermin proof bins would be utilised onsite.	1 – 17	Waste & Recycling Plan
W11	Waste oil, other liquid wastes and spillages would be collected and stored in bunded areas.	1 – 17	Waste & Recycling Plan

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	CONDITION	Sites	CEMP Reference
W12	Trucks transporting wastes off site would be appropriately licensed to carry the materials to appropriately licensed waste facilities.	1 – 17	Waste & Recycling Plan
W13	Waste truck loads would be covered, and tailgates secured prior to trucks leaving the worksite.	1 – 17	Waste & Recycling Plan
W14	Centralised reporting and auditing of waste volumes and disposal destinations would be employed.	1 – 17	Waste & Recycling Plan
W15	Construction waste would be minimised by accurately calculating materials brought to the site and limiting materials packaging.	1 – 17	Waste & Recycling Plan
W16	Materials such as (noise hoarding, site fencing, and so on) would be reused or shared, between sites and between construction contractors where feasible and reasonable.	1 – 17	Waste & Recycling Plan

Appendix 3-2. Environmental Requirements – SSI-5414 Submissions Report

Appendix 3-2: Environmental Requirements – SSI-5414 Submissions Report

SSI-5414 SUBMISSIONS REPORT

	CONDITION	Sites	CEMP Reference
	Soils and groundwater - Construction		
OpSG1 1	Any contaminated areas directly affected by the project would be investigated and remediated prior to the commencement of construction works. All remediation works would be undertaken in accordance with the requirements of the Contaminated Land Management Act 1997 and Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites (EPA, 1997b).	All	N/A – TfNSW responsibility
OpSG1 2	Prior to commencement of site preparation or construction in potentially contaminated areas, a summary of soil contamination would be prepared detailing outcomes of Stage 2 contamination site investigations. The summary would detail, where relevant, whether or not the soil is suitable for the intended land use or can be made suitable for reuse through the application of a Remediation Action Plan (or similar).	All	N/A – TfNSW responsibility
OpSG1 3	An accredited Site Auditor would endorse the documentation of site contamination and any Remediation Action Plan or similar.	All	N/A – TfNSW responsibility
OpSG1 4	In the event of discovery of previously unidentified area(s) of potentially contaminated material, all work would cease in the vicinity of the discovery and not recommence until the extent of contamination has been assessed and if necessary, a Remediation Action Plan or similar has been prepared and endorsed by an accredited Site Auditor.	All	N/A – TfNSW responsibility
OpSG1 5	A Site Auditor would be required to certify that any contaminated areas have been remediated to a standard consistent with the intended land use prior to operation of the remediated site(s).	All	N/A – TfNSW responsibility
OpSG1 6	Bunds around fuel depots and stockpile areas would be installed to minimise the risk of contaminants reaching the water table.	All	Construction Soil & Water Management Plan
	Groundwater Management		
OpSG1 7	A groundwater monitoring plan would be prepared for the duration of construction. Parameters to be monitored would include groundwater levels and groundwater quality with field parameters, laboratory parameters and sample frequency to be developed prior to construction.	All	Water Quality Monitoring Program
OpSG1 8	A groundwater monitoring network to monitor groundwater levels and groundwater quality would be established throughout the construction phase. The groundwater monitoring network would contain monitoring wells along the whole SMNW route intersecting groundwater in both Ashfield Shale and Hawkesbury Sandstone.	All	Water Quality Monitoring Program
OpSG1 9	Water sampling and testing of groundwater would be undertaken during construction to determine the most suitable treatment processes to meet the required water quality standards.	All	Water Quality Monitoring Program
OpSG2 0	Groundwater quality would be subject to testing. Where it does not meet license requirements it would be treated prior to discharge.	All	Construction Soil & Water Management Plan

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	CONDITION	Sites	CEMP Reference
OpSG2 4	A groundwater water supply from the Hawkesbury Sandstone for construction purposes would be used where feasible and reasonable. Negotiation with the NOW would be undertaken regarding impacts and applicable licenses.	All	Construction Soil & Water Management Plan
OpSG2 5	If ASS are encountered, they would be managed in accordance with the Acid Sulfate Soil Manual (Acid Sulfate Soil Management Advisory Committee, 1998)	All	Construction Soil & Water Management Plan
	Groundwater Treatment		
OpSG2 6	All feasible and reasonable opportunities for groundwater reuse for construction purposes or recycling nearby would be utilised in the first instance. Should groundwater inflows and required treatment volumes outstrip potential for water reuse for construction purposes, options for discharge would be investigated.	All	Construction Soil & Water Management Plan
OpSG2 7	Where water salinity is found to be too high for discharge to creeks, brackish water reverse osmosis would be undertaken.	All	Construction Soil & Water Management Plan
OpSG2 8	Dissolved iron would typically be removed from discharge water by oxidising the Ferric ion (Fe ³⁺) to Ferrous (Fe ²⁺) which enables precipitation and physical removal.	All	Construction Soil & Water Management Plan
OpSG2 9	Water turbidity would typically be treated by settling / filters.	All	Construction Soil & Water Management Plan
OpSG3 0	Iron reducing bacteria in discharge water would be typically treated by biocide dosing.	All	Construction Soil & Water Management Plan
	Soil Salinity		
OpSG3 4	Appropriate site specific soil salinity mitigation measures would be adopted in accordance with Draft Salinity Code of Practice (Western Sydney Regional Organisation of Councils, 2004) and the Guidelines to Accompany Map of Salinity Potential in Western Sydney (DIPNR 2002). These mitigation measures would be included within Sub-Plans to the CEMP at all sites within areas of known risk of soil salinity.	All	Soil Salinity Management Plan
OpSG3 5	A soil salinity assessment would be undertaken for each high risk site in accordance with the Site Investigations for Urban Salinity (DLWC 2002), including Phase 2 and Phase 3 investigation. This assessment would enable site specific mitigation measures to be developed to ensure saline soils are appropriately managed and damage to the environment and infrastructure is minimised. These investigations would be informed by the completed groundwater monitoring program.	Sites 8, 9, 13 -15	Soil Salinity Management Plan
	Soil contamination		
OpSG3 9	Bella Vista to Rouse Hill (Open Cutting for Bella Vista Dive and skytrain). If excavation for offsite disposal is to take place, additional assessments for waste classification may be required as low TPH and heavy metals impacts were reported in fill samples. Further assessment in this area may be required if disturbance is to take place in this area.	Sites 8-14	Construction Soil & Water Management Plan
OpSG4 0	Rouse Hill to Cudgegong Road (Earthworks and Bridges). Should excavation for offsite disposal take place, additional assessments for waste classification may be required as low TPH and phenol impacts were reported in fill samples. Not all of the Areas of Environmental Concern in this area have been specifically targeted, ie individual above-ground storage tanks, farm dams and asbestos in buildings.	Sites 14 - 17	Construction Soil & Water Management Plan

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	CONDITION	Sites	CEMP Reference
	Additional assessment and waste classification may be required.		
OpSG4 1	Rouse Hill to Tallawong Stabling (On grade works). Not all of the Areas of Environmental Concern in this area were specifically targeted, ie individual above-ground storage tanks, farm dams and asbestos in buildings. Additional assessment and waste classification may be required.	Sites 14 - 17	Construction Soil & Water Management Plan
	Groundwater contamination		
OpSG4 6	Bella Vista to Rouse Hill (Open Cutting for Bella Vista Dive and skytrain). If groundwater is to be disturbed, groundwater management may be required due to low concentrations of TPH and PAH reported in this area.	Site 8 - 14	Construction Soil & Water Management Plan
	Soil erosion and land surface		
OpSG4 7	Soil and land remediation is to occur as soon as practicable following construction. This is to include remediation in stages as the construction process allows.	All	Construction Soil & Water Management Plan
	Traffic and Transport - Construction		
T1	Directional signage and line-marking would be used to direct and guide drivers, cyclists and pedestrians past construction sites and on the surrounding network. This would be supplemented by permanent and portable Variable Message Signs, where reasonable and feasible, to advise drivers of any potential delays, traffic diversions, speed restrictions, or alternative routes.	1 – 17	Construction Traffic Management Plan
T2	The public would be notified of proposed traffic changes by newspaper, radio, project web site and other forms of community liaison.	1 – 17	N/A – TfNSW responsibility
T3	Co-ordination would occur with TfNSW and RMS via the Transport Management Centre's Traffic Operations Manager in the event of incidents or undue congestion.	1 – 17	Construction Traffic Management Plan
T4	Management of pedestrian, cyclist and vehicular access to and past construction sites would occur to ensure safe entry and exit procedures. Depending on the location, this may require manual supervision, physical barriers, temporary traffic signals and modification to existing signals or, on occasions, police presence.	1 – 17	Construction Traffic Management Plan
T5	Access to existing properties and buildings would be maintained.	1 – 17	Construction Traffic Management Plan
T6	Traffic controllers would manage heavy vehicle movements at worksites, and monitor the need for pedestrian control.	1 – 17	Construction Traffic Management Plan
T7	All trucks would enter and exit the worksites in a forward direction, where feasible and reasonable.	1 – 17	Construction Traffic Management Plan
T8	The management of buses at key transport interchanges such as Castle Hill and Rouse Hill would be reviewed during detailed construction planning to minimise impacts on existing services.	5 and 14	Construction Traffic Management Plan
T9	The T-way operations including car parking would be maintained at all times during the construction of the SMNW. This includes maintained existing sight lines to T-way bus stops and within T-way car parks, where possible. Where this is not possible, suitable	9 – 14	Construction Traffic Management Plan

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SMNW – Surface and Viaduct Civil Works



	CONDITION	Sites	CEMP Reference
	alternative measures would be implemented (eg CCTV with active surveillance) where reasonable and feasible.		
T10	The need for, and provision of, alternative remote parking locations and shuttle bus transfers for daytime and night time construction staff would be considered for all construction sites during detailed construction planning.	1 – 17	Construction Traffic Management Plan
T12	The Traffic and Transport Liaison Group established for the SMNW would consider individual events and any other special event needs, and make reasonable and feasible short-term adjustment to the construction phase activities and / or review and update detailed Construction Traffic Management Plans.	1 – 17	N/A – TfNSW responsibility
T17	If construction of SMNW occurs before the Schofields Road upgrade, interim upgrading of the road would be undertaken (unless otherwise agreed with RMS) with improved pavement quality and wider sealed shoulders to accommodate heavy vehicle usage.	15 – 17	Construction Traffic Management Plan
T18	A dilapidation report would be prepared prior to construction for all affected local roads from the construction access / egress point to the arterial road.	1 – 17	Construction Traffic Management Plan
T22	Where schools occur in the immediate vicinity of the construction sites, heavy vehicle movements would be minimised (where reasonable and feasible), between 8:00-9:30 am and 2:30-4:00 pm Monday to Friday (on school days).	1 – 17	Construction Traffic Management Plan
T29	Alternative car parking would be provided for car spaces lost at the Burns T-way bus stop. The alternative parking may be accommodated at the Balmoral Road T-way bus stop.	10	Construction Traffic Management Plan
T30	Alternative car parking would be provided for car spaces lost at the Riley T-way bus stop. The alternative parking is likely to be provided to the south of Samantha Riley Drive.	11	Construction Traffic Management Plan
T31	An alternative location for the cycle lockers at Rouse Hill would be identified during detailed construction planning.	14	Construction Traffic Management Plan
T33	Either Cudgegong Road or Tallawong Road would remain open to traffic and bus services to maintain a route from Guntawong Road to Schofields Road.	17	Construction Traffic Management Plan
	Noise and Vibration - Construction		
NV1	Noise and vibration mitigation measures described in the Construction Noise and Vibration Strategy would be implemented (refer Appendix J of Technical Paper 3 of EIS 2).	All	Construction Noise & Vibration Management Plan
NV5	Three metre high noise barriers (site hoardings) would be constructed around the perimeter of construction sites.	1 – 3, 5 – 7&14	Construction Noise & Vibration Management Plan
NV7	Three metre high noise barriers (site hoardings) would be constructed at Bella Vista Station site on the north and eastern side of the main construction site and to the west of the station box.	8	Construction Noise & Vibration Management Plan
NV13	Night-time truck access at Bella Vista Station site would be via the Celebration Drive roundabout to the south of the site.	8	Construction Noise & Vibration Management

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	CONDITION	Sites	CEMP Reference
			Plan
NV16	Noise attenuation measures would be implemented where reasonable and feasible on tunnel ventilation equipment and other items of fixed plant (eg pumps, water treatment plant, diesel generators) that would be required to operate on a 24 hour per day, seven day per week basis in support of the underground works (eg ventilation fan enclosures and silencers, and additional enclosures and silencers for diesel generating equipment). At each site, the combined L_{Aeq} noise from the operation of this equipment would aim to not exceed the rating background level at nearest residential receivers.	1 to 10	Construction Noise & Vibration Management Plan
	European Heritage - Construction		
EH9	Re-establish planted vegetation along the eastern side of the North-West T-way following completion of the construction works.	11 & 13	Construction Heritage Management Plan
EH10	The viaduct would be designed and constructed to be as visually light and streamlined as possible. At Mungerie, the viaduct piers would be spaced widely and, where feasible and reasonable, symmetrically on either side of the carriage loop from Old Windsor Road ¹ .	13	Construction Heritage Management Plan
EH11	A buffer of trees between Mungerie and the rail corridor would be maintained. Any trees removed to facilitate construction would be reinstated on completion of works.	13	Construction Heritage Management Plan
EH12	The area of the Mungerie carriage drive that would be removed during construction works would be reinstated ¹ .	13	Construction Heritage Management Plan
	Archaeological Sites		
EH17	The two identified brick cisterns / wells at the Kellyville Station site would be retained in situ if feasible and reasonable.	11	Construction Heritage Management Plan
EH20	Results and recommendations of the further research undertaken as per the EIS1 mitigation measures regarding areas of archaeological potential would be followed.	4, 5, 6, 11, 13, 16 & 17	Construction Heritage Management Plan
	Indigenous Heritage - Construction		
IH3	The boundary of the construction sites would be fenced to prevent construction personnel entering a PAD or known sites outside the construction footprint.	3, 4, 6, 11-16	Construction Heritage Management Plan
IH4	The Indigenous Heritage component of the site induction would include information on: <ul style="list-style-type: none"> Aboriginal heritage conservation areas and/or no-go zones for each construction site. The legislation and penalties for impacting Aboriginal heritage objects would be conveyed to all construction managers and personnel. 	1 to 17	Construction Heritage Management Plan
IH5	TfNSW would consider permanent public interpretation within at least one of the new railway stations following development if an extensive and high value archaeological deposit were to be uncovered during the excavation of a site.	3, 4, 6, 9-17	Construction Heritage Management Plan
IH6	Results and recommendations of the Phase 1 and 2 archaeological excavations undertaken as per the EIS1 mitigation measures (IH1 and IH2) would be followed.	3, 4, 6, 9 - 17	Construction Heritage Management Plan

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	CONDITION	Sites	CEMP Reference
	Local Business - Construction		
LB1	A business consultation group would be formed to monitor, consider and provide business specific advice to manage the impacts during construction. Members of the consultation group may include representatives from local councils, and the NSW chamber of commerce and industry.	1, 3-17	Community Liaison Implementation Plan
LB2	The project has employed specialist Place Managers to act as a single, identifiable and direct point of contact for local residents, business people and community groups with the project during construction. Place Managers would work closely with all affected local businesses to help ensure timely responses to queries.	1, 3-17	N/A – TfNSW responsibility
LB3	A business impact risk register would be developed to identify, rate and manage the specific impacts associated with construction related works for individual businesses.	1, 3-17	N/A – TfNSW responsibility
LB4	A toll free number and website would be in place for the duration of the construction works to enable business owners and/or operators to receive prompt responses to their concerns, access information and view assistance measures in place during construction related works.	1, 3-17	N/A – TfNSW responsibility
	Land use and community facilities - Construction		
LC1	Liaison would continue with statutory organisations, DP&I and local Councils to ensure the Project is integrated with local and regional land use planning, and that environmental planning instruments reflect the planning, construction and operation of the Project, and include integrated planning provisions to enhance potential future development.	All	N/A – TfNSW responsibility
LC2	Consultation would continue with the community throughout the project planning and construction phases to ensure that community members have adequate information about the project, the timing and scope of activities in their local area and impacts on their local facilities and recreational areas. Area specific Place Managers have been allocated to undertake this ongoing consultation.	All	N/A – TfNSW responsibility
LC10	Consultation with Emmanuel Baptist Church and Anglican Technical College Western Sydney would be undertaken prior to construction to identify specific mitigation measures to reduce operational and amenity impacts.	8	N/A – TfNSW responsibility
LC11	Consultation regarding the implications of the Project in relation to the Balmoral Road Release Area would be undertaken with The Hills Shire Council.	9 – 11	N/A – TfNSW responsibility
LC12	Consultation would be undertaken with relevant stakeholders regarding the implications of the project on the Rouse Hill Town Centre Northern Frame works.	14	N/A – TfNSW responsibility
LC13	Consultation regarding the implications of the project on the proposed land use plan for Area 20 would be undertaken with DP&I, Blacktown City Council and relevant stakeholders.	15 – 17	N/A – TfNSW responsibility
LC14	Opportunities to minimise temporary loss of land should be investigated through detailed construction planning and site layout, particularly in areas such as the Cheltenham Services Facility and Showground Station.	All	Community Liaison Implementation Plan
LC15	Consider staging construction, particularly at busy locations, to complement traffic management measures and assist in minimising disruption to key land uses and vehicle and pedestrian movements.	All	Community Liaison Implementation Plan

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	CONDITION	Sites	CEMP Reference
	Ecology - Construction		
E1	The ecological component of the site induction would include information on: <ul style="list-style-type: none"> • Sensitivity of surrounding vegetation (particularly threatened vegetation). • Sensitivity of threatened fauna species (birds and bats). • Site environmental procedures (vegetation management, sediment and erosion control, protective fencing, weed control). • Emergency and incident response/ spill management (chemical spills, fire, injured fauna). 	All	Construction Flora & Fauna Management Plan
E2	Pre-clearing surveys would be undertaken to identify the presence of: <ul style="list-style-type: none"> • Hollow bearing trees and other habitat features • Threatened flora and fauna. 	All	Construction Flora & Fauna Management Plan
E6	Trees containing hollows would be felled using “Slow drop” technique (or similar as agreed with OEH). The slow-drop technique involves nudging and shaking the tree, followed by a controlled lowering of the tree to the ground.	All	Construction Flora & Fauna Management Plan
E7	Where feasible and reasonable, topsoil and habitat elements (eg logs and felled trees) from sites that have few weed species would be stored and reused onsite.	All	Construction Flora & Fauna Management Plan
E8	Site offices, stockpiles, machinery wash down areas, and plant storage areas would be located outside of any ecologically sensitive areas being retained onsite.	All	Construction Flora & Fauna Management Plan
E9	Fuel (or other chemical) storage would be located outside all riparian zones, and at least 10m from any retained ecologically sensitive areas onsite.	All	Construction Flora & Fauna Management Plan
E10	Construction sites would be revegetated using endemic native plant species where appropriate.	All	Construction Flora & Fauna Management Plan
E12	To prevent establishment or spread of weeds: <ul style="list-style-type: none"> • Machinery would be cleaned before entering work sites. • Weeds would be removed from within the mapped native vegetation areas at least 10m from the edge of the construction footprint (where access allows). • Cleared weed material would be disposed of at a site licensed to receive green waste. 	All	Construction Flora & Fauna Management Plan
E15	To reduce disturbance to bats and nocturnal birds where reasonable and feasible, a range of measures would be undertaken, such as: <ul style="list-style-type: none"> • Artificial lighting would be directed to where it is needed and in a downwards orientation to avoid light spillage, Artificial light would be positioned to face away from areas of native vegetation. • Low-pressure sodium lamps would be used instead of high-pressure sodium or mercury lights. Where mercury lights are used, UV filters would be fitted. • The brightness of lights would be reduced to as low as legally possible, and in conformance with workplace health and safety standards. • Amplified speakers would be directed downwards and away from areas of native vegetation. 	All	Construction Flora & Fauna Management Plan
E21	Maintenance of waterway crossings and structures would be undertaken in accordance with relevant guidelines such as Fish and Fauna Friendly Waterway Crossings (Fairfull & Witheridge, 2003) and Fish Passage Requirements of Waterway Crossings (2003).	All	Construction Flora & Fauna Management Plan

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	CONDITION	Sites	CEMP Reference
E22	Where native vegetation is to be retained adjacent to or within construction sites, protective fencing and signage (installed as part of EIS1) would be maintained in accordance with Australian Standard 4970 – 2009 Protection of Trees.	All	Construction Flora & Fauna Management Plan
	Visual amenity - Construction		
V1	Existing vegetation around the perimeter of the construction sites would be retained where feasible and reasonable to act as a visual screen.	1 – 17	Visual Amenity Plan
V2	Cut-off and directed lighting would be used to ensure glare and light trespass are minimised.	1 – 17	Visual Amenity Plan
V3	Where feasible and reasonable the elements within construction sites would be located to minimise visual impact, eg setting particular equipment/ structures back from the site boundaries to minimise their visual impact.	1 – 17	Visual Amenity Plan
V4	Regular maintenance of site hoarding and perimeter site areas would be undertaken, including the prompt removal of graffiti.	1 – 17	Visual Amenity Plan
V5	Visual mitigation would be implemented as soon as feasible and reasonable, and remain for the duration of the construction period.	1 – 17	Visual Amenity Plan
V6	Monitoring of the effectiveness of mitigation measures would be undertaken by the relevant construction contractor. This would primarily include regular visual inspection of the condition of the various measures.	1 – 17	Visual Amenity Plan
V8	The design of acoustic sheds as visual features would be considered where there is limited opportunity to make them recede.	5 & 8	Visual Amenity Plan
V9	Designing hoarding as a feature would be considered at appropriate locations. This may include artworks or project information. These would be installed as early as feasible and reasonable in the construction process.	1, 4, 6 – 8 & 14	Visual Amenity Plan
V10	Hoardings would be designed to visually recede in more rural or bushland settings.	3 – 5, 9 – 13 & 15 – 17	Visual Amenity Plan
	Climate change and greenhouse gas emissions		
OpCC1	The project Climate Change Risk Assessment would be updated during detailed design to identify adaptation responses for the years 2030 and 2070.	All	Carbon & Energy Management Plan
	Construction greenhouse gas		
GHG 9	A minimum of 20% of electricity needs associated with construction works would be offset.	All	Carbon & Energy Management Plan
GHG 11	If feasible and reasonable materials with lower embodied emissions would be preferentially specified for use.	All	Carbon & Energy Management Plan
GHG 12	An updated GHG assessment would be prepared during the detailed design stage of the project.	All	Carbon & Energy Management Plan
	Surface Water and flooding		

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	CONDITION	Sites	CEMP Reference
OpSW 11	Development within the floodplain would be designed to minimise adverse impacts on adjacent development for flooding up to the 100 year ARI event. And would be designed to maintain the operation of key evacuation routes, minimise impacts on critical infrastructure and flood hazard for flooding up to the PMF.	All	Design Packages Stormwater & Flooding Management Plan
	Flooding		
SW3	Construction equipment (or excess material) would be removed from waterway or flood prone areas if wet weather is approaching and at the completion of each day's work activity. The extent of the flood prone area would be defined during detailed construction planning.	1 – 17	Stormwater & Flooding Management Plan
SW4	Temporary levees or bunds would be strategically placed to contain potential flooding impacts resulting from any temporary works on the floodplain and minimise the risk to surrounding properties which might otherwise be affected.	1 – 17	Stormwater & Flooding Management Plan
SW5	Entries to tunnel excavations would be protected against flooding by locating openings outside flood prone areas, local bunding and / or appropriate drainage.	1 – 9 & tunnels	Stormwater & Flooding Management Plan
SW6	The flood standard adopted at each tunnel entry during Stage 2 construction would need to be developed taking into consideration the duration of construction, the magnitude of inflows and the potential risks to the project works and personal safety.	1 – 9 & tunnels	Stormwater & Flooding Management Plan
SW12	Stockpile sites would be generally located outside the 20 year ARI flood. The exact level of flood immunity provided to stockpile sites would depend on the duration of stockpiling operations, the type of material stored and the nature of the downstream waterway or any other specified requirements. This would be defined during detailed construction planning.	1 – 17	Stormwater & Flooding Management Plan
SW14	Water quality mitigation measures would be implemented in accordance with relevant requirements of: <ul style="list-style-type: none"> • Landcom Managing Urban Stormwater - Soils and Construction Volumes 1 and 2 (often referred to as the Blue Book, 2004 and 2006). • NOW Guidelines for Controlled Activities. • ANZECC Guidelines for Fresh and Marine Water Quality. • ANZECC Guidelines for Water Quality Monitoring and Reporting. • <i>Water Management Act 2000</i>. • Applicable Environment Protection Licences. 	All	Construction Soil & Water Management Plan
SW15	Treatment measures would be applied to water collected in sediment basins, including settling of coarse sediments, the use of flocculation for finer sediments and pH correction.	9 – 17	Construction Soil & Water Management Plan
SW16	As a first preference, treated surface water collected in sediment basins would be reused onsite, eg for dust suppression. Additional opportunities for re-using water on site or for construction would be investigated and implemented where feasible and reasonable.	9 – 17 & tunnels	Construction Soil & Water Management Plan
	Erosion and Sediment Control		
SW17	Exclusion zones would be designated on construction sites to limit disturbance.	1 – 17	Construction Soil & Water Management Plan
SW18	Re-vegetating or stabilising disturbed areas would occur as soon as feasible.	1 – 17	Construction Soil & Water Management Plan
SW20	Appropriate erosion control measures would be installed such as sediment fencing, check dams, temporary ground stabilisation,	1 – 17	Construction Soil &

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	CONDITION	Sites	CEMP Reference
	diversion berms or site regrading.		Water Management Plan
SW21	Clean water runoff would be diverted away from the works or disturbed areas wherever possible.	1 – 17	Construction Soil & Water Management Plan
SW22	Temporary sediment basins would be installed as appropriate. The exact size and layout of sediment basins would be determined as part of the CEMP in accordance with the requirements of the relevant Environment Protection Licence.	1 – 17	Construction Soil & Water Management Plan
SW26	Surface controls to promote ground stability, limit run-off lengths and reduce run-off velocities within the work sites would be implemented.	1 – 17	Construction Soil & Water Management Plan
SW27	Ground stability would be re-established as soon as practicable following the completion of construction.	1 – 17	Construction Soil & Water Management Plan
SW28	Installation of any permanent scour protection measures required for the operational phase would occur as soon as practical.	1 – 17	Construction Soil & Water Management Plan
	Riparian Areas		
SW32	Where water is released into local creeks, outlet scour protection and energy dissipation would be implemented. The discharge point would be at the upstream end of a large pool where feasible and reasonable, to allow for slowing of water.	1–4, 6 & 8–17	Construction Soil & Water Management Plan
SW37	Temporary stockpile locations for both site establishment and earthworks operations would be specified prior to the commencement of construction activities. Diversion drains and erosion and sediment control measures would be in place prior to the commencement of any stockpiling activities. Material would only be stockpiled in designated stockpiling areas.	1 – 17	Construction Soil & Water Management Plan
	Contamination and Spills		
SW38	Site specific controls would be developed to reduce the potential for environmental releases of potentially harmful chemicals and to reduce the risk of any such releases entering local waterways. Storage of hazardous materials such as oils, chemicals and refuelling activities would occur in bunded areas.	All	Construction Soil & Water Management Plan
	Monitoring and Implementation		
SW40	A qualified environmental officer would be employed to advise on appropriate controls and to monitor the implementation and maintenance of mitigation measures.	All	Construction Soil & Water Management Plan
SW41	All site staff would be engaged through toolbox talks or similar with appropriate training on soil and water management practices.	All	Construction Soil & Water Management Plan
SW42	A surface water quality monitoring program for the construction period would be implemented to monitor water quality upstream and downstream of the construction areas. The monitoring programme would commence prior to commencement of any construction works and would build on available water quality data.	1 – 17	Construction Soil & Water Management Plan
SW43	Surface water and water quality monitoring would be carried out periodically and after rainfall events. Monitoring would examine a range of appropriate indicators in accordance with standard guidelines.	1 – 17	Construction Soil & Water Management Plan

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	CONDITION	Sites	CEMP Reference
SW44	Inspection of water quality mitigation controls (eg sediment fences, sediment basins) would be carried out regularly and following significant rainfall to detect any breach in performance.	All	Construction Soil & Water Management Plan
SW45	A stormwater management plan that identifies the appropriate design standard for flood mitigation based on the duration of construction, proposed activities and flood risks would be developed for each construction site. The plan would develop procedures to ensure that threats to human safety and damage to infrastructure are not exacerbated during the construction period.	All	Stormwater & Flooding Management Plan
	Air Quality - Construction		
A1	Working face and areas of open excavation would be kept to a minimum, where feasible and reasonable.	All	Construction Air Quality Management Plan
A2	Water suppression would be used for active earthwork areas, stockpiles, gravel roads and loads of soil being transported to reduce wind-blown dust emissions.	All	Construction Air Quality Management Plan
A3	Waste or any other material would not be burnt on construction sites.	All	Construction Air Quality Management Plan
A4	The amount of excavated material held on site would be minimised.	All	Construction Air Quality Management Plan
A5	Areas of exposed earth would be minimised by staging construction activities and progressively landscaping and vegetating completed areas as the construction activities proceed, where feasible and reasonable.	All	Construction Air Quality Management Plan
A6	Enclosed rubble chutes and conveyors would be used where feasible and reasonable. Drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment would be minimised and/or water used to suppress dust emissions from such equipment.	All	Construction Air Quality Management Plan
A7	Cutting, grinding or sawing equipment would only be used in conjunction with suitable dust suppression techniques such as water sprays or local extraction.	All	Construction Air Quality Management Plan
A8	Wind breaks, which may include site hoardings, would be constructed, where construction works are in close proximity to sensitive receptors and where feasible and reasonable.	All	Construction Air Quality Management Plan
A9	Dust generating activities would be assessed during periods of strong winds and rescheduled, where required.	All	Construction Air Quality Management Plan
A10	All vehicles carrying loose or potentially dusty material to and/or from the site would be covered.	All	Construction Air Quality Management Plan
	Spoil Stockpiles		
A11	Stockpiles would be located away from sensitive receivers, where feasible and reasonable, and protected from the elements through barriers, covering or establishing a cover crop.		Construction Air Quality Management Plan
	Haul Roads		

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	CONDITION	Sites	CEMP Reference
A12	Longer term and/or heavily used haul roads would generally be sealed. The criteria for sealing haul roads would be defined during detailed construction planning. Sealed haul roads would be regularly cleaned.	All	Construction Air Quality Management Plan
A13	Unsealed haul roads would be regularly damped down with fixed or mobile sprinkler systems.	All	Construction Air Quality Management Plan
A14	Vehicular and foot traffic would be restricted to designated areas.	All	Construction Air Quality Management Plan
A15	Appropriate site speed limits would be imposed and signed on haul routes.	All	Construction Air Quality Management Plan
A16	Wheel-wash facilities or rumble grids would be provided and used near site exit points, and a street-cleaning regime would be implemented to remove any dirt tracked onto roads.	All	Construction Air Quality Management Plan
	Vehicles and Equipment		
A23	Engines of onsite vehicles and plant would be switched off rather than left idling for extended periods of time.	All	Construction Air Quality Management Plan
A24	Low emission vehicles and plant fitted with catalysts, diesel particulate filters or similar devices would be used, where feasible and reasonable.	All	Construction Air Quality Management Plan
A25	Plant would be well maintained and serviced in accordance with manufacturers' recommendations.	All	Construction Air Quality Management Plan
A26	Haul routes and plant (including generators) would be sited away from sensitive receivers, such as dwellings and schools, where feasible and reasonable.	All	Construction Air Quality Management Plan
A27	Vehicle emissions would be minimised through methods such as using alternative modes of transport, such as encouraging car pooling by construction workers, and maximising vehicle utilisation by ensuring full loading and efficient routing.	All	Construction Air Quality Management Plan
A28	Precautions would be implemented to prevent the occurrence of smoke emissions or fumes from site plant or stored fuel oils.	All	Construction Air Quality Management Plan
	Waste and resource management - Construction		
W1	All waste would be assessed, classified, managed and disposed of in accordance with the Waste Classification Guidelines (DECC, 2008).	All	Waste & Recycling Plan
W2	All waste materials removed from the sites would only be directed to a waste management facility lawfully permitted to accept the materials.	All	Waste & Recycling Plan
W3	Excavated material and spoil would be beneficially reused on the project site or other sites, where feasible and reasonable, in accordance with the spoil use hierarchy.	All	Waste & Recycling Plan

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	CONDITION	Sites	CEMP Reference
W4	Appropriate storage, treatment and disposal procedures would be implemented for any contaminated spoil.	All	Waste & Recycling Plan
W5	Cleared site vegetation would be mulched for reuse in rehabilitation and landscaping works. Topsoil generated during site preparation activities would be stockpiled for reuse in landscaping activities.	All	Waste & Recycling Plan
W6	Initial and ongoing education would be provided to staff and sub-contractors regarding the importance of appropriately managing waste.	All	Waste & Recycling Plan
W7	Recyclable wastes, including paper at site offices, would be stored separately from other wastes. Storage facilities would be secure and recyclables collected on a regular basis.	All	Waste & Recycling Plan
W8	Reusable materials would be stored separately, in secure facilities.	All	Waste & Recycling Plan
W9	Worksites would be free of litter and good housekeeping would be maintained.	All	Waste & Recycling Plan
W10	Vermin proof bins would be utilised onsite.	All	Waste & Recycling Plan
W11	Waste oil, other liquid wastes and spillages would be collected and stored in bunded areas.	All	Waste & Recycling Plan
W13	Waste truck loads would be covered, and tailgates secured prior to trucks leaving the worksite.	All	Waste & Recycling Plan
W14	Centralised reporting and auditing of waste volumes and disposal destinations would be employed.	All	Waste & Recycling Plan
W15	Construction waste would be minimised by accurately calculating materials brought to the site and limiting materials packaging.	All	Waste & Recycling Plan
W16	Materials such as (noise hoarding, site fencing, and so on) would be reused or shared, between sites and between construction contractors where feasible and reasonable.	All	Waste & Recycling Plan
	Cumulative Impacts - Construction		
CI1	Internal and external cumulative impacts for the SMNW Stage 1 and Stage 2 construction works would be managed and mitigated through a project wide Construction Environmental Management Framework	All	CEMP
CI2	During construction, proponents of other major construction works in the vicinity of the SSI shall be consulted, and reasonable steps taken to coordinate works to minimise impacts on, and maximise respite for, affected sensitive receivers.	All	Community & Stakeholder Management Plan

Appendix 4. ENVIRONMENTAL REQUIREMENTS – PROJECT DEED

Appendix 4-1. Environmental Requirements – Project Deed & SWTC

Appendix 4-1: Environmental Requirements – Deed & SWTC

DEED REQUIREMENTS

	CONDITION	CEMP REFERENCE
2.6(a)	<p>The SVC Contractor must:</p> <ul style="list-style-type: none"> (i) obtain an Environment Protection Licence in respect of the SVC Contractor's Activities for each Portion from the date on which the SVC Contractor is given access to that part of the Construction Site to which the Portion relates (or any part thereof) pursuant to clause 3.1; (ii) hold an Environment Protection Licence in respect of the SVC Contractor's Activities for each Portion until the Portion Handover Date for that Portion; and (iii) ensure that: <ul style="list-style-type: none"> A. from each Portion Handover Date, the SVC Contractor's Environment Protection Licence is varied so as to exclude that part of the Construction Site to which the Portion relates; and B. the SVC Contractor's Environment Protection Licence is surrendered on and from the Portion Handover Date for the last Portion to be handed over by the SVC Contractor, <p>so as to allow OpCo to obtain an Environment Protection Licence for the relevant part of the Construction Site.</p>	CEMP Section 3.5
2.6(b)	The SVC Contractor must ensure that any Environment Protection Licence is consistent with the Project Planning Approvals.	CEMP Section 3.5
2.8(a)	<p>The SVC Contractor must not use the Construction Site or any Extra Land, or allow its Associates to use the Construction Site or any Extra Land, so that:</p> <ul style="list-style-type: none"> (ii) any Hazardous Substance is abandoned or dumped on the Construction Site or any Extra Land (iii) any Hazardous Substance is handled in a manner which is likely to cause a state of danger to human beings or the Environment whether imminent or otherwise resulting from the location, storage, handling or release of any substance having toxic, corrosive, flammable, explosive, infectious or otherwise dangerous characteristics; or (iv) any other substance is released from, deposited to, or emanates from, the Construction Site or any Extra Land such that a state of Contamination occurs. 	CEMP
2.8(b)	The SVC Contractor must at all times carry out, and ensure that its Associates carry out, the SVC Contractor's Activities in an environmentally responsible manner, in accordance with Good Industry Practice, and so as to protect the Environment.	CEMP
2.8(c)	<p>The SVC Contractor must, without limiting clause 2.3 but subject to clause 2.3(b)(ii):</p> <ul style="list-style-type: none"> (i) comply with, and ensure that its Associates in performing the SVC Contractor's Activities comply with A. all Laws relating to the Environment; B. all Environmental Notices; and C. the Construction Environmental Management Plan and the Sustainability Plan; and (ii) obtain and comply with all requirements of, and ensure that its Associates in performing the SVC Contractor's Activities obtain and comply with all requirements of, any Approvals required in order to release or emit anything from the Construction Site or any Extra Land into the air or water or onto the ground or otherwise into the Environment, including to emit any substantial noise or vibrations. 	CEMP
2.8(d)	Unless otherwise specified in Schedule 16 and without limiting the SVC Contractor's other obligations under this deed, and insofar as they apply	CEMP Appendices 2 & 3

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	CONDITION	CEMP REFERENCE
	to the Project Works, Temporary Works or SVC Contractor's Activities the SVC Contractor must comply with, carry out and fulfil the conditions and requirements of all Environmental Documents, including those conditions and requirements which the Principal is expressly or impliedly required under the terms of the Environmental Documents to comply with, carry out and fulfil but only to the extent that those conditions and requirements relate to the scope and extent of the Project Works, Temporary Works and SVC Contractor's Activities.	
2.8(e)	The SVC Contractor must immediately notify the principal in writing as soon as the SVC Contractor: <ul style="list-style-type: none"> (i) becomes aware of any breach or potential breach or non-compliance or potential non-compliance with the conditions or requirements of any Law, Approval or Environmental Document regarding the Environment in the performance of the SVC Contractor's Activities; (ii) becomes aware of any information, fact or circumstance where, if the Principal were to be aware of such information, fact or circumstance, the Principal 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 the SVC Contractor 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 the SVC Contractor must provide to the Principal a copy of such notification and of any subsequent correspondence with the Authority in relation to the subject of the notification. 	CEMP Section 6
2.8(f)	The SVC Contractor must indemnify the Principal from and against any claims against the Principal, or Loss suffered or incurred by the Principal, arising out of or in any way in conjunction with a failure by the SVC Contractor to comply with any obligation under this clause 2.8.	CEMP
2.8(g)	If there is a legal challenge in relation to the assessment or determination of the North West Rail Link under the: <ul style="list-style-type: none"> (i) EP&A Act; (ii) <i>Environmental Protection and Biodiversity Conservation Act 1999</i> (Cth); or (iii) any other Law, the SVC Contractor must continue to perform its obligations under this deed, unless as a result of that legal challenge, it is otherwise: <ul style="list-style-type: none"> (iv) ordered by a court or tribunal; or (v) directed by the Principal's Representative. 	CEMP
2.8(h)	Subject to clause 2.8(i), the Principal must pay the SVC Contractor the reasonable costs and expenses directly incurred by the SVC Contractor arising directly as a result of a court or tribunal order referred to in clause 2.8(g)(iv) or direction by the Principal's Representative referred to in clause 2.8(g)(v) to the extent only that such court or tribunal order or direction by the Principal's Representative delays the SVC Contractor in achieving Construction Completion.	CEMP
2.8(i)	Clause 2.8(h) does not apply to the extent that a legal challenge of the kind referred to in clause 2.8(g) is initiated or upheld due to the SVC Contractor's non-compliance with its obligation under this deed.	CEMP
2.9(a)	The SVC Contractor acknowledges that: <ul style="list-style-type: none"> (i) the Environmental Representative is required to discharge certain functions as identified in the Project Planning Approval; (ii) the Principal has appointed the Environmental Representative as required by the Project Planning Approval; and (iii) the Environmental Representative: <ul style="list-style-type: none"> A. is independent of the parties; B. shall oversee the implementation of all environmental management plans and monitoring programs required under the Planning Approval and 	CEMP Section 3.2

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	CONDITION	CEMP REFERENCE
	shall advise the Principal upon achievement of the outcomes contemplated win the Project Planning Approval; and C. shall advise the Principal and the Principal's Representative on the SVC Contractor's compliance with the Planning Approval.	
2.9(b)	The SVC Contractor must provide the Environmental Representative with: (i) all information and documents; 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 the Principal'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 the Principal's Representative.	CEMP Section 3.2
2.9(c)	The SVC Contractor must 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 the Project Planning Approval.	CEMP Section 3.2
2.9(d)	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 the SVC Contractor to make any Claim against the Principal.	CEMP Section 3.2
2.14(a)	The SVC Contractor must prepare the Project Plans including as specified in Appendix 24 of the SWTC.	Specific environmental management plans
2.14(b)	Each Project Plan must: (i) where an initial plan exists for the relevant Project Plan and is contained in Appendices 31 to 45 of the SWTC, be based upon that initial plan; (ii) whether or not an initial plan exists for the relevant Project Plan, be prepared and further developed in accordance with this clause 2.14 and section 3.5 of the SWTC; and (iii) contain any relevant contents required under this deed, including as specified in Appendix 24 of the SWTC.	CEMP Specific environmental management plans
2.14(c)	Each Project Plan must be initially submitted to the Independent Certifier and the Principal's Representative within any relevant time period specified in this deed (including as specified in Appendix 24 of the SWTC).	CEMP Section 4.2
2.14(d)	The Principal's Representative may: (i) review any Project Plan submitted under this clause 2.14; and (ii) if the Project Plan submitted does not comply with this deed, notify the SVC Contractor of that within 15 Business Days of the initial submission of the Project Plan.	CEMP Section 4.2
2.14(h)	The SVC Contractor acknowledges and agrees that: (ii) the Project Plans will require ongoing development, amendment and updating throughout the duration of the SVC Contractor's Activities to take into account: A. Changes; B. Changes in Law; C. the commencement of new phases or stages of design and construction as shown in the program; D. those events or circumstances expressly identified for each Project Plan including as specified in Appendix 24 of the SWTC; and E. any other events or circumstances which occur or come into existence and which have, or may have, any effect on the manner in which the SVC Contractor carries out the SVC Contractor's Activities.	CEMP Section 4.2

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	CONDITION	CEMP REFERENCE
2.33	The SVC Contractor must implement an Environmental and Sustainability Management System in accordance with the applicable requirements of the SWTC, including section 3.7 of the SWTC.	CEMP Section 3.3
3.5	The SVC Contractor must, as a condition precedent to Construction Completion of any Portion where the SVC Contractor has occupied or made use of a Temporary Area in connection with that Portion, reinstate the Temporary Area to a condition at least equivalent to the condition existing before that occupation or use except for such parts of the Temporary Area: (a) that are required by this deed (including the SWTC) to contain any Handover Works; or (b) which this deed (including the SWTC) specifies need not be reinstated (including where the SVC Contractor is required to demolish buildings on the Temporary Area).	Construction Compound & Ancillary Facility Management Plan
3.10	Without limiting the SVC Contractor's obligations under clause 2.3(b) to comply with the conditions and requirements of all Approvals, the SVC Contractor must: (a) provide safety and environmental site induction for persons nominated by the Principal's Representative on the Construction Site and for all personnel directly or indirectly engaged by the SVC Contractor and requiring access to the Construction Site, any Extra Land and other areas where the SVC Contractor's Activities are being performed; and (b) ensure such persons satisfactorily complete such site induction before such persons are given such access or commence such work. The induction must: (c) comply with all applicable Law, Project Plans and the Principal's procedures, policies and rules; (d) otherwise be in accordance with the requirements of this deed. The SVC Contractor must keep and maintain comprehensive and detailed induction records and provide the Principal's Representative or its nominee, upon request, with access to such records.	CEMP Section 5.8 Training Management Plan
3.11(a)	(a) In addition to the requirements of the Environmental Documents and without limiting clause 3.6 (but subject to clause 3.11(b)), the SVC Contractor bears the risk of all Contamination: (i) on, in, over, under or about the Construction Site or any Extra Land which is disturbed by or interfered with in the carrying out of the SVC Contractor's Activities; or (ii) which otherwise arises out of or in connection with the SVC Contractor's Activities, and, to the extent clause 3.11(a)(i) or 3.11(a)(ii) applies, the SVC Contractor must: (iii) dispose of, or otherwise deal with, such Contamination in accordance with Law and the Environmental Documents; (iv) remediate the Construction Site and any Extra Land to the extent to which: A. it is in any way degraded by such Contamination; and B. the Contamination is of such a nature that an Authority could issue a statutory notice requiring it to be remediated; and (v) except to the extent prohibited by Law, indemnify the Principal from and against any claims against the Principal, or Loss suffered or incurred by the Principal, arising out of or in any way in connection with such Contamination or any failure by the SVC Contractor to comply with any obligation under this deed in connection with Contamination.	Construction Soil & Water Management Plan
3.14(a)	The SVC Contractor must (i) remove from the Construction Site and any Extra Land; and (ii) dispose of, any Contamination or other waste pursuant to its obligations under this Deed to a licensed waste facility in accordance with all relevant Law and Approvals.	Waste & Recycling Management Plan

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	CONDITION	CEMP REFERENCE
3.14(b)	The SVC Contractor must: (i) ensure that the entity that carries out the storage, treatment, transport and disposal of the Contamination or other waste from the Construction Site or Extra Land holds all relevant Approvals that are necessary or desirable; and (ii) procure and provide evidence of such Approvals to the Principal's Representative upon request.	Waste & Recycling Management Plan
3.14(c)	The SVC Contractor must ensure that its employees and agents, as applicable, are suitably trained in correct and safe methods of loading, unloading and handling any Contamination or other wastes and that they comply with all applicable Laws.	Waste & Recycling Management Plan Training Management Plan
4.2(d)	The SVC Contractor must provide the Independent Certifier with all information and documents and allow the Independent Certifier: (i) to attend design meetings; (ii) access to all premises where the SVC Contractor's Activities are being carried out; and (iii) to insert Hold Points or Witness Points in the Project Plans and designate the nominated authority to release the Hold Points, all as may be: (iv) necessary or reasonably required by the Independent Certifier or the Principal's Representative' to allow the Independent Certifier to perform its obligations under the Independent Certifier Deed; or (v) requested by the Independent Certifier or (subject to clause 4.2(f)) directed by the Principal's Representative'	CEMP Section 3.2
4.2(e)	The Principal's Representative may provide comments to the Independent Certifier in respect of the SVC Contractor's Activities (with a copy to the SVC Contractor).	CEMP
4.3(f)	The SVC Contractor must provide to the Principal's Representative a certificate executed by the Environmental Manager in the form of Schedule 19 every 3 months from the date of this deed until the Date of Construction Completion of the last Portion to achieve Construction Completion.	CEMP Section 4.4
4.6(a)	The SVC Contractor acknowledges that the Principal's Representative may, at any time up to the Date of Construction Completion of the last Portion to achieve Construction Completion, arrange monitoring and audits (including testing) to see if the SVC Contractor is complying with this deed (including the Quality Plan, Construction Environmental Management Plan, Project WHS Management Plan, the Engineering and Competency Management Plan and other Project Plans).	CEMP Section 6.4
4.6(b)	The SVC Contractor must: (i) make arrangements to ensure that the Principal's Representative (and its nominee) has access to all facilities, documentation, records and personnel (including those of Subcontractors) that are needed by the Principal's Representative for the carrying out of the monitoring and audits referred to in clause 4.6(a); and (ii) ensure that the Quality Manager, the Environmental Manager and the SVC Contractor's work health and safety representatives are available, as necessary, to discuss details of quality matters with the Principal's Representative during the above monitoring and audits.	CEMP Section 6.4
6.9(a)	Subject to clause 6.9(b), the SVC Contractor must apply for and obtain all: (i) necessary amendments or modifications to any existing Approval; and (ii) new Approvals that may be,	CEMP Section 3.5

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	CONDITION	CEMP REFERENCE
	required for the execution of a Change.	
6.9(b)	Where the amendment or modification to any Approval required for the execution of the Change relates to any Approval specified in Schedule 15, the SVC Contractor must: <ul style="list-style-type: none"> (i) carry out and provide to the Principal all surveys, investigations, reports, studies: <ul style="list-style-type: none"> A. requested by the Principal's Representative; B. to the standard directed by the Principal's Representative; and C. within the time directed by the Principal's Representative; and (ii) provide whatever other assistance and information the Principal's Representative reasonably requests to allow it to obtain the necessary amendments or modifications to the Approval. 	CEMP Section 3.5
6.9(c)	The SVC Contractor must implement the Change once the Approvals referred to in this clause 6.9 have been amended, modified, or granted to permit the Change to be implemented.	CEMP Section 3.5
7.8(a)	The SVC Contractor must identify clear guidelines for responding to any Incident arising from the performance of the SVC Contractor's Activities and establish procedures to ensure that the Principal's Representative is promptly notified of any Incident.	Site Specific Emergency Response Plan
7.8(b)	Should an Incident occur which is reportable under any relevant Law, the SVC Contractor must immediately report the Incident to the relevant Authority and the Principal's Representative.	Site Specific Emergency Response Plan
7.8(c)	In relation to any environmental or safety Incident involving Contamination or other waste that arises during the performance of the SVC Contractor's Activities, the SVC Contractor must: <ul style="list-style-type: none"> • at its own cost promptly take all appropriate action to manage and dispose of all contamination or other waste arising from the Incident; • comply with all relevant Laws including any requirements to give notice to a relevant Authority; and • at its own cost, manage the Incident in a manner which minimises damage to the reputation of the Principal including complying with any reasonable request of the Principal's Representative. 	Site Specific Emergency Response Plan
7.8(d)	Without prejudice to the Principal's other rights under this deed, if the Principal's Representative forms the view, upon the occurrence (or imminent risk of the occurrence) of an Incident, that the SVC Contractor is not taking adequate measures to manage the Incident or control or eliminate the adverse impact or the risk of such an Incident arising in the future, the Principal may (but has no obligation to) take such actions as it deems necessary to overcome and alleviate the cause and consequences of any Incident. If the Principal takes any such action it will be entitled to recover its reasonable costs and expenses from the SVC Contractor as a debt due from the SVC Contractor to the Principal.	Site Specific Emergency Response Plan
7.8(e)	Without prejudice to the Principal's other rights under this deed, the Principal's Representative may issue an immediate stop work order in the event of any Incident, or the imminent risk of any Incident, involving: <ul style="list-style-type: none"> (i) a significant spill of Contamination; (ii) any actual damage to the Environment or a significant risk of harm to the Environment; or (iii) a fatality or injury to any person including any Incident which must be reported to New South Wales WorkCover Authority. 	Site Specific Emergency Response Plan
7.8(f)	The Principal will not be held liable upon any Claim by the SVC Contractor for any Loss arising out of or in connection with any work stoppage	Site Specific Emergency

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	CONDITION	CEMP REFERENCE
	due to a stop work order or for the failure by the Principal's Representative to issue a stop work order.	Response Plan
7.8(g)	The Principal will be entitled to recover its reasonable costs and expenses for any action the Principal's Representative deems necessary to avoid the issue of any stop work order in relation to the SVC Contractor's, its agents' or its Subcontractors' acts or omissions in performing the SVC Contractor's Activities as a debt due from the SVC Contractor to the Principal.	Site Specific Emergency Response Plan
10.2 (b)(i)	The SVC Contractor must: employ those personnel specified in Schedule 28 (or where the personnel are employees of a Subcontractor or subsubcontractor, the SVC Contractor must ensure they are so employed) in the positions and for the periods specified in Schedule 28;	CEMP Section 4.4
10.5	The Management Review Group comprises: (c) (v) the Environmental Manager;	CEMP Section 4.4
10.7(a)	Management Review Group meetings (a) The Management Review Group must meet: (i) on a regular monthly basis prior to Construction Completion of the last Portion to achieve Construction Completion or such other regular period as the Principal and the SVC Contractor agree in writing; (ii) in accordance with this clause 10.7; and (iii) at other times which the Principal's Representative or the SVC Contractor requires.	CEMP Section 4.4
Deed Schedule 16	[Sets out SVC Contractor's responsibilities and TfNSW responsibilities in relation to MCoA and REMMS.]	CEMP Appendices 2 & 3
Deed Schedule 19	[Sets out format for Environmental Manager's Certificate.]	CEMP Section 4.4
Deed Schedule 28	(a) The Environmental Manager must: (i) possess a recognised qualification relevant to the position and the SVC Contractor's Activities and have recent relevant experience in environmental management on projects similar to the Project Works and Temporary Works; (ii) have at least fifteen years environmental management experience, with extensive experience in the preparation and implementation of environmental management systems and plans; (iii) be available as the Principal's Representative's primary contact with the SVC Contractor on environmental matters; (iv) be experience in regulatory liaison and consultation; (v) be responsible for all environmental compliance matters associated with the SVC Contractor Activities; (vi) be responsible for an environmental management induction and training program for all personnel involved in the performance of the SVC Contractor's Activities; (vii) be responsible for and have the authority to develop and implement the Construction Environmental Management Plan;	CEMP Section 4.4

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	CONDITION	CEMP REFERENCE
	<p>(viii) be given authority by the SVC Contractor to act freely and independently, to require all reasonable steps to be taken to achieve environmental compliance, to avoid or minimise environmental impacts and to stop the progress of the relevant part of the Project Works, Temporary Works and the SVC Contractor's Activities when any non-conformance with the environmental requirements of this deed is identified; and</p> <p>(ix) be engaged full-time during execution of SVC Contractor's Activities and be full-time on or around the Construction Site during the construction phase of the Project Works and Temporary Works with responsibilities limited to environmental management of the SVC Contractor's Activities.</p> <p>(b) At the date of this deed, the Environmental Manager is Steve Fermio.</p>	

SWTC REQUIREMENTS

	CONDITION	CEMP REFERENCE
SWTC 3.5(a)	The SVC Contractor must prepare, develop and comply with each Project Plan in accordance with the requirements in the deed, including clause 2.14, section 3.1, the Principal's General Specifications and Appendix 24, and the Transport for NSW North West Rail Link Construction Environmental Management Framework.	CEMP
SWTC 3.5(b)	All Project Plans must incorporate the requirements and recommendations of the Independent Certifier and the Environmental Representative.	CEMP Section 4.2
SWTC 3.7(a)	<p>The SVC Contractor must develop, implement and maintain an Environmental and Sustainability Management System which:</p> <ul style="list-style-type: none"> (i) complies with the Environmental Documents; (ii) is compatible with and responds to the Transport for NSW, North West Rail Link Sustainability Strategy; (iii) is compatible with and responds to the Transport for NSW North West Rail Link Construction Environmental Management Framework; (iv) is in accordance with AS/NZS ISO 14001:2004 Environmental management systems - Requirements with guidance for use; (v) complies with requirements in the New South Wales Government Environmental Management Systems Guidelines Edition 2 (September 2009); (vi) is accredited by a NSW Government construction agency. 	CEMP Section 3.3
SWTC 3.7(b)	The SVC Contractor must develop, implement and maintain a Construction Environmental Management Plan and a Sustainability Management Plan which documents the Environmental and Sustainability Management System referred to in subsection (a) above.	CEMP
SWTC 3.7(c)	The Contractor must comply with its Environmental and Sustainability Management System and its Construction Environmental Management Plan and Sustainability Management Plan.	CEMP Section 3.3
SWTC 4.11	Without limiting the requirements of the deed, the SVC Contractor must take all actions necessary during the performance of the SVC Contractor's Activities to comply with the noise and vibration requirements in the Environmental Documents.	Construction Noise & Vibration Management Plan
7.13(a)	Without limiting the requirements of the deed, the SVC Contractor must comply with the requirements in the Environmental Documents and ensure that significant trees (based on species, age or size) which may be affected by the SVC Contractor's Activities are identified and	Construction Flora & Fauna Management Plan

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	CONDITION	CEMP REFERENCE
	appropriate protection management measures implemented including fencing and pruning.	
7.13(b)	The SVC Contractor must reinstate the Project Site progressively as each part of the Project Works and Temporary Works is completed. All such reinstatement work must be completed as a condition precedent to Construction Completion of each Portion.	Construction Compound & Ancillary Facility Management
7.13(c)	All land outside the Project Site (including Temporary Areas and Extra Land) which has been in any way affected by SVC Contractor's Activities must be reinstated to a condition at least equivalent to that existing before that occupation or use except for the parts of the Temporary Areas: (i) that contain the Handover Works; or (ii) where the TSC Contractor has been required to demolish infrastructure and buildings.	Construction Compound & Ancillary Facility Management
SWTC 7.14	(a) Without limiting the requirements of the deed, all water including groundwater seepage captured within the Construction Site must be treated and disposed of in accordance with the Environmental Documents and the requirements of relevant Authorities. (b) The SVC Contractor must monitor the quality of water discharged from the Construction Site.	Construction Soil & Water Management Plan
SWTC 7.16	7.16 Acid Sulphate Soils and Rocks (a) Without limiting requirements of deed, the SVC Contractor must treat and dispose of any acid sulphate soils and rocks in accordance with: (i) Guidelines for the Management of Acid Sulphate Materials: Acid Sulphate Soils, Acid Sulphate Rock and Monosulfidic Black Ooze, RTA; (ii) Department of Environment, Climate Change and Water requirements; (iii) Acid Sulphate Soil Manual, NSW Acid Sulphate Soils Management Advisory Committee, August 1998; (iv) NSW Environmental Protection Authority - Assessing and Managing Acid - Sulphate Soils; and (v) Environment Protection Authority, Victoria Information Publication 655 - Acid Sulphate Soil and Rock.	Construction Soil & Water Management Plan
SWTC 7.17	Without limiting the requirements of the deed, the SVC Contractor must treat and dispose of any contaminated material, including soil and groundwater encountered during the performance of the SVC Contractor's Activities, in accordance with the Contaminated Land Management Act 1997, the requirements in the Department of Urban Affairs and Planning & Environment Protection Authority Managing Land Contamination Planning: Guidelines SEPP55 Remediation of Land, 1998, the Environmental Documents and the requirements of relevant Authorities.	Construction Soil & Water Management Plan
SWTC 7.21	In the event of an accident or incident occurring at the Construction Site or any other locations affected by the SVC Contractor's Activities, the SVC Contractor must notify the Principal's Representative immediately, record its knowledge of the facts and must photograph the accident site including photographs indicating the location of all safety devices as soon as possible after the accident. A report with this information must be forwarded to the Principal's Representative within 2 days of the accident or incident occurring.	Site Specific Emergency Response Plan
SWTC 7.23	(a) The SVC Contractor must install and maintain acoustic walls and other noise attenuation devices in accordance with the requirements in the Environmental Documents to provide noise mitigation during the performance of the SVC Contractor's Activities. SVC Contractor's Activities that require the installation of acoustic walls or other noise attenuation devices must not commence until the acoustic walls or other noise attenuation devices are erected. (b) Acoustic walls and other noise attenuation devices installed by the SVC Contractor must be made from as-new or recycled materials and must at all times be maintained in a neat and tidy condition and be sympathetic with the surroundings.	Construction Noise & Vibration Management Plan

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SWTC APPENDIX 7.1 ADDITIONAL ENVIRONMENTAL REQUIREMENTS

	CONDITION	CEMP REFERENCE
SWTC App 7, 7.1	Notwithstanding references to the “contractor” or the “proponent” in some of the other Environmental Documents, the SVC Contractor must undertake all the obligations, including monitoring, mitigation, safeguards, procedures, measures, controls and commitments, arising from the Environmental Documents unless specifically stated otherwise in Schedules 15 and 16 of the deed.	CEMP Appendices 2, 3

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SWTC APPENDIX 23.1.4 ENVIRONMENTAL MANAGEMENT REPORTS

	CONDITION	CEMP REFERENCE
(a)	During the period from the date of the deed until the Date of Construction Completion of the last Portion to achieve Construction Completion, the SVC Contractor must provide a monthly environmental report to the Principal's Representative (six hard copy sets), the Environmental Representative (one hard copy) and the Independent Certifier (one hard copy) by the seventh day of the following month that are easy to understand and are suitable for publication on the Principal's North West Link project website and in such format as is required by the Principal's Representative.	CEMP Section 7
(b)	The monthly environmental management reports must, as a minimum, include, address and detail: (i) an executive summary; (ii) the SVC Contractor's performance against the environmental management requirements of the deed, including compliance with the Construction Environmental Management Plan; (iii) the status of the Construction Environmental Management Plan including all sub-plans and environmental construction method statements (iv) management strategies for environmental compliance; (v) management strategies to identify the need for, and to undertake consistency reviews under the EP&A Act; (vi) the status of environmental obligations including those identified in the SVC Contractor's compliance tracking program; (vii) the status of and performance against environmental licences held for the Project Works and Temporary Works; (viii) the SVC Contractor's performance against environmental key performance indicators; (ix) details of any complaints, environmental incidents or emergencies; (x) environmental inspection reports; (xi) the results and findings of, and any environmental actions arising from, any internal or external audits carried out; (xii) induction reports that include the number of personnel that have received environmental training; and (xiii) such other information that the Principal's Representative may request.	CEMP Appendix 10

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SWTC APPENDIX 24.4 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

	CONDITION	CEMP REFERENCE
(a)	The Construction Environmental Management Plan must identify how the SVC Contractor will comply with the environmental management requirements of the deed.	CEMP Section 3.2, Appendix 4
(b)	The initial Construction Environmental Management Plan is contained in Appendix 33 to the SWTC.	CEMP
(c)	The Construction Environmental Management Plan must: (i) be prepared and initially submitted to the Principal's Representative and the Independent Certifier as required by clause 2.14(c) of the deed within 60 Business Days of the date of the deed; and (ii) contain, as a minimum, contents specified for the Construction Environmental Management Plan in the SWTC, including this Appendix 24.	CEMP
(d)	Further to the requirements of clause 2.14(h)(ii) of the deed, the SVC Contractor must undertake the ongoing development, amendment and updating of the Construction Environmental Management Plan throughout the performance of the SVC Contractor's Activities including to take into account: (i) changes to the Environment or generally accepted environmental management practices, new risks to the Environment, and 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 the SVC Contractor's Activities; and (v) requests or requirements of the Department of Planning and Infrastructure, Environment Protection Agency or any other Authority.	CEMP Section 4.2
(e)	The Construction Environmental Management Plan must consider and address the environmental issues, objectives and requirements that are identified in the Transport for NSW North West Rail Link Construction Environmental Management Framework.	CEMP Section 3.2, Appendix 4
(f)	The Construction Environmental Management Plan must, as a minimum, address and detail: (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; (ii) management strategies for environmental compliance and review of the performance of environmental controls; (iii) processes and methodologies for surveillance and monitoring; (iv) processes for incident and emergency response; (v) a schedule of the environmental issues for each part of the Construction Site; (vi) processes for the development of environmental construction method statements;	CEMP Sections 4.3, 4.4 Section 5 Section 6 Section 5 Construction Compound & Ancillary Facility Mgmt Plan & ECMs Section 5

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	CONDITION	CEMP REFERENCE
	<p>(vii) processes and methodologies for monitoring, auditing, corrective action and reporting on environmental performance including environmental compliance tracking;</p> <p>(viii) site induction information to be provided to the SVC Contractor's personnel and the Subcontractors' personnel; and</p> <p>(ix) interfaces with other Project Plans.</p>	<p>Section 6</p> <p>Section 5.8</p> <p>Section 1.7</p>
(g)	<p>The Construction Environmental Management Plan must include, as sub-plans, the following plans required by the Project Planning Approvals:</p> <ul style="list-style-type: none"> (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; (vii) Construction Air Quality Management Plan; 	As per each plan
(h)	<p>In addition to the requirements identified in the Project Planning Approvals, the Construction Soil and Water Management Plan must:</p> <ul style="list-style-type: none"> (i) include a water balance study that describes the sources, uses and estimated quantities of potable and non-potable water which will be created and used in the performance of the SVC Contractor's Activities. The estimated quantities of potable and non-potable water must also be expressed as percentages of total demand; (ii) identify initiatives that will be implemented to maximise water re-use, including from captured stormwater, wastewater and groundwater; and (iii) identify initiatives that will be implemented to minimise total water consumption and demand. 	Construction Soil & Water Management Plan
(i)	<p>In addition to the requirements identified in the Project Planning Approvals, the Heritage Management Plan must:</p> <ul style="list-style-type: none"> (i) identify initiatives that will be implemented for the enhancement of heritage values and minimisation of heritage impacts; and (ii) include procedures and processes that will be used to implement and document heritage management initiatives. 	Heritage Management Plan
j)	<p>In addition to the requirements identified in the Project Planning Approvals, the Flora and Fauna Management Plan must include an estimate of the change in ecological value associated with the SVC Contractor's Activities (as calculated using the Green Building Council of Australia's Change in Ecological Value Calculator).</p>	Flora and Fauna Management Plan

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	CONDITION	CEMP REFERENCE
(k)	<p>In addition to the requirements identified in the Project Planning Approvals, the Construction Traffic Management Plan must comply with and address the requirements of the Principal's General Specification G 10 and the SVC Contractor's traffic management and safety obligations in Schedule 33 of the deed as well as address and detail:</p> <ul style="list-style-type: none"> (i) the traffic and transport 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 organisation structure; (ii) traffic management responsibilities of all relevant construction personnel in regard to all aspects of construction of the Project Works and the Temporary Works; (iii) strategies and methodology for the management of impacts on road traffic and public areas including the minimisation of impacts on landowners and local businesses that are affected by the Project Works, the Temporary Works and the SVC Contractor's Activities; (iv) strategies and methodology for ensuring the safety and amenity of the Affected Public and Road Users; (v) traffic and transport management arrangements and procedures, including those related to: <ul style="list-style-type: none"> A. site security, site access and signage; B. Road User delay management; C. information signage and advance warning signs; D. speed limit signage; E. traffic switching arrangements and procedures; F. provisions for special events; G. frequency of inspections; and H. emergency and incident responses; (vi) traffic management strategies and construction staging in relation to the properties around the Construction Site and the road network that are affected by the SVC Contractor's Activities; and (vii) strategies and methodology for the communication of changes to traffic flow, vehicle, pedestrian and bicycle movements and arrangements to Road Users and the Affected Public. 	Construction Traffic Management Plan
(l)	<p>In addition to the plans required by the Project Planning Approvals, the Construction Environment Management Plan must also include, as sub-plans, a separate "Spoil Management Plan", "Visual Amenity Management Plan", "Carbon and Energy Management Plan" and "Waste Management and Recycling Plan".</p>	As per each plan

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	CONDITION	CEMP REFERENCE
(m)	<p>The Spoil Management Plan must address and detail:</p> <ul style="list-style-type: none"> (i) the excavation, handling, haulage and disposal methodology, including onsite storage and stockpiling arrangements; (ii) processes and procedures that will be used for the management of spoil, including those for virgin excavated natural material, contaminated and unsuitable material; (iii) measures that will be implemented to both reduce spoil quantities and maximise the beneficial reuse of spoil which will be generated during the performance of the SVC Contractor's Activities; (iv) quantities for reuse of spoil within the Construction Site, for beneficial reuse of spoil off site and for spoil disposal; and (v) processes and procedures for the management of the environmental and social impacts of spoil transfer and reuse. 	Spoil Management Plan
(n)	<p>The Visual Amenity Management Plan must identify the processes and procedures that will be used for the incorporation of the principles of Crime Prevention Through Environmental Design (CPTED) in the design and construction of any temporary site facilities.</p>	Visual Amenity Management Plan
(o)	<p>The Carbon and Energy Management Plan must address and detail:</p> <ul style="list-style-type: none"> (i) low carbon strategies and initiatives that will be implemented to minimise the carbon emissions associated with the construction of the Project Works and Temporary Works; (ii) energy efficiency strategies and initiatives that will be implemented to minimise energy use associated with the construction of the Project Works and Temporary Works; (iii) a carbon emission baseline determined using a carbon footprint assessment undertaken in accordance with ISO 14064-1 Greenhouse gases -Part 1, ISO 14064-2 Greenhouse gases -Part 2, ISO 14064-3 Greenhouse gases -Part 3 that incorporates direct and indirect emissions associated with electricity and fuel consumption, on-site process emissions and embodied emissions for all concrete and steel used in the construction of the Project Works and Temporary Works; (iv) a carbon emission reduction target as a percentage of the carbon emission baseline; (v) an energy use baseline determined using energy modelling that incorporates electrical energy consumption and fuel consumption as well as on-site renewable energy generation and renewable energy sourced from the main electricity grid for the construction of the Project Works and Temporary Works; (vi) an energy reduction target as a percentage of the energy use baseline; (vii) a life cycle assessment undertaken in accordance with ISO 14044 Environmental management -Life cycle assessment -Requirements and guidelines for all concrete and steel used for the construction of the Project Works and Temporary Works and identify material selection strategies and initiatives that will be implemented to minimise the environmental impacts associated with the construction of the Project Works and Temporary Works; (viii) processes and methodologies for monitoring, auditing and the taking of corrective action. 	Carbon and Energy Management Plan
(p)	<p>The Waste Management and Recycling Plan must identify quantities of waste that will be recycled, beneficially re-used or disposed of. The Waste Management and Recycling Plan must also demonstrate how the quantities identified for recycling or beneficial reuse have been maximised.</p>	Waste Management and Recycling Plan

SWTC APPENDIX 33.2 - ISSUES TO BE ADDRESSED IN THE PREPARATION OF THE CEMP

	ISSUE	CEMP REFERENCE
1	<p>Other Project Plans - the CEMP must recognise, be consistent with and address the requirements of each of the other individual Project Plans to the extent that they are relevant and applicable to the CEMP.</p> <p>Issues to be addressed in the preparation of each of the other individual Project Plans based on the initial Project Plans, as identified in Schedules 1 in each of Appendix 31.2, Appendix 32.2, Appendix 34.2, Appendix 35.2, Appendix 36.2, Appendix 37.2, Appendix 38.2, Appendix 39.2, Appendix 40.2, Appendix 42.2, Appendix 43.2, Appendix 44.2 and Appendix 45.2 of the SWTC, must, where relevant and applicable, also be addressed in the preparation of the CEMP.</p>	This CEMP is significantly revised from the tender version, and incorporates this requirement. Project Plans are listed in Figure 2.
2	<p>Construction Environmental Management Plan - the CEMP must more fully address the SVC Contractor's obligations (including those obligations nominate in the Environmental Documents), processes, procedures and management systems for environmental management.</p> <p>The processes, procedures and management systems nominated in the CEMP must recognise, be consistent with and comply with the requirements of the deed, including the issues identified below in Issues No. 3 to 10, inclusive.</p>	This CEMP is significantly revised from the tender version, and incorporates this requirement.
3	<p>Deed Requirements - the CEMP must more fully address the SVC Contractor's environmental obligations in the deed and include processes, procedures and management strategies that the SVC Contractor will use to ensure that the requirements of the deed are met, Including:</p> <ul style="list-style-type: none"> • Schedule 28 - the SVC Contractor's Personnel to include a full time Environmental Manager and a full time Sustainability Manager. 	This CEMP is significantly revised from the tender version, and incorporates this requirement.
4	<p>Environmental Documents - the CEMP must meet all the requirements of the Environmental Documents, and must incorporate all of the sub-plans identified in, and required by, the Environmental Documents, including more fully addressing:</p> <ul style="list-style-type: none"> • E46(b) in Project Planning Approval 1 and E34(b) in Project Planning Approval 2 in relation to the Construction Noise and Vibration Management Plan requirements; • the Construction Traffic Management Plan requirements, including: <ul style="list-style-type: none"> - E46(c) to Project Planning Approval 1, and E34(c) to Project Planning Approval 2; and - E12-E17 inclusive, to Project Planning Approval 1 and Project Planning Approval 2 in relation to construction hours requirements; and • E46(e) Project Planning Approval 1 and E34(e) Project Planning Approval 2 - the methodology and strategies for protection, monitoring, salvage and conservation of Aboriginal heritage in the Heritage Management Plan. 	<p>Construction Noise and Vibration Management Plan</p> <p>Construction Traffic Management Plan</p> <p>Construction Heritage Management Plan</p>
5	<p>Project Plan Requirements: SWTC - the CEMP must more fully address the environmental requirements of the SWTC and include the processes that the SVC Contractor will use to ensure all the requirements of the SWTC are met, including.</p> <ul style="list-style-type: none"> • section 3.7 - the development, implementation and maintenance of the Environmental and Sustainability Management System. 	This CEMP is significantly revised from the tender version, and incorporates this requirement in Section 3.3.
6	<p>Project Plan Requirements: SWTC Appendix 7 - the CEMP must fully address the requirements of Appendix 7 to the SWTC, including:</p> <ul style="list-style-type: none"> • section 7.5: construction traffic requirements at Rouse Hill; and • section 7.6: SVC Contractor's requirements to discourage staff working in the vicinity of Rouse Hill Town Centre from parking on local roads. 	Construction Traffic Management Plan, and related sub-plans.

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	ISSUE	CEMP REFERENCE
7	Project Plan Requirements: SWTC Appendix 23 - the CEMP must fully address the SVC Contractor's processes and procedures for the provision of the monthly environmental management reports required by section 23.1.4 of Appendix 23.	CEMP Section 7 & Appendix 10
8	<p>Project Plan Requirements: SWTC Appendix 24 - the CEMP must meet all the requirements of section 24.4 of Appendix 24 of the SWTC, including more fully addressing and detailing the following:</p> <ul style="list-style-type: none"> • section 24.4(f)(i) - the roles of key personnel within the environmental management team structure and interfaces with the overall project organisational structure; • section 24.4(f)(v) - a schedule of environmental issues for each part of the Construction Site; • section 24.4(f)(vi) - processes for the development of environmental construction method statements; • section 24.4(m)(iv) - quantities for reuse of spoil within the Construction Site, including the replacement of Table 2 in section 4.3 of the Waste Management and Recycling Plan to the Initial CEMP with the attachments identified in Table 33.1 of this Appendix 33.2; and • section 24.4(n) - the inclusion of all temporary site facilities in the Visual Amenities Management Plan, including: <ul style="list-style-type: none"> - Burns Station t-way car park, - Riley Station t-way car park, Rouse Hill Town Centre and - the Rouse Hill town centre Southern Bus layover. 	<p>CEMP Section 4</p> <p>Construction Compound & Ancillary Facility Mgmt Plan & ECMs</p> <p>CEMP Section 5.4</p> <p>Waste Management and Recycling Plan</p> <p>Visual Amenities Management Plan</p>
9	Traffic Management Drawings - the CEMP must be amended by the incorporation of the traffic management drawings attached to this Schedule 1.	Construction Traffic Management Plan
10	<p>Development, Amendment and Updating Requirements - the CEMP must fully address:</p> <ul style="list-style-type: none"> • the ongoing CEMP development, amendment and updating requirements of clause 2.14 of the deed and section 24.4(d) of Appendix 24 of the SWTC; • the measurement, analysis and improvement requirements of AS/NZS ISO 9001; and • the processes, procedures and personnel responsible for CEMP development, implementation, amendment, updating, measurement, analysis, improvement and corrective actions. 	CEMP Sections 3.3, 4.2.3, 6.

Appendix 4-2. Environmental Requirements – CEMF

Appendix 4-2: Environmental Requirements – CEMF

	CONDITION	CEMP REFERENCE
2.2	<p>The SMNW meets the definition of a number of scheduled activities under Schedule 1 of the Protection of the Environment Operation Act 1997 (POEO Act) and as such must obtain an Environment Protection Licence (EPL).</p> <p>a. Where required SMNW Principal Contractors will be required to:</p> <ul style="list-style-type: none"> • 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. 	Construction Environmental Management Plan (CEMP)
2.3	<p>The SMNW has submitted a referral under the Environment Protection & 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 SMNW 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.</p>	CEMP Section 3
2.4	<p>Numerous environmental publications, standards, codes of practice and guidelines are relevant to the SMNW 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)].</p>	CEMP Section 3
3.1(a)	<p>All SMNW Principal Contractors will be required to have a corporate environmental management system certified under ISO 14001.</p>	CEMP Section 3
3.1(b)	<p>All SMNW Principal Contractors will be required to develop an environmental and sustainability management system. The E&SMS must:</p> <ul style="list-style-type: none"> (i) be consistent with the principles of ISO 14001 Environmental Management Systems – Requirements with Guidelines for Use; (ii) be consistent with the SMNW Sustainability Strategy and SMNW Environment and Sustainability Policy; (iii) include specific procedures to address the following: <ul style="list-style-type: none"> • 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 & 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. 	CEMP Section 3
3.1(c)	<p>All sub-contractors engaged by the Contractor will be required to work under the Principal Contractor's E&SMS.</p>	CEMP
3.1(d)	<p>The relationship between key documents within the SMNW Environment & Sustainability Management System and the Principal Contractor's Environment & Sustainability Management System is shown in Figure 2 [of the CEMF]. Notably:</p> <ul style="list-style-type: none"> (i) the Construction Environment Management Plan and its sub plans will capture the construction environmental requirements emerging from the 	CEMP Section 3

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	CONDITION	CEMP REFERENCE
	<p>EISs, subsequent planning approvals and the SMNW Sustainability Strategy.</p> <p>(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 SMNW Sustainability Strategy.</p> <p>(iii) These plans will vary in scope across different delivery packages.</p>	
3.2(a)	All SMNW 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.	CEMP
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.	CEMP
3.2(c)	<p>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:</p> <p>(i) Project specific environmental policy, key performance indicators, objectives and targets.</p> <p>(ii) Identification of legislative and other requirements.</p> <p>(iii) Procedures to identify project specific environmental risks.</p> <p>(iv) Resource requirements, roles and responsibilities, including those of sub-contractors.</p> <p>(v) Communication requirements, including liaison with stakeholders and the community.</p> <p>(vi) Induction and training requirements.</p> <p>(vii) Identification of project specific environmental risks.</p> <p>(viii) Identification of appropriate control measures.</p> <p>(ix) Procedures for monitoring and evaluating environmental performance.</p> <p>(x) Reporting requirements.</p> <p>(xi) Procedures for emergency and incident management.</p> <p>(xii) Procedures for non-conformance control, corrective and preventative actions.</p> <p>(xiii) Procedures for audit and review.</p> <p>(xiv) Procedures for the control of environmental records.</p> <p>(xv) Development and maintenance of Environmental Management Sub-Plans and site / activity specific environmental procedures.</p>	CEMP
3.2(d)	The CEMP and associated sub-plans will require approval of TfNSW prior to construction works commencing. Depending on 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.	CEMP Section 4
3.3(a)	<p>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:</p> <p>(i) Spoil management.</p>	CEMP and plans as listed

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	CONDITION	CEMP REFERENCE
	<ul style="list-style-type: none"> (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. 	
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.	Procedures under various environmental management plans
3.4(b)	<p>The procedures will include:</p> <ul style="list-style-type: none"> (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. 	Procedures under various environmental management plans
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.	CEMP Section 5
3.5	<p>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:</p> <ul style="list-style-type: none"> (i) A description of the existing surrounding environment. (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). 	Construction Compound & Ancillary Facilities Management Plan

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	CONDITION	CEMP REFERENCE											
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.	Construction Noise & Vibration Management Plan											
3.7(a)	TfNSW and SMNW 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.	Relevant management plans											
3.7(b)	<p>Table 1.4 [below] provides the structure for the register of hold points as well as a preliminary list of hold points which will be implemented.</p> <table border="1"> <thead> <tr> <th>Hold Point</th><th>Release of Hold Point</th><th>By Who</th></tr> </thead> <tbody> <tr> <td rowspan="2">Prior to Vegetation Clearing / Ground Disturbance</td><td>Pre-clearing inspection</td><td>Qualified Ecologist</td></tr> <tr> <td>Erosion and sediment control plan</td><td>Contractor's Environmental Manager or delegate</td></tr> <tr> <td>Discharge of water</td><td>Water tested to verify compliance and approval to discharge</td><td>Contractor's Environmental Manager or delegate</td></tr> </tbody> </table>	Hold Point	Release of Hold Point	By Who	Prior to Vegetation Clearing / Ground Disturbance	Pre-clearing inspection	Qualified Ecologist	Erosion and sediment control plan	Contractor's Environmental Manager or delegate	Discharge of water	Water tested to verify compliance and approval to discharge	Contractor's Environmental Manager or delegate	<p>Construction Soil & Water Management Plan</p> <p>Construction Flora and Fauna Management Plan</p>
Hold Point	Release of Hold Point	By Who											
Prior to Vegetation Clearing / Ground Disturbance	Pre-clearing inspection	Qualified Ecologist											
	Erosion and sediment control plan	Contractor's Environmental Manager or delegate											
Discharge of water	Water tested to verify compliance and approval to discharge	Contractor's Environmental Manager or delegate											
3.8(a)	<p>SMNW 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:</p> <p>(i) The site induction will be provided to all site personnel and will include, as a minimum:</p> <p>(ii) Training purpose, objectives and key issues.</p> <p>Contractor's environmental policy and key performance indicators.</p> <p>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. 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.</p> <p>(iii) Topic specific environmental training, eg erosion and sediment control training will be undertaken for relevant site personnel as determined by the Principal Contractor.</p>	Training Plan CEMP Section 5											
3.9(a)	<p>SMNW 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:</p> <p>(i) Categories for environmental emergencies and incidents.</p> <p>(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.</p> <p>(iii) Procedures for the immediate notification of each relevant authority when the incident results in material harm to the environment.</p> <p>(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).</p> <p>(v) On-site rectification actions.</p>	Pollution Incident Response Management Plan											
3.9(b)	The Contractor will make all personnel aware of the plan and their responsibilities.	CEMP Section 5											

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	CONDITION	CEMP REFERENCE
3.10(b)	<p>Additionally TfNSW will engage independent Environmental Representatives (ERs) to undertake the following, along with any additional roles as required by the project approval conditions:</p> <ul style="list-style-type: none"> (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. (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. 	N/A – TfNSW responsibility
3.10(c)	<p>SMNW Principal Contractors will be responsible for all aspects of environmental management relevant to their scope of works. This will include:</p> <ul style="list-style-type: none"> (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. 	CEMP and plans as listed
3.10(d)	Principal Contractors must employ an Environmental Manager with relevant experience.	CEMP Section 4.4
3.10(e)	All sub-contractors engaged by the Principal Contractor will be required to operate within the EMS documentation of that Principal Contractor.	CEMP Section 3
3.11(a)	SMNW 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.	Relevant management plans
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.	Relevant management plans
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.	CEMP Section 6
3.11(d)	<p>Environmental inspections will include:</p> <ul style="list-style-type: none"> (i) Surveillance of environmental mitigation measures by the Site Foreman. This will be documented in the Foreman's Site Diary. (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. 	CEMP Section 6
3.11(e)	SMNW Principal Contractors will be required to undertake internal environmental audits of their EMS. Internal audits will include:	CEMP Section 6

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	CONDITION	CEMP REFERENCE
	(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.	
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.	CEMP Section 6
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.	CEMP Section 6
3.12(a)	SMNW 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.	CEMP Section 6
3.12(b)	Principal Contractors will develop and implement corrective actions to rectify 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.	CEMP Section 6
3.13(a)	SMNW 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 (eg CEMP, sub-plans and procedures). (iv) Other records as required by this Construction Environmental Management Framework.	CEMP Section 6
3.13(b)	Records will be retained onsite for the duration of works.	CEMP Section 6
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.	CEMP Section 6
3.13(d)	Compliance reports regarding each internal and external audit (refer to Section 3.11) will be undertaken. Compliance reports will be produced by the Principal Contractor's Environmental Manager or delegate and submitted to TfNSW.	CEMP Section 6
3.14(a)	SMNW Contractors will ensure continual review and improvement of the CEMP, sub-plans & 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.	CEMP Section 4
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.	CEMP Section 6
	STAKEHOLDER AND COMMUNITY INVOLVEMENT	
4.1	a. Throughout construction, TfNSW and the Principal Contractors will work closely with stakeholders and the community to ensure they are well	Stakeholder and

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	CONDITION	CEMP REFERENCE
	<p>informed regarding the construction works.</p> <p>b. Stakeholders and the community will be informed of significant events or changes that affect or may affect individual properties, residences and businesses. These will include:</p> <ul style="list-style-type: none"> i. Significant milestones. ii. Design changes. iii. Changes to traffic conditions and access arrangements for road users and the affected public. iv. Construction operations which will have a direct impact on stakeholders and the community including noisy works, interruptions to utility services or construction work outside of normal work hours. <p>c. A Community Information Centre for the SMNW project is located at 299 Old Northern Road, Castle Hill (ph 1800 019 989, website www.northwestrail.com.au) and will be kept informed of key construction information of relevance to stakeholders and the community.</p>	Community Involvement Plan
4.2	<p>Communication and Consultation Strategy</p> <p>a. This communication and consultation strategy will form the basis of a Stakeholder and Community Involvement Plan which will be developed by the SMNW Contractors.</p> <p>b. Key elements of the communication and consultation strategy which will be implemented at appropriate times in construction will include:</p> <ul style="list-style-type: none"> i. Notification (including targeted letterbox drops, email and SMS) of any works that may disturb local residents and businesses (such as noisy activities and night works) at least seven days prior to those works commencing. ii. Notification (including targeted letterbox drops) of works that may affect transport (such as road closures, changes to pedestrian routes and changes to bus stops). iii. Traffic alerts (via email) to all key traffic and transport stakeholders advising of any changes to access and local traffic arrangements (at least seven days prior to significant events). iv. Print and radio advertisements regarding major traffic changes. v. 24-hour toll-free community project information phone line. vi. Complaints management process. vii. Regular community information sessions. viii. Regular updates to the SMNW website, including uploading of all relevant documents, and contact details for the stakeholder and community involvement team. ix. Public displays, local events and open days. x. Assistance to the SMNW Community Information Centre in provision of regular community newsletters, information brochures and fact sheets and ongoing use of interactive web-based activities. xi. Clear signage at the construction sites and construction updates on the hoardings at construction sites. xii. Media releases and regular newspaper advertisements in local and metropolitan papers. xiii. Regular inter-agency group meetings. xiv. Community, business and stakeholder satisfaction surveys and feedback forms. 	Stakeholder and Community Involvement Plan

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	CONDITION	CEMP REFERENCE
	<p>xv. Translator and interpreter services.</p> <p>xvi. The Principal Contractor's Community Relations Team will liaise with the TfNSW Place Managers as the point of contact for the community.</p>	
4.3	<p>Complaint Handling</p> <p>a. Community liaison and complaints handling will be undertaken in accordance with the Construction Stakeholder and Community Involvement Plan and will include:</p> <p>i. Principal Contractors will deal with complaints in a responsive manner so that stakeholders' concerns are managed effectively and promptly.</p> <p>ii. A verbal response will be provided to the complainant as soon as possible and within a maximum of two hours from the time of the complaint (unless the complainant requests otherwise). A detailed written response will then be provided, if required, to the complainant within one week.</p>	Stakeholder and Community Involvement Plan
4.4	<p>Urban Design of Temporary Works</p> <p>a. SMNW Principal Contractors will develop and implement a Landscape and Temporary Works Management Plan for their scope of works. The Landscape and Temporary Works Management Plan will ensure as a minimum:</p> <p>i. Temporary construction works including site hoardings and acoustic sheds consider urban design and visual impacts, including:</p> <p>ii. Artwork, graphics and images to enhance the visual appearance of temporary works in high visibility locations.</p> <p>iii. Project information to raise awareness of SMNW and benefits, explain proposed works at each site and provide updates on construction progress.</p> <p>iv. Community information, including contact numbers for enquiries / complaints.</p> <p>v. Signage and information to mitigate impacts on local businesses which may be obscured by the construction site.</p> <p>vi. SMNW advertising / public awareness campaigns.</p> <p>vii. Logos / branding, including SMNW, NSW Government, and Contractor branding.</p> <p>b. The design of all temporary works will require TfNSW approval in relation to urban design and visual impacts.</p> <p>c. Construction hoardings, scaffolding and acoustic sheds will be regularly inspected and kept clean and free of dust build up. Graffiti on construction hoardings, scaffolding or acoustic sheds will be removed or painted over promptly.</p> <p>d. The principles of Crime Prevention Through Environmental Design will be applied, including temporary works that have a public interface.</p>	Visual Amenity Plan
4.5	<p>Business and Property Impacts</p> <p>a. SMNW Principal Contractors will proactively work with potentially affected stakeholders to identify the likely impacts and put in place measures to minimise impacts.</p> <p>b. Construction works will be undertaken to meet the following objectives:</p> <p>i. Minimise the potential impact of the project to the operation of businesses affected by SMNW works.</p> <p>ii. Ensure businesses are kept informed of the project and consulted in advance of major works or factors that are likely to have a direct impact.</p> <p>iii. Consult with all business directly affected by changes to access arrangements regarding specific requirements at least two weeks prior to those changes coming into effect.</p> <p>iv. Ensure that business stakeholder enquiries and complaints regarding the project are managed and resolved effectively.</p>	Business Management Plan

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	CONDITION	CEMP REFERENCE
	<p>c. SMNW Principal Contractors will develop and implement a Business Management Plan (BMP). The BMP will document key issues by locality with a particular focus on proactive consultation with affected businesses. The Business Management Plan will include:</p> <ul style="list-style-type: none"> i. Identification of specific businesses which are sensitive to construction activity disturbances. ii. Summary of the commercial character of the locality, its general trading profile (daily and annually) and information gained from the business profiling such as operating hours, main delivery times, reliance on foot traffic, any signage or advertising that may be impacted, customer origin, and other information specific to the business that will need to be considered in construction planning. iii. Define the roles and responsibilities in relation to the control and monitoring of business disturbances. iv. Identification of locality specific standard business mitigation measures which would be implemented. v. Maps and diagrams to illustrate the information for easy identification of measures which would be implemented. vi. Description of the monitoring, auditing and reporting procedures. vii. Procedure for reviewing performance and implementing corrective actions. viii. Description of the complaints handling process. ix. Procedure of community consultation and liaison. 	
	SPOIL MANAGEMENT	
6.1(a)	<p>The following spoil management objectives will apply to the construction of the project:</p> <ul style="list-style-type: none"> i. The beneficial reuse of spoil from the project will target 100 per cent reuse or recycling (on or off-site) of usable spoil. ii. Spoil will be managed with high consideration to minimising adverse traffic and transport related issues. iii. Potential contamination of land or water from contaminated spoil will be avoided. iv. Spoil will be managed with consideration of the impacts on residents and other sensitive receivers. v. Site contamination will be effectively managed to limit the potential risk to human health and the environment. 	Spoil Management Plan
6.2(a)	<p>SMNW Principal Contractors will develop and implement a Spoil Management Plan for their scope of works. The Spoil Management Plan will include as a minimum:</p> <ul style="list-style-type: none"> i. The spoil mitigation measures as detailed in the environmental approval documentation. ii. The responsibilities of key project personnel with respect to the implementation of the plan. iii. Spoil management monitoring requirements. iv. Compliance record generation and management. 	Spoil Management Plan
6.2(b)	<p>Spoil management measures will be included in regular inspections undertaken by the Contractor, and compliance records will be retained. These will include:</p> <ul style="list-style-type: none"> i. Records of inspections in relation to spoil management. ii. Records detailing the beneficial re-use of spoil either within the project or at off site locations. iii. Waste dockets for any spoil disposed of to landfill sites. 	Spoil Management Plan

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	CONDITION	CEMP REFERENCE
6.3	<p>Examples of spoil mitigation measures include:</p> <ul style="list-style-type: none"> Implementing the spoil re-use hierarchy. Handling spoil to minimise potential for air or water pollution. Minimise traffic impacts associated with spoil removal. 	Spoil Management Plan
	GROUNDWATER	
7.1(a)	<p>The following groundwater management objectives will apply to the construction of the project:</p> <ol style="list-style-type: none"> Reduced the potential for drawdown of surrounding groundwater resources. Prevent the pollution of groundwater through appropriate controls. Reduce the potential impacts of groundwater dependent ecosystems. 	Construction Soil & Water Management Plan
7.2(a)	<p>SMNW Principal Contractors will develop and implement a Groundwater Management Plan for their scope of works. The Groundwater Management Plan will include as a minimum:</p> <ol style="list-style-type: none"> The groundwater mitigation measures as detailed in the environmental approval documentation. The requirements of any applicable licence conditions. The NSW Office of Water will be consulted during the development of the Groundwater Management Plan in relation to dewatering and licensing arrangements. The responsibilities of key project personnel with respect to the implementation of the plan. Procedures for the treatment, testing and discharge of groundwater from the site. A groundwater monitoring plan. Compliance record generation and management. 	Construction Soil & Water Management Plan (includes groundwater management)
7.2(b)	<p>The Groundwater Monitoring Plan will:</p> <ol style="list-style-type: none"> Outline the parameters to be monitored (field parameters and laboratory parameters) and the sample frequency. Include details of a groundwater monitoring network to monitor groundwater levels and groundwater quality throughout the construction phase. The groundwater monitoring network will contain monitoring wells along the whole SMNW route intersecting groundwater in both the Ashfield Shale and Hawkesbury Sandstone. 	Water Quality Monitoring Program
7.2(c)	SMNW Contractors will retain compliance records of all groundwater monitoring undertaken.	Water Quality Monitoring Program
7.3	<p>Examples of groundwater mitigation measures include:</p> <ul style="list-style-type: none"> Implementing all feasible and reasonable measures to limit groundwater inflows to stations and crossovers. Undertaking groundwater monitoring during construction (levels and quality) in areas identified as 'likely' and 'potential' groundwater dependent ecosystems. 	Construction Soil & Water Management Plan
	TRAFFIC	

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	CONDITION	CEMP REFERENCE
8.1(a)	The following traffic management objectives will apply to the construction of the project: i. Minimise disruptions to pedestrians, cyclists, buses and motorists. ii. Minimise heavy vehicle movements during peak traffic periods. iii. Minimise access disruptions to adjoining properties. iv. Encourage sustainable transport options by site workers.	Construction Traffic Management Plan
8.2(a)	SMNW Principal Contractors will develop and implement a hierarchy of traffic management documentation including: i. A Construction Traffic Management Plan setting out the overall traffic management resources, processes and procedures for the management of traffic and transport during construction of the Project Works and Temporary Works; and ii. Construction Traffic Control Plans setting out the specific traffic and transport management arrangements to be implemented at specific locations during the construction of the Project Works and Temporary Works.	Construction Traffic Management Plan
8.2(b)	TfNSW and its Contractors will undertake liaison with agencies and the community regarding traffic management. This will involve: i. Establishment of a Traffic and Transport Liaison Group likely to consist of representatives from SMNW Contractors, TfNSW, RMS, NSW Police and bus operators. The group would review Road Occupancy Licence Application to monitor potential cumulative impacts from multiple Road Occupancy Licences operating concurrently in one area. ii. Establishment of a Central Project Coordination Committee which will seek to coordinate SMNW works with other major developments. The committee will also take a strategic approach to longer term traffic and transport management and review permanent arrangements including network integration with SMNW facilities.	Construction Traffic Management Plan
8.3	Examples of traffic mitigation measures include: <ul style="list-style-type: none"> Minimising heavy vehicle movements during peak traffic times. Avoidance of local road for heavy vehicle routes, where feasible. Providing safe pedestrian and cyclist movements around the worksites. 	Construction Traffic Management Plan
	NOISE & VIBRATION	
9.1(a)	The following noise and vibration management objectives will apply to the construction of the project: i. Minimise unreasonable noise and vibration impacts on residents and businesses. ii. Avoid structural damage to buildings or heritage items as a result of construction vibration. iii. Undertake active community consultation. iv. Maintain positive, cooperative relationships with schools, childcare centres, local residents and building owners.	Construction Noise & Vibration Management Plan
9.2(a)	SMNW Principal Contractors will develop and implement a Construction Noise and Vibration Management Plan for their scope of works. The Construction Noise and Vibration Management Plan will include as a minimum: i. Noise and vibration mitigation measures in the environmental approval documentation and SMNW Construction Noise and Vibration Strategy. ii. The requirements of any applicable EPL conditions.	Construction Noise & Vibration Management Plan

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	CONDITION	CEMP REFERENCE
	<ul style="list-style-type: none"> iii. Site plans or maps indicating locations of sensitive receivers, and key noise and vibration controls. iv. Pre-construction compliance requirements and hold points. v. The responsibilities of key project personnel with respect to the implementation of the plan. vi. Noise monitoring requirements. vii. Compliance record generation and management. viii. Community consultation requirements. ix. An Out of Hours Works Procedure applicable to all construction methods and sites (refer to the CNVS). 	
9.2(b)	<p>Detailed <i>Construction Noise and Vibration Impact Statements</i> will be prepared for major noise-intensive construction sites and/or activities, to ensure the adequacy of the noise and vibration mitigation measures for the actual design and construction methods. Specifically Construction Noise and Vibration Impact Statements will be prepared for:</p> <ul style="list-style-type: none"> i. The construction activities to be undertaken outside of standard construction hours. ii. Tunnelling works. iii. Works proposed to be undertaken outside of standard construction hours. 	Construction Noise & Vibration Management Plan
9.2(c)	Noise and vibration monitoring would be undertaken for construction as specified in the CNVS and the EPL.	Construction Noise & Vibration Mgmt Plan
9.2(d)	<p>The following compliance records would be kept by the SMNW Contractor:</p> <ul style="list-style-type: none"> i. Records of noise and vibration monitoring results against appropriate NMLs and vibration criteria. ii. Records of community enquiries and complaints, and the Contractor's response. 	Construction Noise & Vibration Management Plan
9.3	<p>All feasible and reasonable mitigation measures would be implemented in accordance with the CNVS. Examples of noise and vibration mitigation measures include:</p> <ul style="list-style-type: none"> • Construction hours will be in accordance with the working hours specified in section 5.1. • Hoarding and enclosures will be implemented where required to minimise airborne noise impacts. The layout of construction sites will aim to minimise airborne noise impacts to surrounding receivers. 	Construction Noise & Vibration Management Plan
	HERITAGE	
10.1(a)	<p>The following heritage management objectives will apply to the construction of the project:</p> <ul style="list-style-type: none"> i. Minimise impacts on items or places of heritage value. ii. Avoid accidental impacts on heritage items. iii. Maximise worker's awareness of indigenous and non-indigenous heritage. 	Construction Heritage Management Plan
10.2(a)	<p>SMNW Principal Contractors will develop and implement a Heritage Management Plan which will include as a minimum:</p> <ul style="list-style-type: none"> i. The heritage mitigation measures as detailed in the environmental approval documentation. ii. The responsibilities of key project personnel with respect to the implementation of the plan. 	Construction Heritage Management Plan

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	CONDITION	CEMP REFERENCE
	iii. Procedures for undertaking any recordings of heritage items prior to works commencing. iv. Procedures for unexpected heritage finds. v. Heritage monitoring requirements. vi. Compliance record generation and management.	
10.2(b)	The Contractor's regular inspection will include checking of heritage mitigation measures.	Construction Heritage Management Plan
10.2(c)	Compliance records will be retained by the Contractor. These will include: i. Inspections undertaken in relation to heritage management measures. ii. Archival recordings undertaken of any heritage item. iii. Unexpected finds and stop work orders. iv. Records of any impacts avoided or minimised through design or construction methods.	Construction Heritage Management Plan
10.3	Examples of heritage mitigation measures include: <ul style="list-style-type: none"> Any heritage item not affected by the works will be retained and protected throughout construction. Prior to the commencement of construction undertake professional archaeological excavation, investigation and reporting of any historical Indigenous heritage sites of state significance which will be affected. Undertake archival recordings of all non-Indigenous heritage items affected by the works prior to commencement of works. Implement unexpected heritage find procedures for Indigenous and non-Indigenous heritage items. 	Construction Heritage Management Plan
	FLORA & FAUNA	
11.1(a)	The following flora and fauna management objectives will apply to the construction of the project: i. Minimise impacts on flora and fauna. ii. Design waterway modifications and crossings to incorporate best practice principles. iii. Retain and enhance existing flora and fauna habitat wherever possible. iv. Appropriately manage the spread of weeds and plant pathogens.	Construction Flora & Fauna Management Plan
11.2(a)	SMNW Principal Contractors will develop and implement a Flora and Fauna Management Plan which will include as a minimum: i. The ecological mitigation measures as detailed in the environmental approval documentation. ii. The responsibilities of key project personnel with respect to the implementation of the plan. iii. Procedures for the clearing of vegetation. iv. Ecological monitoring requirements. v. Compliance record generation and management.	Construction Flora & Fauna Management Plan
11.2(b)	Vegetation Management Plan(s) will be prepared for sites where vegetation is proposed to be retained and for reaches of riparian zones that	Construction Flora &

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	CONDITION	CEMP REFERENCE
	intersect with the construction footprint.	Fauna Management Plan
11.2(c)	<p>SMNW Contractors would undertake the following ecological monitoring as a minimum:</p> <p>i. A pre-clearing inspection will be undertaken prior to any vegetation clearing by a suitable qualified ecologist and the Contractor's Environmental Manager (or delegate). The pre-clearing inspection will include, as a minimum:</p> <ul style="list-style-type: none"> • Identification of hollow bearing trees or other habitat features. • Identification of any threatened flora and fauna. • A check on the physical demarcation of the limit of clearing. • An approved erosion and sediment control plan for the worksite. • The completion of any other pre-clearing requirements required by any project approvals, permits or licences. • The completion of the pre-clearing inspection will form a HOLD POINT requiring sign-off from the Contractor's Environmental Manager (or delegate) and a qualified ecologist. <p>ii. The Principal Contractor's regular inspections will include</p>	Construction Flora & Fauna Management Plan
11.2(d)	<p>The following compliance records would be kept by the SMNW Principal Contractor:</p> <p>i. Records of pre-clearing inspections undertaken.</p> <p>ii. Records of the release of the pre-clearing hold point.</p> <p>iii. Records of ecological inspections undertaken.</p>	Construction Flora & Fauna Management Plan
11.3	<p>Examples of flora and fauna mitigation measures include:</p> <ul style="list-style-type: none"> • Areas to be retained and adjacent habitat areas will be fenced off prior to works to prevent damage or accidental over clearing. Clearing will follow a two-stage process as follows: <ul style="list-style-type: none"> • Non-habitat trees will be cleared first after sign-off of the pre-clearing inspection. • Habitat trees will be cleared no sooner than 48 hours after non-habitat trees have been cleared. A suitably qualified ecologist will be present on site during the clearing of habitat trees. Felled habitat trees will be left on the ground for 24 hours or inspected by the ecologist prior to further processing. • Weed management is to be undertaken in areas affected by construction prior to any clearing works as per Noxious Weeds Act 1993. 	Construction Flora & Fauna Management Plan
	VISUAL AMENITY	
12.1(a)	<p>The following visual and landscape management objectives will apply to the construction of the project:</p> <p>i. Minimise impacts on existing landscape features as far as feasible and reasonable.</p> <p>ii. Ensure the successful implementation of the Landscape Design.</p> <p>iii. Reduce visual impact of construction to surrounding community.</p>	Visual Amenity Plan
12.2(a)	SMNW Principal Contractors will implement visual and landscape management as part of the CEMP and sub-plans. As a minimum, the following would be covered:	Visual Amenity Plan

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	CONDITION	CEMP REFERENCE
	i. The visual mitigation measures as detailed in the environmental approval documentation. ii. The responsibilities of key project personnel with respect visual management. iii. Monitoring requirements. iv. Compliance record generation and management.	
12.2(b)	Visual & landscape measures will be incorporated into the Principal Contractor's regular inspections including checking health of retained vegetation around site boundaries, checking condition of any site hoarding and acoustic sheds, and checking position and direction of any sight lighting.	Visual Amenity Plan
12.2(c)	The Contractor will retain compliance records of any inspections undertaken in relation to visual and landscape measures.	Visual Amenity Plan
12.3	Examples of visual amenity mitigation measures include: <ul style="list-style-type: none"> • Wherever feasible and reasonable, vegetation around the perimeter of the construction sites will be maintained. • Temporary construction works will be designed with consideration of urban design and visual amenity as per Section 4.4. • Temporary site lighting, for security purposes or night works will be installed and operated in accordance with AS4282:1997 Control of the Obtrusive Effect of Outdoor Lighting. 	Visual Amenity Plan
	CARBON & ENERGY	
13.1(a)	The following carbon and energy management objectives will apply to the construction of the project: <ul style="list-style-type: none"> i. Reduce construction and embodied carbon emissions. ii. Identify low carbon energy generation and procurement options. iii. Promote energy efficient design and construction, including reducing fuel usage. 	Carbon & Energy Management Plan
13.2(a)	SMNW Principal Contractors will develop and implement a Carbon and Energy Management Plan that will include, as a minimum: <ul style="list-style-type: none"> i. The carbon and energy mitigation measures as detailed in the environmental approval documentation. ii. The relevant requirements of the SMNW Environment and Sustainability Policy and the SMNW Sustainability Strategy. iii. The responsibilities of key project personnel with respect to the implementation of the plan. iv. Compliance record generation and management. 	Carbon & Energy Management Plan
13.2(b)	Reporting of carbon and energy will be undertaken throughout the construction works in accordance with the Energy Efficiency Opportunities Program and the National Greenhouse and Energy Reporting Act 2007.	Carbon & Energy Management Plan
13.2(c)	The Contractors would be required to retain appropriate records to allow for regular Greenhouse Gas Assessments (inclusive of Scope 1, 2 and 3 emissions) at various stages of construction.	Carbon & Energy Management Plan
13.1	Examples of carbon and energy mitigation measures include: <ul style="list-style-type: none"> • Equipment and material selection will have consideration of energy efficiencies. • Construction workers will be encouraged to use sustainable transport options and green travel plans will be developed. 	Carbon & Energy Management Plan

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	CONDITION	CEMP REFERENCE
	<ul style="list-style-type: none"> Site offices will be designed to minimise energy demand where feasible and reasonable. 	
	MATERIALS	
14.1	<p>The following materials management objectives would apply to the construction of the project:</p> <ul style="list-style-type: none"> i. Reduce material use throughout the project life-cycle. ii. Identify materials with lower environmental footprint. 	Sustainability Plan
14.2(a)	<p>SMNW Principal Contractors will be required to develop and implement a Sustainable Procurement Policy that will include as a minimum:</p> <ul style="list-style-type: none"> i. The materials mitigation measures as detailed in the environmental approval documentation. ii. The relevant requirements of the SMNW Environment and Sustainability Policy and the SMNW Sustainability Strategy. iii. The responsibilities of key project personnel with respect to the implementation of the policy. iv. Compliance record generation and management. 	Sustainability Plan
14.2(b)	The Contractors will be required to retain records detailing the consideration of sustainability in the procurement of all materials.	Sustainability Plan
14.3	<p>Examples of materials mitigation measures include:</p> <ul style="list-style-type: none"> Investigate strategies to optimise the use of recycled steel in concrete reinforcement. Consideration of whole-of-life costs during procurement. 	Sustainability Plan
	SOIL & WATER	
15.1(a)	<p>The following soil and water management objectives will apply to the construction of the project:</p> <ul style="list-style-type: none"> i. Prevent pollution of surface water through appropriate erosion and sediment control. ii. Maintain existing water quality of surrounding surface watercourses. iii. Source construction water from non-potable sources, where reasonable and feasible. 	Construction Soil & Water Management Plan
15.2(a)	<p>SMNW Principal Contractors will develop and implement a Soil and Water Management Plan for their scope of works. The Soil and Water Management Plan will include as a minimum:</p> <ul style="list-style-type: none"> i. The surface water and flooding mitigation measures as detailed in the environmental approval documentation. ii. The requirements of any applicable EPL conditions. iii. The responsibilities of key project personnel with respect to the implementation of the plan. iv. Procedures for the development and implementation of progressive erosion and sediment control plans. v. Identification of locations where site specific Stormwater and Flooding Management Plans are required. vi. Procedures for the treatment, testing and discharge of water from the site. vii. Procedures for spill response. viii. Soil and water monitoring requirements. 	Construction Soil & Water Management Plan

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	CONDITION	CEMP REFERENCE
	ix. Compliance record generation and management.	
15.2(b)	<p>SMNW Principal Contractors will develop and implement progressive erosion and sediment control plans (ESCPs) for all active worksites in accordance with Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004) (known as the “Blue Book”). The ESCPs will be approved by the Contractor’s Environmental Manager (or delegate) prior to any works commencing (including vegetation clearing) on a particular site. Copies of the approved ESCP will be held by the relevant Contractor personnel including the Engineer and the Site Foreman.</p> <p>ESCPs will detail erosion and sediment control measures for the particular site at the particular point in time and be progressively updated to reflect the current site conditions. Any amendments to the ESCP will be approved by the Contractor’s Environmental Manager (or delegate).</p>	Construction Soil & Water Management Plan
15.2(c)	SMNW Principal Contractor’s will develop and implement Stormwater and Flooding Management Plans for the relevant construction sites. These plans will identify the appropriate design standard for flood mitigation based on the duration of construction, proposed activities and flood risks. The plan will develop procedures to ensure that threats to human safety and damage to infrastructure are not exacerbated during the construction period.	Stormwater and Flooding Management Plan
15.2(d)	<p>SMNW Principal Contractors will undertake the following soil and water monitoring as a minimum:</p> <ul style="list-style-type: none"> i. Weekly inspections of the erosion and sediment control measures. Issues identified would be rectified as soon as practicable. ii. Additional inspections will be undertaken following significant rainfall events (greater than 20 mm in 24 hours). iii. All water will be tested (and treated if required) prior to discharge from the site in order to determine compliance with the parameters of the EPL. No water will be discharged from the site without the written approval of the Contractor’s Environmental Manager (or delegate). This is to form a HOLD POINT. 	Construction Soil & Water Management Plan
15.2(e)	<p>The following compliance records will be kept by the SMNW Principal Contractors:</p> <ul style="list-style-type: none"> i. Copies of current ESCPs for all active construction sites. ii. Records of soil and water inspections undertaken. iii. Records of testing of any water prior to discharge. iv. Records of the release of the hold point to discharge water from the construction site to the receiving environment. 	Construction Soil & Water Management Plan
15.3	<p>Examples of surface water and flooding mitigation measures include:</p> <ul style="list-style-type: none"> • Clean water will be diverted around disturbed site areas, stockpiles and contaminated areas. • Control measures will be installed downstream of works, stockpiles and other disturbed areas. • Exposed surfaces will be minimised, and stabilised/revegetated as soon as feasible & reasonable upon completion of construction. • Dangerous goods and hazardous materials storage will be within bunded areas with a capacity of 110 per cent of the maximum single stored volume. • Spill kits will be provided at the batch plants, storage areas and main work sites. 	Construction Soil & Water Management Plan
15.4	<p>The following water resources management objectives will apply to the construction of the project:</p> <ul style="list-style-type: none"> • Minimise demand for, and use of potable water. • Maximise opportunities for water re-use from captured stormwater, wastewater and groundwater. 	Construction Soil & Water Management Plan

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	CONDITION	CEMP REFERENCE
	<p>Examples of measures to minimise potable water consumption include:</p> <ul style="list-style-type: none"> • Water efficient controls, fixtures and fittings in temporary facilities. • Collecting, treating and reusing water generated in tunnelling operations, concrete batching and casting facility processes. • Using recycled water or treated water from onsite sources in the formulation of concrete. • Harvesting and reusing rainwater from roofs of temporary facilities. • Using water from recycled water networks. • Collecting, treating and reusing groundwater and stormwater. • Using water efficient construction methods and equipment. • Providing designated sealed areas for equipment wash down. 	
	AIR QUALITY	
16.1(a)	<p>The following air quality management objectives will apply to the construction of the project:</p> <ol style="list-style-type: none"> Minimise gaseous and particulate pollutant emissions from construction activities as far as feasible and reasonable. Identify and control potential dust and air pollutant sources. 	Construction Air Quality Management Plan
16.2(a)	<p>SMNW Principal Contractors will develop and implement an Air Quality Management Plan which will include, as a minimum:</p> <ol style="list-style-type: none"> The air quality mitigation measures as detailed in the environmental approval documentation. The requirements of any applicable EPL conditions. Site plans or maps indicating locations of sensitive receivers and key air quality / dust controls. The responsibilities of key project personnel with respect to the implementation of the plan. Air quality and dust monitoring requirements. Compliance record generation and management. 	Construction Air Quality Management Plan
16.2(b)	<p>Air quality and dust monitoring on the SMNW will involve the following as a minimum:</p> <ol style="list-style-type: none"> Meteorological conditions will be monitored and appropriate responses organised and undertaken periodically by the Principal Contractor. Regular visual monitoring of dust generation from work zones. Monitoring emissions from plant and construction vehicles to ensure they have appropriate emission controls and are maintained correctly. 	Construction Air Quality Management Plan
16.2(c)	<p>The following compliance records will be kept by the Principal Contractor:</p> <ol style="list-style-type: none"> Records of any meteorological condition monitoring. Records of any management measures implemented as a result of adverse, windy weather conditions. Records of air quality and dust inspections undertaken. 	Construction Air Quality Management Plan
16.3	<p>Examples of air quality mitigation measures include:</p>	Construction Air Quality Management Plan

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	CONDITION	CEMP REFERENCE
	<ul style="list-style-type: none"> Plant and equipment will be serviced and maintained in good working order to reduce unnecessary emissions from exhaust fumes. Water suppression will be used for active earthwork areas, stockpiles, unsurfaced haul roads and loads of soil being transported to reduce wind blown dust emissions. Wheel-wash facilities or rumble grids will be provided and used near the site exit points, as appropriate. Dust extraction and filtration systems will be installed for tunnel excavation works and deep excavation with limited surface exposure. 	
	WASTE MANAGEMENT	
17.1	<p>The following waste objectives will apply to the construction of the project:</p> <ul style="list-style-type: none"> i. Minimise waste throughout the project life-cycle. ii. Waste management strategies will be implemented in accordance with the Waste Avoidance and Resource Recovery Act 2001 management hierarchy as follows: <ul style="list-style-type: none"> Avoidance of unnecessary resource consumption. Resource recovery (including reuse, reprocessing, recycling and energy recovery). Disposal. iii. Targets for the recovery, recycling or reuse of construction waste, and beneficial reuse of spoil will be provided by the Principal Contractor. 	Waste & Recycling Management Plan
17.2(a)	<p>SMNW Principal Contractors will develop and implement a Waste Management and Recycling Plan which will include as a minimum:</p> <ul style="list-style-type: none"> i. The waste management and recycling mitigation measures as detailed in the environmental approval documentation. ii. The responsibilities of key project personnel with respect to the implementation of the plan. iii. Waste management and recycling monitoring requirements. iv. Compliance record generation and management. 	Waste & Recycling Management Plan
17.2(b)	<p>Principal Contractors will undertake the following waste monitoring as a minimum:</p> <ul style="list-style-type: none"> i. Weekly inspections will include checking on the waste storage facilities on site. ii. All waste removed from the site will be appropriately tracked from 'cradle to grave' using waste tracking dockets. 	Waste & Recycling Management Plan
17.2(c)	Principal Contractors will report all necessary waste and purchasing information to TfNSW as required for TfNSW to fulfil their WRAPP reporting requirements.	Waste & Recycling Management Plan
17.2(d)	Compliance records will be retained by the Principal Contractors in relation to waste management including records of inspections and waste dockets for all waste removed from the site.	Waste & Recycling Management Plan
17.3	<p>Examples of waste management and recycling mitigation measures include:</p> <ul style="list-style-type: none"> All waste will be assessed, classified, managed, disposed of in accordance with the Waste Classification Guidelines (DECC, 2008). All waste materials removed from the sites will be directed to an appropriately licensed waste management facility. The use of raw materials (noise hoarding, site fencing, etc...) will be reused or shared, between sites and between construction 	Waste & Recycling Management Plan

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	CONDITION	CEMP REFERENCE
	<p>contractors where feasible and reasonable</p> <ul style="list-style-type: none">Recyclable wastes, including paper at site offices, will be stored separately from other wastes.	

Appendix 5. ENVIRONMENTAL RISK ASSESSMENT

Identification				Categorisation					Risk Owner		Analysis			Treatment				Residual Risk Rating 2		
Risk ID	Risk Description	ID'd by	Status	Contract Package	Location	Phase	Category	Sub-Category	Risk Owner/ Team	Responsible Delegate	Cause/Aspect	Impact / Consequence	Current Controls	Planned or additional tasks to further reduce risk	Treatment Owner	Task Due Date	Priority for Resolution	C	L	Risk Rating
ENV-003	DESIGN NSW Sustainable Design Guidelines for Rail v2.0 (all compulsory initiatives and 80% of Discretionary initiatives) not achieved for Detailed Design phase			SVC			Environment & Planning		IS/JV Project Director	Design Manager	Sustainability	Breach of contract Sustainability aspirations of the project not met	Construction Environmental Management Plan Sustainability Plan	Management processes - regular briefing notes, workshops, etc. implement clear NSW SDG design program and Responsibilities Matrix	Sustainability Manager	Ongoing	< 3 months	C5	L4	D
ENV-002	DESIGN NSW Sustainable Design Guidelines for Rail v2.0 (all compulsory initiatives and 80% of Discretionary initiatives) not achieved for Construction phase			SVC			Environment & Planning		IS/JV Project Director	Sustainability Manager	Sustainability	Breach of contract Sustainability aspirations of the project not met	Construction Environmental Management Plan Sustainability Plan	Management processes - regular briefing notes, workshops, etc. implement clear NSW SDG construction program and Responsibilities Matrix	Sustainability Manager	Ongoing	< 3 months	C5	L4	D
ENV-003	GENERAL OPERATIONS NSW Sustainable Design Guidelines for Rail v2.0 (all compulsory initiatives and 80% of Discretionary initiatives) not achieved for Finalisation phase			SVC			Environment & Planning		IS/JV Project Director	Sustainability Manager	Sustainability	Breach of contract Sustainability aspirations of the project not met	Construction Environmental Management Plan Sustainability Plan	Management processes - regular briefing notes, workshops, etc. implement clear NSW SDG construction and finalisation program and Responsibilities Matrix	Sustainability Manager	Ongoing	< 3 months	C5	L4	D
ENV-004	GENERAL OPERATIONS NWRL Sustainability Targets from NWRL Sustainability Strategy not met			SVC			Environment & Planning		IS/JV Project Director	Sustainability Manager	Sustainability	Breach of contract Sustainability aspirations of the project not met	Construction Environmental Management Plan Sustainability Plan	Management processes - regular briefing notes, monitoring and auditing, corrective actions	Sustainability Manager	Ongoing	< 3 months	C5	L4	D
ENV-005	GENERAL OPERATIONS NWRL Sustainability Targets not achieved in line with SWTC Appendix 24 Table 24.1			SVC			Environment & Planning		IS/JV Project Director	Sustainability Manager	Sustainability	Breach of contract Sustainability aspirations of the project not met	Construction Environmental Management Plan Sustainability Plan	Management processes - regular briefing notes, monitoring and auditing, corrective actions	Sustainability Manager	Ongoing	< 3 months	C5	L4	D
ENV-006	GENERAL OPERATIONS IS Design Rating of at least 46 points may not be achieved			SVC			Environment & Planning		IS/JV Project Director	Sustainability Manager	Sustainability	Breach of contract Sustainability aspirations of the project not met	Construction Environmental Management Plan Sustainability Plan	Management processes - regular briefing notes, workshops, etc. implement clear IS Design Rating program and Responsibilities Matrix - target 72 points vs 46 required to provide a buffer	Sustainability Manager	Ongoing	< 3 months	C5	L4	D
ENV-007	GENERAL OPERATIONS Discharge of water exceeds EPA set limits or waterways not protected in accordance with environmental conditions			SVC			Environment & Planning		IS/JV Project Director	Construction Manager	Water pollution	Breach to environmental regulatory limits, Prosecution, Revocation of licence, inability to operate.	Erosion and sediment control plans Surface water background monitoring, Sediment basin management protocols Discharge testing	Environmental training and startup briefings Toolbox Talks	Construction Manager	Ongoing	IMMEDIATE	C5	L5	D
ENV-008	GENERAL OPERATIONS Excess spoil unable to meet conditions of approval			SVC			Environment & Planning		IS/JV Project Director	Construction Manager	Waste	Excess spoil has to be disposed of at landfill due to contamination	Spoil Management Plan	Classify spoil in accordance with waste classification guidelines, Investigate options for beneficial reuse off site	Construction Manager	Ongoing	< 3 months	C5	L5	D
ENV-009	GENERAL OPERATIONS Noise during construction exceeds limits			SVC			Environment & Planning		IS/JV Project Director	Construction Manager	Excessive noise generated	Work stoppage, delays, community complaints, regulatory action, EPA fines.	Noise monitoring, Restrict source of noise to suitable hours, Use equipment and methodology of construction aimed to minimize noise.	Implement measures in area specific Construction Noise and Vibration Impact Statements, Weekly inspections	Construction Manager	Ongoing	IMMEDIATE	C5	L5	D
ENV-010	GENERAL OPERATIONS Vibration during construction exceeds limits			SVC			Environment & Planning		IS/JV Project Director	Construction Manager	Ground vibration	Work stoppage, delays, community complaints, property damage, regulatory action.	Use equipment and methodology of construction aimed to minimize vibration, Monitoring where required by CNVIS.	Noise and vibration monitoring, Restrict source of noise and vibration to suitable hours, Use equipment and methodology of construction aimed to minimize noise and vibration.	Construction Manager	Ongoing	IMMEDIATE	C5	L5	D
ENV-011	GENERAL OPERATIONS Air quality not maintained at acceptable levels			SVC			Environment & Planning		IS/JV Project Director	Construction Manager	Dust emitted from premises	Work stoppage, delays, community complaints, fines/prosecution.	Water carts	Watering earth in order to reduce at earthworks sites, Modify work activities if dust cannot be contained on site eg due to high winds, Use street sweeper as required	Construction Manager	Ongoing	IMMEDIATE	C5	L5	D
ENV-012	GENERAL OPERATIONS Pollution caused by site machinery spills			SVC			Environment & Planning		IS/JV Project Director	Construction Manager	Spills during refuelling, maintenance, Leaks from machinery, Burst hoses	Land/Water Pollution Fines & prosecution	Maintenance checks to be carried out on equipment before commencing work and spill kits to be kept ready at all times.	Incident Reporting Toolbox talks	Construction Manager	Ongoing	< 3 months	C5	L4	D
ENV-013	GENERAL OPERATIONS Damages to grass land and trees, flora and fauna not accounted for and not approved by the EIS			SVC			Environment & Planning		IS/JV Project Director	Construction Manager			Construction Environmental Management Plan	Establish environmental controls prior to commencement to work in accordance with ECMP and protection measures including fencing of areas not to be disturbed	Construction Manager	Ongoing	< 3 months	C5	L4	D
ENV-014	SITE ESTABLISHMENT Clearing			SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	Unauthorised removal of vegetation	Ecological - loss of native species, Offsets not adequate	ECMPs, fencing & signage, pre-clearing hold point, weekly inspections.	Construction Flora & Fauna Management Plan Sensitive vegetation maps, Establish controls prior to commencement, Fencing of areas not to be disturbed, Ecologist pre clearing survey.	Environment Manager	Ongoing	< 3 months	C4	L4	C
ENV-015	SITE ESTABLISHMENT Clearing			SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	Unauthorised removal of vegetation	Ecological - injury to native fauna species during clearing	ECMPs, fencing & signage, pre-clearing hold point, weekly inspections.	Construction Flora & Fauna Management Plan Sensitive vegetation maps, 2 stage clearing process, Ecologist present during clearing, fauna relocation	Environment Manager	Ongoing	< 3 months	C5	L4	D
ENV-016	SITE ESTABLISHMENT Clearing			SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	Weed spread	Ecological - loss of native species	ECMPs, pre-clearing hold point, plant delivery check.	Noxious weed mapping, treatment by qualified bush regenerators, machinery cleaned prior to entry to site	Environment Manager	Ongoing	< 3 months	C4	L5	D
ENV-017	SITE ESTABLISHMENT Demolition			SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	Removal of vegetation	Ecological - loss of native species	ECMPs, fencing & signage, pre-clearing hold point, weekly inspections.	Construction Flora & Fauna Management Plan Sensitive vegetation maps, Establish controls prior to commencement, Fencing of areas not to be disturbed, Ecologist pre clearing survey.	Environment Manager	Ongoing	< 3 months	C4	L5	D
ENV-018	SITE ESTABLISHMENT Demolition			SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	Erosion	Increased erosion potential	Erosion and sediment control plans, weekly inspections	Construction Soil & Water Management Plan ESCP	Environment Manager	Ongoing	< 3 months	C4	L5	D

ENV-019	SITE ESTABLISHMENT Site offices & amenities				SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	Removal of vegetation	Ecological – loss of native species Offsets not adequate	ECM's, fencing & signage, pre-clearing hold point, weekly inspections.	Construction Flora & Fauna Management Plan Sensitive vegetation maps Establish controls prior to commencement Fencing of areas not to be disturbed Ecologist pre clearing survey.	Environment Manager	Ongoing	< 3 months	C4	L5	D
ENV-020	SITE ESTABLISHMENT Site offices & amenities				SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	Wastewater management	Soil and/or water pollution	Effluent Management Report	ESCP Site inspections Maintenance of controls	Environment Manager	Ongoing	< 3 months	C4	L3	C
ENV-021	SITE ESTABLISHMENT Site offices & amenities				SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	Runoff of pollutants	Soil and/or water pollution	Erosion and sediment control plans, weekly inspections	Construction Soil & Water Management Plan Bunded containers ESCP Site inspections	Environment Manager	Ongoing	< 3 months	C4	L3	C
ENV-022	SITE ESTABLISHMENT Heritage				SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	Archaeological finds	Damage to heritage items	Site Inductions ECM Fencing and signage	Construction Heritage Management Plan Unexpected finds procedure, Heritage specialist input Seek consent to destroy prior to construction	Environment Manager	Ongoing	< 3 months	C4	L5	D
ENV-023	SITE ESTABLISHMENT Heritage				SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	European heritage - WHI	Damage to identified heritage items	Site Inductions ECM Fencing and signage - Mungerie House exclusion zone, White Hart Inn exclusion zone, Heritage listed trees exclusion zone	Construction Heritage Management Plan Unexpected finds procedure, consultation prior to submission Heritage specialist input specific toolboxes prior to construction at WHI	Environment Manager	Ongoing	< 3 months	C4	L5	D
ENV-024	SITE ESTABLISHMENT Refuelling				SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	Dangerous goods handling - leaks and spills	Soil and/or water pollution	Mobile refuelling - mini-tankers Refuelling not permitted within 20m of creeks. Spill kits available on site and on refuelling vehicles. No unattended refuelling.	Site supervision	Construction Manager	Ongoing	< 3 months	C4	L5	D
ENV-025	SITE ESTABLISHMENT Contaminated Land				SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	Ground contamination uncovered during clearing	Spreading contamination increasing clean up cost/time Increased scope of work, additional costs. Delays, redesign.	Phase 1 contamination survey Isolate potentially contaminated areas	Allocate contingency (time and cost) Phase 2 survey/remediation where identified in Phase 1 prior to works	Construction Manager	Ongoing	< 3 months	C4	L4	C
ENV-026	UTILITIES Services work, including micro boring				SVC		Construction	Environment & Planning		IS/JV Project Director	Construction Manager	Erosion	Increased erosion potential and generation of sediment	Erosion and sediment control plans, weekly inspections	Construction Soil & Water Management Plan ESCP Site inspections Maintenance of controls	Environment Manager	Ongoing	< 3 months	C4	L3	C
ENV-027	UTILITIES Services work, including micro boring				SVC		Construction			IS/JV Project Director	Construction Manager	Pollution of Groundwater	Water pollution Prosecution Revocation of EPA licence - inability to operate	Erosion and sediment control plans, weekly inspections	ESCP Maintenance of controls Site inspections	Construction Manager	Ongoing	< 3 months	C4	L3	C
ENV-028	UTILITIES Services work, including micro boring				SVC		Construction	Environment & Planning		IS/JV Project Director	Construction Manager	Runoff of pollutants	Soil and/or water pollution Prosecution Revocation of EPA licence - inability to operate	Erosion and sediment control plans, weekly inspections	Construction Soil & Water Management Plan Bunded containers ESCP Site inspections	Environment Manager	Ongoing	< 3 months	C4	L3	C
ENV-029	UTILITIES Services work, including micro boring				SVC		Construction	Environment & Planning		IS/JV Project Director	Construction Manager	Work required outside project boundaries	Non-compliance with planning approval Unauthorised use of land Prosecution	Prestart checklist Consistency assessments ECM	Pre-planning services works	Construction Manager	Ongoing	< 3 months	C5	L3	C
ENV-030	GENERAL EARTHWORKS Noise and vibration during construction exceeds limits				SVC		General Earthworks	Environment & Planning		IS/JV Project Director	Construction Manager	High noise and vibration levels	Work stoppage, delays, community complaints/regulatory fines.	Noise and vibration management plan. Construction Noise and Vibration Impact Statements. Restrict source of noise and vibration to suitable hours Use equipment and methodology of construction aimed to minimise noise and vibration.	Implement controls in CNVIS. Community notifications Noise monitoring	Environment Manager	Ongoing	< 3 months	C4	L5	D
ENV-031	GENERAL EARTHWORKS Work outside approved hours				SVC		General Earthworks	Environment & Planning		IS/JV Project Director	Construction Manager	Work outside approved hours	Community Complaints Non-compliance with planning approval Prosecution	Site Induction Out of Hours Work Permits	No further treatment required at this point	Environment Manager	Ongoing	< 3 months	C4	L3	C
ENV-032	GENERAL EARTHWORKS Work outside approved hours				SVC		General Earthworks	Environment & Planning		IS/JV Project Director	Construction Manager	Out of Hours Deliveries	Community Complaints Non-compliance with planning approval Prosecution	Site Induction Out of Hours Work Permits	No further treatment required at this point	Environment Manager	Ongoing	< 3 months	C4	L4	C
ENV-033	GENERAL EARTHWORKS Pollution caused by site machinery spills				SVC		General Earthworks	Environment & Planning		IS/JV Project Director	Construction Manager	Spills and leaks	Soil and/or water pollution	Plant inspections Bunded refuelling areas Mobile refuelling Restrictions on refuelling near waterways	Construction Soil & Water Management Plan Maintenance checks to be carried out on equipment before commencing work and spill kits to be kept ready at all times.	Environment Manager	Ongoing	< 3 months	C5	L4	D
ENV-034	HAUL ROAD Clearing and Grubbing				SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	Surface exposure	creates risk for mobilisation of soils and debris - potential water/air pollution.	Sediment controls in place prior to grubbing Avoid works in high wind or rain events	No further treatment required at this point	Environment Manager	Ongoing	< 3 months	C5	L5	D
ENV-035	HAUL ROAD Earthworks				SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	Dust emitted from premises	Dust Community complaints Non compliance with EPL	Water carts Spraygrassing stockpiles	Dust suppression with water tankers/sprinklers Soil binders to be investigated - slow down truck and dogs	Environment Manager	Ongoing	< 3 months	C4	L3	C
ENV-036	HAUL ROAD Earthworks				SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	Noise from Heavy vehicles, digging, loading etc.	Noise impacts on Community	Construction Environmental Management Plan	Community Liaison and Involvement Plan and Construction Noise and Vibration Management Plan Non-tonal reversing beepers	Environment Manager	Ongoing	< 3 months	C5	L5	D
ENV-037	HAUL ROAD Spoil Management				SVC		Site Establishment	Environment & Planning		IS/JV Project Director	Construction Manager	Waste from spoil	Contaminated spoil - unable to reuse on site.	Construction Environmental Management Plan	Testing ENM etc for spoil reuse Take from sites to spoil management locations for reuse or disposal testing	Environment Manager	Ongoing	< 3 months	C5	L5	D

ENV-038	Haul Road Contaminated Land		SVC		Site Establishment	Environment & Planning		IS JV Project Director	Construction Manager	Ground contamination uncovered during clearing	Spreading contamination increasing clean up cost/time Increased scope of work, additional costs, Delays, redesign.	Phase 1 contamination survey isolate potentially contaminated areas	Allocate contingency (time and cost) Phase 2 surveys/remediation where identified in Phase 1 prior to works.	Construction Manager	Ongoing	< 3 months	C4	L5	B
ENV-039	CONSTRUCTION TRAFFIC Operation		SVC		Site Establishment	Environment & Planning		IS JV Project Director	Technical Services Manager	Traffic	Impacts to operation of other businesses.	Construction Environmental Management Plan Community Liaison Management Plan Business Management Plan Construction Traffic Management Plan	Business Management Plan. Construction Traffic Management Subplan	Construction Manager	Ongoing	< 3 months	C5	L4	B
ENV-040	PILING Concrete		SVC		Piling	Environment & Planning		IS JV Project Director	Construction Manager	Concrete waste	Ground-and/or-water pollution	Limit concrete washouts	No further treatment required at this point.	Construction Manager	Ongoing	+/- 3 months	G2	L6	C
ENV-041	PILING Groundwater		SVC		Piling	Environment & Planning	Piling & Geotechnical	IS JV Project Director	Construction Manager	High salinity causing pollution of soil, groundwater, and surface water.	Pollution, waste disposal costs, Erosion, prosecution	Salinity management Plan Salinity Testing	Allocate contingency (time and cost).	Construction Manager	Ongoing	+/- 3 months	C4	L4	C
ENV-042	PILING Unexpected constraints for piling rig access		SVC		Piling	Environment & Planning	Piling & Geotechnical	IS JV Project Director	Construction Manager	Access not available via construction corridor.	Construction delays, Trespass, Non-compliance with approvals Work outside approved project boundaries	Plan all access in advance, involve RMS – get Council and RMS approval, inspect site conditions, prepare access road and piling platforms as early as possible	No further treatment required at this point.	Construction Manager	Ongoing	+/- 4 months	C5	L3	C
ENV-043	PILING Latent conditions and/or Contaminated soil		SVC		Piling	Environment & Planning	Piling & Geotechnical	IS JV Project Director	Construction Manager	Ground contamination uncovered during piling.	Spreading contamination increasing clean-up conditions increased scope of work, additional costs, Delays, redesigns.	Phase 1 contamination survey isolate potentially contaminated areas	Allocate contingency time and cost Phase 2 surveys/remediation where identified in Phase 1 prior to works.	Construction Manager	Ongoing	+/- 3 months	C4	L4	C
ENV-044	PILING Dust				Piling		Piling & Geotechnical	IS JV Project Director	Construction Manager	Dust emitted from premises	Dust Community complaints Non compliance with EPA	Water carts	Dust suppression with water tankers/spinklers during auguring.	Construction Manager	Ongoing	+/- 4 months	G2	L4	C
ENV-045	PILE CAPS Excavation		SVC		Pilo Caps	Environment & Planning		IS JV Project Director	Construction Manager	Sediment & erosion control	Water pollution	ESC plan- Sediment basins designed for sites along alignment Basins may be sized for multiple pits for efficiency – Dewatering procedures-	No further treatment required at this point.	Environment Manager	Ongoing	+/- 2 months	G6	L6	D
ENV-046	PILE CAPS Excavation		SVC		Pilo Caps	Environment & Planning		IS JV Project Director	Construction Manager	Soil salinity	Water pollution	Soil salinity management plan Tending of groundwater and salt Dewatering procedure--	No further treatment required at this point.	Environment Manager	Ongoing	+/- 3 months	C4	L3	C
ENV-047	PILE CAPS Excavation		SVC		Pilo Caps	Environment & Planning		IS JV Project Director	Construction Manager	Noise & vibration	Ripping & hammering in rock to reach design levels	CNVIS Work in approved hours Community notifications	Construction Noise & Vibration Management Plan Construction Noise & Vibration Impact Statements Noise monitoring	Construction Manager	Ongoing	+/- 4 months	G6	L6	D
ENV-048	PILE CAPS Excavation		SVC		Pilo Caps	Environment & Planning		IS JV Project Director	Construction Manager	Noise & vibration	Driving pile casings - noise complaints	CNVIS Work in approved hours Community notifications	Construction Noise & Vibration Management Plan Construction Noise & Vibration Impact Statements Adhere to standard work hours Noise monitoring	Construction Manager	Ongoing	+/- 4 months	G6	L6	D
ENV-049	PILE CAPS Excavation		SVC		Pilo Caps	Environment & Planning		IS JV Project Director	Construction Manager	Noise & vibration	Breaking back piles - noise complaints	CNVIS Work in approved hours Community notifications	Construction Noise & Vibration Management Plan Construction Noise & Vibration Impact Statements Adhere to standard work hours Noise and vibration monitoring	Construction Manager	Ongoing	+/- 3 months	G6	L6	D
ENV-050	PILE CAPS Excavation		SVC		Pilo Caps	Environment & Planning		IS JV Project Director	Construction Manager	Work required outside project boundaries	Non-compliance with planning approval Unauthorised use of land Prosecution	Prostat checked Consistency assessments ECM	Pre-planning services works	Construction Manager	Ongoing	-4 months	C5	L3	C
ENV-051	PILE CAPS Concrete Washout							IS JV Project Director	Construction Manager	Concrete waste	Ground-and/or-water pollution	Limit concrete washouts	No further treatment required at this point.	Construction Manager	Ongoing	+/- 3 months	G2	L3	B
ENV-052	PIERS Permanent Work outside boundaries		SVC		Construction	Environment & Planning		IS JV Project Director	Construction Manager	Work required outside project boundaries	Non-compliance with planning approval Unauthorised use of land Prosecution Landowner does not give permission for permanent works	Prostat checklist Consistency assessments ECM	Pre-planning services works	Construction Manager	Ongoing	+/- 3 months	C5	L3	C
ENV-053	PIERS Cage deliveries		SVC		Piers	Environment & Planning		IS JV Project Director	Construction Manager	Work outside standard hours	Non-compliance with EPA approval Community complaints Erosion/prosecution	GCHW permit Noise-monitoring & review	Toolbox talk prior to undertaking deliveries at night	Construction Manager	Ongoing	+/- 4 months	G2	L4	C
ENV-054	PIERS Cage installation		SVC		Piers	Environment & Planning		IS JV Project Director	Construction Manager	Work outside standard hours	Non-compliance with EPA approval Community complaints Erosion/prosecution		Toolbox talk prior to undertaking night works and the impact on local community	Construction Manager	Ongoing	+/- 3 months	C4	L3	C
ENV-055	PIERS Application of form oil				Piers			IS JV Project Director	Construction Manager	Escape onto ground during application	Land contamination	Geofabric under forms to soak up cuts	No further treatment required at this point.	Construction Manager	Ongoing	+/- 3 months	C5	L3	C
ENV-056	PIERS Concrete pours		SVC		Piers	Environment & Planning		IS JV Project Director	Construction Manager	Work outside standard hours	Non-compliance with EPA approval Community complaints Erosion/prosecution	GCHW permit Noise-monitoring & review	No further treatment required at this point.	Construction Manager	Ongoing	+/- 2 months	G2	L3	B
ENV-057	PIERS Concrete Washout							IS JV Project Director	Construction Manager	Concrete waste	Ground-and/or-water pollution	Limit concrete washouts	No further treatment required at this point.	Construction Manager	Ongoing	+/- 4 months	G2	L3	B
ENV-058	PIERS Formwork Stripping		SVC		Piers	Environment & Planning		IS JV Project Director	Construction Manager	Work outside standard hours	Non-compliance with EPA approval Community complaints Erosion/prosecution		No further treatment required at this point.	Construction Manager	Ongoing	+/- 3 months	G2	L3	B

ENV 058	STRADDLE CARRIER Noise-	Risk Work Shop- 20/11/2014	SVC	Assembly and Erection Area- Precast Yard-	Construction	Environment and Community		IS JV Project Director	Construction Manager	Exceed EPA limits	Work stoppage, delays, community complaints, fines and penalties.	CNVIS Work in approved hours. Community notifications	Implement Management plans. Noise monitoring. Restrict source of noise to suitable hours. Use equipment and methodology of construction aimed to minimize noise. WSP has prepared a noise model based on background noise from Windsor Road. Noise model to be used to predict impact for out of hours works. Limit establishment works at night. Community Liaison and Involvement Plan and Implement Construction Noise and Vibration Management Plan.	Construction Manager	Ongoing	< 3 months	C5	L5	D
ENV 059	STRADDLE CARRIER Dust	Risk Work Shop- 20/11/2014	SVC	Assembly and Erection Area- Precast Yard-	Construction	Environment and Community		IS JV Project Director	Construction Manager	High winds. Use and unbound material on top surface-	Work stoppage, delays, community complaints, fines and penalties.	Water carts	Watering earth in order to reduce at earthworks sites. Modify work activities if dust cannot be contained on site eg due to high winds. Use street sweeper as required.	Construction Manager	Ongoing	< 3 months	C5	L5	D
ENV 060	STRADDLE CARRIER Pollution caused by machinery spills	Risk Work Shop- 20/11/2014	SVC	Assembly and Erection Area- Precast Yard-	Construction	Environment & Planning		IS JV Project Director	Construction Manager	Change of oil, fuel, leaks	Soil/water contamination, fines and penalties	Environment Management Plan	Comply with the IS JV Fueling and Liquid Storage Protocol. Nominate designated areas. Use bunding / spill kits	Fabrizio Dual	Ongoing	< 3 months	C4	L6	D
ENV 061	STRADDLE CARRIER Air pollution	Risk Work Shop- 20/11/2014	SVC	Assembly and Erection Area- Precast Yard-	Construction	Environment & Planning		IS JV		Smoke / dust from heavy machinery	Work stoppage, delays, community complaints, fines and penalties.	Comply with IS JV plant maintenance and product procedure and pre-plant inspection. Check emissions regularly. Dust control- Water sprayed on dirt and truck wheels washed if required to stop dirt and dust on site.	No further treatment required at this point.	Construction Manager	Ongoing	< 3 months	C4	L5	D
ENV 062	STRADDLE CARRIER Chemicals contamination	Risk Work Shop- 20/11/2014	SVC	Assembly and Erection Area- Precast Yard-	Construction	Environment & Planning		IS JV		Incorrect storage and handling	Soil/water and land contamination. Workers/personnel harm	Contained storage bund. Safety data sheet	No further treatment required at this point.	Construction Manager	Ongoing	< 3 months	C4	L4	C
ENV 063	STRADDLE CARRIER Lightning	Risk Work Shop- 20/11/2014	SVC	Assembly and Erection Area- Precast Yard-	Construction	Environment & Planning	External Influences			Electrical storm	electrocution	weather forecast and suspend work if required. Plan works ahead.	No further treatment required at this point.	Construction Manager	Ongoing	< 3 months	C2	L6	C
ENV 064	STRADDLE CARRIER Segment storage area damaging erosion & sediment control zones-	Straddle Carrier-	SVC	Haul road - Precast Yard-	Construction	Environment & Planning	Environment	Environmental & Community Relations Manager		Areas not identified clearly.	EPA fines/prosecutions.	Logic with environmental considerations on site.	Storage areas to be identified by environmental specialists.	IS JV	Ongoing	< 3 months	C4	L6	D
ENV 065	STRADDLE CARRIER Chemical contamination whilst maintaining machine	Risk Work Shop- 20/11/2014	SVC	Haul road - Precast Yard-	Construction	Environment & Planning	Work, Health and Safety	Environmental Manager		Contact with chemicals/ Soil contamination.	Incorrect handling procedures. Lack of information. Not wearing appropriate PPE. Incorrect storage. High Pressure Injection Injuries. Groundwater/soil/water contamination.	Review MSDS and assess risks. Hazardous substances stored & labelled correctly. SWMS. Report any spills & always keep appropriate fully stocked spill kits on site whilst maintaining machines.	Further development of SWMS when new subcontractors are brought on-site. All personnel provided with appropriate PPE. All personnel trained in MSDS requirements. Plan Maintenance of equipment away from soil.	Fabrizio Dual	Ongoing	< 3 months	C4	L6	D
ENV 066	STRADDLE CARRIER Lighting	Straddle Carrier-	SVC	Haul road - Precast Yard-	Construction	Environment & Planning	Environment & Community	Environmental & Community Relations Manager		Lighting impacting the fauna & community.	EPA fines/prosecutions, community complaints	Position lights correctly. In prevent directing towards community - community notifications. Adequate lighting for safe operation. Prevent lights directing towards bushlands.	Select appropriate lighting or shielding lights if required.	Construction Manager	Ongoing	< 3 months	C4	L4	C
ENV 067	STRADDLE CARRIER Unauthorised Night works	Straddle Carrier-	SVC	Haul road - Precast Yard-	Construction	Environment & Planning	Community	Environmental & Community Relations Manager		Variation to EPL not approved.	Work stoppage, delays, community complaints, impact on programme.	Apply for variation to EPL requirements	Review decision & provide additional controls if required.	Environment	Ongoing	< 3 months	C3	L4	C
ENV 068	Transport of Segments Illumination (Night Works)	Risk Assessment workshop - 17/02/2014	SVC	All sites	Loading, transportation & Unloading	Environment & Planning	Work, Health and Safety	IS JV Project Director	Construction Manager	Light spill	Non compliance with planning approval. Unacceptable impact on fauna. Disturbance of residents. Community complaints	Position lights correctly. In prevent directing towards community - community notifications. Adequate lighting for safe operation. Prevent lights directing towards bushlands.	Select appropriate lighting or shielding lights if required.	IS JV	Ongoing	< 3 months	C4	L6	D
ENV 069	Transport of Segments Worker behaving, communication -Language	Risk Assessment workshop - 17/02/2014	SVC	All sites	Loading, transportation & Unloading	Environment & Community	Work, Health and Safety	IS JV Project Director	Construction Manager	Poor language/attitude. Lack of communication	Foul language not tolerated. Use 2-Way/LHF to communicate between plant on site. Excessive noise. Community complaints	LHF/2-Way on site	Toolbox for workers who continually fail to adequately communicate on site.	IS JV	Ongoing	< 3 months	C4	L5	D
ENV 070	Transport of Segments Phone usage (driving & night shift)	Risk Assessment workshop - 17/02/2014	SVC	All sites	Transportation	Environment & Community	Work, Health and Safety	IS JV Project Director	Construction Manager	Texting/Talking on the phone whilst driving.	Accidents/Injuries/death	Do not use a mobile phone whilst operating plant or whilst walking around on site.	Goldsprings to enforce no usage of phones during operation of plant.	IS JV	Ongoing	< 3 months	C3	L4	C
ENV 071	Transport of Segments Unapproved routes	Environmental Manager	SVC		Loading, transportation & Unloading	Environment & Community		IS JV Project Director	Construction Manager			Road dilapidation survey. RMS/Council permits. Traffic management plans.	Goldsprings to enforce usage of approved routes.	IS JV	Ongoing	< 3 months			

ENV-072	Transport of Segments Noise at delivery locations	Environmental Manager	SVC		Loading, Transportation & Unloading	Environment & Community	IS/JV Project Director	Construction Manager	Work outside standard hours.	Non-compliance with EPA approval. Community complaints. Fines/prosecution	CNVIS prepared EPA variation/approval for works. Noise monitoring & review	Toolbox talk prior to undertaking segment deliveries at night	IS/JV	Ongoing	< 3 months	C3	L4	C
ENV-73	TRANSPORT OF SEGMENTS Out-of-Hours-Work-Approval	Environmental Manager	SVC		Loading, Transportation & Unloading	Environment & Community	IS/JV Project Director	Construction Manager	Work outside standard hours.	Non-compliance with EPA approval. Community complaints. Fines/prosecution	CNVIS prepared EPA variation/approval for works. Noise monitoring & review	Toolbox talk prior to undertaking night works. Talk about the effects in community etc	IS/JV	Ongoing	< 3 months	C3	L4	C
ENV-74	GENERAL INSTALLATION OF SEGMENTS/GANTRY Nightworks	Environmental Manager	SVC		Gantry Operations	Environment & Community	IS/JV Project Director	Construction Manager	Work outside standard hours	Non-compliance with EPA approval. Community complaints. Fines/prosecution	CNVIS prepared EPA variation/approval for works. Noise monitoring & review	Toolbox talk prior to undertaking night works. Talk about the effects in community etc	Construction Manager	Ongoing	< 3 months	C3	L4	C
ENV-75	GENERAL INSTALLATION OF SEGMENTS/GANTRY Noise	Environmental Manager	SVC		Gantry Operations	Environment & Community	IS/JV Project Director	Construction Manager	Work outside standard hours	Non-compliance with EPA approval. Community complaints. Fines/prosecution	CNVIS prepared EPA variation/approval for works. Noise monitoring & review	Toolbox talk prior to undertaking night works. Talk about the effects in community etc	IS/JV	Ongoing	< 3 months	C3	L4	C
ENV-76	GENERAL INSTALLATION OF SEGMENTS/GANTRY Closing	Environmental Manager	SVC		Gantry Operations	Environment & Community	IS/JV Project Director	Construction Manager	Closing Activity	Land and/or water pollution. Damage to vehicles	Cautery not	Toolbox talk prior to undertaking night works. Talk about the effects in community etc	IS/JV	Ongoing	< 3 months	C5	L4	D
ENV-77	GENERAL INSTALLATION OF SEGMENTS/GANTRY ESC	Environmental Manager	SVC		Gantry Operations	Environment & Community	IS/JV Project Director	Construction Manager	Damage to ESC	EPA threat prosecutions.	Liaise with environmental coordinators on site.	Environmental representatives to be consulted prior to any changes to ESC	IS/JV	Ongoing	< 3 months	C4	L4	D
ENV-78	GENERAL INSTALLATION OF SEGMENTS/GANTRY Lighting	Environmental Manager	SVC		Gantry Operations	Environment & Community	IS/JV Project Director	Construction Manager	Light spill	Non compliance with planning approval. Unacceptable impact on fauna. Disturbance of residents. Community complaints	Position lights correctly to prevent directing towards community. Unacceptable impact on fauna. Disturbance of residents. Prevent lights directing towards bushlands.	Select appropriate lighting or shielding lights if required.	IS/JV	Ongoing	< 3 months	C4	L5	D
ENV-79	WINDSOR ROAD BRIDGE Works within the road corridor	Environmental Manager	SVC		Old Windsor Road Bridge	Environment & Planning	IS/JV Project Director	Construction Manager		Soil and/or water pollution	Construction Environmental Management Plan	Construction Soil & Water Management Plan	Environment Manager	Ongoing	< 3 months	C5	L5	D
ENV-80	WINDSOR ROAD BRIDGE Nightworks	Environmental Manager	SVC		Gantry Operations	Environment & Community	IS/JV Project Director	Construction Manager	Work outside standard hours - EPA approval	Non-compliance with EPA approval. Community complaints. Fines/prosecution	CNVIS prepared EPA variation/approval for works. Noise monitoring & review	No further treatment required at this point	IS/JV	Ongoing	< 3 months	C3	L4	C
ENV-81	GENERAL WORKS Work outside approved hours	Environmental Manager	SVC		Gantry Operations	Environment & Community	IS/JV Project Director	Construction Manager	Work outside standard hours - EPA approval	Non-compliance with EPA approval. Community complaints. Fines/prosecution	Noise monitoring & review. OOH permits	No further treatment required at this point	IS/JV	Ongoing	< 3 months	C4	L3	C
ENV-82	PARAPET INSTALLATION Discharge of site waters from site boundaries exceeds EPA license criteria. Waterways pollution	Environmental Coordinator	SVC		Parapet Installation	Environment & Planning	IS/JV Project Director	Construction Manager	Erosion and Sediment Water pollution.	Breach of Salini EPL. Breach of Sydney Water Approvals. Breach to environmental regulatory limits. Fines/prosecution/remediation costs/ reporting costs. Revocation of licence to operate.	Erosion and sediment control plans. Pre-clearing & pre-ground disturbance hold point permits. Discharge events under permit within WO limits. Surface water background monitoring.	ESC designed to staged works plans. Cheat sheets for site specific ESC staging works. Site specific ESC to be tool boxed as part of pre-clearing & pre-disturbance permit hold points. Daily Enviro site presence to deal with unexpected site conditions/changes	IS/JV	Ongoing	< 3 months	C5	L5	D
ENV-83	PARAPET INSTALLATION Noise during construction exceeds limits. Works not managed within approved working hours	Environmental Coordinator	SVC		Parapet Installation	Environment & Planning	IS/JV Project Director	Construction Manager	Noise disturbance/ excessive noise generated.	Breach of Salini EPL. Community complaints. Breach to environmental regulatory limits. Work stoppage delays. Fines/prosecution/remediation costs/ reporting costs. Revocation of licence to operate.	Scheduling of works to be within license approved hours. Site specific noise assessments completed by third party with mitigation measures required (Noise and Vibration Management Plan). Noise monitoring during works as required as per Noise and Vibration	Site specific sensitive receivers and site specific noise mitigation measures communicated in pre-ground disturbance permit toolbox. Daily onsite Enviro presence for advise during Sydney Water stage 2 works. Any proposed OOHW to be managed in line with OO	Construction Manager	Ongoing	< 3 months	C5	L5	D
ENV-84	PARAPET INSTALLATION Vibration during construction exceeds limits	Environmental Coordinator	SVC		Parapet Installation	Environment & Planning	IS/JV Project Director	Construction Manager	Ground vibration	Community Complaints. Breach of Salini EPL. Breach to Environmental regulatory limits. Work stoppage delays. Fines/prosecution/remediation costs/ reporting costs. Revocation of licence to operate.	Site specific noise assessments completed by third party with mitigation measures required (Noise and Vibration Management Plan). Noise monitoring during works as required as per Noise and Vibration Management Plan.	Vibration monitoring as required by site specific Noise and Vibration Monitoring Plan. Restrict source of vibration to recommend distances from site specific sensitive receivers. Use equipment and methodology aimed to minimise vibration. Daily onsite Enviro	Construction Manager	Ongoing	< 3 months	C5	L5	D
ENV-85	PARAPET INSTALLATION Inclement Weather causes Pollution	Environmental Coordinator	SVC		Parapet Installation	Environment & Planning	IS/JV Project Director	Construction Manager	Erosion and Sediment Water pollution. Flooding issues. Wind blown litter. Site contamination.	Breach of Salini EPL. Breach of Sydney Water Approvals. Breach to environmental regulatory limits. Fines/prosecution/remediation costs/ reporting costs/ return to work delay costs/ post rain site clean up costs. Revocation of licence to operate.	Monitor and communicate forecasted rain events. Chemical storage set up outside flood zones. No stockpiling in flood zones. Return to work post rain dewatering clean ups. All controls are designed for rain event as specified in EPL.	Making site secure at end of each shift and/or at onset of forecasted storm/s wet weather. Gypsum treat inlets to any sod traps on site. Enviro on site daily to advise on ESC. Pre and post rain event daily inspections. Designated post rain return to work c	Construction Manager	Ongoing	< 3 months	C5	L4	D
ENV-86	PARAPET INSTALLATION Air quality not maintained at acceptable levels- Dust	Environmental Coordinator	SVC		Parapet Installation	Environment & Planning	IS/JV Project Director	Construction Manager	Dust emitted from premises	Community Complaints. Breach of Salini EPL. Breach to Environmental regulatory limits. Work stoppage delays. Fines/prosecution/remediation costs/ reporting costs. Revocation of licence to operate.	Water carts in use during earthworks and dust generating activities.	Modify/ stop work activities if dust cannot be contained on site (e.g. high winds, water cart re-filling). Stabilised site access points. Use street sweeper as required. Water cart using Council recycled water/ or pH tested condior surface waters. Daily	Construction Manager	Ongoing	< 3 months	C4	L4	D
ENV-87	PARAPET INSTALLATION Refuelling/plant maintenance spills to ground and waters	Environmental Coordinator	SVC		Parapet Installation	Environment & Planning	IS/JV Project Director	Construction Manager	Spills during re-fuelling/ maintenance/ machinery leaks/ burst hoses. Pollution to land/ drainage lines/ water ways.	Breach of Salini EPL. Breach of Sydney Water Approvals. Breach to environmental regulatory limits. Fines/prosecution/remediation costs/ reporting costs. Revocation of licence to operate.	Machinery pre-start check before starting works with IS/JV. Re-fuelling not permitted within flood zones and/or 50m from drainage lines/ water ways/ water bodies. Spill kits available on site and on refuelling vehicles. No unattended refuelling. Spill res	The works are within the Riparian zones of Elizabeth Macarthur and Caddies Creeks and within the 1 in 20 year flood zone. Sydney Water pre-ground clearing/disturbance tool box detailing controls. No re-fuelling or plant maintenance to be conducted within	Construction Manager	Ongoing	< 3 months	C4	L4	D

ENV-88	PARAPET INSTALLATION Damage to areas outside EIS boundaries	Environmental Coordinator	SVC		Parapet Installation	Environment & Planning		IS/JV Project Director	Construction Manager	Over clearing, not using a designated site access, not delineating project boundaries.	Breach of NWRE EIS conditions. Breach of Sydney Water Approvals. Damage to others property/land. Damage to vegetation/habitat not accounted for in EIS. Breach to Environmental regulatory limits. Fines/prosecution/remediation costs/ reporting costs. Revoke	Site boundary information incorporated in site specific ECM.	ATF fencing to be used during site set up (before clearing works commences) to delineate working boundaries and to block access to adj areas water ways. Regular inspections to maintain site boundary fencing being in place and effective. Creek diversions d	Construction Manager	Ongoing	< 3 months	C4	L3	B
ENV-89	PARAPET INSTALLATION Heritage	Environmental Coordinator	SVC		Parapet Installation	Environment & Planning		IS/JV Project Director	Construction Manager	Aboriginal and European Cultural Heritage	Damage to heritage items. Damage to others property. Fines/ prosecution/ reporting costs/ archaeological investigation costs/ compensation costs/ delays to work costs.	Site Inductions. CH zone pre-identified and mapped in ECM. CH areas to be cleared prior to disturbance works by archaeologists/ qualified people. Unexpected finds procedure.	Site pre-clearing and pre-ground disturbance permits and toolboxes to include site specific CH information/ no go zones/ unexpected finds procedure. ATF fencing to be installed to restrict access to any cultural heritage no go zones.	Environment Manager	Ongoing	< 3 months	C5	L5	D
ENV-90	PARAPET INSTALLATION Concrete spills to ground	Environmental Coordinator	SVC		Parapet Installation	Environment & Planning		IS/JV Project Director	Construction Manager	Concrete washout from activities not being contained	Breach of Salini EPL. Breach to environmental regulatory limits. Damage to land and waters. Fines/ prosecution/ remediation costs/ reporting costs.	Designated concrete washouts installed to each site along corridor for use by concrete suppliers	Designated concrete washouts to be bundled and lined. Washouts to be positioned away from drainage lines/ water bodies/ creek and outside flood zones. Designated Enviro crew with included task of maintaining concrete wash outs.	Construction Manager	Ongoing	< 3 months	C4	L3	C
ENV-91	GENERAL NIGHTWORKS Undertaking activities not permitted by out of hours approval	Environmental Manager	SVC		Nightwork	Environment & Planning		IS/JV Project Director	Construction Manager	Use of machinery not specified in noise assessment results in different impact to predicted. Exceedance of permitted noise levels	Breach of EPL licence. Breach of planning approvals Community Complaints Fines/ prosecution Requirement to provide alternate accommodation	CNVIS OOHW permits Hold Point Monitoring	Toolboxes OOHW permit requirements Training - nightworks RTA video	Construction Manager	Ongoing	IMMEDIATE	C4	L3	C
ENV-92	GENERAL WORKS Removal/damage of Erosion and Sediment Controls	Environmental Manager	SVC		All	Environment & Planning		IS/JV Project Director	Construction Manager	Erosion & sediment controls damaged and not reported Erosion & sediment controls removed without suitable alternatives being installed	Water pollution Dust Breach of EPA licence Breach of planning approvals Rework costs	ESC plans Prestart Hold Point	Training - erosion & sediment control RMS video	Construction Manager	Ongoing	IMMEDIATE	C4	L3	C
ENV-93	Handover	Environmental Manager	SVC		All	Environment & Planning		IS/JV Project Director	Construction Manager	Area still on IS/JV premise maps and unsupervised subcontractors within areas under our licence	Breach of EPL licence. Breach of planning approvals Community Complaints Fines/ prosecution Requirement to provide alternate accommodation	EPL maps adjusted when subportions are handed over	No further controls required at this point	Environmental Manager	Ongoing	IMMEDIATE	C4	L3	C
ENV-94	Managing subcontractors	Environmental Manager	SVC		All	Environment & Planning		IS/JV Project Director	Construction Manager	Subcontractors operating outside the CEMP	Breach of EPL licence. Breach of planning approvals Community Complaints Fines/ prosecution Requirement to provide alternate accommodation	Inductions Toolboxes Pre-starts	Environmental training and startup briefings Toolboxes Talks.	Environmental Manager	Ongoing	IMMEDIATE	C4	L3	C
ENV-95	Hydroblasting Noise	Environmental Manager	SVC		Hydroblasting	Environment & Planning		IS/JV Project Director	Construction Manager	Noise disturbance/ excessive noise generated.	Breach of Salini EPL. Community complaints. Breach to environmental regulatory limits. Work stoppage delays. Fines/prosecution/remediation costs/ reporting costs. Revocation of licence to operate.	Scheduling of works to be within license approved hours. Site specific noise assessments completed by third party with mitigation measures required (Noise and Vibration Management Plan). Noise monitoring during works as required as per Noise and Vibrati	Site specific sensitive receivers and site specific noise mitigation measures communicated in pre-ground disturbance permit toolbox. Daily onsite Enviro presence for advise during Sydney Water stage 2 works. Any proposed OOHW to be managed in line with OO	Construction Manager	Ongoing	IMMEDIATE	C5	L4	D
ENV-96	Hydroblasting Water leaving site	Environmental Manager	SVC		Hydroblasting	Environment & Planning		IS/JV Project Director	Construction Manager	Water leaving site which does not meet EPL discharge criteria	Breach of Salini EPL. Community complaints. Breach to environmental regulatory limits. Work stoppage delays. Fines/prosecution/remediation costs/ reporting costs. Revocation of licence to operate.	ERSED and environmental controls controls in place before work starts Water management considered in WMS	Toolbox talks Environmental site inspections	Environmental Manager	Ongoing	IMMEDIATE	C5	L4	D
ENV-97	GENERAL INSTALLATION OF SEGMENTS/GANTRY Gantry disassembly	Environmental Manager	SVC		Gantry Operations	Environment & Community		IS/JV Project Director	Plant Manager	Disassembly of LG1 and LG2	OOHW not in compliance with EPL Disturbance of residents Community complaints	Position lights correctly to prevent directing towards community community notifications. Adequate notice of planning of works and details	Select appropriate lighting or shielding lights if required. Community notification. Noise monitoring (if reqd)	IS/JV	Ongoing	< 3 months	C5	L4	D
ENV-98	MU Shared Access with NRT EPL and CEMP compliance	Environmental Manager	SVC		All	Environment & Community		IS/JV Project Director	Construction Manager	Compliance with EPL and CEMP procedures and reporting reliance upon NRT	Not in compliance with IS/JV EPL CEMP procedures not followed Community complaints	via terms of MU. Site inspections. Area to be under NRT EPL premises. NRT managing under their CEMP	as per NRT CEMP	NRT	Ongoing	< 3 months	C4	L3	C
ENV-99	FLOODING Numerical exceedance of MCoA C7	Environmental Manager	SVC		All	Environment & Community		IS/JV Project Director	Construction Manager	As built works not completed in accordance with design, particularly haul rd - TINSW failure to rectify approved plans and non-compliance with DPE	delay in handover of portions L, B	verification via survey of as built and rectificatio if reqd.	as directed by TINSW. Completion of IS/JV works as per approved works plan.	IS/JV	Ongoing	< 3 months	C4	L3	C
ENV-100	VEGETATION MANAGEMENT PLAN Implementation	Environmental Manager	SVC		Handover	Environment & Community		IS/JV Project Director	Environment Manager	VMP implementation for riparian areas is required when plant is removed to prevent compaction and damage to plantings	reworks or replacement of damaged revegetation.	VMP staging and completion to accommodate defects and handover timing		IS/JV	Ongoing	< 3 months	C5	L4	D
ENV-101	LANDSCAPING Rework	Environmental Manager	SVC		Handover	Design & Engineering		IS/JV Project Director	Construction Manager	Landscaping works implemented being destroyed by NRT/public access.	reworks or replacement of damaged revegetation.	Staging and completion just prio to handover to minimise damage to areas	IS/JV are not taking responsibility for landscaping impacted prior to handover if caused by other parties.	IS/JV	Ongoing	< 3 months	C4	L3	C

Appendix 6. ENVIRONMENTAL LEGISLATION REGISTER

Appendix 6 – Environmental Legislation Register

Legislation	Key Requirements	Relevance to the Project	Mechanism for Evaluating Compliance
NSW			
<i>Contaminated Land Management Act 1997</i>	<p>The main objective of this Act is to establish a process for investigating and remediating land areas where contamination presents a significant risk of harm to human health or some other aspect of the environment.</p> <p>Under this act EPA has the power to:</p> <ul style="list-style-type: none"> • Declare an investigation site and order an investigation • Declare a remediation site and order remediation to take place • Agree to a voluntary proposal to investigate or remediate a site 	Some soils may be contaminated as a result of historical activities. Where contaminated material is found, storage, remediation and disposal procedures are to comply with the <i>Contaminated Land Management Act 1997</i> .	Measures for testing, handling and reusing/disposing of contaminated spoil are in the <u>Construction Soil & Water Management Plan</u> . Testing is used to ensure compliance.
<i>Environmental Planning and Assessment Act 1979</i> (EP&A Act)	<p>The main objective of this act is to ensure that management and development of land is undertaken incorporating the ecologically sustainable development principles. To achieve this the EP&A Act:</p> <ul style="list-style-type: none"> • Ensures that development consent is obtained prior to construction; • Ensures compliance with planning consents and conditions associated with the consent; • Ensures environmental assessment is undertaken prior to development consent; • Has provision for penalties to be issued should development conditions be breached. 	TfNSW has satisfied the requirements of the Act to date and has obtained approvals for the project.	Conditions to the development approval (Minister's Conditions of Approval) are tracked via <u>CEMP Appendix 2</u> .
<i>Environmental Planning and Assessment Regulation 2000</i>	The regulation provides included practical guidance on items such as preparation of Local Environmental Plans (LEPs), development contributions, BASIX Certificates, certification and relevant fees associated with applications.	TfNSW has satisfied the requirements of the Regulation to date and has obtained approvals for the project.	Conditions to the development approval (Minister's Conditions of Approval) are tracked via <u>CEMP Appendix 2</u> .
<i>Fisheries Management Act 1994</i>	<p>The relevant aim of this Act is to conserve threatened species, populations and ecological communities to benefit present and future generations. To do this the Act:</p> <ul style="list-style-type: none"> • Protects marine flora and fauna (eg. mangroves); • Describes dredging and reclamation approval process; • Has provision for penalties to be issued for breaches of the requirements of this Act. 	Permits under Sections 201, 205 and 219 relating to in-stream works not required, as SMNW was assessed under Part 5.1 of the EP&A Act.	Measures relating to in-stream works are included in the <u>Construction Soil & Water Management Plan</u> .
<i>Heritage Act 1977</i>	Items listed on the State Heritage Register are subject to the provisions of the <i>Heritage Act 1977</i> , which protects items of State heritage significance. Items 50 years or older are also considered heritage items and need to be managed as such. The Act prohibits the demolition, damage or	TfNSW have undertaken a program of non-indigenous archaeology prior to construction.	Unexpected finds procedures are in the <u>Construction Heritage</u>

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Legislation	Key Requirements	Relevance to the Project	Mechanism for Evaluating Compliance
	development of or around any heritage item without approval from the Office of Environment and Heritage (OEH).	Permits not required, as SMNW was assessed under Part 5.1 of the EP&A Act.	<u>Management Sub-Plan.</u>
<i>National Parks and Wildlife Act 1974</i>	Under this Act, NPWS is responsible for the care, control and management of all national parks, historic sites, nature reserves, reserves, Aboriginal areas and state game reserves. The Act governs various activities including: <ul style="list-style-type: none"> Protection of flora and fauna, and Aboriginal heritage; Licences and approvals to modify or destroy flora, fauna or Aboriginal heritage; Penalties for breaches of the Act. 	TfNSW have undertaken a program of Aboriginal archaeology prior to commencement of construction. Permits not required, as SMNW was assessed under Part 5.1 of the EP&A Act.	Unexpected finds procedures are in the <u>Construction Heritage Management Sub-Plan.</u>
<i>Native Vegetation Act 2003</i>	This Act regulates the clearing of native vegetation on all land in NSW except for National Parks, State Forests and reserves and urban areas. Native vegetation is any species of vegetation that existed in NSW before European settlement. Requires development consent from the Minister for Planning & Infrastructure.	Already assessed and approved under Part 5.1 of the EP&A Act.	N/A
<i>Noxious Weeds Act 1993</i>	This Act requires occupiers of land to control noxious weeds required under control categories specified in relation to the weeds concerned. There are five classes of noxious weeds.	The CEMF requires ISJV to manage land under their control accordingly.	Measures relating to weed management are included in the <u>Construction Flora & Fauna Management Plan.</u>
<i>Protection of the Environment Operations Act 1997</i> (POEO Act)	The POEO Act is the key piece of environment protection legislation, and is administered by the EPA. The objective of the Act is to protect restore and enhance the quality of the environment in NSW with a need to maintain ecologically sustainable development, via: <ul style="list-style-type: none"> Integrated environment protection licencing; Regulation of scheduled and non-scheduled activities; Environmental protection offences and penalties, and environmental protection notices; Establishment of a general duty to notify of environmental harm; Powers for authorised officers to investigate actual or potential pollution events. Schedule 1 of the POEO Act lists activities that are subject to environmental licencing.	Construction works involve activities that are required to be licenced. Environmental protection offences and penalties, and a duty to notify of environmental harm, apply to all personnel working on the project. Definitions of air, water and noise pollution offences.	Specific requirements for compliance are in the <u>CEMP</u> and <u>related plans.</u> Training on POEO Act offences and penalties, and duty to notify, are included in <u>induction processes.</u>
<i>POEO (General)</i>	The Regulation:	Construction activities require an	Specific requirements for

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Legislation	Key Requirements	Relevance to the Project	Mechanism for Evaluating Compliance
<i>Regulation 2009</i>	<ul style="list-style-type: none"> sets out how to calculate fees for environment protection licences, environment protection notices and noise control notices, and makes provision for adjustment or refunds of those fees; sets out matters to be included by the EPA for the grant or refusal of a licence application; makes it an offence to provide false or misleading information in relation to a licence application; requires licencees to retain records used to calculate licence fees; prescribes certain matter when placed into water to be water pollution, and the methodology for testing matter in waters; exempts certain water pollution from the water pollution offence under the <i>Protection of the Environment Operations Act 1997</i>; declares certain bodies to be the appropriate regulatory authority in relation to certain activities for the purposes of the <i>Protection of the Environment Operations Act 1997</i>; 	environmental protection licence.	compliance are in the <u>CEMP</u> and <u>related plans</u> .
<i>POEO (Noise Control) Regulation 2008</i>	<p>This Regulation repeals and remakes, with minor amendments, the provisions of the Protection of the Environment Operations (Noise Control) Regulation 2000:</p> <ul style="list-style-type: none"> the emission of noise from the engines or exhausts of motor vehicles; maintenance of noise control equipment on motor vehicles, and issue of defective vehicle notices; the times during which it is not permissible to use certain articles if they emit noise that can be heard in any residential premises. 	Noise emissions from construction equipment and machinery.	Measures for reducing noise are in the <u>Construction Noise & Vibration Management Plan</u> .
<i>POEO (Waste) Regulation 2005</i>	Schedule 1 of the regulation sets out the types of waste to which waste tracking requirements apply.	Certain chemicals used or generated may be subject to tracking requirements in this regulation.	Measures for tracking hazardous wastes are in the <u>Waste & Recycling Management Plan</u> .
<i>POEO (Waste) Regulation 2014</i>	<p>Changes relevant to the Project include:</p> <ul style="list-style-type: none"> lowering the threshold for the amount of waste a facility can store or process before it must hold an EPA licence. Introduction of proximity principle, requiring waste to be disposed of within 150 km from where it is generated. the transport of more than 10 tonnes of any waste, from the Metropolitan Levy Area to another state or territory for disposal, recovery or reuse, must be tracked new monitoring requirements will apply for: <ul style="list-style-type: none"> * waste tyre loads greater than 200 kg or more than 20 tyres (whichever weighs less) 	Waste disposal	Measures for tracking hazardous wastes are in the <u>Waste & Recycling Management Plan</u> .

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Legislation	Key Requirements	Relevance to the Project	Mechanism for Evaluating Compliance
	<ul style="list-style-type: none"> * asbestos loads greater than 100 kg, or more than 10 square metres of asbestos sheeting. • The following wastes are automatically deemed to be land pollution <ul style="list-style-type: none"> * hazardous waste * restricted solid waste * more than 10 tonnes of asbestos waste * more than 5 tonnes of waste tyres or more than 500 waste tyres. • Increased penalties for offenders, including gaol terms of up to 2 years 		
<i>POEO (Clean Air) Regulation 2010</i>	<p>This Regulation repeals and remakes, with minor amendments, the provisions of the Protection of the Environment Operations (Clean Air) Regulation 2002:</p> <ul style="list-style-type: none"> • emissions from activities and plant, • the control of volatile organic liquids, • the offences under this Regulation that may be dealt with by way of a penalty notice. 	Air emissions from machinery and plant.	Changes made by this regulation have been included in the <u>Construction Air Quality & Management Plan</u> .
<i>POEO Amendment Act 2011</i>	<p>This Act expanded the powers of the EPA and sets out requirements for:</p> <ul style="list-style-type: none"> • Pollution incident notification • Duty to prepare and implement pollution incident response management plans • Requirements for licensees to publish monitoring results • Information required to be included on the public registers of Appropriate Regulatory Authorities (such as the EPA and local councils) will expand 	Construction activities require an environmental protection licence.	Specific requirements for compliance are in the <u>CEMP</u> and <u>related plans</u> .
<i>Threatened Species Conservation Act 1995</i>	<p>This Act outlines protection of threatened species, communities and critical habitat. An independent Scientific Committee determines which species, populations and ecological communities should be listed as endangered, vulnerable or extinct, and also determines key threatening processes. Any animal, plant or habitat that is listed as endangered, vulnerable or threatened must not be harmed or damaged, unless planning approvals or licences from OEHS have been granted. Part 7A of the Act covers biobanking arrangements.</p>	Clearing works may impact threatened species or endangered ecological communities if not managed. TfNSW retain responsibility for biodiversity offsets.	Measures for managing impacts on threatened species and endangered ecological communities are in the <u>Construction Flora and Fauna Management Plan</u>
<i>Waste Avoidance and Resource Recovery Act 2001</i>	<p>This Act promotes waste avoidance and resource recovery by:</p> <ul style="list-style-type: none"> • Encouraging efficient use of resources in accord with ecologically sustainable principles; • Promoting the “Avoid, reuse, recycle, dispose” hierarchy; • Ensuring industry has a responsibility for reducing and dealing with waste; 	Waste is generated during construction. The principles of the Act are applied to all aspects of construction to reduce impacts from waste.	Measures for minimising, handling, recycling and disposal of wastes are in the <u>Waste & Recycling Management Plan</u> .

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Legislation	Key Requirements	Relevance to the Project	Mechanism for Evaluating Compliance
	<ul style="list-style-type: none"> Providing penalties for breaches of this Act. 		
<i>Water Management Act 2000 and Water Management (General) Regulation 2011</i>	<p>The <i>Water Management Act 2000</i> is the main piece of water legislation in NSW and governs:</p> <ul style="list-style-type: none"> Extraction of water from waterways and bores The construction of water storage and supply structures Development or building within the proximity of waterways Licencing to regulate usage of water resources Works involving the removal of obstructions from the improvement of rivers and foreshores and the prevention of erosion of lands by tidal and non-tidal waters <p>Permits are required to excavate protected land, remove material from protected land or do anything to detrimentally affect the flow of waters.</p>	<p>Water use approvals under Section 89, a water management works approval under Section 90, or an activity approval under Section 91 of this Act are not required due to the project approval under Part 5.1 of the EP&A Act</p> <p>An aquifer interference approval may be required under Section 91.</p>	<p>Measures relating to in-stream works are included in the <u>Construction Soil & Water Management Plan</u>.</p>
<i>Pesticide Act 1999 and Pesticide Regulation 2009</i>	<p>Requires that a record of herbicide use on the Project be kept and available for inspection, if required.</p>	<p>Herbicides are used within the Project corridor for control of noxious and common weed species.</p>	<p>Recorded in the Annual Ecological Monitoring Report and provided to the ER, when requested.</p>
Commonwealth			
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	<p>Protection of the environment, especially those aspects of the environment that are matters of national environmental significance.</p>	<p>TfNSW submitted a referral as works may have an impact on matters of national environmental significance.</p> <p>Generally relating to listed ecological communities and flora and fauna habitats.</p>	<p>Requirements of the approval under the EPBC Act have been retained by TfNSW, and are not contained in ISJV environmental management plans.</p>
<i>National Greenhouse and Energy Reporting Act 2007</i>	<p>Sets the framework for reporting of greenhouse gas emissions, abatement actions, energy consumptions and production data.</p>	<p>ISJV must report on greenhouse gas and energy usage.</p>	<p>Reporting requirements are included in the Carbon & Energy Management Plan.</p>

Appendix 7. ENVIRONMENTAL OBJECTIVES AND TARGETS

Appendix 7 – Project Environmental Objectives and Targets

Area	Objective	Targets	Implementation and Planning Mechanism
Compliance with Environmental Approvals	Project constructed as per planning, environmental and other approvals	<ul style="list-style-type: none"> Compliance with statutory approvals. Inspections undertaken weekly at all sites. Scheduled audits are completed as per the audit/inspection schedule. 	Quarterly compliance reports Audit reports Monthly reports Management System Reviews
Legal Compliance	Comply with all legal requirements	<ul style="list-style-type: none"> No regulatory infringements (PINs, No Tier 2 or 3 offences as defined in the POEO Act). No formal regulatory warnings (pre-cursors to PIN or prosecution). No major pollution incidents. 	Review records of regulator correspondence
EMS	Maintain the ISJV certification & prequalification	<ul style="list-style-type: none"> No major issues affecting the certification /prequalification 	Internal audit reports
Resource conservation and waste minimisation	Minimise resource consumption and waste generation	<ul style="list-style-type: none"> Achieve targets set in the Waste & Recycling Management Plan. Reduced area of vegetation clearing, compared to area offset. 	Audit reports Monthly reports
Environmental complaints	Minimise and adequately address environmental complaints in a timely and pro-active manner	<ul style="list-style-type: none"> Respond to all environmental complaints as per Community Liaison Implementation Plan. Address and close out environmental complaints within the designated timeframe. Zero avoidable complaints. 	Review of complaints register Daily Complaints Report
Environmental awareness, training and competence	All staff and contractors are aware, trained and competent in relation to their roles on the projects	<ul style="list-style-type: none"> High percentage (95% attendance) of planned attendance by ISJV personnel at environmental training including monthly reporting 	Review of training records Outcome of audits and monthly report

Appendix 8. ENVIRONMENTAL LICENCES & PERMITS REGISTER

Appendix 8: Environmental Licence, Approval and Permit Register

Note: Details of approvals, licences and permits will be added as they are obtained. This register is maintained by the Environment Manager.

Licence/Permit/Approval	Ref. No.	Issuing Authority	Holder	Start Date	Expiry Date	Document Reference
Environmental Protection Licence	20454	EPA	Salini Australia	03/06/2014	N/A	EPL 20454

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Appendix 9. EXAMPLE ENVIRONMENTAL INSPECTION FORM

ENVIRONMENTAL INSPECTION CHECKLIST

Management System Form



Project: NWRL SVC

Date:

EIC No:

Area(s) inspected:

All zones

Weather:

Name:

Company: ISJV

Previous Inspection Date:

Proposed Date Next Inspection:

Check List Key	Satisfactory	✓	Unsatisfactory risk category	I
	Not Applicable	N/A	Unsatisfactory risk category	H
	Not Inspected	NI	Unsatisfactory risk category	M
	Repeat non-compliance	R	Unsatisfactory risk category	L
	No. of repeats (list for each item)	2,3, etc		

Item No.	Description	Check (see above)	Environmental Action List Reference #	Comments
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Soil & Water				
1	Off-site runoff diverted around work areas, diversions effective and stable.			
3	Stockpiles located required distance from drainage lines, creeks and other water bodies.			
4	Stockpiles protected from adverse weather conditions and properly maintained, with 1 in 3 batters where possible.			
5	Erosion and sedimentation controls installed as detailed in ERSED plans			
6	ERSED controls effective, intact, cleaned and not requiring maintenance			
7	Concrete washout areas in place, signposted and have capacity (sustainability)			
8	Sediment basins emptied within 5 days of rain event			
9	Water discharged meets water quality criteria (sustainability)			
10	ERSED controls retained until area stabilised and no risk of dirty run off			
11	Clean water drains adequately protected from dirty run off			
12	No release of water to roadside gutter, storm water drain or watercourse except in accordance with Environment Protection Licence (sustainability)			
13	Run off from mulch stockpiles free of tannins			
14	Public roads free of tracked mud/soil			
15	Use of potable water minimised (sustainability)			

ENVIRONMENTAL INSPECTION CHECKLIST

Management System Form



Item No.	Description	Check (see above)	Environmental Action List Reference #	Comments
Flora and Fauna				
16	Limit of works and no go areas clearly marked/ fenced and signposted.			
17	Topsoil stripped and stored separately to subsoil			
18	No equipment, materials or works within drip lines of retained trees or in no go zones.			
19	Approval sought prior to clearing of vegetation outside approved locations or lopping/ trimming of branches.			
20	A qualified ecologist present to guide set out and to monitor clearing activity in the vicinity of habitat trees or significant vegetation.			
21	Weeds controlled and managed			
22	No fauna injured or killed, wildlife carer called immediately if fauna found on site			
23	Vehicles remaining on designated tracks and parking in designated areas			
24	No disturbance of bushland beyond limits of clear			
25	Green waste mulched and stockpiled for reuse on site			
26	Weed contaminated waste treated or disposed of at a suitably licenced facility			
Noise & Vibration				
26	Noise controls on all construction equipment (non-tonal reversing beepers, silenced mufflers etc.)			
27	Working hours (including truck deliveries) within approved times			
28	Monitoring of construction equipment noise levels (sustainability)			
29	Monthly noise monitoring at boundary of affected sensitive receivers.			
30	Vibration producing activities undertaken with required setback distances (sustainability)			
31	EPA/Principal/Residents notified of out of hours works in accordance with relevant requirements			
Air Emissions				
32	Water carts available and used to suppress dust			
33	Dust suppression controls (fences, shade cloth etc) installed and maintained.			

ENVIRONMENTAL INSPECTION CHECKLIST

Management System Form



Item No.	Description	Check (see above)	Environmental Action List Reference #	Comments
34	Temporary stockpiles kept small and a form of cover applied. Longer term stockpiles appropriately stabilised.			
35	Was there any days on which windspeed was => 40km/h? Which ones? What mitigation measures were undertaken?			
36	Vehicles, plant and equipment monitored visually for emissions (<10 seconds visible exhaust)			
37	Trucks clean and covered entering and exiting site			
Traffic and Access				
38	Working hours (including truck deliveries) within approved times (sustainability)			
39	Residents informed as per Community Liaison Plan prior to work (sustainability)			
40	Signposted alternative pathways for pedestrian traffic and bike riders provided where necessary			
41	Roads free from spillage (e.g. oils, soils)			
42	Machinery and vehicle movement confined to site work areas, existing and formed access roads			
Heritage				
43	Heritage items fenced & signposted as per CEMP. (sustainability)			
44	Approval obtained from NPWS and/or Heritage Office and controls implemented prior to disturbing or destroying any heritage items (sustainability)			
45	Procedures followed if unexpected heritage item found (sustainability)	N/A		
46	No disturbance of any identified areas of cultural heritage significance (sustainability)			
Fuels, Chemical & Oils				
47	Spill kits readily available and fully stocked			
48	All chemicals, fuels & oils stored in appropriately bunded areas			
49	All lids and covers for fuels, oils, chemicals and lubricants secured			
50	No fuel or oil leaks from plant and equipment			
51	All spills of fuels, oil, chemicals or lubricants cleaned up immediately			
52	Refuelling undertaken in bunded area away from drainage lines, creeks and water bodies			

ENVIRONMENTAL INSPECTION CHECKLIST

Management System Form

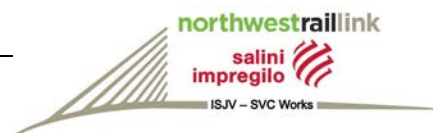


Item No.	Description	Check (see above)	Environmental Action List Reference #	Comments
Contaminated Land				
53	Contaminated areas appropriately treated/isolated			
54	Contaminated materials disposed of in accordance with relevant legislation			
Waste and Energy				
55	Wastes separated into streams and placed in appropriately labelled bins for reuse, recycling and/or disposal (sustainability)			
56	Bins emptied on a regular basis to prevent overflowing and attracting pests and vermin			
57	Excavated soil tested and approvals/Section 143 certificates obtained prior to disposal/reuse at non-licensed facility.			
58	All waste chemicals, contaminated and hazardous materials transported to an EPA approved facility			
59	Green waste mulched and composted before reuse on site (sustainability)			
60	No litter, all rubbish placed in bins			
61	Waste & imported material registers regularly updated (sustainability)			
Out of Hours Work				
62	Appropriate notifications made to client/EPA/ residents and approvals in place prior to commencing out of hours work (sustainability)			
Sustainability				
63	Spoil stockpiled appropriately for reuse or recycle			
64	Topsoil correctly stockpiled for reuse or recycle			
65	Machinery not left idling			

List all required actions in PMSR43-2 Environmental Actions Register

ENVIRONMENTAL INSPECTION CHECKLIST

Management System Form



Item No.	Description	Check (see above)	Environmental Action List Reference #	Comments
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Category	*Consequence	Action
Immediate – significant	Tier 1 Fine, Loss of License/Permit, Irreversible Environmental Damage	Rectify Immediately
H (Major/high potential) – significant	Tier 2 Fine, Reversible environmental damage with substantial time, cost and difficulty.	Rectify within 1 day
M (Medium/moderate potential)	Tier 3 Fine, Reversible environmental damage with moderate time, cost and difficulty	Rectify within 2 days
L (Minor/low potential)	Reversible environmental damage with minor time, cost and difficulty	Rectify within 5 days

*For guidance only. Consider probability and ISJV-PMS procedures when determining action timeframes

Comments

Note: Existing corrective actions identified in the project corrective action register on 09/08/16 have not been duplicated above

Distribution:

<input type="checkbox"/> Project Director	<input type="checkbox"/> Construction Manager	<input type="checkbox"/> Superintendent	<input type="checkbox"/> Subcontractor
<input checked="" type="checkbox"/> Environment Manager	<input checked="" type="checkbox"/> Compliance Manager	<input checked="" type="checkbox"/> Sustainability Manager	<input type="checkbox"/> Other (list below)

Construction Environmental Management Plan

SMNW – Surface and Viaduct Civil Works



Appendix 10. ENVIRONMENTAL REPORTING PROGRAM

Appendix 10 – Environmental Reporting Program

Table 1: Regular Reporting

Report title	Required by	Frequency	Prepared	Approved	Submit to	Scope
Monthly project report - environmental aspects	TfNSW	Monthly	Environment Manager	Deputy Project Director	TfNSW, ER, IC	<ul style="list-style-type: none"> performance against the environmental management requirements of the Project Deed, including compliance with the CEMP; status of the CEMP, environmental management plans and method statements management strategies for environmental compliance; management strategies to identify the need for, and to undertake consistency reviews under the EP&A Act; status of environmental obligations including compliance tracking programs; status of and performance against environmental licences and permits; performance against environmental key performance indicators; details of any environmental complaints, environmental incidents or emergencies; a summary table of environmental inspection reports; results and findings of, and any environmental actions arising from, any internal or external audits carried out; induction reports that include the number of personnel that have received environmental training; and other information as requested by the Principal's Representative.
EPA Monthly Reports	EPL R4.4	Monthly	Environment Manager	Deputy Project Director	EPA, TfNSW	<ul style="list-style-type: none"> Non-compliance and discharge report
Environmental Monitoring Summary Reports	POEO Act section 66(6)	Monthly	Environment Co-ordinator	Environment Manager	ISJV website	<ul style="list-style-type: none"> Results of monitoring required by an EPL condition.
EPL Annual Return	EPL Section R1	Annually, 12 months after issue of licence.	Environment Co-ordinator	Environment Manager	EPA	<ul style="list-style-type: none"> Statement of compliance; Monitoring and complaints summary.
Water Quality Monitoring Report	CoA, SSI-5100, C11(i)	Annually	Environment Co-ordinator	Environment Manager	DP&E, EPA, DPI and NoW	<ul style="list-style-type: none"> Results of monitoring required by CoA, SSI-5100, C11(i)
Ecological Monitoring Program	CoA, SSI-5100, C1(e)	Annually	Environment Co-ordinator	Environment Manager	Director General, OEH and	<ul style="list-style-type: none"> provision for annual reporting of monitoring results required by CoA, SSI-5100, C1(e)

Construction Environmental Management Plan

NWRL – Surface and Viaduct Civil Works



Report title	Required by	Frequency	Prepared	Approved	Submit to	Scope
					relevant Councils	

Table 2: Irregular Reporting

Report title	Required by	Frequency	Prepared	Approved	Submit to	Scope
Environmental Incident Report	EPL Sections R2 and R3	As required by EPL	Environment Co-ordinators	Environment Manager	TfNSW, ER EPA, if required	Notify EPA as per established Pollution Incident Response Management Plan.

Construction Environmental Management Plan

NWRL – Surface and Viaduct Civil Works



Appendix 11. EXAMPLE ENVIRONMENTAL CONTROL MAP



- Project boundary
- Haul Road
- Compound Buildings / carpark
- Laydown area / carpark
- Workshop
- Chemical Storage
- Refuelling area

**WINDSOR ROAD BRIDGE AND SURROUNDS
ROUSE HILL, SVC CORRIDOR
MITIGATION MEASURES**

1

To describe the environmental management measures to be implemented by S&W during construction for the duration of the project. This ECM has been developed in accordance with the requirements of C&M and C&M.

1. Purpose / Scope

To describe the environmental management measures to be implemented by S&W during construction for the duration of the project. This ECM has been developed in accordance with the requirements of C&M and C&M.

Activity **Description** **Equipment (Indicative)** **Threats / Duration**

Environmental Controls Supply and installation of ERMES controls and relevant teams as per Private ERMES Plan, No to Do Zone, Fencing etc.

Excavator and labour 2 weeks

Mobile / satellite site amenities Installation of portable amenities as required

TRIT devices, Periodic as required

Refuelling Fuel supplied to site based on mobile site and refuelled as required

To be determined Periodic as required

Progressive maintenance, vegetation, clear and disturbed areas to reduce dust emissions

Hydroblasts, multi-sprayers, clear aggregate etc. To be determined Periodic as required

Removal of Haul Roads Removal of haul road and construction to O&L

Excavator, grader, trucks, dump and roller, about 4 weeks

Finishing works Crack repair, painting

ERP 8 weeks

Disturbance of temporary pits, protection of services where required

Backfillers, excavator, labour, truck and dog 4 weeks

5. Approval/Consultation Process Internal

EMSD Internal Haul Plan apply to:

Working outside normal working hours

Cleaning any vegetation

Disturbance of water bodies

Compliance with work area

Compliance with work area

Compliance with work area

Compliance with work area

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10. Soil and Water Management

Objective: Minimise erosion and sediment mobilisation and comply with water quality standards for water leaving worksite. All controls within EDC Plans are to be installed and maintained.

Management Actions **Resp.** **Timing**

Erosion and Sediment Control (ESC) Management

ESC installed prior to commencing ground disturbance works. SM Prior to any other disturbance

ESC maintained and monitored. SM Ongoing

Divert stormwater approaching workites from external using clean water drains and diversion berms, considering any impacts on adjacent land users to ensure that localised flooding or excessive run-off does not occur. SM Ongoing

Sediment will be removed from ESC devices when 30% full and disposed / reused appropriately. SM Ongoing

Spill kits to be available at site office, prior to works and replenished as required. SM Ongoing

Wheels and the undercarriage of trucks are to be clean (eg. Amber grid) or manual cleaning where required, prior to the vehicles leaving the workites onto public roadways. SM Ongoing

Stabilised site access to be provided at all public road access points. SM Ongoing

Rumble grids maintained in an effective condition. SM Ongoing

Any water discharges from site must be approved by the EM and be undertaken in accordance with the Water Quality Procedures and EPA, 2004. SM Ongoing

Site all stockpiles and basins above the 20 year ARI flood level. SM Ongoing

All concrete tanks, pumps, trucks etc must be washed out in sign. SM Ongoing

Spill safety testing to be undertaken in accordance with Soil Safety Report 2 Construction Soil and Water Management Plan. SM Ongoing

Monitoring and Reporting

Daily check of soil and water management measures. Repairs undertaken as soon as possible. Report observations and actions taken in the site diary. SM Daily

Weekly inspection of controls. Report observations in the weekly Environmental Inspection Checklist. EM Weekly

EPA Licence No: 20454

9. Community Considerations

Key S&W Personnel Actions

Consider neighbours' privacy and amenity at all times.

Shut activities to be notified to the public via the public notice board (as approved under EPL by Environment Manager and community notified).

Residential access to be kept free from obstruction by Project vehicles/machinery at all times.

Ensure no shouting, swearing and use of amplified music in close proximity to dwellings.

Do not leave plant and vehicles idling.

Remove graffiti within 24 hours.

Minimise movement of vehicles for safety and to limit reversing alarm nuisance.

Position vehicles out of site of residences or install viewing barriers.

Position lights on site to prevent glare/light spill impacting residences.

Management Actions **Resp.** **Timing**

Stage 1 piling works (Drilling and Piling)

Underpin Litterfall Drops for proposed out-of-hours works. CUM 7 days prior

Stage 2 piling works (Construction of Pile Caps)

Underpin Litterfall Drops for proposed out-of-hours works. CUM 7 days prior

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Underpin Litterfall Drops for proposed out-of-hours works. CUM 7 days prior

11. Flora and Fauna Management

Objective: Protect Endangered Ecological Community (EEC), manage any fauna encountered during construction works, and manage activities for weed eradication.

Management Actions **Resp.** **Timing**

Vegetation Protection and Management

Vegetation between 'No-go' zones for flora (Endangered Ecological Community) on site using protective fencing and signage. EM Prior to disturbance of site

Hedge fencing between 'No-go' zones to be installed and the appropriate number of 'No-go' zones have been installed. EM Prior to laying of HST

Protective fencing and signage will be maintained and replaced as required throughout construction. EM Ongoing

Clear native vegetation will be matched and/or stockpiled for later use. EM Ongoing

Wood has been used will be stockpiled separately to be used in construction. EM Ongoing

Oil or other chemical storage would be located at least 10m from any related ecological sensitive areas. EM Ongoing

Vegetation adjacent to the site will be maintained to reduce erosion. SM Ongoing

Groundcover in riparian zone to be retained until immediate prior to construction of works. SM Ongoing

No stockpiling or storage of any materials or vehicles/pallets within depths of natural vegetation. SM Ongoing

Fauna Management

Any fauna species are found in areas to be cleared, or during clearing of fauna species are found in areas to be cleared. EM During clearing

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11. Noise and Vibration Management

Objective: To minimise noise/vibration impact to sensitive receptors.

Performance Criteria: For regular works

Limit noise generation on site to less than 10 dBA above background noise levels (RBL) during normal working hours, and less than 5 dBA above RBL during out of hours works.

Refer to Noise & Vibration Impact Statement (NVIS), relevant to works being undertaken, for specific details of potentially impacted sensitive receptors, and management measures.

Other works as per license conditions – consult Environmental team in event of proposed OOHV.

Limit vibration impacts caused by construction on residence or structure outside the Activity boundaries.

Structural Damage

Vibration limit 5mm/s for residential and 3mm/s for heritage items.

Management Actions **Resp.** **Timing**

Advise local residents/businesses within 200m or as indicated in NVIS of works and alternative delivery hours are required by the police or Council or as approved under EPL, No. 20454.

Advise local residents/businesses within 200m or as indicated in NVIS of works and alternative delivery hours are required by the police or Council or as approved under EPL, No. 20454.

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Advise local residents/businesses within 200m or as indicated in NVIS of works and alternative delivery hours are required by the police or Council or as approved under EPL, No. 20454.



-  Project boundary
-  Protected vegetation
-  Laydown area
-  Sediment basin
-  Haul Road
-  Haul road to be removed and revegetated

Activity	Equipment (Indicative)	Timeframe / Duration from September 2014
Environmental Controls	Design and installation of EPRD controls and engineering works for the new PWR EPRD Plant. No Noise, Vibration etc.	Examiner and about 2 weeks
Mobile / portable site amenities	Installation of portable amenities as required	7.18 tonne trailer, truck mounted crane and rough terrain slow crane and aerial bucket
Retrofitting	Fast supplied to site based on design by mobile supplier to be determined with fluid reflowing contractors	Periodic, as required
Progressive maintenance, routine, statutory or test defined areas to be carried out and as required	Hydro-mechanical, much, structural, clean aggregate etc. as required	Periodic, as required
Removal of Hail Ponds	Removal of mud and road material	Excavator, grader, trucks, dump and haul trucks
Finishing works	Crack repair, painting	EWP
Dismantling of temporary plant	Removal of equipment, pipes, protection of services where required	Backhoe, excavator, loader, trucks and drag dozers

3. Hours / Quantities

Normal working hours

Monday to Friday	7am - 5pm
Saturday	7am - 5pm
No Work on Sundays or Public Holidays	

IWC OGD of Hours Works Programme (Appendix E) of Construction Manager for Approval

Project Management Plan will be submitted to the Environmental Management & Information Management Unit **prior to** the construction works being undertaken outside of normal hours and public holidays.

5. Approval/Consultation Process (Internal)	
EM/EO	<p>Internal Hold Points apply to:</p> <ul style="list-style-type: none"> > Working outside normal working hours > Clearing any vegetation > Discharge of water offsite > Opening up a new work area > Stormwater outlet works / Sydney Water > Completion of pre start documentation

6. Induction / Training

All construction personnel (incl. subcontractors) inducted/trained on ECM prior to works in accordance with CEMP.

7. Project Personnel Contact Details	
Antonio Antonio	Production Manager 0437 044 505
Mitchell Crouley	Superintendent (Superstructure) 0437 149 255
Matt Siple	Superintendent (Substructure) 0497 977 474
Bradley Tucker	Environmental Manager 0402 269 479
Leana Ruzaleva	Community Liaison Manager 0405 051 636
Jo Robertson	Environment Representative 0416 278 323
Environmental Agencies	
EPA Pollution Line	13 15 55
Wildlife Information and Rescue Services (WIRIS)	1300 094 737

Traffic Management		
Objectives:	Measures:	Impacts:
<p>Protect road user safety, manage traffic movements according to the traffic management plan and to traffic signals and traffic lights.</p> <p>Minimise disruption to traffic on local roads, movements and routes.</p>	<p>Major road works</p> <p>All major and ad-hoc works would be included on signposts (as currently) contained in the Traffic Management Plan such as traffic routes, traffic lights, traffic signals, scheduled delivery times.</p> <p>Delivery and access</p> <p>Define and agree delivery times to ensure vehicle traffic and foot traffic stays in designated areas.</p> <p>Traffic signs and signals</p> <p>Define and maintain in accordance with the Traffic Management Plan.</p>	<p>Impacts</p> <p>Minor disruption to the network as permitted between 7am to 5pm Monday to Friday and from 7am to 5pm on Saturdays. All deliveries are permitted outside of the approved hours without prior approval by the Environment Agency.</p> <p>Maintain highway</p> <p>Working including working to take place within the construction zone and on or near public roads, plan working and delivery to minimise disruption.</p> <p>Emergency</p> <p>To respond to community and/or stabilisation environmental concerns on traffic-related issues within two hours of notification and settling within seven days.</p>

Monitoring and recording of public incidents while ISU/ project boundaries or sites under control in accordance with MSP42 Incident Management V1011 Procedures and ISU-SVC and the ISU-SVC-SSE41		ISM	Original
15. Contaminated Materials Management			
Objective: Effectively manage potentially contaminated materials.			
Management Actions			
If previously identified contamination encroaches existing/enclosed areas, the Incident Manager or other work, vessels and/or assets and the Environment Manager	ISM	ISM	If contamination identified
Environment Manager will consult Contamination Consultant for appropriate remedial actions.	ISM	ISM	If contamination identified
Work is not to commence until approved has been given by the ISU	ISM	ISM	If contamination identified

Soil and Water Management			
Objective: Minimize erosion and sediment mobilization and comply with water quality standards for water receiving waters. All controls within EPC have to be installed and maintained.			
Management Actions		Resp.	Timing
Erosion and Sediment Control (ESC) Management			
ESC installed prior to commencing ground disturbance works.	SM	Prior to any other disturbance	
ESC maintained and monitored.	SM	Ongoing	
Direct stormwater approaching workstations from existing urban drains or rivers and creeks to be diverted by installing silt fences or trenching and backfilling adjacent land areas to ensure that localized flooding or excessive run-off does not occur.	SM	Ongoing	
Sediment will be removed from ESC devices when 30% full and disordered / mutated appropriately.	SM	Ongoing	
Site logs and/or maps at all sites, prior to works and replenished as required.	SM	Ongoing	
Wheels and the undercarriage of trucks are to be clear (e.g. mud-free) prior to exit site. Vehicles are required prior to the facility exiting the workplace onto public roads.	SM	Ongoing	
Stabilized access road to be provided at all public road access points.	SM	Ongoing	
Rumple grids maintained in an effective condition.	SM	Ongoing	
Any vehicle discharges from site must be approved by the EM and be undertaken in accordance with the Water Quality Procedures and EPA guidelines.	SM	Ongoing	
Site at slopes and basins above the 20 year ARI level down.	SM	Ongoing	
All concrete bunks, pumps, trucks etc must be washed out in sign age containment basins located on site with plastics to prevent leaching and runoff to public sewer.	SM	Ongoing	
Construction equipment/materials from flood prone areas to be stored above floodings and set well outside the EPC zone (>20m rainfall) and at completion of each day's activities.	SM	Ongoing	
Soil salinity testing to be undertaken in accordance with Soil Salinity Report Construction Soil and Water Management Plan).	SM	Ongoing	
Monitoring and Reporting			
Daily check of soil and water management measures. Repairs undertaken as soon as possible. Report observations and actions taken in the site diary.	SM	Daily	
Weekly inspection of controls. Report observations in the weekly Environmental Inspection Checklist.	EM	Weekly	

20. Unexpected Finds (Heritage, Contamination, Waste, Threatened Species)		
Objective: To ensure appropriate notifications of unexpected finds.		
Management Actions	Resp.	Timing
Notify IS/J supervisor immediately.	ALL	if found
Supervisor to immediately notify Environment Manager.	SM	if found
Environment Manager to notify relevant authorities, Client Representative and Environment Representative.	EM	if found

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Environment Manager

Environment Representative

Construction Manager

12. Waste Management and Rescue			
Objective: Implement waste and recycling programs where practicable for waste generation.			
Management Actions	Resp.	Timing	
Any remedial events initiated for the BWC construction works must meet the relevant EPA Resource Recovery exemption criteria, or be fully transferred from the Sydney Trains to contractor of Sydney Trains recycling facility.	EM	Ongoing	
Waste storage and transportation bins will be located away from residential boundaries.	EM	Ongoing	
All waste to be classified, handled and disposed in accordance with EPA Waste Classification Guidelines.	EM	Ongoing	
All waste disposal and tracking documents will be retained and stored on site.	EM	Ongoing	
All waste bins will be clearly labelled.	EM	Ongoing	
All materials being removed from site under a resource recovery exemption will be tested and assessed in accordance with exemption prior to removal from site.	EM	Ongoing	
Licensed contractors will undertake all waste transport to an EPA Licensed facility, unless an exemption is authorised as a Resource Recovery Exemption.	EM	Ongoing	
Spot may only be stockpiled in designated areas as licensed on the ESD Plans.	EM	Ongoing	
Recyclable wastes, including paper and office wastes, will be stored separately from waste that is not recyclable, will be secured and recyclables collected on a regular basis.	AM	Ongoing	
Clean up rubbish, tires, graffiti and surplus material from construction sites on a regular basis.	EM	Weekly	
Monitoring			
Details of waste received and waste taken off site recorded in waste disposal register and copies of disposal receipts retained.	EM	Ongoing	
13. Environmental Incident Reporting			
Objective: To ensure all environmental incidents and potential incidents are reported appropriately.			
Management Actions	Resp.	Timing	
If an environmental incident occurs, follow all procedures and requirements contained within the Environmental Incident Management Plan (EIMP) and the Pollution Incident Response Management Plan (PIRMP).	EM	Ongoing	
Initial steps include: Report an incident as soon as possible to immediate vicinity of incident to stop any immediate and assess the incident.	ALL	Ongoing	
Consider any waste incident caused by incident, and if safe to proceed, apply immediate controls to minimise further harm to the Environment.			
Consultation personnel as immediately notify incident to relevant Supervisor and if immediately notify the Environment Manager or Coordinator.			
Superior to report relevant details to MPT 425-1 Environmental and Incident Response and provide to Environment Manager or Coordinator within 24 hours.			
Environment Manager Report to Authorities, Catch Representative and Environment Representative as required.	EM	Ongoing	

10. Air Quality (Dust) Management			
Objectives: To minimise dust generation and manage air and dust emissions from the worksite to prevent impact on surrounding receptors.			
Management Actions	Resp.	Timing	
General Works			
Use water sprays and water carts as required during works and keep exposed excavation surfaces and spoil stockpiles dampened.	SM	Ongoing	
Compact all stockpiles as they are constructed. Cover or vegetate larger items (> 10 days exposure).	SM	Ongoing	
Minimise areas of exposed earth by staging construction activities and progressively encasing and vegetating completed areas as the construction activities proceed.	SM	Ongoing	
Open burning or incineration is not permitted at worksite areas.	SM	Ongoing	
Use air emission vehicles and plant that with catalytic, diesel particulate filters, or similar devices, where feasible and necessary.	SM	Ongoing	
Extreme Climatic Conditions			
Cease works if excessive dust generation from construction activities occurs (e.g. from high winds, surface dirt accumulation etc.), until dust emissions can be controlled and generated from leaving site.	SM	As required	
Vehicle and Transport Management			
All plant or equipment is to be washed off when not in use.	SM	Ongoing	
Maintain exhaust systems of construction plant, vehicles and machinery to minimise atmospheric emissions. Vehicles observed to be emitting white or blue smoke for a continuous period of 10 seconds or more will be removed from service for maintenance.	SM	Ongoing	
Route trucks of construction traffic to bypass, beyond the impact limit of entry points and at intervals along all unsealed construction roads. All personnel is to follow to comply with speed limit.	SM	Ongoing	
Any de-grassing / re-grassing of all non-units in mobile plant and site shed units will be undertaken using appropriate de-grassing / re-grassing procedures.	SM	Ongoing	
Cover loads of bulked spoil during transportation, from and on site.	SM	Ongoing	
To reduce greenhouse gas emissions use a minimum 10% diesel mix for all diesel powered plant and equipment and a minimum 50% blended ethanol mix for petrol powered plant and equipment where practicable.	SM	Ongoing	
Monitoring			
Conduct daily visual inspections of worksite to assess effectiveness of dust control measures.	SM	Daily	
Monitor weather forecasts for windy conditions affecting Meteorological Data. Weather conditions and forecasts will be obtained from The Bureau of Meteorology (http://www.bom.gov.au).	EM	Daily	
Inspections of vehicle and plant exhaust emissions to ensure emissions comply with the PM2.5 and second in MSF21-3 Daily Plant Inspections.	SM	Daily	

9. Community Considerations			
Key SVC Personal Actions			
<ul style="list-style-type: none"> Consider neighbours' privacy and amenity at all times. Direct adherence to no audible work outside standard work hours (unless approved under EPL by Environment Manager and community notified). Residential access to be kept free from obstruction by Project vehicle/machinery at all times. Ensure no shouting, swearing and use of amplified music in close proximity to dwellings. Do not leave plant and vehicles idling. Remove graffiti within 24 hours. Minimise reversing of vehicles for safety and to limit reversing alarm nuisance. Position solutions out of site of residences or initial visual barriers. Position lights on site to prevent glare/light spill impacting residences. 			
Management Actions	Resp.	Timing	
Stage A piling works (Drilling and Pouring):			
<ul style="list-style-type: none"> Understate Letterbox Drops for proposed out-of-hours works. 	OLM	7 days prior	
Stage B piling works (Construction of Pile Caps):			
<ul style="list-style-type: none"> Understate Letterbox Drops for proposed out-of-hours works. 	OLM	7 days prior	
<ul style="list-style-type: none"> Community consultation to determine respite periods. Noise Monitoring at the most impacted receptors) within 1 week of the works commencing. 	OLM	7 days prior	
Stage C piling works (Construction of Pile):			
<ul style="list-style-type: none"> Understate Letterbox Drops for proposed out-of-hours works. 	OLM	7 days prior	
Complaints handling			
<ul style="list-style-type: none"> Community Information Line project inquiries, or complaints about construction): 24 hour, 7 days a week, toll free number 1800 010 960. All contacts to be logged with Community Liaison Manager. Complaints managed via CUP. Complaint response required within 2 hours. Communication of all complaints to Environment Manager to report to EPL requirements (see 2pm each business day). If noise and vibration, must make specific offer to monitor. 			

10. Flora and Fauna Management			
Objectives: Protect Endangered Ecological Community (EEC), manage any fauna encountered during construction works, and manage worksite for seed information.			
Management Actions	Resp.	Timing	
Vegetation Protection and Management			
Physically delineate "No-go zones" for flora (Endangered Ecological Community) on site using protective fencing and signage.	SM	Prior to disturbance of site	
Hollow Shearing Trees must not be felled until the appropriate number of Heart Trees have been installed.	SM	Prior to felling of HET	
Protective fencing and signage will be maintained and replaced as required throughout construction.	SM	Ongoing	
Cleared native vegetation will be marked and/or stockpiled for later use.	SM	Ongoing	
Wood fire topped will be stockpiled separately to split for use in waterways.	SM	Ongoing	
Oil or other chemical storage would be located at least 30m from any natural ecologically sensitive areas on site.	SM	Ongoing	
Where appropriate, vegetation to be maintained to reduce erosion.	SM	Ongoing	
Groundcover in riparian zone to be retained until immediately prior to commencement of works.	SM	Ongoing	
No stockpiling or storage of any materials or waste/plant within 100m of natural vegetation.	SM	Ongoing	
Fauna Management			
If fauna species are found in areas to be cleared, or during clearing the Fauna Handling and Rescue Procedure will be implemented: <ul style="list-style-type: none"> Stop work immediately and notify Site Supervisor, Environment Manager, Ecologist and WSES if required for specific threat/dangerous fauna handling or relocation. Work cannot commence until approved by the Environment Manager. 	SM	Ongoing	
Any injured native fauna will be reported to the Environment Manager, Ecologist and to WSES (ph: 1300 644 707) as a local vet if required.	SM	Ongoing	
To reduce disturbance to birds and restricted birds in EECs on site and adjacent to compound boundaries, consider light shields, position and angle when mitigating light spill. Any amplified equipment should also be directed downwards and away from such areas.	SM	Site set up ongoing	
Weed and Pathogen Management			
All noxious weeds to be removed prior to clearing.	SM	Pre-clearing	
All soil moving machinery will be inspected upon arrival to site to ensure it is free from excessive soil and vegetation matter to minimise the likelihood of introducing weeds and plant pathogens.	SM	When machinery enters on site	
No below ground material (rocks, stumps) will be used in much to reduce risk of spreading seed and root fungus.	SM	Ongoing	
Cleared weed material will be disposed of at a site licensed to receive green waste.	SM	Ongoing	
Where possible weed removal will be via mechanical means. If herbicides are required they will be applied by licensed operators.	SM	Ongoing	
Monitoring			
Regular inspections will include a check on the ecological mitigation measures and project boundary fencing.	SM	Ongoing	

10. Environmental Material Management			
Objective: Manage Environmental Materials on the worksite. Create suitable safety particularly for pedestrians, on-site to/from worksite.			
Management Actions	Resp.	Timing	
Maintain safe and well signposted pedestrian and public traffic access to community areas surrounding the worksite.	SM	Ongoing	
To minimise vibration and unauthorised entry, the site will be fully fenced and locked up after hours.	SM	Ongoing	
Where possible trees and site are only to be handled in the designated hours: see conditions 45, 1946-2016. If containers need to be used on site they must be provided with temporary bunding during use.	SM	Ongoing	
Store all dangerous goods, chemicals, fuel and oils brought onto the worksite within the designated bunded area container. Bunded oil storage containers conforming with AS1924-2004.	SM	Ongoing	
Maintain chemical register, using SDS up to date, for all chemicals.	SM	Ongoing	
Just site will be provided of washing area, fire/tanker storage area and a wash for site shed.	SM	Ongoing	
Cleaning and monitoring of all spillages to be occur immediately in accordance with Site Safety Emergency Response Plan.	SM	As require	
Refrigerant material must not be used within site or at any substation.	SM	Ongoing	
Monitoring and Reporting			
Conduct inspections of the chemical/bundled storage areas during the weekly site inspection.	SM	Weekly	

11. Noise and Vibration Management			
Objective: To minimise noise/vibration impact to sensitive receptors.			
Performance Criteria: For regular works <ul style="list-style-type: none"> Limit noise generation on site to less than 10 dBA above background noise levels (RSL) during normal working hours, and less than 5 dBA above RSL during out of hours works. Refer to Noise & Vibration Impact Statement (NVS), relevant to works being undertaken, for specific details of potentially impacted sensitive receptors, and required management measures. Other works as per license conditions – consult Environmental team in event of proposed COAW. Limit vibration impacts caused by construction on residence or structure outside the activity boundaries. 			
Structural Damage <ul style="list-style-type: none"> Vibration limit 5mm/s for residential and 3mm/s for heritage items. 			
Management Actions	Resp.	Timing	
Advise local residents/business within 200m or as indicated in CMVIS about the nature and timing of the works, including the timing of noise intensive activities.	OLM	7 days prior to activities occurring	
Install all noise controls identified as early as is practical prior to construction.	SM	Prior to construction	
Ensure that activities resulting in impulsive or tonal noise are only undertaken: <ul style="list-style-type: none"> all between 8am to 5pm Monday to Friday; 8a between 8am to 1pm Saturday; and is if continuous, does not exceeding three hours each with a minimum respite of not less than one hour between each block. 	ALL	Ongoing	
Out of hours Work – work outside of approved working hours only permitted as per EPL and with COAW permit approved by the Environmental Manager.	PD	Ongoing	
Work site deliveries to be carried out within normal working hours except where alternative delivery hours are required by the police or Council or as approved under EPL, see 20454.	SM	Ongoing	
Plant or machinery not be permitted to "warm-up" before the nominated working hours.	SM	Ongoing	
Non-tonal reversing beepers (or equivalent) to be fitted and used on all construction vehicles and mobile plant.	SM	Ongoing	
Exhausted engine chambers and fit silencers to equipment operating long-term on site.	SM	Ongoing	
Provide barriers around pumps and static plant if needed.	SM	Ongoing	
Use silenced generators, quiet compressors and pumps.	SM	Ongoing	
Stable work compounds, access and egress points, parking areas, noise intensive works, 24 hour activities and equipment as far away as possible from noise-sensitive receptors, consider topography and using buildings to shield sensitive receptors.	SM	Ongoing	
Position noise plant and equipment as far apart as practicable and as far as possible from construction boundaries to minimise noise impacts of sensitive receptors.	SM	Ongoing	
Prevent vehicles and plant queuing and idling outside of approved construction hours.	SM	Ongoing	
Inspect equipment and repaired if needed, such as defective mufflers, tightening/grease/oil of rubbing parts and components and repair of leaks in compressed airlines and record in MSF21-3 Daily Plant Inspections.	SM	Ongoing	
If a complaint is received from a receiver regarding vibration from a vibratory roller consider using a static roller instead.	SM	As required	
Monitoring and Reporting			
Approved noise and vibration monitoring during works at sensitive receptors as required by EPL, CMVIS and COAW approval (in accordance with SAN-GVC-SERP)	EM	Monthly, during COAW and in response to complaints	