

Sydney Metro West - Westmead Telstra and Jemena Gas Relocation

Construction Environmental Management Plan (CEMP)

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Document Endorsement

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Glossary / Abbreviations

Abbreviation	Description / Definition
AR	SMW Concept and Stage 1 Amendment Report (2020)
ASS	Acid Sulfate Soils
AS/NZS	Australia/New Zealand Standards
CEMF	Construction Environmental Management Framework
CEMP	Construction Environmental Management Plan
CCS	Community Communications Strategy
CNVS	Construction Noise and Vibration Standard (Sydney Metro).
Contractor	Quickway Constructions Pty Ltd
DECC	Former Department of Environment and Climate Change (NSW) now NSW Office of Environment and Heritage.
DPE	NSW Department of Planning, and Environment
DPI (Water)	NSW Department of Primary Industries (Water) (Former Office of Water)
EIS	SMW Project Environmental Impact Statement (Jacobs/Arcadis 2020)
EMS	Environmental Management System
Environmental aspect	Defined by AS/NZS ISO 14001:2016 as an element of an organisation's activities, products or services that can interact with the environment
Environmental incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance with the conditions of this approval. *Note "material harm" is identified as actual or potential harm to health or safety of human beings or to the environmental that is not trivial, or results in actual or potential loss or property damage of an amount, or amounts in aggregate exceeding \$10,000.
Environmental impact	Defined by AS/NZS ISO 14001:2016 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects
Environmental objective	Defined by AS/NZS ISO 14001:2016 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve
Environment Policy	Statement by an organisation of its intention and principles for environmental performance
EPA	NSW Environment Protection Authority
EP&A Act	<i>NSW Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act, 1999</i>
EPL	NSW Environment Protection Licence under the <i>Protection of the Environment Operations Act 1997</i> .
ESCP	Erosion and Sediment Control Plan

Abbreviation	Description / Definition
EWMS	Environmental Work Method Statements
Hold point	Is a verification point that prevents work from commencing prior to release.
Material harm	This is harm that: (a) involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial or (b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment).
Minister, the	NSW Minister for Planning
MCoA	NSW Minister for Planning Condition of Approval
Non-compliance	An occurrence, set of circumstances or development that is a breach of this approval but is not an incident.
CNVMP	Noise and Vibration Management Sub-plan
PASS	Potential Acid Sulfate Soils
PIRMP	Pollution Incident Response Management Plan
PMF	Probable Maximum Flood
PoEO Act	<i>NSW Protection of the Environment Operations Act 1997</i>
Principal, the	Sydney Metro
Proponent, the	The person identified as the proponent in Schedule 1 of the Infrastructure Approval (Sydney Metro)
Relevant Councils	Any or all as relevant
REMM	Revised Environmental Management Measure
RMS	NSW Roads and Maritime Services now TfNSW
RoLs	Road Occupancy Licences
Secretary	Secretary of the Department of Planning and Environment
SEMP	Site Establishment Management Plan
SMW	Sydney Metro West
SR	SMW Concept and Stage 1 Submissions Report (2020)
SSI	State Significant Infrastructure
SWMP	Soil and Water Quality Management Plan
The Project	SMW West – Westmead Telstra and Jemena Gas Relocations
TfNSW	Transport for NSW

1. Introduction

1.1 Background

Sydney Metro is Australia's biggest public transport program comprising four main packages of work. The Sydney Metro West (SMW) project is a critical part of this overall program extending from Westmead to 'The Bays' site in Rozelle, this project aims to:

- provide faster more reliable public transport options between greater Parramatta and the Sydney CBD;
- double the existing rail capacity between Parramatta and the two Sydney CBDs;
- support growing residential and employment zones between Westmead and The Bays; and
- allow for better public transport transfers between rail lines.

SMW would be located largely underground in twin tunnels. Excavation of the tunnels and underground stations will be undertaken by a combination of Road-Headers (RHs) and Tunnel Boring Machines (TBMs) both of which have significant electrical power supply demands. The power demands are of a magnitude that can only be provided to each worksite via a High Voltage (HV) feeder.

To facilitate the Sydney Metro West Project, a number of utility service installations and relocations are required. Sydney Metro (SM) (the Proponent) has engaged Quickway to undertake utility relocation works for Telstra (comms) and Jemena (Gas) for the Westmead metro station, hereafter referred to as the Project.

1.2 Statutory Context

1.2.1 Westmead Telstra (Comms) & Jemena (Gas)

The utility installation and relocation works associated with the Project forms part of the Sydney Metro West Critical State Significant Infrastructure (CSSI 10038) Project. An Environmental Impact Statement (EIS) (Jacobs/Arcadis, 2020) was prepared for the project under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) as a State Significant Infrastructure (SSI). The EIS was placed on public exhibition from 30 April 2020 to 26 June 2020. Submissions were received from government, agencies, organisations and the public in response to the project.

A Submissions Report was prepared by Sydney Metro in response to submissions received during the exhibition period. An Amendment Report (AR) was prepared by Sydney Metro in 2020 as a result of continued design development and refinement.

Approval of the Sydney Metro West Concept and Stage 1 was granted by the Secretary of the Department of Planning, Industry and Infrastructure (DPE) on 11 March 2021.

1.3 Sydney Metro Construction Environmental Management Framework

The Sydney Metro Construction Environmental Management Framework (CEMF) details the approach to environmental management and monitoring during construction, which will be applied to the proposal. The framework is a linking document between planning approval documentation and construction environmental management documentation, which would be developed by the construction contractors.

The Sydney Metro West EIS makes a commitment to implement the CEMF. The CEMF therefore provides a common approach to environmental management throughout construction.

2. Scope

The scope of this Plan is to describe how Quickway propose to manage environmental issues during construction of the Project.

Operational environmental issues and management measures or requirements associated with the adjacent Westmead Station do not fall within the scope of this Plan and therefore are not included within the processes contained within this Plan.

The CEMP has been prepared in accordance with the Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004) and the CEMF.

The CEMP addresses relevant Project requirements and all relevant licences, permits and approvals. The Quickway signed corporate Environment Policy has been attached to this CEMP ([Appendix A](#)) and was developed in accordance with Section 5.2 of ISO 14001:2016. This CEMP has been prepared to:

- Cover the requirements of the relevant planning approval documentation, the conditions of all other permits and licences, the Quickway's corporate EMS, the environmental provisions of the contract documentation and the CEMF
- Detail how applicable performance outcomes, commitments and mitigation measures will be implemented and achieved during construction
- Include a description of activities to be undertaken during construction
- Include a matrix of the relevant Conditions of Approval or Consent referencing where each requirement is addressed
- Identify sustainability objectives and optimise outcomes.
- Identify roles that have environmental accountabilities or responsibilities
- Identify communication requirements, including liaison with stakeholders and the community
- Include induction and training requirements and a summary of the Training Needs Analysis
- Include management strategies for environmental compliance and a review of the performance of environmental controls
- Identify procedures for environmental inspections and monitoring auditing and review, and reporting on environmental performance including compliance tracking
- Include procedures for emergency and incident management, non-compliance management and corrective and preventative action
- Include procedures for the control of environmental records.

Operational environmental issues and management measures do not fall within the scope of this Plan and therefore are not included within the processes contained within this Plan.

2.1 Environmental Management System overview

This CEMP has been written in accordance with the Quickway Environmental Management System (EMS). Quickway is commitment to managing environmental outcomes and reducing our impact on the environment and have implemented an EMS which has been prepared in accordance with ISO14001:2016.

The Quickway EMS provides a framework for a systematic approach to project environmental requirements that minimises environmental impacts and maximises environmental outcomes while

continually improving the effectiveness of the EMS. The EMS has been integrated with Quality (ISO9001:2016) as well as Health and Safety (AS/NZS 4801:2001).

The Quickway EMS has been developed in house by environmentally trained staff and accredited through GlobalMark. The overall responsibility for the EMS lies with Quickway's Managing Directors.

Quickway has implemented management systems that are consistent with ISO 14001:2016 and all work is carried out in accordance with applicable municipal, provincial and state acts and regulations. The system is also reviewed through notification of changes in legislation through Quickway's subscription to Workplace Safety Australia and other subscriptions as detailed in the WHS-PRO-06 Compliance Obligations Procedure.

2.2 CEMP Role

The role of the CEMP is to act as the overarching environmental management document for the Project. The CEMP outlines the environmental management practices and procedures that are to be followed during the Project. It provides the overall framework for the system and procedures to ensure environmental impacts are minimised and legislative and other requirements are fulfilled. The implementation of this CEMP is supported by the EMS.

A number of Sub Plans have been prepared to support the CEMP as required by the Project Approval condition allocations of MCoA C5 for the phase of works, as identified as required within the Phasing Report v1.6. Each Management Sub Plan has been prepared to demonstrate how:

- The environmental performance outcomes will be achieved.
- The mitigation measures identified will be implemented.
- The relevant terms of the approval will be complied with.
- Issues requiring management during construction will be managed.

This CEMP includes the following issue-specific environmental sub plans:

- Noise and Vibration Management Sub Plan

The requirement to prepare management plans for the following environmental aspects is specifically excluded from Quickway's Scope, and as such these will be addressed as chapters within this CEMP:

- Aboriginal Heritage
- Non-Aboriginal Heritage
- Flora and Fauna
- Waste and Spoil
- Soil and Water
- Air Quality
- Visual Amenity
- Property and Utilities

A number of Construction Traffic Management Plans (CTMPs) and Construction Parking and Access Strategy (CPAS) will also be prepared outside the framework of the CEMP for managing traffic, access and parking impacts and addresses all Traffic related MCoAs, REMMs and CEMF requirements.

[Figure 1](#) below provides a diagrammatic overview of the management plan structure.

Input - Project Requirements:

Environmental Approval Documents:

- EIS
- REMMs
- MCoA

Contract

CEMF

**Sydney Metro
Standards & Procedures**

Output - Management Documents:

Traffic

Community

Sustainability

Environment

**Overarching Traffic
Management Plan**

**Community
Communications
Strategy**

**Sustainability
Requirements:**

- Monthly sustainability report
- TfNSW Air Emission Data Collection Workbook

**Construction Parking
Access Strategy**

CEMF:

- Heritage
 - Unexpected Finds Procedure
- Waste and Spoil
- Visual Amenity
- Air Quality
- Flora and Fauna
- Soil and Water

**Noise and Vibration
Management Plan:**

- Land Use Survey
- Out of Hours Protocol
- Noise and Vibration Monitoring Program

Figure 1 Environmental management plan structure

3. Purpose and objectives

3.1 Purpose

This Construction Environmental Management Plan (CEMP) and Sub-Plans have been prepared in accordance with the Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004) and is consistent with the requirements of AS/NZS ISO 14001 – Environmental Management Systems. This CEMP outlines how Quickway will comply with the applicable NSW Minister for Planning's Conditions of Approval (MCoA), and the Sydney Metro Construction Environmental Management Framework (CEMF) as allocated to the Project within the Sydney Metro West Phasing Report, Rev 1.6 (September 2023) based on the scope of works and environmental risk during construction of the Project. It also outlines how Quickway will minimise environmental risks and achieve environmental outcomes on the project by creating a well-defined approach to the implementation of EIS Revised Environmental Management Measures (REMM).

The CEMP has been prepared in accordance with the following documents and as allocated by the Phasing Report v1.6, collectively referred to as the 'Project requirements' herein:

- The EIS approval including the MCoA and REMMs
- The obligations allocated under the CEMF

The Phasing report (rev 1.6) provides a risk assessment based on the Phase H scope of works and using this assessment identifies which requirements from the Planning Approval (i.e. MCoA) the Amendment Report (captured as the REMMs) and the Sydney Metro CEMF should apply to the scope of works.

As such, the relevant identified requirements of this approval (known as the Allocations) relevant to this work package and where they are met in this CEMP are shown in [Table 1](#) and [Table 2](#).

Table 1 MCoA requirements for CEMP

MCoA	Requirement	Reference
A1	The Proponent must carry out Stage 1 of the CSSI in accordance with the conditions of this approval and generally in accordance with the: a) Sydney Metro West – Westmead to The Bays and Sydney CBD Environmental Impact Statement dated 15 April 2020; b) Sydney Metro West – Westmead to The Bays and Sydney CBD Submissions Report dated 20 November 2020; and c) Sydney Metro West – Westmead to The Bays and Sydney CBD Amendment Report dated 20 November 2020., and d) Sydney Metro West –Westmead to The Bays and Sydney CBD Modification Request Letter dated 21 June 2021. e) Sydney Metro West – Clyde stabling and maintenance facility Modification Report dated November 2021; and f) Sydney Metro West – Concept and Stage 1 – Modification 2 Clyde stabling and maintenance facility (SSI-10038-Mod-2): Response to submissions dated 21 March 2022; and g) Sydney Metro West – Concept and Stage 1 – Modification 3 Administrative Mod dated May 2022. h) Sydney Metro West -Concept and Stage 1 – Modification 4 Administrative Mod dated 11 November 2022	Section 6.1.2.1
A2	Stage 1 of the CSSI must only be carried out in accordance with all procedures, commitments, preventative actions, performance criteria and mitigation measures set out in the documents listed in Condition A1 of this schedule unless otherwise specified in, or required under, this approval.	Section 6.1.2.1
A6	Where the conditions of this approval require a document or monitoring program to be prepared, or a review to be undertaken, in consultation with identified parties, evidence of the consultation undertaken must be submitted to the Planning Secretary with the document. The evidence must include: a) documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval; b) a log of the dates of engagement or attempted engagement with the identified party and a summary of the issues raised by them; c) documentation of the follow-up with the identified party(s) where feedback has not been provided to confirm that the party(s) has none or has failed to provide feedback after repeated requests; d) outline of the issues raised by the identified party(s) and how they have been addressed; and e) a description of the outstanding issues raised by the identified party(s) and the reasons why they have not been addressed.	Provided separately to DPE

MCoA	Requirement	Reference
A16	Ancillary facilities that are not identified by description and location in the documents listed in Condition A1 of this schedule can only be established and used in each case if: a) they are located within or immediately adjacent to the Construction Boundary; and b) they are not located next to sensitive land user(s) (including where an access road is between the facility and the receiver), unless the landowner and occupier have given written acceptance to the carrying out of the relevant facility in the proposed location; and c) they have no impacts on Heritage items (including areas of archaeological sensitivity), threatened species, populations or ecological communities beyond the impacts approved under the conditions of this approval; and d) the establishment and use of the facility can be carried out and managed within the outcomes set out in the conditions of this approval, including in relation to environmental, social and economic impacts. Note: This condition does not apply to any ancillary facilities or work that are exempt or complying development, established before the commencement of construction under this approval or minor ancillary facilities established under Condition A21 of this schedule.	Section 4.2
A17	Before establishment of any ancillary facility (excluding exempt or complying development, minor ancillary facilities determined by the ER to have minimal environmental impact and those established under Condition A21 of this schedule, and those considered in an approved CEMP), the Proponent must prepare a Site Establishment Management Plan which outlines the environmental management practices and procedures to be implemented for the establishment of the ancillary facilities. The Site Establishment Management Plan must be prepared in consultation with the Relevant Council(s) and relevant government agencies. The Site Establishment Management Plan must include: (a) a description of activities to be undertaken during establishment of the ancillary facility (including scheduling and duration of work to be undertaken at the site); (b) figures illustrating the proposed operational site layout and the location of the closest sensitive land user(s); (c) a program for ongoing analysis of the key environmental risks arising from the site establishment activities described in subsection (a) of this condition, including an initial risk assessment undertaken before the commencement of site establishment work; (d) details of how the site establishment activities described in subsection (a) of this condition will be carried out to: (i) meet the performance outcomes stated in the documents listed in Condition A1 of this schedule, and (ii) manage the risks identified in the risk analysis undertaken in subsection (c) of this condition; and (e) a program for monitoring the performance outcomes, including a program for construction noise monitoring, where appropriate or required.	SEMP (If required at a later stage for additional facilities)

MCoA	Requirement	Reference
	Nothing in this condition prevents the Proponent from preparing individual Site Establishment Management Plans for each ancillary facility.	
A18	With the exception of a Site Establishment Management Plan relating to the Silverwater ancillary facility referred to in Condition A19 below and any other Site Establishment Management Plan expressly nominated by the Planning Secretary to be endorsed by the ER, all Site Establishment Management Plans must be submitted to the Planning Secretary for approval one (1) month before the establishment of any ancillary facilities.	SEMP (If required at a later stage for additional facilities)
A19	A Site Establishment Management Plan relating to the Silverwater ancillary facility and any other Site Establishment Management Plan expressly nominated by the Planning Secretary must be submitted to the ER for endorsement one (1) month before the establishment of that ancillary facility or as otherwise agreed with the ER.	SEMP (If required at a later stage for additional facilities)
A20	The use of an ancillary facility for construction must not commence until the CEMP required by Condition C1 of this schedule, relevant CEMP Sub-plans required by Condition C5 of this schedule and relevant Construction Monitoring Programs required by Condition C14 of this schedule have been approved by the Planning Secretary or endorsed by the ER (whichever is applicable). Note: This condition does not apply to Condition A21 of this schedule or where the use of an ancillary facility is Low Impact Work or for Low Impact Work.	Section 4.2
A22	Boundary screening must be erected around ancillary facilities that are adjacent to sensitive land user(s) for the duration that the ancillary facility is in use unless otherwise agreed with relevant affected residents, business operators or landowners.	Section 4.2 Section 7.9
A23	Boundary screening required under Condition A22 of this schedule must minimise visual impacts on adjacent sensitive land user(s).	Section 4.2
A31	The Proponent must provide the ER with all documentation requested by the ER in order for the ER to perform their functions specified in Condition A27 (including preparation of the ER monthly report), as well as: (a) the Complaints Register (to be provided on a weekly basis or as requested); and (b) a copy of any assessment carried out by the Proponent of whether proposed work is consistent with the approval (which must be provided to the ER before the commencement of the subject work).	Section 6.2.1

MCoA	Requirement	Reference
A34	The Proponent must cooperate with the AA by: (a) providing access to noise and vibration monitoring activities as they take place; (b) providing access to the Complaints Register if requested; (c) providing for review of noise and vibration documents required to be prepared under the conditions of this approval; and (d) considering any recommendations to improve practices and demonstrating, to the satisfaction of the AA, why any recommendation is not adopted.	Section 6.2.1
A43	The Planning Secretary must be notified via phone or in writing via the Major Projects website immediately after the Proponent becomes aware of an incident. Any notification via phone must be followed up by a notification in writing via the Major Projects website within 24 hours of the initial phone call. The written notification must identify the CSSI (including the application number and the name of the CSSI if it has one) and set out the location and general nature of the incident.	Section 1.1
A44	Subsequent notification must be given and reports submitted in accordance with the requirements set out in Appendix A.	Section 1.1
A45	The Planning Secretary must be notified in writing via the Major Projects website within seven (7) days after the Proponent becomes aware of any non-compliance with the conditions of this approval.	Section 1.1
A46	A non-compliance notification must identify the CSSI (including the application number for it), set out the condition of approval that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be undertaken to address the non-compliance. Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	Section 1.1
A47	All Heavy Vehicles used for spoil haulage must be clearly marked on the sides and rear with the project name and application number to enable immediate identification by a person viewing the Heavy Vehicle standing 20 metres away.	Section 7.3
A48	The CSSI name, application number, telephone number, postal address and email address required under Condition B3 of this schedule must be available on site boundary fencing / hoarding at each ancillary facility before the commencement of construction. This information must also be provided on the website required under Condition B11 of this schedule.	Section 4.2 Section 7.9.4
B1	The Overarching Community Communication Strategy as provided in the documents listed in Condition A1 of this schedule must be implemented for the duration of the work.	Section 6.6 OCCS (SM)

MCoA	Requirement	Reference
B2	A Complaints Management System must be prepared and implemented before the commencement of any work and maintained for the duration of construction and for a minimum for 12 months following completion of construction of Stage 1 of the CSSI.	Section 6.6 OCCS (SM)
B3	The following information must be available to facilitate community enquiries and manage complaints before the commencement of work and for 12 months following the completion of construction: (a) a 24- hour telephone number for the registration of complaints and enquiries about the CSSI; (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. This information must be accessible to all in the community regardless of age, ethnicity, disability or literacy level.	Section 6.6 OCCS (SM)
B4	A Complaints Register must be maintained recording information on all complaints received about the CSSI during the carrying out of any work and for a minimum of 12 months following the completion of construction. The Complaints Register must record the: (a) number of complaints received; (b) date and time of the complaint; (c) number of people in the household affected in relation to a complaint, if relevant; (d) method by which the complaint was made; (e) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; (f) issue of the complaint; (g) means by which the complaint was addressed and whether resolution was reached, with or without mediation; and (h) if no action was taken, the reason(s) why no action was taken.	Section 6.6 OCCS (SM)

MCoA	Requirement	Reference
B5	Complainants must be advised of the following information before, or as soon as practicable after, providing personal information: (a) the Complaints Register may be forwarded to government agencies, including the Department (Department of Planning Industry and Environment, 4 Parramatta Square, 12 Darcy Street, Parramatta NSW 2150), to allow them to undertake their regulatory duties; (b) by providing personal information, the complainant authorises the Proponent to provide that information to government agencies; (c) the supply of personal information by the complainant is voluntary; and (d) the complainant has the right to contact government agencies to access personal information held about them and to correct or amend that information (Collection Statement). The Collection Statement must be included on the Proponent or development website to make prospective complainants aware of their rights under the Privacy and Personal Information Protection Act 1998 (NSW). For any complaints made in person, the complainant must be made aware of the Collection Statement.	Section 6.6 OCCS (SM)
B10	Community Complaints Mediation will not be enacted before the Complaints Management System required by Condition B2 of this schedule has been executed for a complaint and will not consider issues such as property acquisition, where other dispute processes are provided for in this approval or clear government policy and resolution processes are available, or matters which are not within the scope of this CSSI.	Section 6.6 OCCS (SM)

MCoA	Requirement	Reference
B11	A website or webpage providing information in relation to the CSSI must be established before commencement of work and maintained for the duration of construction, and for a minimum of 24 months following the completion of all phases of construction of Stage 1 of the CSSI. Up-to-date information (excluding confidential, private, commercial information or other documents as agreed to by the Planning Secretary) must be published before the relevant work commencing and maintained on the website or dedicated pages including: (a) information on the current implementation status of Stage 1 of the CSSI; (b) a copy of the documents listed in Condition A1 of this schedule, and any documentation relating to any modifications made to the CSSI or the conditions of this approval; (c) a copy of this approval in its original form, a current consolidated copy of this approval (that is, including any approved modifications to its conditions), and copies of any approval granted by the Minister to a modification of the conditions of this approval, or links to the referenced documents where available; (d) a copy of each statutory approval, licence or permit required and obtained in relation to Stage 1 of the CSSI, or where the issuing agency maintains a website of approvals, licences or permits, a link to that website; (e) a current copy of each document required under the conditions of this approval, which must be published within one (1) week of its approval or before the commencement of any work to which they relate or before their implementation, as the case may be; and (f) a copy of the audit reports required under this approval. Where the information / document relates to a particular work or is required to be implemented, it must be published before the commencement of the relevant work to which it relates or before its implementation. All information required in this condition is to be provided on the website or webpage, and easy to navigate.	Section 6.6.3
C1	Construction Environmental Management Plans (CEMPs) and CEMP Sub-plans must be prepared in accordance with the Construction Environmental Management Framework (CEMF) included in the documents listed in Condition A1 of this schedule to detail how the performance outcomes, commitments and mitigation measures specified in the documents listed in Condition A1 of this schedule will be implemented and achieved during construction.	Section 3.1 Section 5.3
C2	With the exception of any CEMPs expressly nominated by the Planning Secretary to be endorsed by the ER, all CEMPs must be submitted to the Planning Secretary for approval.	Section 5.3

MCoA	Requirement	Reference																								
C3	The CEMP(s) not requiring the Planning Secretary's approval must be submitted to the ER for endorsement no later than one (1) month before the commencement of construction or where construction is phased no later than one (1) month before the commencement of that phase. That CEMP must obtain the endorsement of the ER as being consistent with the conditions of this approval and all undertakings made in the documents listed in Condition A1 of this schedule.	Section 5.3																								
C4	Any CEMP to be approved by the Planning Secretary must be endorsed by the ER and then submitted to the Planning Secretary for approval no later than one (1) month before the commencement of construction or where construction is phased no later than one (1) month before the commencement of that phase.	Section 5.3																								
C5	Of the CEMP Sub-plans required under Condition C1 of this schedule, the following CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan. Details of issues raised by a government agency during consultation must be included in the relevant CEMP Sub-plan, including copies of all correspondence from those government agencies as required by Condition A6 of this schedule. Where a government agency (ies) request(s) is not included, the Proponent must provide the Planning Secretary / ER (whichever is applicable) justification as to why: <table><tr><th></th><th>Required CEMP Sub-plan</th><th>Relevant government agencies to be consulted for each CEMP Sub-plan</th><th>Applicability to the Project</th></tr><tr><td>a)</td><td>Noise and Vibration</td><td>SOPA (in respect of Sydney Olympic Park), Place Management NSW (in respect of The Bays) and Relevant Council(s)</td><td>Applicable as per phasing report prepared under MCoA A10</td></tr><tr><td>b)</td><td>Flora and Fauna</td><td>DPE BCD, DPI Fisheries, SOPA (in respect of Sydney Olympic Park) and Relevant Council(s)</td><td>Not applicable as per phasing report prepared under MCoA A10</td></tr><tr><td>c)</td><td>Soil and Water</td><td>DPE BCD, Relevant Council(s), SOPA (in respect of Sydney Olympic Park) and Sydney Water (if Sydney Water's assets are affected)</td><td>Not applicable as per phasing report prepared under MCoA A10</td></tr><tr><td>d)</td><td>Heritage (Non-Aboriginal and Aboriginal)</td><td>Heritage NSW, SOPA (in respect of Sydney Olympic Park), Place Management NSW (in respect of The Bays) and Relevant Council(s)</td><td>Not applicable as per phasing report prepared under MCoA A10</td></tr><tr><td>e)</td><td>Spoil</td><td>Relevant Council(s) and SOPA (in respect of Sydney Olympic Park)</td><td>Not applicable as per phasing report prepared under MCoA A10</td></tr></table>		Required CEMP Sub-plan	Relevant government agencies to be consulted for each CEMP Sub-plan	Applicability to the Project	a)	Noise and Vibration	SOPA (in respect of Sydney Olympic Park), Place Management NSW (in respect of The Bays) and Relevant Council(s)	Applicable as per phasing report prepared under MCoA A10	b)	Flora and Fauna	DPE BCD, DPI Fisheries, SOPA (in respect of Sydney Olympic Park) and Relevant Council(s)	Not applicable as per phasing report prepared under MCoA A10	c)	Soil and Water	DPE BCD, Relevant Council(s), SOPA (in respect of Sydney Olympic Park) and Sydney Water (if Sydney Water's assets are affected)	Not applicable as per phasing report prepared under MCoA A10	d)	Heritage (Non-Aboriginal and Aboriginal)	Heritage NSW, SOPA (in respect of Sydney Olympic Park), Place Management NSW (in respect of The Bays) and Relevant Council(s)	Not applicable as per phasing report prepared under MCoA A10	e)	Spoil	Relevant Council(s) and SOPA (in respect of Sydney Olympic Park)	Not applicable as per phasing report prepared under MCoA A10	Section 7 NVMP Appendix E
	Required CEMP Sub-plan	Relevant government agencies to be consulted for each CEMP Sub-plan	Applicability to the Project																							
a)	Noise and Vibration	SOPA (in respect of Sydney Olympic Park), Place Management NSW (in respect of The Bays) and Relevant Council(s)	Applicable as per phasing report prepared under MCoA A10																							
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e)	Spoil	Relevant Council(s) and SOPA (in respect of Sydney Olympic Park)	Not applicable as per phasing report prepared under MCoA A10																							

MCoA	Requirement	Reference
C6	The CEMP Sub-plans must state how: (a) the environmental performance outcomes identified in the documents listed in Condition A1 of this schedule will be achieved; (b) the mitigation measures identified in the documents listed in Condition A1 of this schedule will be implemented; (c) the relevant conditions of this approval will be complied with; and (d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART principles.	NVMP
C7	With the exception of any CEMP Sub-plans expressly nominated by the Planning Secretary to be endorsed by the ER, all CEMP Sub-plans must be submitted to the Planning Secretary for approval.	Section 5.3
C8	The CEMP Sub-plans not requiring the Planning Secretary's approval must obtain the endorsement of the ER as being in accordance with the conditions of approval and all relevant undertakings made in the documents listed in Condition A1 of this schedule. Any of these CEMP Sub-plans must be submitted to the ER with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before construction or where construction is phased no later than one (1) month before the commencement of that phase.	Section 5.3
C9	Any of the CEMP Sub-plans to be approved by the Planning Secretary must be submitted to the Planning Secretary with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before construction or where construction is phased no later than one (1) month before the commencement of that phase.	Section 5.3
C10	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Planning Secretary or endorsed by the ER (whichever is applicable), unless otherwise agreed by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning Secretary or endorsed by the ER (whichever is applicable), including any minor amendments approved by the ER, must be implemented for the duration of construction. Where construction of Stage 1 of the CSSI is phased, construction of a phase must not commence until the CEMP and CEMP Sub-plans for that phase have been approved by the Planning Secretary or certified by the ER upon nomination by the Planning Secretary (whichever is applicable).	Section 5.3

MCoA	Requirement	Reference
C14	The following Construction Monitoring Programs must be prepared in consultation with the relevant government agencies identified for each to compare actual performance of construction of Stage 1 of the CSSI against the performance predicted in the documents listed in Condition A1 of this schedule or in the CEMP: (a) Noise and vibration Monitoring program; consult with EPA, SOPA (in respect of Sydney Olympic Park), Place Management NSW (in respect of The Bays) and Relevant Council(s) (b) Blasting Monitoring program; consult with SOPA (in respect of Sydney Olympic Park), Place Management NSW (in respect of The Bays) and Relevant Council(s) (c) Surface water quality Monitoring program; consult with DPE Water, Relevant Council(s) and Sydney Water (if any Sydney Water assets are impacted) (d) Groundwater Monitoring program; consult with DPE Water and SOPA (in respect of Sydney Olympic Park) Note: The Blasting Construction Monitoring Program is only required to be prepared if blasting is proposed to be conducted during construction.	NVMP Appendix B
C15	Each Construction Monitoring Program must provide: (a) details of baseline data available including the period of baseline monitoring; (b) details of baseline data to be obtained and when; (c) details of all monitoring of the project to be undertaken; (d) the parameters of the project to be monitored; (e) the frequency of monitoring to be undertaken; (f) the location of monitoring; (g) the reporting of monitoring results and analysis results against relevant criteria; (h) details of the methods that will be used to analyse the monitoring data; (i) procedures to identify and implement additional mitigation measures where the results of the monitoring indicated unacceptable project impacts; (j) a consideration of SMART principles; and (k) any consultation to be undertaken in relation to the monitoring programs; and (l) any specific requirements as required by Conditions C16 to C17 of this schedule.	NVMP Appendix B

MCoA	Requirement	Reference
C16	The Noise and Vibration Construction Monitoring Program and Blasting Construction Monitoring Program must include: (a) noise and vibration monitoring determined in consultation with the AA to confirm the best-achievable construction noise and vibration levels with consideration of all reasonable and feasible mitigation and management measures that will be implemented; (b) for the purposes of (a), noise monitoring must be undertaken during the day, evening and night-time periods and within the first month of work as well as throughout the construction period and cover the range of activities being undertaken at the sites; and (c) a process to undertake real time noise and vibration monitoring. The results of the monitoring must be readily available to the construction team, the Proponent, ER and AA. The Planning Secretary and EPA must be provided with access to the results on request.	NVMP Appendix B
C18	With the exception of any Construction Monitoring Programs expressly nominated by the Planning Secretary to be endorsed by the ER, all Construction Monitoring Programs must be submitted to the Planning Secretary for approval.	NVMP Appendix B
C19	The Construction Monitoring Programs not requiring the Planning Secretary's approval must obtain the endorsement of the ER as being in accordance with the conditions of approval and all undertakings made in the documents listed in Condition A1 of this schedule. Any of these Construction Monitoring Programs must be submitted to the ER for endorsement at least one (1) month before the commencement of construction or where construction is phased no later than one (1) month before the commencement of that phase.	NVMP Appendix B
C20	Any of the Construction Monitoring Programs which require Planning Secretary approval must be endorsed by the ER and then submitted to the Planning Secretary for approval at least one (1) month before the commencement of construction or where construction is phased no later than one (1) month before the commencement of that phase.	NVMP Appendix B
C21	Unless otherwise agreed with the Planning Secretary, construction must not commence until the Planning Secretary has approved, or the ER has endorsed (whichever is applicable), all of the required Construction Monitoring Programs and all relevant baseline data for the specific construction activity has been collected.	NVMP Appendix B
C22	The Construction Monitoring Programs, as approved by the Planning Secretary or the ER has endorsed (whichever is applicable), including any minor amendments approved by the ER, must be implemented for the duration of construction and for any longer period set out in the monitoring program or specified by the Planning Secretary or the ER (whichever is applicable), whichever is the greater.	NVMP Appendix B
C23	The results of the Construction Monitoring Programs must be submitted to the Planning Secretary, ER and relevant regulatory agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program. Note: Where a relevant CEMP Sub-plan exists, the relevant Construction Monitoring Program may be incorporated into that CEMP Sub-plan.	NVMP Appendix B

MCoA	Requirement	Reference
D111	Waste generated during construction and operation must be dealt with in accordance with the following priorities: (a) waste generation must be avoided and where avoidance is not reasonably practicable, waste generation must be reduced; (b) where avoiding or reducing waste is not possible, waste must be re-used, recycled, or recovered; and (c) where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of	Section 7.2
D112	The importation of waste and the storage, treatment, processing, reprocessing or disposal of such waste must comply with the conditions of the current EPL for Stage 1 of the CSSI, or be done in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014 , as the case may be.	Section 7.2
D113	Waste must only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste, or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014 , or to any other place that can lawfully accept such waste.	Section 7.2
D114	All waste must be classified in accordance with the EPA's Waste Classification Guidelines , with appropriate records and disposal dockets retained for audit purposes.	Section 7.2
D115	Before undertaking any works and during maintenance or construction activities, erosion and sediment controls must be implemented and maintained to prevent water pollution consistent with LandCom's Managing Urban Stormwater series (The Blue Book).	Section 7.4

Table 2 CEMF Requirements for CEMP

CEMF Ref.	Requirement	Reference
3.4 a)	Principal Contractors are required to prepare and implement a Construction Environmental Management Plan (CEMP) relevant to the scale and nature of their scope of works. The CEMP shall comprise of a main CEMP document, issue specific sub plans, activity specific procedures and site based control maps. The CEMP shall illustrate the relationship between other plans required by the contract, in particular those that relate to design management.	This Plan Section 2.2
b)	Depending on the scope and scale of the works, Sydney Metro may decide to streamline the CEMP and sub-plan requirements. For example, depending on the risk associated with particular environmental issues it may be appropriate to remove the need for a sub plan, or replace with a procedure as part of the CEMP.	Section 3.1
c)	The CEMP will cover the requirements of the relevant planning approval documentation, the conditions of all other permits and licences, the Principal Contractor's corporate EMS, the environmental provisions of the contract documentation and this Construction Environmental Management Framework.	Section 2
d)	As a minimum the CEMP will:	Appendix A
i.	Include a contract specific environmental policy;	Quickway Environmental Policy
ii.	Include a description of activities to be undertaken during construction	Section 4
iii.	For each plan under the CEMP include a matrix of the relevant Conditions of Approval or Consent referencing where each requirement is addressed;	NVMP
iv.	For each plan under the CEMP, set objectives and targets, and identify measurable key performance indicators in relation to these;	NVMP
v.	For each role that has environmental accountabilities or responsibilities, including key personnel, provide a tabulated description of the authority and roles of key personnel, lines of responsibility and communication, minimum skill level requirements and their interface with the overall project organisation structure;	Section 6.2
vi.	Assign the responsibility for the implementation of the CEMP to the Environment Manager, who will have appropriate experience. The Principal Contractor's Project Director will be accountable for the implementation of the CEMP	Section 6.2
vii.	Identify communication requirements, including liaison with stakeholders and the community	Section 5.2 Section 6.6
viii.	Include induction and training requirements and a summary of the Training Needs Analysis	Section 6.4
ix.	Management strategies for environmental compliance and review of the performance of environmental controls	Section 6.8

CEMF Ref.	Requirement	Reference
x.	Procedures for environmental inspections and monitoring, auditing and review, and reporting on environmental performance including environmental compliance tracking	Section 6.8
xii.	Include procedures for emergency and incident management, non-compliance management, and corrective and preventative action;	Section 6.7
xiii.	Include procedures for the control of environmental records.	Section 6.9
e)	The CEMP and associated sub-plans will be reviewed by Sydney Metro and/or an independent environmental representative (see Section 3.12) prior to any construction works commencing. Depending on the Conditions of Approval, the CEMP and certain sub-plans may also require the approval of the Department of Planning, Industry and Environment (DPE).	Section 5
f)	Where a corresponding systems document exists within the Sydney Metro Integrated Management System, the Principal Contractor's procedures will be required to be consistent with any requirements in those documents.	Appendix D (SM Incident and NC Procedure) Appendix G (SM Unexpected Finds Procedure)
3.5 a)	Subject to Section 3.4(b) the Principal Contractor will prepare issue-specific environmental sub plans to the CEMP which address each of the relevant environmental impacts at a particular site or stage of the project. Issue specific sub plans will include: Noise and Vibration Management	NVMP
3.6 a)	The Principal Contractor will prepare and implement activity specific environmental procedures. These procedures should supplement environmental management sub plans, but may substitute for sub plans in agreement with Sydney Metro if a reasonable risk based justification can be made and the sub plan is not a requirement of any approval.	EWMS (Various) Section 6.1.3
3.6 b)	The procedures will include:	
i.	A breakdown of the work tasks relevant to the specific activity and indicate responsibility for each task;	
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; and	
v.	Responsibility to ensure the implementation of the mitigation measures.	

CEMF Ref.	Requirement	Reference
3.6 c)	The Principal Contractor will prepare and implement site based progressive Environmental Control Maps (ECM's) which as a minimum:	Appendix C (ECMs)
i.	Depicts the current representation of the site;	
ii.	Indicate which environmental procedures, environmental approvals, or licences are applicable;	
iii.	Illustrate the site, showing significant structures, work areas and boundaries;	
iv.	Illustrate the environmental control measures and environmentally sensitive receivers;	
v.	Is endorsed by the Principal Contractors Environmental Manager or delegate;	
vi.	Include all the training and competency requirements for relevant workers; and	
vii.	Be communicated to relevant workers, including sign-off for the appropriate procedures prior to commencing works on the specific site and / or activity.	
3.7 (a)	Where the requirement for an additional environmental assessment is identified, this will be undertaken prior to undertaking any construction activities. The environmental assessment will include: 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; and v. Identification of the timing for completion of the construction works, and how the sites would be reinstated (including any necessary rehabilitation).	Section 6.1.2.3
3.8 b)	Prior to the commencement of construction the Principal Contractor will prepare a Road Dilapidation Report for all local public roads proposed to be used by heavy vehicles. Dilapidation reports are to include other road infrastructure such as signs, curbs, applicable driveways and pedestrian paths.	Dilapidation Reports
3.9 a) 3.9 b)	Principal Contractors will identify hold points, beyond which approval is required to proceed with a certain activity. These hold points will be documented in the CEMP or relevant sub-plans. Example activities include vegetation removal and water discharge.	Section 3.4
3.10 a)	Principal Contractors are responsible for determining the training needs of their personnel. As a minimum this will include site induction, regular toolbox talks and topic specific environmental training as follows:	
i.	The site induction will be provided to all site personnel and will include, as a minimum: • Training purpose, objectives and key issues;	Section 6.4.1

CEMF Ref.	Requirement	Reference
	- Contractor's environmental and sustainability policy(s) and key performance indicators; - Due diligence, duty of care and responsibilities; - Relevant conditions of any environmental licence and/or the relevant conditions of approval;	
ii.	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; and	Section 6.4.2
iii.	Topic specific environmental training should be based upon, but is not limited to, Issue specific subplans required under Section 3.5 (a) (i-xi).	Section 6.4
3.13 a)	In relation to Roles and Responsibilities the CEMP will:	
i.	Describe the relationship between the Principal Contractor, Sydney Metro, key regulatory stakeholders, the independent environmental representative	Section 6.2
ii.	For each role that has environmental accountabilities or responsibilities, including key personnel, provide a tabulated description of the authority and roles of key personnel, lines of responsibility and communication, minimum skill level requirements and their interface with the overall project organisation structure;	Section 6.2
iii.	Provide details of each specialist environment, sustainability or planning consultant who is employed by the Principal Contractor including the scope of their work;	Section 6.2
iv.	Provide an overview of the role and responsibilities of the Independent Environmental Representative and other regulatory stakeholders	Section 6.2
3.14 a)	Issue specific environmental monitoring will be undertaken as required or as additionally required by any approval, permit or licence conditions.	Section 6.8
3.14 b)	The results of any monitoring undertaken as a requirement of a licence or permit that is required to be published will be published on the Principal Contractor's, or a project specific, website within 14 days of obtaining the results.	Section 6.9
3.14 c)	Environmental inspections will include:	
i.	Surveillance of environmental mitigation measures by the Site Foreman; and	Section 6.8.2
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.	Section 6.8.3
3.14 d)	Regular site inspections by the ERs and Sydney Metro representatives at a frequency to be agreed with the Principal Contractor.	Section 6.8.4
3.14 e)	Principal Contractors must undertake internal environmental audits. The scope will include:	Section 6.8.1
i.	Compliance with any approval, permit or licence conditions;	Section 6.8.1

CEMF Ref.	Requirement	Reference
ii.	Compliance with the E&SMS, CEMP, SMP, sub-plans and procedures;	Section 6.8.1
iii.	Community consultation and complaint response;	Section 6.8.1
iv.	Environmental training records; and	Section 6.8.1
v.	Environmental monitoring and inspection results.	Section 6.8.1

3.2 Objectives

As a means of assessing environmental performance during construction of the Project, environmental objectives and targets have been established under the Sydney Metro CEMF. These objectives and targets have been developed with consideration of key performance outcomes for each key issue, as specified in the Project requirements.

With consideration of applicable environmental aspects for the works, relevant environmental objectives for the Project are incorporated into relevant environmental sub-plans. A summary of the objectives relevant to applicable is provided in [Table 4](#) below.

The Project's environmental management commitments are:

- Optimise sustainability outcomes, transport service quality and cost effectiveness.
- Develop effective and appropriate responses to the challenges of climate change, carbon management, resource and waste management, land use integration, customer and community expectation, and heritage and biodiversity conservation.
- Be environmentally responsible, by avoiding pollution, enhancing the natural environment and reducing the project ecological footprint, while complying with all applicable environmental laws, regulations and statutory obligations.
- Be socially responsible by delivering workforce legacy which benefits individuals, communities, the project and industry, as is achieved through collaboration and partnerships.

3.3 Targets

The following targets have been established for the management of impacts resulting from construction:

- Establish adequate and appropriate controls as detailed in this Plan to demonstrate compliance with the relevant legislative requirements, MCoA and REMMs.
- Monitor implementation of controls in accordance with this Plan to assess compliance, detect control weaknesses and identify continual improvement opportunities.

3.4 Hold Points

The relevant hold points applied to the Project (where applicable) as identified in the CEMF are included below:

Table 3 Hold Points

Hold Point	Release of Hold Point	By Whom	Where addressed
Prior to Vegetation Clearing / Ground Disturbance	Pre-clearing inspection Erosion and sediment control plan	Qualified Ecologist Quickway Environment Manager or delegate	Section 7.1
Discharge of water	Water tested to verify compliance and approval to discharge	Quickway Environment Manager or delegate	Section 7.4
Use of local roads by heavy vehicles	Road Dilapidation Report	Appropriate Professional nominated by Principal Contractor	HVLR
Out of hours works	Noise assessment	Quickway Environment Manager	Noise and Vibration Management Plan
Construction identified as affecting buildings	Building condition survey	Appropriate Professional nominated by Sydney Metro	Section 7.11

Table 4 Environmental Objectives

Management Area	Objective	Where addressed
Community	- Ensure key stakeholders and the community are kept informed about the works - Consult with all business directly affected by activities at the Silverwater compound site, including any changes to access arrangements at least two weeks prior to those changes coming into effect; and - Ensure enquiries and/or complaints about the works are managed in line with Sydney Metro's complaints management processes and procedures - Work cooperatively with Sydney Metro and interfacing contractors to ensure a consistent and coordinated approach to communications and minimise cumulative impacts; - Enhance and protect the reputation of the NSW Government and Sydney Metro - Develop a positive legacy with key stakeholders and the community to enable the successful management and delivery of future stages of work at and around the Westmead metro station site.	Community Communications Strategy (CCS)
Noise and Vibration	- Minimise unreasonable noise and vibration impacts on residents and businesses; - Avoid structural damage to buildings or heritage items as a result of construction vibration; - Undertake active community consultation - Maintain positive, cooperative relationships with schools, childcare centres, local residents and building owners. - Noise and vibration monitoring will be undertaken for construction as specified in the CNVS.	NVMP (Appendix I)
Heritage Management Objectives	- Minimise impacts on items or places of heritage value; - Avoid accidental impacts on heritage items; and - Maximise worker's awareness of indigenous and non-indigenous heritage.	CEMP Heritage Unexpected Finds Procedure (Appendix G)
Soil and Water Management	- Minimise pollution of surface water through appropriate erosion and sediment control; - Minimise leaks and spills from construction activities; - Maintain existing water quality of surrounding surface watercourses; and - Source construction water from non-potable sources, where feasible and reasonable.	Erosion and Sediment Control Plans CEMP
Air Quality	- Minimise gaseous and particulate pollutant emissions from construction activities as far as feasible and reasonable; and - Identify and control potential dust and air pollutant sources.	CEMP

Management Area	Objective	Where addressed
Waste Management	- Minimise waste throughout the project life-cycle; and - Waste management strategies will be implemented in accordance with the Waste Avoidance and Resource Recovery Act 2001 management hierarchy as follows: - Avoidance of unnecessary resource consumption; - Resource recovery (including reuse, reprocessing, recycling and energy recovery); and - Disposal.	CEMP
Sustainability	- Ensure surplus spoil is reused where practicable to do so, or transported to a licenced waste facility, or DA S143 approved site. - Ensure effective and efficient use of resources to enable construction - Achieve sustainability targets - Track waste streams, fuel, electricity, water and GHG emissions throughout the project and provide monthly sustainability reports to Sydney Metro in accordance with the Sustainability Reporting Template (SM-18-00043350) - Record an inventory of non-road diesel powered vehicles used for Contractor's Activities using the TfNSW Air Emission Data Collection Workbook (9TP-FT-493). - Ensure the workforce are educated on sustainability outcomes via toolbox talks and pre-starts.	CEMP
Traffic and Transport	Transport Network - Minimise disruption to pedestrians, cyclists and motorists; - Ensure Sydney Metro construction traffic accesses the arterial network as soon as practicable on route to, and immediately after leaving, the construction site; - Keep Sydney moving; - Minimise impacts on route bus operations, routes and stops, where possible; - Minimise changes to traffic operation and kerbside access; - Minimise construction traffic generation during network peak; - periods (maximum peak period construction vehicle volumes should not exceed those outlined in the EIS); - Maintain access to properties and businesses where possible, or arrange alternative; - Maintain a safe environment for pedestrians and cyclists Safety - No worker injury accidents during construction; - No injury accidents to members of the public because of construction. Cumulative - Work collaboratively with other stakeholders and other major projects to mitigate traffic and transport impacts	Construction Traffic Management Plans

Management Area	Objective	Where addressed
	Amenity Minimise noise and other environmental impacts on the residents and businesses in the vicinity of the construction sites, in line with the Construction Noise and Vibration Standard (CNVS)	

4. Project Description

4.1 Westmead Utility Installation and Relocation Works

This section provides an overview of the Project as referred to in the MCoA and as stated in the EIS (Chapter 9).

The Project is located in Westmead, Sydney:

Works will be undertaken in streets adjacent to the Westmead metro station site, including Hawkesbury Road, Bailey Street and Hassall Street.

Quickway will be undertaking works to install new utility services for two service providers which is required as part of the Sydney Metro Westmead Station Works:

Telstra - Communications installation:

Installation of approximately 450m (open cut trench) of Telstra conduits for communications, Form, Reinforcement, Pour (FRP) works for new Telstra comms pits.

Jemena – Gas installation

Installation of approximately 220m of conduits for Jemena gas.

A description of construction activities for each scope of works is provided in [Table 5](#) below. Detailed description of impacts of the proposed works are included within these documents, or Sub-Plans as described in [Figure 1](#). An overview of the Westmead alignment is provided in [Figure 2](#) below.

Table 5 Description of construction activities

Works category	Description of activities
SMW - Westmead Telstra & Jemena Relocations	
Mobilisation, site set-up.	- Site compound setup for amenities and material storage - Site compound setup for materials, spoil and waste management and handling – segregation of waste management bays - Environmental controls setup – chemical storage container, sediment controls - Site security measures - Delivery of permanent material – i.e., conduits, cover strip, spacers - Progressive removal of spoil material and importing of quarry materials. - Temporary storage of vac-truck slurry in sealed containment bins.
Service locating, potholing, investigations, site preparation works	- Existing service locating and space / design proving of the alignment in pinch point locations - Locating of “challenging” excavation spots – i.e. large/ major utility crossings - Waste material sampling and classifications - Open excavations rock hammering for rock strength and rock level testing

Works category	Description of activities
	• Survey works • Tree protection where required.
Traffic control, pedestrian/ cyclists management	• Traffic management – partial, full road closures, detours • Parking removal • Partial footpath closures • Pedestrians and cyclists management • Concurrent trenching crews operating at once. • Out of hours work required on state, regional roads due to traffic flows and road occupancy licences.
Trench excavation, conduit installation, backfilling , temporary restorations – approximately	• Trenching installations works will consist of open excavations, conduit installation, backfilling and temporary restorations and will progressively move along the trench alignment. • Trench depths ranging from 1000mm to approximately 2500mm and widths ranging from 725mm out to 1500mm wide in some areas. • All of the trenching works occurs within the footway, road carriageway or road shoulder/parking lanes. • Open excavations when deeper than 1500mm or in poor ground conditions trenches will be shored with either vertishores or shoring boxes. • Excavation will occur to separate via material layer type – i.e. truck will be loaded with road surface material (concrete/ asphalt / roadbase) then tipped. Then loaded with any GSW material in trench (if found). Clean material, and rock will be loaded into truck separately to ensure maximisation of suitable material for re-use. • It is likely that some of the excavations may encounter shale rock , referring to project geotechnical logs. There is the potential to encounter sandstone rock at the base of the excavation, if this is the case a ripper will be used in the first instance. Where the rock cannot be sufficiently removed via ripping methods, a rock hammer attachment may be required. • Once excavation has achieved the required depth, conduits be installed and jointed with PVC glues. These conduits will be secured to prevent movement during the placement of the embedment zone material. • 8:1 Stabilised Sand is installed around the Communications conduits as the pipe embedment material. The Jemena Gas Main will be embedded in clear compaction sand material (not stabilised). The stabilised sand for the Communications conduits will be delivered to site via agitator truck and placed into the trench off the chute. The assistance of excavator bucket for placing stabilised backfill may be required in some tight work areas. The dry stabilised sand backfill will enable the trenches to be backfilled progressively with conduit installation (i.e., no need to allow for curing prior backfill). • A warning tape is placed over the asset embedment layer (generally no less than 300mm above the obvert of the pipe) prior the completion of trench backfill. • Stabilised sand material will be placed, compacted, and vibrated in approximately 150mm layers above the cover strip with trench compaction equipment. This process will be repeated for multiple layers until the underside of road subgrade is met (approximately 350mm below road surface level). Compacting testing will occur progressively during backfilling and layers (excl. stabilised sand). • Compaction sand or stabilised sand would be placed for backfill immediately around existing utilities crossed. Stabilised sand may require water

Works category	Description of activities
	conditioning during placement, however does not require vibration compaction from 2ton trench roller, instead isolated handheld jumping jack leveling. • Soft gas and communications warning marker tape is rolled out and installed on the top of the trench backfill and below the road subgrade level. • Imported DGB-20 roadbase material will make up the 300mm thick subgrade level below the road surface. Roadbase will be placed in 150mm layers, compacted and rolled with a 2ton smooth drum roller or wacker plate. Compacting testing will occur progressively during backfilling and layers. • Temporary road and footpath restorations will be made with the placement of approximately 50-75mm of AC10 or AC14 hotmix. Hotmix will be placed from excavator bucket, spread and rolled with 2ton smooth drum roller. • Any open excavations at the end of each shift withing trafficable lanes to be re-opened will be road plated, pinned in accordance with TfNSW M209 temporary restorations specification, which includes pins and hotmix transition ramps on all sides. • Any open excavations within the secured site road plated and covered between shifts to ensure public safety of any unauthorised entry in the site. • Trenching works will progress approximately 12 - 18 metres per dayshift, and approximately 6 - 12 metres per nightshift pending ground conditions. It is noted that the majority of the works will be performed during night shift due to road occupancy restrictions.
Communication Pits Construction	• The new pit locations will be surveyed, and potholing conducted to 'space proof' the new pit location. An excavation, generally 2200mm deep will be excavated to beyond the dimensions of the in-situ concrete pit structure. The new pits are generally 5 meters long and 1.5m to 1.5m wide. • It is noted that all communications pits are located within the footpath or grass verge (back of footpath). • Shoring is installed to support the excavation (>1.5m) and the area is made safe. • ATF Fence panels or similar will be placed around any open excavations and it is intended to cover the pit excavations outside of working hours to maintain safe pedestrian access. • Formwork will be placed in the excavation and secured to form the in-situ walls. Steel reinforcement will be placed and tied in position as per the design. The pit base, walls and roof will likely be poured in three separate stages (allowing for curing time). • Following a sufficient curing time, the excavation around the pits will be backfilled and compacted in layers. The affected ground surface will be temporarily Restored to permit safe pedestrian access and permanently restored at a later date.
Cable installation, jointing works	• Roping, and mandrelling (proving) of new conduits will be conducted during night shift. • Sub-ducts (micro-ducts) will also need to be installed through the larger 100mm conduits, this process is similar to cable hauling insofar as the methodology and equipment required is similar to that of cable hauling • Access to conduits will be through new and existing communications pits. Cable hauling will be carried out with the use of small winches and cable pushing equipment. • Cable testing (very low impact, completed above ground adjacent a small communications pit.

Works category	Description of activities
	- Upon completion of all cable installation and testing, each fibre cable will be spliced (join new to the existing). - The redundant cables and subducts will be removed by the communications carrier following the commissioning of the new infrastructure. This process is the reverse of installation and imposes relatively minimal impact.
Jemena Gas, Testing, Commissioning and Connections To Existing	- Pressure testing of new main is completed by NATA accredited tester ahead of cutover shifts. - Civil works for main cutover open points are completed ahead of the connection shift by QW crew using above methodologies. Open points will need to be shored & roadplated depending on location and depth. - Main cutover is completed by Jemena using squeeze off technique in order to maintain gas supply. - Existing property services are then cut over to the new main. - All excavations are backfilled & temporarily restored once connections are completed.
Permanent restorations and handover	- Return once all conduit installation works and cable pulling, testing works are completed. Mill and re-sheet impacted lane with permanent road pavement material. - Restore any footpath materials to pre-existing materials -i.e. concrete or pavers where appropriate

The proposed construction program, weather and site conditions pending, is detailed in [Table 6](#).

Table 6 Proposed Construction Duration

Project Location	Commencement	Completion
Westmead	November 2023	October 2024



Figure 2 Overview of the works

4.2 Ancillary Facilities

A temporary construction ancillary facility is needed to facilitate construction of the project. There is one ancillary facility proposed to facilitate the works and is located on Sydney Metro owned land at 103-105, on the corner of Derby St in Silverwater (Figure 3).

It is noted that the need for additional ancillary facilities may arise during the Project. Should this occur and a suitable location be identified, this will be assessed and approved in accordance with an appropriate pathway in accordance with relevant MCoAs to be decided in consultation with Sydney Metro and the ER. Upon approval, the site(s) will be managed in accordance with this CEMP.

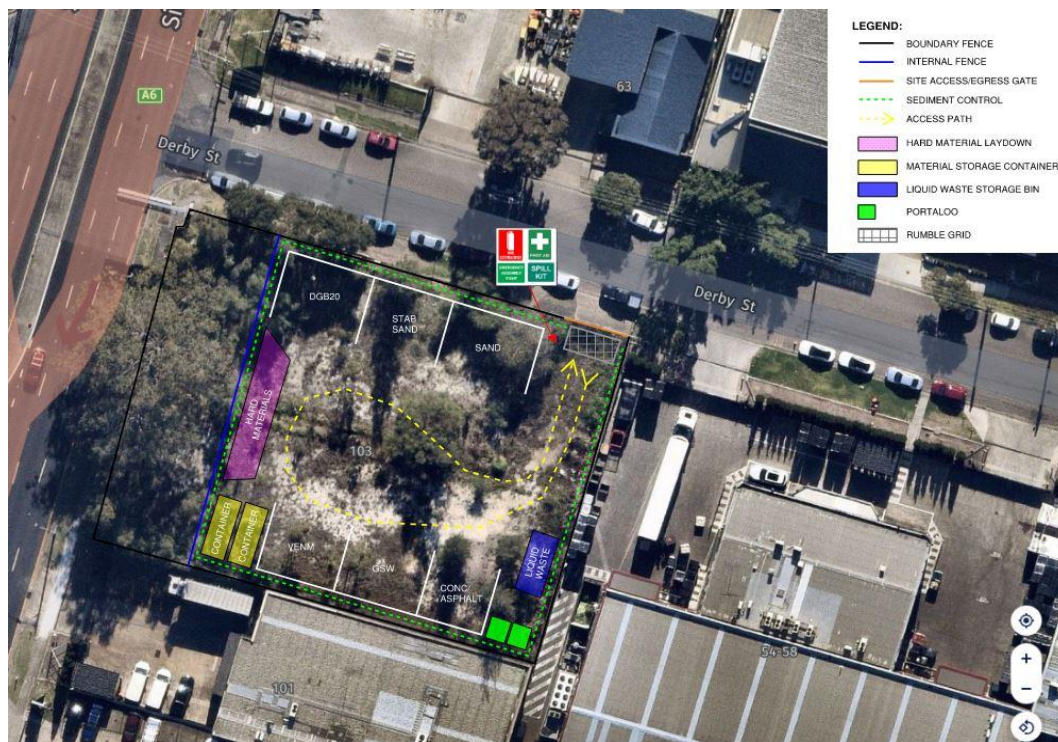


Figure 3 AF01 General Indicative Layout

As the land use of surrounding receivers is predominantly Industrial. There are residential receivers located approximately 200m south of the ancillary facility. As described in the DNVIS, it is unlikely that these receivers will be affected by the use of the facility.

Establishment, operation and demobilisation of these sites will be undertaken in accordance with this CEMP, and only upon approval of the CEMP.

Site establishment will generally require the following activities:

- Site preparation:
 - Provision of site security such as ATF fencing panels, CCTV, signage and Sydney Metro boundary screening.
- Survey and site investigation work including:
 - Ground penetrating radar or electromagnetic ground investigation
 - Contamination investigation and management
- Site establishment:

- Installation of environmental controls
- Installation of noise attenuation measures (as required)
- Treatment/removal or capping of contaminated materials (as required)
- Delineation of sensitive areas and installation of temporary fencing.
- Installation of Boundary Screening in compliance with MCoA A22, A23 and A48.
- Site access
 - Establishment of traffic management controls, including adjustments to road signage where required (showing changes to traffic movements and speed limits)
 - Construction of site access and the provision of property access including any required adjustments to pedestrian and cycle paths, as required
 - Installation of gates
- Site preparation
 - Removal of any remnant waste materials on site
 - Protection of existing services
 - Management of contamination
 - Vegetation and tree removal, clearing, chipping and mulching where required
 - Installation of new services, drainage and communications
- Site installation:
 - Installation of office block, and/or shipping containers for storage
 - Installation of fuel and chemical storage activities (as required)
 - Formalisation of onsite car parking
 - Formalisation of roads and external connections
 - Establishment and use of crane
 - Establishment of stockpile areas

An indicative list of plant and equipment required for site establishment and operation includes:

- Vacuum truck
- Excavator(s)
- Chainsaw, grinder, mulcher (where vegetation removal/tree trimming is required)
- Forklift / telehandler
- Elevated work platform
- Mobile crane or Franna (pick & carry crane)
- Light vehicles
- Heavy vehicles / trucks
- Roller
- Power generator

- Concrete saw
- Hand tools and equipment
- Water cart as required

Ancillary Facilities may be required to operate outside standard construction hours. Potential operating hours and relevant mitigation measures will be addressed in the Construction Noise and Vibration Management Plan (CNVMP). Refer to [Section 6.5](#) for more information on Project working hours.

Potential traffic impacts will be documented as part of a Traffic Control Plan. This may include relocation of public parking, control measures or diversions for pedestrian or bike lanes, and control measures for adjacent roads during oversized deliveries.

The CSSI name, application number, telephone number, postal address and email address will be made visible on-site boundary fencing / hoarding at each ancillary facility.

5. Review and Approval

5.1 Internal consultation

The development of the CEMP, Sub-plans, Procedures and Monitoring Programs involved detailed review of the documentation by the Quickway Environment Manager, Project Manager and Project Engineer(s).

Following Quickway's satisfaction of the documents, a review process is completed with Sydney Metro, Environmental Representative (ER), Acoustic Advisor (AA) prior to submission of the document to the Department of Planning, and Environment (DPE).

5.2 External consultation

Prior to submission for approval, external consultation for the CEMP, Sub-plans, Procedures and Monitoring Programs was undertaken with relevant stakeholders, agencies, and other relevant regulatory authorities. The process for consultation, endorsement and subsequent approval is detailed in [Table 7](#).

In all cases, Sydney Metro are required (as the Proponent) to review and be satisfied with the documents prior to submission for approval.

Evidence of external consultation will be provided in accordance with MCoA A6, as a separate document to DPE.

Table 7 CEMP consultation and approval requirements as identified in the Project Phasing Report v1.6

		Stakeholder						
Document	MCoA	DPE	DPI EES	Local Council(s)	Place Management NSW	ER	AA	Sydney Water
CEMP								
CEMP	C2 C4					E		
CEMP Sub-plans								
Noise and Vibration Management Sub-plan (NVMP)	C5 C7 C8	A		C		E	E	

(A = Approval required, C = consultation required, E = endorsement required)

5.3 Approval

In accordance with MCoA C4, and with the exception of any CEMP Sub-plans expressly nominated by the Planning Secretary to be endorsed by the ER (under MCoA C3), the CEMP Sub-plans must be endorsed by the Environmental Representative (ER) and then submitted to the Secretary for approval no later than one month prior to the commencement of the construction activities to which they apply.

In accordance with MCoA C3 the CEMP Sub-plans not requiring the Planning Secretary's approval must obtain the endorsement of the ER as being in accordance with the conditions of approval and all relevant undertakings made in the documents listed in MCoA A1.

Construction of the relevant phase must not commence until the CEMP and all CEMP Sub-plans have been approved by the Secretary or endorsed by the ER. The CEMP, Sub-plans and Monitoring Programs, as approved by the Secretary, including any minor amendments approved by the ER, must be implemented for the duration of construction.

As per the Phasing Report, the approval of this document will be under MCoA C3 (i.e. does not require the Planning Secretary's approval) and as such ER endorsement has been obtained prior to implementation of this sub-plan.

6. Environmental Management Plan

6.1 Planning

6.1.1 Environmental Risk Assessment Workshop

A risk assessment workshop has been completed to assist the identification of any additional mitigations, not already identified in the EIS (i.e. the REMMs) or required under the Project Approval. This workshop involved management staff of the Environment Team, Quickway construction personnel and Sydney Metro personnel, including the Sydney Metro Environmental Manager.

Each construction activity was assessed to identify associated environmental hazards, initial risk levels, mitigation measures and how to avoid, manage and/or minimise risks and residual risk. Outcomes of the risk assessment workshop have been included into this CEMP and sub plans as appropriate. Please refer to [Appendix K](#) for outcomes of the risk assessment workshop.

Throughout the duration of construction, the Project team will assess and consider environmental risks for upcoming activities on an ongoing basis during regular meetings, planning sessions and discussions.

Where additional risks or impacts are identified, and additional specific mitigation measures beyond those described within this plan or sub-plans which are not trivial, the documentation will be updated accordingly.

6.1.2 Regulatory requirements and compliance

6.1.2.1 Legislation

A register of legal and other requirements for the Project, current at the time of CEMP preparation, are contained in the Legal Requirements Register ([Appendix B](#)).

Quickway will update the internal register following notification of changes in legislation through Quickway's subscription to Workplace Safety Australia and other subscriptions. The register included in [Appendix B](#) of this document will be replaced with any applicable updates during management reviews.

Any changes made to the legal requirements register will be communicated to the wider Project team, including subcontractors where necessary through toolbox talks, specific training and other methods detailed in [Section 6.3](#) of this CEMP.

6.1.2.2 Approvals, permits and licences

Approvals, permits and licenses are required for the Project. All necessary licences, permits and approvals required for the development of the Project have and/or will be obtained and maintained as required throughout construction of the Project.

The MCoA do not remove the obligation for Quickway to obtain, renew or comply with such necessary licences, permits or approvals except as provided under Section 5.23 of the EP&A Act. The approvals and licences listed in [Table 8](#) are required for the Project.

Table 8 Environmental approvals, permits and licences relevant to the delivery of the Project

Approvals / Permit / Licence	Regulatory authority	Timing	Status of the approval/ permit/ licence
Instrument of Approval under the EP&A Act	DPE / Minister for Planning Sydney Metro	Prior to commencement of works	EIS Approved 11/03/2021
Section 143 notice of POEO Act	EPA	Prior to transportation of waste to receiving facility	Ongoing
Road Occupancy Licences (RoLs)	TfNSW Councils	Prior to commencement of traffic related works that require access to roads	Ongoing

Note, an EPL is not required for the Project works as this does not trigger a Scheduled Activity under Schedule 1 of the Protection of the Environment Operations Act (1997).

6.1.2.3 Additional Environmental Assessments

As described in Section 3.7 of the CEMF, where the requirement for an additional environmental assessment is identified (i.e. proposed use of an area not previously assessed under the EIS), this will be undertaken prior to undertaking any construction activities. The environmental assessment will include:

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

Where a consistency assessment is required, the assessment will be undertaken in accordance with Appendix 2 of the Sydney Metro Planning Approval Manual (SM-21-00043765).

Quickway would assist Sydney Metro in the development of any Consistency Assessment or Environmental Review as required.

6.1.3 Environmental Work Method Statement(s)

Environmental Work Method Statements (EWMS) will be prepared prior to the commencement of construction activities that have been identified in the Risk Workshop as High Risk following the implementation of control measures. They will incorporate relevant mitigation measures and controls, including those from relevant management Sub-plans and key procedures to be used concurrently with the EWMS.

EWMS are specifically designed to communicate requirements, actions, processes and controls to construction personnel using plans, diagrams and simply written instructions.

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

At the completion of the Risk Workshop, the following activity has been identified as High Risk and will be the subject of an activity specific EWMS:

- *Trenching Activities*

6.1.4 Environmental Control Maps

The Project traverses a range of environmental and socially sensitive areas/sites. To assist with construction planning and management, these site constraints are consolidated on a series of map-based sheets that extend the length of the Project. The Environmental Control Maps (ECMs) include information pertaining, but not limited to:

- Noise sensitive receivers (e.g. residential dwellings, hospitals, educational institutions)
- Aboriginal and non-Aboriginal heritage sites, including items, places, objects and conservation areas
- Local waterways
- Contamination, including potential or actual acid sulphate soil areas and contaminated sites

ECMs will be used in conjunction with EWMS to help identify key risk areas and to promote ongoing communication to construction personnel during the Project.

As ECMs are a working element of the CEMP, they will be regularly reviewed throughout construction to reflect true ground conditions and identify new environmentally sensitive areas. As part of the environmental induction, all staff and subcontractors working on site will be provided with an understanding of the risks associated with working in or near environmentally sensitive areas, and training on implementing the relevant environmental protection measures.

6.1.5 Erosion and Sediment Control Plans

Erosion and Sediment Control Plans (ESCPs) are planning documents that clearly show the site layout and the approximate location of erosion and sediment control structures onsite. They cover all construction stages from initial vegetation clearing through to rehabilitation when erosion and sediment control are no longer required and are removed. ESCP will be developed and implemented across the project where there is a risk of erosion and sediment loss.

ESCPs may be produced in conjunction with EWMS to provide more detailed site-specific environmental mitigation measures.

Activity based Erosion and Sediment Control Plans (ESCPs) will be developed and implemented for all active worksites in accordance with Managing Urban Stormwater: Soils & Construction Volume 1 (Landcom, 2004) (known as the “Blue Book”). The ESCPs will be approved by Quickway’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 personnel including the Engineer and the Site Supervisor. Modifications and improvements may be undertaken where they are identified as part of routine informal and formal site inspections.

6.2 Resources, responsibility, and authority

6.2.1 External

Environmental Representative (ER)

A suitably qualified and experienced ER has been approved by the Secretary in accordance with MCoA A27 after having due regard to MCoA A28. The ER will fulfil the requirements of A30 and any other MCoA that require the ER's involvement.

Acoustics Advisor (AA)

A suitably qualified and experienced AA has been approved by the Secretary in accordance with MCoA A32 after having due regard to MCoA A32. The AA will fulfil the requirements of A36 and other MCoA that require the AA's involvement.

6.2.2 Quickway

The internal roles with environmental responsibilities are detailed below, and summarised in [Table 9](#) with:

- authority and roles of key personnel
- lines of responsibility and communication
- minimum skill level requirements
- interface with the overall project organisation structure

Quickway Senior Project Manager

The environmental responsibilities of the Senior Project Manager include but are not limited to:

- Ensure all works comply with relevant regulatory and Project requirements.
- Ensure the requirements of the CEMP are fully implemented, and in particular, that environmental requirements are not secondary to other construction requirements.
- Endorse and support the Project environmental policies.
- Liaise with TfNSW, Sydney Metro, the Environmental Representative and other government authorities as required.
- Participate and provide guidance in the regular review of this CEMP and supporting documentation.
- Provide adequate resources (personnel, financial and technological) to ensure effective development, implementation and maintenance of the CEMP.
- Ensure that all personnel receive appropriate induction training, including details of the environmental and community requirements.
- Ensure that complaints are investigated to ensure effective resolution.
- Ensure a stop work procedure is implemented in the event of an unacceptable impact on the environment.
- Liaison with GLC in weekly / fortnightly interface meetings to ensure cumulative impacts are considered and managed appropriately

Quickway Environmental Manager

The environmental responsibilities of the Environmental Manager include (but are not limited to):

- Advising on environmental matters specified in the Approved Project, and Project requirements.
- Overall responsibility for the implementation of environmental matters on the Project.
- Development, implementation, monitoring and updating of the CEMP and associated environmental sub-plans in accordance with ISO14001 and Project specifications
- Report to Senior Project Manager and other senior managers on the performance and implementation of the CEMP.
- Ensure environmental risks of the Project are identified and appropriate mitigation measures implemented in accordance with the CEMP and its sub-plans.
- Overall responsibility for the establishment, management, monitoring and maintenance of erosion and sediment controls within the Site.
- Identify where environmental measures are not meeting the targets set and where improvement can be achieved.
- Ensure environmental protocols are in place and managed.
- Ensure environmental compliance with statutory, approval and proponent requirements.
- Obtain and update all environmental licences, approvals and permits as required.
- Develop OOHW applications in consultation with the site supervisor, site/project engineers and other relevant site personnel. Liaising with Sydney Metro Comms Team for implementation of Community related Additional Mitigation Measures as required under OOHW Applications.
- Liaison with GLC in weekly / fortnightly interface meetings to ensure cumulative impacts are considered and managed appropriately
- Facilitating the development of DNVIS in collaboration with Quickway's Noise Consultant, and ensuring the measures and requirements of the DNVIS are implemented during works.
- Lead liaison with the Environmental Representative, Sydney Metro and approval authorities on environmental matters.
- Authority to stop works in the event of unexpected finds. Responsible for liaising with Heritage Excavation Director and Sydney Metro in the event of unexpected find.
- Manage environmental document control, reporting, inductions and training.
- Manage environmental reporting within the Project team and to Sydney Metro and regulatory authorities.
- Oversee site monitoring, inspections and audits and carrying out regular inspections and auditing of the works to ensure that environmental safeguards are being followed.
- Identifying where the implemented environmental measures are not meeting the targets set, and identifying areas where improvement can be achieved.
- Manage all sub-contractors and consultants with regards to environmental matters, including assessing their environmental capabilities and overseeing the submission of their environmental documents.
- Prepare and/or distribute environment awareness notes.

- Develop ESCPs in consultation with the site supervisor, site/project engineers and other relevant site personnel, as required.
- Develop and facilitate induction, toolbox talks and other training programs regarding environmental requirements for all site personnel.
- Notify Sydney Metro and relevant authorities in the event of an environmental incident within the target timeframe and manage close-out of these events.
- Stop activities where there is an actual or immediate risk of harm to the environment, or prevent environmental non-compliances, and advise the Project Manager, Construction Manager and Site Supervisor.
- Assist the Communications Manager to resolve environment-related complaints.
- 24 Hour point of contact for the Environmental Protection Agency (EPA).
- Provide the ER with all documentation requested by the ER in order for them to perform their functions (as specified in MCoA A27) and a copy of any assessment of whether proposed work is consistent with the approval (which must be provided to the ER before the commencement of the subject work).
- Provide the AA with information as described under MCoA A34.
- Providing noise and vibration documents required to be prepared under the Project Approval to the AA and consider any recommendations from the AA to improve practices, or demonstrate to the satisfaction of the AA why such recommendations were not adopted.
- Undertake incident reporting in accordance with the Sydney Metro Environmental Incident and Non-compliance Reporting Procedure (refer to Section [6.7.2](#)).
- Provide incident and non-compliance notifications as required under the Planning Approval (refer to Section [6.7.2](#))

The above role will be fulfilled on by both an Environmental Advisor based on site, and the Environmental Manager who is based offsite.

Site Supervisor

The environmental responsibilities of the site supervisor include (but are not limited to):

- Communicate with all personnel and sub-contractors regarding compliance with the CEMP and site-specific environmental issues.
- Ensure all site workers attend an environmental induction prior to the commencement of works and the site-specific environmental conditions are understood.
- Coordinate the implementation of the CEMP, relevant EWMS and ESCPs.
- Coordinate the implementation and maintenance of pollution control measures.
- Identify resources required for implementation of the CEMP.
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Environmental Manager/Environmental Officers.
- Coordinate action in emergency situations and allocate required resources.
- Stop activities where there is an actual or immediate risk of harm to the environment and advise the Construction Manager and Environmental Manager.

Project/Site Engineers

The environmental responsibilities of the Project/Site engineers include (but are not limited to):

- Provide input into the preparation of environmental planning documents as required.
- Ensure that instructions are issued, and adequate information provided to employees that relate to environmental risks on-site.
- Ensure that the works are carried out in accordance with the requirements of the CEMP and supporting documentation, including the implementation of all environmental controls.
- Identify and report any environmental risks.
- Identify and procure resources needed for implementation of the requirements of the CEMP and related documents.
- Ensure that complaints are investigated to ensure effective resolution.
- Take action in liaison with the Site Supervisor in the event of an emergency and allocate the required resources to minimise the environmental impact.
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Site Supervisor and Environmental Manager.

Wider Project Team (including sub-contractors)

The environmental responsibilities of the wider Project Team (including sub-contractors) include (but are not limited to):

- Comply with the relevant requirements of the CEMP, or other environmental management guidance as instructed by a member of the Project's management.
- Participate in the mandatory Project/site induction program.
- Report any environmental incidents to the foreman immediately or as soon as practicable (ie within 24 hours of the incident) so reasonable steps can be adopted to control the incident.
- Undertake remedial action as required to ensure environmental controls are maintained in good working order.
- Stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Manager, Construction Manager, Site Supervisor or Environmental Manager.
- Immediately report any community complaints, issues or concerns identified on site to the Site Supervisor or Environmental Manager.

Table 9 Summary of key lines of communication and interface.

Role	Lines of responsibility	Communications / Interface	Skill Level Requirements
Senior Project Manager	Reports to Quickway Senior Management outside the Project.	Will interface with: - Sydney Metro through monthly progress meetings, the Monthly Report and ad hoc meetings when required. - the ER and AA when required.	>5 years managing major civil infrastructure projects
Project Manager	Reports to Senior Project Manager	Will interface with: - Sydney Metro through monthly progress meetings and ad hoc meetings when required. - the ER and AA during site inspections and in addressing correspondence or enquiries when required.	Experience managing major civil infrastructure projects
Environmental Manager	Reports to Senior Project Manager	Will interface with: - Sydney Metro in the preparation of environmental and sustainability documentation, through attendance at routine environmental management meetings, collaborative site inspections and surveillance activities, and ad hoc meetings when required. - the AA in the preparation of noise and vibration environmental documentation, during collaborative site inspections and surveillance activities, environmental management meetings and when required. - the ER in the preparation of noise and vibration environmental documentation, during collaborative site inspections and surveillance activities, environmental management meetings and when required. The Environmental Manager may delegate the above and other duties to an on-site Environmental Advisor.	>5 years managing major civil infrastructure projects

Role	Lines of responsibility	Communications / Interface	Skill Level Requirements
Site Supervisor	Reports to Project Manager	Will interface with: Sydney Metro, the ER and AA during site inspections and in ad hoc meetings when required.	Experience managing major civil infrastructure projects
Project/Site Engineers	Reports to Project Manager	Will interface with: Sydney Metro, the ER and AA during site inspections and in ad hoc meetings when required.	Experience on civil infrastructure projects or relevant qualifications.
All employees and subcontractors	Various lines of responsibility	Will interface with: Sydney Metro, the ER and AA when required.	Various

6.2.3 Environmental Consultants

Contaminated Land Consultant

- Undertake sampling of potential contaminated material when uncovered on site
- Determine waste classification of potentially contaminated materials before disposal where required
- Undertake joint inspections with Quickway and the Proponent when required
- Provide technical advice when required

Archaeological Heritage Consultant (Excavation Director)

- Provide technical advice when required
- Undertake joint inspections with Quickway and the Proponent when required
- Review the proximity of features of the alignment with potential heritage items
- Be present on site when required to observe work near heritage items

Noise and Vibration Consultant

- Provide technical advice where required
- Undertake joint inspections with Quickway and the Proponent when required
- Undertake noise and vibration monitoring where required

Certified Occupational Hygienist

- Provide governance over all occupational health and hygiene activities including the approval of relevant management plans, health risk assessment and exposure control plans.
- Provide technical advice when required
- Undertake sampling of potentially Asbestos Containing Material (ACM)
- Undertake joint inspections with Quickway and the Proponent when required

6.3 Stakeholder relationships

The relationship between the Quickway, Sydney Metro, key regulatory agencies, the independent ER and AA are represented in [Figure 4](#). All sub-contractors engaged by the Principal Contractor will be required to operate in accordance with the Quickway EMS and all environmental documentation.

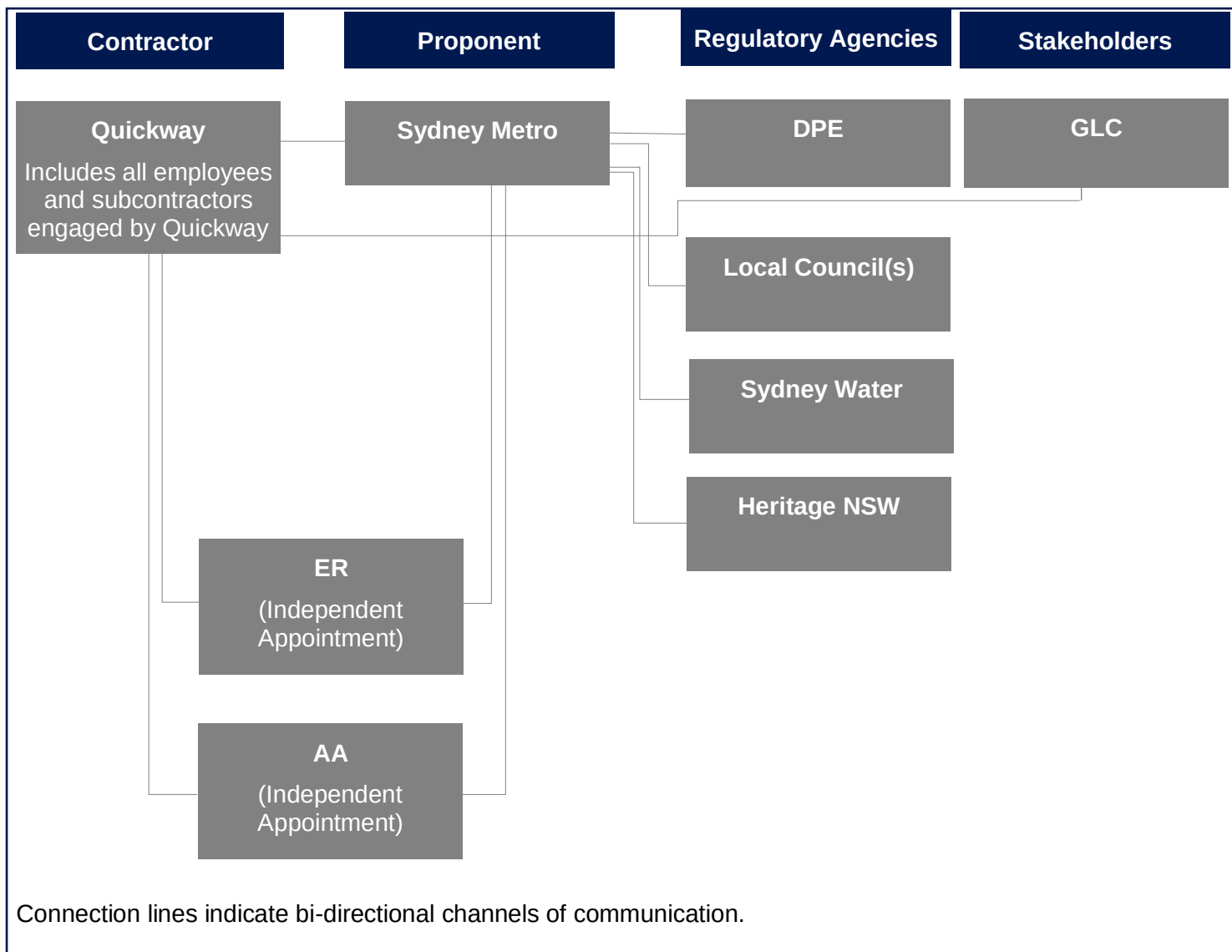


Figure 4 Stakeholder Relationships and communication channels for environmental documentation and management.

6.4 Competence, training and awareness

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

6.4.1 Environmental induction

All personnel (including subcontractors) are required to complete a compulsory online induction that includes an environmental component before commencing work on site. This is done to ensure all personnel involved in the Project are aware of the key Project requirements and mitigation measures as described in environmental documentation.

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

The environmental induction would include, but not be limited to the following:

- Training purpose, objectives.
- Relevant details of the CEMP including purpose and objectives.
- Environmental policy and key performance indicators.
- Community management / management of issues which may affect the community.
- Key environmental and sustainability issues and responsibilities.
- Awareness of conditions of environmental licences, permits and approvals, including the Planning Approval.
- Site specific issues and controls including those described in the environmental procedures.
- Requirements of due diligence, duty of care and environmental responsibilities.
- Mitigation measures for the control of environmental issues.
- High risk activities and associated environmental safeguards.
- Incident/hazard response and reporting procedures
- Unexpected finds response and notification requirements
- Information relating to the location of environmental constraints (ie sensitive area plans).
- Key environmental personnel and points of contact.
- Communication protocols for interactions with community and stakeholders.

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

6.4.2 Toolbox talks, training and awareness

Toolbox talks will be used as a method of raising awareness and educating personnel on issues related to all aspects of construction including environmental and sustainability issues and responsibilities. The toolbox talks will be used to ensure environmental awareness continues throughout construction and include details of EWMS for relevant personnel. Toolbox talks will also be tailored to specific environmental issues relevant to upcoming works. Toolbox talk attendance is mandatory and attendees of toolbox talks are required to sign an attendance form and the records maintained.

Targeted environmental awareness training will be provided to individuals or groups of workers with a specific authority or responsibility for environmental and sustainability management or those undertaking an activity with a high risk of environmental impact.

The ECMs will be displayed in crib sheds and site offices to promote awareness of the environmental constraints. Progressive Erosion and Sediment Control Plans will be distributed to the Site Supervisor and/or Forman to provide detail on erosion and sediment controls on the Project.

Quickway will establish and maintain a register of environmental training carried out, including dates, names of persons trained and trainer details.

6.4.3 Daily Pre-Start Meetings

The pre-start meeting is a tool for informing the workforce of the day's activities, safe work practices, environmental protection practices, sustainability practices, work area restrictions, activities that may affect the works, coordination issues with other trades, hazards and other information that may be relevant to the day's work. It can also be a time to convey relevant, new or updated environmental procedures or issues.

The Site Supervisor and/or Forman will conduct a daily pre-start meeting with the site workforce before the commencement of work each day (or shift) or where changes occur during a shift. Daily pre-start meetings are generally succinct in nature and take approximately 10-15 minutes.

The environmental component of pre-starts will be determined by the Site Supervisor and/or Forman and environmental personnel and will include any environmental issues that could potentially be impacted by, or impact on, the day's activities. All attendees will be required to sign on to the pre-start and acknowledge their understanding of the issues explained.

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

6.5 Working Hours

6.5.1 Westmead

Working hours are set by MCoA D35 to D39. Standard construction hours as approved in MCoA D35 are as follows:

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

In accordance with MCoA D36 highly noise intensive works that result in an exceedance of the applicable Noise Management Level at the same receiver will only be undertaken:

- (a) between the hours of 8:00 am to 6:00 pm Monday to Friday;
- (b) between the hours of 8:00 am to 1:00 pm Saturday; and

- (c) if continuously, then not exceeding three hours, with a minimum cessation of work of not less than one hour.

For the purposes of this condition, 'continuously' includes any period during which there is less than one hour between ceasing and recommencing any of the work.

Construction activities which are defined as annoying under the Interim Construction Noise Guideline (ICNG) are defined as 'highly noise intensive works'. These include:

- Use of 'beeper' style reversing or movement alarms, particularly at night time
- Using power saws (for cutting timber, masonry, road pavement or steel work)
- Grinding metal, concrete or masonry
- Rock drilling
- Line drilling
- Vibratory rolling
- Bitumen milling and profiling
- Jackhammering
- Rock-hammering or rock-breaking
- Impact piling.

Any other works outside of standard construction hours would be permitted providing they meet the requirements of MCoA D37, or if they are undertaken as per the Out-of-Hours Work (OOHW) Protocol required under MCoA D38.

A Detailed Construction Noise and Vibration Impact Statement (DNVIS) will also be prepared for the Project to identify required mitigation measures to be implemented during both standard construction hours and for OOHW. For further information on the DNVIS and OOHW Protocol refer to the CNVMP.

6.6 Communication

All site personnel including subcontractors will be made aware of the external and internal communications procedures and Quickway will ensure they are properly trained in their application.

A Sydney Metro Community Place Manager will be appointed to the Project to perform the functions required under the Project Approval. This person will be the key community contact on the Project and will oversee implementation of the Community Consultation Strategy (CCS) and manage all relevant responsibilities on behalf of Quickway.

6.6.1 Internal Communication

Clear lines of communication throughout all levels and functions (e.g. management, staff and sub-contracted service providers) are key to minimising environmental impacts and achieving continual improvements in environmental performance.

The environmental team will meet regularly to discuss any issues with environmental management on-site, any amendments to plans that might be required or any new changes to construction activities. Regular meetings may also be scheduled with the ER, AA and Sydney Metro environmental staff. The purpose of these meetings would be to communicate ongoing environmental performance and to identify any issues to be addressed and upcoming works.

In addition, environment team members will participate in toolbox talks to communicate on environmental performance, to advise on any upcoming sensitive environmental matters for future work areas and to receive feedback from on-site personnel.

Further internal communications regarding environmental issues and aspects will be through environmental training described in Section [6.3](#).

6.6.2 Liaison with regulators and stakeholders

The Environmental Manager will be the main point of contact regarding specific environmental issues. The Environmental Manager has the responsibility to report on the ongoing environmental performance of the Project to Sydney Metro, ER and AA. The Environmental Manager will report regularly to Sydney Metro on progress and any key environmental matters.

Relevant government agencies will be consulted throughout construction as required. Fortnightly meetings will be undertaken with GLC to ensure cumulative impacts are assessed and managed appropriately.

Where changes are made to the CEMP or Sub-plans following consultation, updates will be recorded in the relevant version control section(s) and reapproval will sought as per Section [6.11](#).

6.6.3 Community liaison and/or notification

A CCS has been prepared by Sydney Metro for the Project. This plan identified opportunities and key communication tools needed to provide information and consult with the community and stakeholders during construction of the Project.

A Sydney Metro Community Place Manager will be provided to Quickway for the duration of works, to ensure consistent messaging and appropriate detail is provided to the community on upcoming works.

In addition to actions described in the CCS for the purpose of providing current and relevant information to the community, Quickway will also establish a dedicated Project page on their website where documents required to be produced or obtained by Quickway will be included as per the allocated condition MCoA B11(d), (e) and (f).

6.6.4 Complaints management

The CCS details the Construction Complaints Management System, which includes a Complaints Register, which has been developed for the Project.

The Complaints Register will be provided to the ER by Sydney Metro on a weekly basis or as requested by the ER, in accordance with MCoA A31. Noise and Vibration complaints will also be provided to the AA.

Please refer to the CCS for more information about complaints management.

6.7 Emergency and incident response

6.7.1 General emergency and incident response

In the event of an environmental incident, the Sydney Metro Environmental Incident and Non-compliance Reporting Procedure will be implemented. The full procedure is provided in [Appendix D](#).

The procedure provides references to:

- Types of incidents.
- Criteria for classifying of environmental incidents.
- Processes for systematically responding to and managing emergency situations.

- Processes, and legal requirements (e.g. Acts, Regulations, etc), for reporting and notification of an environmental incident.

The procedure covers the management of events such as, but not limited to:

- Spills of fuels, oils, chemicals and other hazardous materials
- Unauthorised discharge containment devices
- Unauthorised clearing or clearing beyond the extent of the Project boundary or premises
- Inadequate installation and subsequent failure of temporary erosion and sediment controls
- Unauthorised damage or interference to threatened species, endangered ecological communities or critical habitat
- Unauthorised harm or desecration to Aboriginal objects and Aboriginal places
- Unauthorised damage or destruction to any State or locally significant relic or Heritage item
- Potential contamination of waterways or land
- Accidental starting of a fire or a fire breaking out of containment
- Any potential breach of legislation, including a potential breach of a condition of an environment protection licence, MCoA approval or any agency permit condition
- Works undertaken without appropriate approval or assessment under the EPA Act
- Works undertaken that are not in accordance with a Project assessment
- Unauthorised dumping of waste.

6.7.2 Incident Reporting and Non-Compliance

Any Environmental Incidents will be reported to the relevant stakeholders in accordance with Sydney Metro Environmental Incident and Non-Compliance Reporting Procedure (Appendix D).

Additionally, DPE must be notified of any incidents or non-compliance in accordance with DPE Incident and Non-Compliance Notification Requirements ([Appendix J](#)).

An incident is defined as, an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance with the conditions of this approval.

Class 3 Incidents are not Notifiable Events and therefore a simple notification protocol is adopted whereby Sydney Metro and the ER must be notified within 48 hours verbally, and in writing.

6.8 Monitoring, inspections and auditing

6.8.1 Audits

Quickway undertakes safety, environmental, and quality audits of all of its projects. Environmental audits will be undertaken in accordance with the Quickway EMS and AS/NZS ISO 19011:2014 - Guidelines for Auditing Management Systems to the extent and satisfaction of Quickway.

Internal audits will include at a minimum:

- Compliance with any approval, permit or licence conditions;
- Compliance with the E&SMS, CEMP, SMP, sub-plans and procedures;
- Community consultation and complaint response;

- Environmental training records; and
- Environmental monitoring and inspection results.

Independent External Audits will be required to be undertaken in accordance with MCoA A39, which references the *Independent Audit Post Approval Requirements* (DPE, 2020). These audits will be initiated and managed by Sydney Metro across the entire Sydney Metro West Project, and will be undertaken in compliance with the following requirements:

- MCoA A40: Proposed independent auditors must be approved by the Planning Secretary before the commencement of an Independent Audit.
- MCoA A41: The Planning Secretary may require the initial and subsequent Independent Audits to be undertaken at different times to those specified in the *Independent Audit Post Approval Requirements* (DPE, 2020), upon giving at least four (4) weeks' notice (or timing as stipulated by the Planning Secretary) to the Proponent of the date upon which the audit must be commenced.
- MCoA A42: Independent Audit Reports and the Proponent's response to audit findings must be submitted to the Planning Secretary within two (2) months of undertaking the independent audit site inspection as outlined in the *Independent Audit Post Approval Requirements* (DPE, 2020), unless otherwise agreed by the Planning Secretary.

Quickway will provide all information and documentation and participate in the Independent External Audits as required by the Independent Auditors.

Quickway's management plans, systems, and processes may be subject to audit and surveillance by Sydney Metro, the AA or the ER to gain assurance of effective management systems and processes as required to meet the requirements of the Contract, and implementation of environmental documents to meet the Project requirements. These agencies may utilise their own auditors and surveillance officers, supported by subject matter experts where relevant. Quickway will provide safe access to sites, systems and documentation, providing facilities to perform audits and surveillance, and the participation of relevant staff as required.

Internal and external audit and surveillance activities may include risk-based compliance testing, desktop review of documentation, inquiry and observation of activities, or review of developing processes or activities.

Compliance reports detailing the outcome of any environmental surveillance activity including internal and external audits will be produced by Quickway and provided to Sydney Metro on a six-monthly basis following the commencement of construction.

A summary of proposed audits and compliance reviews is provided in [Table 10](#).

Table 10 Audits and Compliance Review summary

Action	Frequency	Content	Reporting
External - Independent Audit (MCoA A39/A39.1)	At intervals, of 6 months from the date of the previous SSI 10038 Independent Audit or as otherwise agreed by the Secretary.	As described in the <i>Independent Audit Post Approval Requirements</i> (DPE, 2020) and defined by Sydney Metro. Quickway will participate as required in the ongoing independent audit process.	Independent Audit Reports and the Proponent's response to audit findings must be submitted to the Planning Secretary within two months of undertaking the independent audit
			.
External - DPE	At request of DPE	In accordance with MCoA A25	As determined by DPE

6.8.2 Informal site surveillance

Ongoing informal site surveillance will be undertaken continuously throughout the Project to assess the ongoing effectiveness and suitability of environmental controls. These will not be formally recorded, with the potential exception of site/diary notes noting potential rectification requirements or site conditions. This will generally be undertaken by the Site Supervisor or Forman.

6.8.3 Formal inspections

More structured site inspections specifically focusing on environmental mitigation measures will be undertaken as follows:

- Weekly inspections by Quickway's Environmental Manager (or delegate) to verify the adequacy of all environmental mitigation measures. This will be documented in a formal inspection record and will include (as a minimum):
 - ensuring boundary fencing (and/or protection of no-go zones) is intact
 - confirming erosion and sediment controls are installed effectively and are not exceeding capacity
 - checking of heritage mitigation measures
 - checking waste storage facilities on site

Issues identified would be rectified as soon as practical, dependant on the nature and severity of the issue.
- Regular joint site inspections by the ER, AA and Sydney Metro representatives at a frequency to be agreed with Sydney Metro and the ER.

In addition to the above, the Environmental Manager (or delegate) would undertake the following event-driven inspections of the work sites:

- Additional inspections will be undertaken prior to and following significant rainfall events (greater than 20 mm in 24 hours); and
- Post rainfall inspections to identify any rectification of erosion and sediment controls.

- Prior to any shutdown greater than three (3) working days.

Copies of all environmental inspection reports prepared by Project environmental staff will be kept with the Project records and closed out within the agreed timeframes. The outcomes of inspections will be captured on Environmental Inspection Checklists and recorded within an Environmental Inspection Action Register.

Records will also include details of any maintenance required, the nature of the deficiency, any actions required and an implementation priority.

Quickway and/or subcontractors will undertake inspections of all plant and equipment for leakages of fuel, oil or hydraulic fluid as part of pre-start procedures. Repair any defective or deteriorated equipment that may result in leaks or leaks before using plant or equipment and maintain records of plant inspections.

6.8.4 External inspections

The ER, AA and Sydney Metro staff will undertake inspections of works sites, and in particular, critical activities throughout construction of the Project. Inspections would typically occur on a fortnightly or weekly basis depending on the complexity and anticipated risks associated with the work occurring at the time.

6.8.5 Noise and Vibration Monitoring

Noise monitoring locations and triggers will be described in the Noise and Vibration Monitoring Program, included as part of the Construction Noise and Vibration Management Plan for the Project. In general, noise monitoring will be undertaken during the evening and night-time periods as required by NVMP, OOH approval or DNVIS where new noise impacts are anticipated to be received by sensitive receivers.

Vibration monitoring locations and triggers will be described in the Noise and Vibration Monitoring Program.

In general, vibration monitoring will be conducted during vibration generating activities that have the potential to impact on Heritage items or for activities within the standard safe working distances of structures for that equipment. In the event that the vibration testing and attended monitoring shows that the preferred values for vibration are likely to be exceeded, construction methodology will be reviewed and additional mitigation measures controls or methodology implemented to return to acceptable vibration levels.

Regarding vibration monitoring for heritage items, guidance from heritage specialists will be obtained prior to installing any equipment on heritage items. If a Heritage item is found to be structurally unsound (following inspection) a more conservative cosmetic damage criterion of 2.5 mm/s peak component particle velocity (from DIN 4150) must be applied.

Results from monitoring events will be provided in a noise or vibration monitoring report. The reports will be submitted to SM, ER and AA at a frequency agreed with the respective regulatory authorities.

Refer to the Construction Noise and Vibration Management Plan for further detail on noise and vibration monitoring requirements, including vibration monitoring of heritage items.

6.8.6 Weather monitoring

In accordance with normal standard construction practices, weather forecasts will be used to guide work activities undertaken on-site. Forecasts from the Bureau of Meteorology will be checked by the Environmental Manager/delegate and/or site supervisor at the start of each day and before any new work activity that may be affected by rainfall or adverse weather. Where weather forecasts predict conditions that may pose an environmental risk, site environmental controls will be inspected and secured to reduce erosion and sediment control impacts. Contingency planning to prevent spills will also involve monitoring for predicted flood events and the removal of fuels, chemicals and other hazardous chemicals from flood

prone areas. In addition to weather monitoring, visual dust monitoring would be undertaken in response to complaints regarding dust management.

6.9 Records of environmental activities

6.9.1 Environmental records

The Environmental Manager is responsible for maintaining all environmental management documents as current at the point of use.

In accordance with the CEMP the following compliance records will be retained by Quickway where applicable:

General

- Site inspections, audits, monitoring, reviews or remedial actions.
- Documentation as required by performance conditions, approvals, licences and legislation.
- Modifications to site environmental documentation (e.g. CEMP, sub-plans and procedures).

Biodiversity

- Records of pre-clearing inspections undertaken
- Records of the release of the pre-clearing hold point
- Records of ecological inspections undertaken.
- Records of unexpected threatened flora or fauna finds

Heritage

- Unexpected finds records and stop work orders.

Noise and Vibration

- Records of noise and vibration monitoring results against appropriate NMLs and vibration criteria; and
- Records of community enquiries and complaints, and Quickway's response.

Soil and Water

- Copies of current ESCPs for all active construction sites
- Records of site inspections undertaken
- Records of testing of any water prior to discharge and
- Records of the release of the hold point to discharge water from the construction site to the receiving environment.

Waste

- Compliance records will be retained by Quickway in relation to waste management including records of inspections and waste dockets for all waste removed from the site.
- A waste register will be retained.

Sustainability

- Records of all parameters outlined in the Sydney Metro Sustainability Reporting Template (SM-18-00043350)

- Records of an inventory for non-road diesel powered vehicles using the TfNSW Air Emission Data Collection Workbook.

6.9.2 Document control

Quickway will implement a document control procedure to direct the internal management of documents, as well as control the flow of documents between Sydney Metro and other relevant stakeholders and sub-contractors.

The procedure will ensure that documentation is:

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

Records must be accessible onsite for the duration of works. Additional records will be retained by Quickway for a period of no less than seven years. Records will be made available in a timely manner to Sydney Metro (or their representative) upon request.

A register and distribution list will identify the current revision of particular documents or data.

This CEMP will be available to all personnel and sub-contractors in accordance with the Project document control procedure. The document is uncontrolled when printed. Controlled issued for use (IFU) versions of CEMP will be accessible digitally on server to all relevant personnel.

6.10 Management review

The Quickway Environmental Manager will host a management review meeting with the site management personnel approximately annually following the commencement of construction, or within two months of an incident triggering notification under the POEO Act.

Reviews may also be undertaken following a substantial change in scope of works or repeated environmental non-compliances (i.e. the same category of non-compliances occurring more than three times per quarter). Between the scheduled reviews, a register of issues will be maintained to ensure that any actions raised by internal and external personnel is recorded and addressed.

The purpose of the reviews is to examine the effectiveness and proper implementation of the CEMP and associated EMS to ensure that the system is meeting the requirements, and to review the overall environmental performance of the project.

The outcomes of the reviews may result in the amendment of this CEMP or related documents, revision to the Quickway EMS, risk assessment review or re-evaluation of the Project's objectives and targets.

Should the document review process identify any issues or items within the documents that are either redundant, inappropriate or ineffective, it is the responsibility of the Quickway Environmental Manager or delegate to prepare the revised documents, as described in Section [6.11](#).

6.11 Document updates

This CEMP, CEMP Sub-plans and Monitoring Programs will be reviewed and updated as required:

- To take into account changes to the environment or generally accepted environmental management practices, new risks to the environment, any hazardous substances, contamination or changes in law

- In response to internal or external audits or management reviews.
- Following reportable environmental incidents
- Upon identification of new risks, including risks identified during risk register updates.
- When non-compliances are identified
- Following environmental audits that identify matters that require attention.
- In response to Project change (including modifications)
- Within three months of any of the above occurrences
- As part of a continuous improvement process
- Where requested or required by the DPE or any other Authority.

Minor and administrative changes to CEMP, Sub-plans or Monitoring Programs can be endorsed by the ER. Major changes will be provided to DPE following ER review and endorsement if required by the ER.

Changes will also be communicated through toolbox talks to existing onsite personnel and incorporated into environmental induction materials where relevant.

7. Environmental Management

The CEMP Sub-plans, Procedures, Strategies and Monitoring Programs have been prepared to support the Project's CEMP and provide improved environmental management for the Project. These documents have been prepared to address the allocated requirements of the MCoA, REMM, CEMF other measures identified in Section [1.2](#) and environment assessment documentation.

Note that at the completion of works reinstatement of the works area will be undertaken as follows:

- All working areas and accesses will be made clean and clear at project completion.
- At the completion of construction all plant, temporary buildings or vehicles not required for the subsequent stage of construction will be removed from the site
- All land, including roadways, footpaths, loading facilities or other land having been occupied temporarily will be returned to their pre-existing condition or better.
- Reinstatement of community spaces, infrastructure and services will occur as soon as possible after completion of construction.

7.1 Flora and Fauna Management

The following information has been included herein to address the management of flora and fauna on the Project.

- MCoAs are listed in [Table 11](#)
- CEMF requirements are listed in [Table 12](#)
- REMMs related to flora and fauna are identified in [Table 13](#)

7.1.1 Management objectives and performance outcomes

- Minimise impacts on flora and fauna;

- Design waterway modifications and crossings to incorporate best practice principles;
- Retain and enhance existing flora and fauna habitat wherever possible; and
- iv. Appropriately manage the spread of weeds and plant pathogens.

Table 11 Ministers CoAs relevant to biodiversity management

MCoA	Requirement	Document Reference
C-B8	As many mature trees as practicable must be retained. In addition, within ten (10) years of the date of this approval or no later than the commencement of operation of the CSSI (whichever is earlier) there must be a net increase in the number of mature trees provided at a ratio of 2:1.	Section 7.1.3
D2	The clearing of native vegetation must be minimised to the greatest extent practicable with the objective of reducing impacts to threatened ecological communities and threatened species habitat.	Section 7.1.3
D9	As many mature trees and as much urban canopy as practicable must be retained during construction. Canopy trimming should be considered where practicable prior to any mature tree removal.	Section 7.1.3

Table 12 CEMF requirements relevant to biodiversity management

CEMF Ref.	Requirement	Document Reference
SMW Construction Environmental Management Framework		
10.1 a)	Principal Contractors will develop and implement:	Section 7.1.3
	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; and	
	iv. Appropriately manage the spread of weeds and plant pathogens.	

7.1.2 Existing Environment

The following section summarises Section 22 of the EIS and based on inspection of the site.

7.1.2.1 Vegetation

Native and exotic street trees exist on the street route. Street trees and residential plantings include some native species found in NSW. The area is a highly disturbed urban zone, and there are no terrestrial areas of ecological significance present along the alignment.

Within the Silverwater Ancillary Facility there are a number of mature trees along the boundary which will be protected during construction. The site also has scattered regrowth vegetation throughout, which based on historical street view photos has regrown overtime since 2014 when the site was capped with material, and has since been left unused. The EIS does not identify this vegetation as a native Plant Community Type (PCT).

7.1.3 Potential Impacts

It is not anticipated that any native vegetation will be required to be impacted (removed) as part of the work at the Westmead station. Minor vegetation trimming of street trees to allow for plant and equipment access may be required along the utilities alignment.

Removal of regrowth vegetation will be required at the Silverwater Ancillary Facility. This vegetation is not a mapped PCT. The mature trees located at the site will not be impacted and will be protected during the works in accordance with *Australian Standard AS4970 the Australian Standard for Protection of Trees on Development Sites and Adjoining Properties*.

In the event trees >100mm are removed, Quickway will provide Sydney Metro with information on the number of trees removed, the location of each tree that was removed, and an measurement of the tree canopy area removed in m2. This information will be provided in the form of a Tree Register as provided by Sydney Metro.

There are no threatened flora species or TECs present on site. Potential risks associated with Flora and Fauna are described in the Project Environmental Risk Assessment [Appendix K](#).

7.1.4 Mitigation Measures

Table 13 Biodiversity mitigation measures

ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
BIO1	The clearing of native vegetation must be minimised to the greatest extent practicable with the objective of reducing impacts to threatened ecological communities and threatened species habitat.	MCoA D2	Site inspection reports Sensitive Area Plans	Construction	Environment Manager Site supervisor
BIO2	As many mature trees and as much urban canopy as practicable must be retained during construction. Canopy trimming should be considered where practicable prior to any mature tree removal. Quickway will provide Sydney Metro with information on the number of trees removed, the location of each tree that was removed, and an measurement of the tree canopy area removed in m2, <i>included in a tree register as provided by SM.</i>	MCoA D9 / C-B8	Site inspection reports Sensitive Area Plans	Construction	Environment Manager Site supervisor
BIO3	Opportunities for the retention and protection of existing street trees and trees within the site would be identified during detailed construction planning.	REMM LV11	ECMs	Construction	Environment Manager Project Manager
BIO4	Existing trees to be retained would be protected prior to the commencement of construction in accordance with Australian Standard AS4970 the Australian Standard for Protection of Trees on Development Sites and Adjoining Properties.	REMM LV12	Site Inspections	Construction	Environment Manager Site supervisor

7.2 Waste and Recycling

The following information has been provided herein to address the management of Waste and Recycling in the Project in accordance with the requirements of the Sydney Metro Waste Classification Procedure (SM-20-00040677) in [Appendix F](#).

- MCoA are listed in [Table 14](#)
- Allocated CEMF management requirements are listed in [Table 15](#)
- Mitigation measures (including the relevant REMMs) are identified in [Table 16](#)

7.2.1 Management Objectives and Performance Outcomes

The CEMF Waste Management Objectives include:

- i. Minimise waste throughout the project life-cycle
- ii. Waste management strategies for off-airport works will be implemented in accordance with the *Waste Avoidance and Resource Recovery Act 2001* management hierarchy as follows:
 - Avoidance of unnecessary resource consumption;
 - Resource recovery (including reuse, reprocessing, recycling and energy recovery); and
 - Disposal.

Table 14 MCoAs relevant to Waste Management

MCoA	Condition Requirements	Document Reference
D77	An Unexpected Contaminated Land and Asbestos Finds Procedure must be prepared before the commencement of construction and must be followed should unexpected contaminated land or asbestos (or suspected contaminated land or asbestos) be excavated or otherwise discovered during construction.	CEMP Appendix E
D78	The Unexpected Contaminated Land and Asbestos Finds Procedure must be implemented throughout construction.	CEMP Appendix E
D111	Waste generated during construction and operation must be dealt with in accordance with the following priorities:	
	(a) waste generation must be avoided and where avoidance is not reasonably practicable, waste generation must be reduced;	Section 7.2.5
	(b) where avoiding or reducing waste is not possible, waste must be re-used, recycled, or recovered; and	Section 7.2.5
	(c) where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of.	Section 7.2.5 Section 7.2.9
D112	The importation of waste and the storage, treatment, processing, reprocessing or disposal of such waste must comply with the conditions of the current EPL for the CSSI, or be done in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, as the case may be.	Section 7.2.7

MCoA	Condition Requirements	Document Reference
D113	Waste must only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste, or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, or to any other place that can lawfully accept such waste.	Section 7.2.6 Section 7.2.7
D114	All waste must be classified in accordance with the EPA's Waste Classification Guidelines, with appropriate records and disposal dockets retained for audit purposes.	Section 7.2.6

Table 15 Relevant CEMF requirements relating to waste management

CEMF Ref.	Condition Requirements	Document Reference
14.1 a.	The following waste objectives will apply to construction: i. Minimise waste throughout the project life-cycle; and ii. Waste management strategies will be implemented in accordance with the Waste Avoidance and Resource Recovery Act 2001 management hierarchy as follows: • Avoidance of unnecessary resource consumption; • Resource recovery (including reuse, reprocessing, recycling and energy recovery); and • Disposal.	Section 7.2.1
14.1 (b)	Targets for the recovery, recycling or reuse of construction waste, and beneficial reuse of spoil will be provided by the Principal Contractor.	Section 7.3

7.2.2 Waste producing construction activities

The Project will involve a range of construction activities that will generate waste materials and resources including:

- Excavation works
- Utility service installation
- Concrete works
- Remediation or removal of contaminated materials (if required)

Quantities of waste produced during construction of the Project will be tracked as described in [Section 7.2.11](#).

7.2.3 Construction waste streams

The following potential construction related waste streams have been identified:

- Excavation wastes including

- road pavements (concrete and asphalt)
- usable spoil such as ENM/VENM (subject to waste classification)
- Contaminated/unsuitable spoil material, such as excavated materials from the existing (and former) industrial areas
- Demolition wastes from existing structures that require demolition, pipe work, pavements and concrete pathways
- Packaging materials associated with items delivered to site such as pallets, crates, cartons, plastics and wrapping materials
- Offcuts of pipe
- Surplus concrete
- Wastes produced from the maintenance of various heavy construction equipment including liquid hazardous wastes from cleaning, repairing and maintenance
- Non-hazardous wastes from worker's facilities such as toilets
- General wastes including office wastes, scrap materials and biodegradable wastes.

7.2.4 Identifying Waste

In order to effectively manage waste, it must first be identified and classified. Classification of waste is discussed further below. Due to the limited volumes of spoil expected, any spoil will be sampled and a classified accordingly once stockpiled, prior to disposal.

The proposed sampling density and arrangement will be undertaken in accordance with the NSW EPA Sampling Design Guidelines.

7.2.5 Waste hierarchy

The waste management hierarchy and requirements identified in the NSW WARR Act and the NSW Waste Avoidance and Resource Recovery Strategy 2014-21 (EPA 2014) will be adopted to reduce, as

far as practicable, wastes going to landfill. The waste management hierarchy is presented in [Figure 5](#) Waste Management Hierarchy (NSW WARR Strategy 2014-21, EPA).

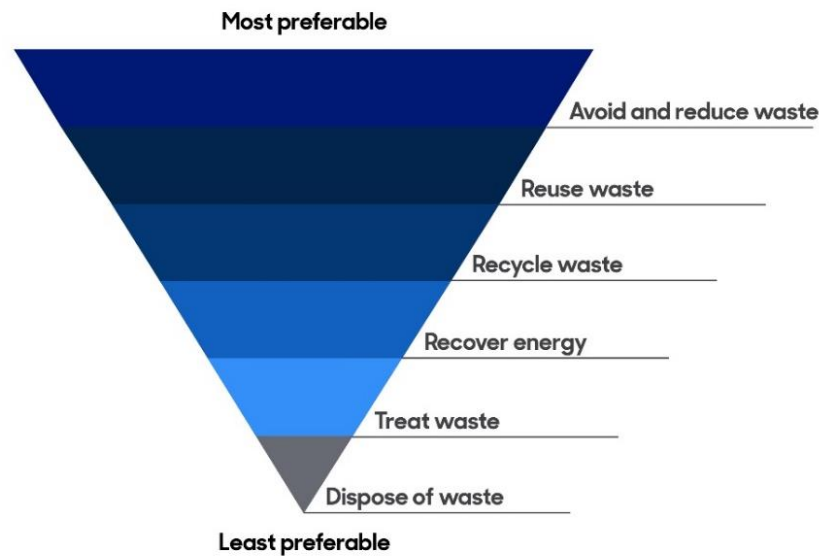


Figure 5 Waste Management Hierarchy (NSW WARR Strategy 2014-21, EPA)

Quickway will avoid or reduce waste generation where practicable. This will be achieved by implementing a planned approach to procurement that reduces the purchase of excess quantities, unnecessary packaging, material damage and promotes supplier 'take back' agreement for non-used materials and packaging, and responsible use by personnel.

Where avoiding or reducing waste is not possible, waste is to be reused, recycled, or recovered. Waste separation and segregation will be promoted on-site to facilitate reuse and recycling as a priority of the waste management program as follows:

- Waste segregation onsite – waste materials, will be separated onsite into dedicated bins/areas for either reuse onsite or collection and transport to offsite facilities
- Waste separation offsite – wastes to be deposited into one bin where space is not available for placement of multiple bins, and the waste is to be sorted offsite by a waste contractor.

Where re-using, recycling or recovering waste is not possible, waste will be treated or disposed of at a facility lawfully permitted to accept the waste, in accordance with a Resource Recovery Exemption or Order issued under the POEO Act 1997 and POEO Waste Regulation 2014, or to any other place that can lawfully accept such waste.

7.2.6 Classification of wastes

The classification of waste is undertaken in accordance with the EPA's *Waste Classification Guidelines Part 1: Classifying Waste* (2014). Under the guidelines waste is classified into six waste classes:

- Special waste
- Liquid waste
- Hazardous waste
- Restricted solid waste
- General solid waste (putrescible)

- General solid waste (non-putrescible).

The process for classifying these wastes is described below.

Step 1: Is it 'special waste'?

Establish if the waste should be classified as special waste. The potential environmental impacts of special waste need to be managed to minimise the risk of harm to the environment and human health. Special wastes are: clinical and related, asbestos, waste tyres. Definitions are provided in the guidelines.

Note: Asbestos and clinical wastes must be managed in accordance with the requirements of Clauses 42 and 43 of the POEO Waste Regulation.

Step 2: If not special, is it 'liquid waste'?

If the waste is not special waste, it must be decided whether it is 'liquid waste'. Liquid waste means any waste that: has an angle of repose of less than 5° above horizontal becomes free-flowing at or below 60° Celsius or when it is transported is generally not capable of being picked up by a spade or shovel.

Liquid wastes are sub-classified into:

- sewer and stormwater effluent
- trackable liquid waste according to the POEO Waste Regulation Schedule 1 Waste to which waste tracking requirements apply
- non-trackable liquid waste.

Step 3: If not liquid, has the waste already been pre-classified by the NSW EPA?

The EPA has pre-classified several commonly generated wastes in the categories of hazardous, general solid waste (putrescibles) and general solid waste (non-putrescibles). If a waste is listed as 'pre-classified', no further assessment is required.

Step 4: If not pre-classified, is the waste hazardous?

If the waste is not special waste (other than asbestos waste), liquid waste or pre-classified, establish if it has certain hazardous characteristics and can therefore be classified as hazardous waste.

Hazardous waste includes items such as explosives, flammable solids, substances liable to spontaneous combustion, oxidizing agents, toxic substances and corrosive substances.

Step 5: If the waste does not have hazardous characteristics, undertake chemical assessment to determine classification

If the waste does not possess hazardous characteristics, it needs to be chemically assessed to determine whether it is hazardous, restricted solid or general solid waste (putrescible and non-putrescible). If the waste is not chemically assessed, it must be treated as hazardous.

Waste is assessed by comparing Specific Contaminant Concentrations (SCC) of each chemical contaminant, and where required the leachable concentration using the Toxicity Characteristics Leaching Procedure (TCLP), against Contaminant Thresholds (CT).

Step 6: Is the general solid waste putrescible or non-putrescible?

If the waste is chemically assessed as general solid waste, a further assessment is available to determine whether the waste is putrescible or non-putrescible. The assessment determines whether the waste is capable of significant biological transformation. If this assessment is not undertaken, the waste must be managed as general solid waste (putrescible).

7.2.7 Waste exemptions

The POEO (Waste) Regulation 2014 enables the EPA to issue resource recovery exemptions if it can be shown that a specific type of waste can safely be used for another purpose, rather than being disposed

of in line with the waste regulations. The EPA has issued a number of general resource recovery exemptions for a range of commonly recovered, high volume and well characterised waste materials that waste generated by the Project may comply with, including:

- The excavated natural material (ENM) order and exemption 2014
- The excavated public road material order and exemption 2014
- The reclaimed asphalt pavement order and exemption 2014
- The recovered aggregate order and exemption 2014
- The stormwater order and exemption 2014

The list is not exhaustive. All general resource recovery exemptions gazetted by the EPA.

Resource recovery exemptions are subject to conditions, including material characterisation testing and record keeping.

7.2.8 Virgin excavated natural material (VENM)

In addition to the material types above, Virgin Excavated Natural Material (VENM) may be generated or imported for construction. VENM is a waste that has been pre-classified as general solid waste (non-putrescible). The POEO Act defines VENM as:

'natural material (such as clay, gravel, sand, soil or rock fines):

- *that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities and*
- *that does not contain any sulfidic ores or soils or any other waste and includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved for the time being pursuant to an EPA Gazettal notice.'*

Classification of excavated material as VENM requires certainty that all aspects of the definition are met. Chemical testing may be required to ascertain whether an excavated material is contaminated with manufactured chemicals or process residues, or whether it contains sulfidic ores or soils.

Any movement of VENM must be accompanied by a VENM Certificate. The certificate is intended to assist waste generators, contractors and/or receivers of VENM to have confidence that a range of relevant factors have been considered in the classification of a waste material as VENM. It is the responsibility of the waste generator to prepare the VENM Certificate and provide it to the Waste Receiver. The VENM Certificate must be prepared by an appropriately qualified contaminated land consultant.

7.2.9 Waste disposal

Waste must only be exported to:

- a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste
- in compliance with the conditions and record keeping requirements of a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, or
- to any other place that can lawfully accept such waste in accordance with the POEO Act and POEO Regulation (refer to POEO Act, Schedule 1, Scheduled activities 34 Resource recovery and 39 Waste disposal (application to land) for guidance).

A POEO Act Section 143 notice must be prepared and exchanged between the waste generator and the waste receiver for any waste disposal to non-licensed facility including VENM. The Section 143 notice must be provided with relevant evidence of the classification of the waste.

Asbestos waste over 10m³ must be tracked through the EPA's WasteLocate Service.

Note, an asbestos clearance certificate must be obtained from a licensed asbestos assessor on completion of asbestos removal.

As required in Schedule 1 of the Protection of Environment (Waste) Regulation 2014, Category 1 and Category 2 trackable wastes will be tracked and recorded.

7.2.10 Spoil handling and reuse

The primary waste stream from the Project will be spoil (surplus excavated materials) from the excavation of the utility trench. This spoil will consist of a combination of road pavement material (concrete and asphalt), DGB road base and natural soils/rock or other imported fill.

Where reuse of native backfill (i.e. spoil) is allowed under the relevant design and/or road authority specifications, material that is suitable for direct backfilling, will be temporarily stockpiled onsite nearby in a suitable location, then used to directly backfill the trenches.

Material that is excavated from the trench (i.e. spoil, road surface material, or other materials), will be loaded into rigid trucks. This material will be temporarily stockpiled onsite or at the nominated ancillary facility for the Project (refer to additional detail in the CEMP on ancillary facilities). The ancillary facility will allow waste segregation and temporary stockpiling, should further material classification testing be required.

Any material that is suitable for backfilling will be loaded from the Project ancillary facility into rigid trucks which would transport this material to the trenching location. The suitable native backfill will then be placed, layered, compacted, and tested as part of the trench backfilling process. Material that is not suitable in its site won form, will be loaded into truck and dogs and transported to a crushing and/or treatment/recycling facility (where appropriate under waste classifications, and relevant exemptions or facility licenses, or Section 143 Certificate) or to a licensed waste facility.

Where the reuse of native backfill (i.e. spoil) is not allowed under the relevant design and/or road authority specifications, material will be imported from quarry via truck and dogs to temporary stockpiles at ancillary facilities for the Project. This imported material will be loaded from site compound stockpiles into bogie trucks to transport to the trench, place, layer, compact and test as part of the trench backfilling process.

All of the excavated material will be temporarily stockpiled in the ancillary facilities before being removed to the appropriate waste facility.

7.2.11 Reporting and Records

Reporting requirements and responsibilities are documented in [Section 6.8](#) of the CEMP.

A Waste Management Register will be maintained by the Environment Manager which identifies all waste produced on site and subsequent management. The Register shall document the following:

- Type and quantity of waste
- Whether the waste is to be recovered (either for use on-site or off-site) or sent for disposal
- Tracking information of waste streams
- Upon removal of waste from site- date of removal, transport contractor information and final destination
- Details of each waste disposal facility where waste is sent including business name, address, ABN, contact details and EPL number if relevant.

Compliance records will be retained in relation to waste management including:

- waste dockets for all waste removed from the site

- material characterisation testing
- resource recovery order and exemption records
- evidence of correspondence to waste receivers (including licensed facilities) of the material characterisation testing
- VENM Certificated exchanged for the disposal or importation of VENM
- POEO Act Section 143 Notices and associated correspondence.

A monthly sustainability report will be provided in the overarching monthly construction report which will specify the measured parameters for each respective month, in line with the Sydney Metro Sustainability Reporting Template (SM-18-00043350).

The relevant waste disposal information for site won materials disposed off-site will be provided to Sydney Metro in the monthly sustainability reporting template or upon request.

7.3 Mitigation measures

A range of environmental requirements and control measures are identified in the Approval documents as well as Sydney Metro documents. Specific measures and requirements to address impacts on waste and recycling are outlined in [Table 16](#).

Table 16: Waste and Spoil Management and Mitigation measures relevant to the project

Applicable site	ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
All	WR1	All waste would be assessed, classified, managed, transported and disposed of in accordance with the Waste Classification Guidelines and the Protection of the Environment Operations (Waste) Regulation 2014.	REMM WR1	Waste Classification Reports Waste Register	Construction	Site Supervisor(s) Engineers
All	WR2	Construction waste will be minimised by accurately calculating materials brought to the site and limiting materials packaging	REMM WR3	Planning documentation	Construction	Site Supervisor(s) Engineers
All	WR3	Waste streams will be segregated using concrete jersey kerbs (or the like) to identify each specific waste classification type (i.e. GSW, VENM, ENM) to avoid cross-contamination of materials and maximise reuse and recycling opportunities	REMM WR4	Site inspections	Construction	Site Supervisor(s)
All	WR4	A materials tracking system will be implemented for material transferred between construction sites	REMM WR5	Waste register	Construction	Engineer Environmental Manager
All	WR5	Waste generated during construction and operation must be dealt with in accordance with the following priorities: (a) waste generation must be avoided and where avoidance is not reasonably practicable, waste generation must be reduced; (b) where avoiding or reducing waste is not possible, waste must be re-used, recycled, or recovered; and	MCoA D111	Waste Register Site Inspections	Construction	Engineer Environmental Manager

Applicable site	ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
		(c) where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of.				
All	WR6	The importation of waste and the storage, treatment, processing, reprocessing or disposal of such waste must comply with the conditions of the current EPL for the CSSI, or must be done in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, as the case may be.	MCoA D112	S143 Notices	Construction	Engineer (s) Environmental Manager
All	WR7	Waste must only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste, or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, or to any other place that can lawfully accept such waste.	MCoA D113	Waste register	Construction	Environment Manager
All	WR8	All waste must be classified in accordance with the EPA's Waste Classification Guidelines, with appropriate records and disposal dockets retained for audit purposes.	MCoA D114	Waste register Waste Classification Reports	Construction	Environment Manager
All	WR9	All Heavy Vehicles used for spoil haulage must be clearly marked on the sides and rear with the project name and application number to enable immediate identification by a person viewing the Heavy Vehicle standing 20 metres away.	MCoA A47	Inspection Reports	Construction	Engineer

7.4 Soil and Water Quality

The following information has been included herein to address the management of soil and water on the Project.

- MCoA are listed in [Table 17](#)
- Allocated CEMF management requirements are listed in [Table 18](#)
- Mitigation measures (including the relevant REMMs) are identified in [Table 22](#)

Table 17 MCoAs relevant to soil and water management

MCoA	Requirement	Document Reference
D77	An Unexpected Contaminated Land and Asbestos Finds Procedure must be prepared before the commencement of construction and must be followed should unexpected contaminated land or asbestos (or suspected contaminated land or asbestos) be excavated or otherwise discovered during construction.	Appendix E
D78	The Unexpected Contaminated Land and Asbestos Finds Procedure must be implemented throughout construction.	Appendix E
D116	Before undertaking any works and during maintenance or construction activities, erosion and sediment controls must be implemented and maintained to prevent water pollution consistent with LandCom's Managing Urban Stormwater series (The Blue Book).	Section 6.1.5
D117	The CSSI must be designed and constructed so as to maintain the NSW Water Quality Objectives (NSW WQO) where they are being achieved as at the date of this approval, and contribute towards achievement of the NSW WQO over time where they are not being achieved as at the date of this approval, unless an EPL in force in respect of the CSSI contains different requirements in relation to the NSW WQO, in which case those requirements must be complied with.	Section 7.4.4

Table 18 CEMF requirements relevant to soil and water management

CEMF	Requirement	Document Reference
12.2(b)	Principal Contractors will develop and implement Progressive Erosion and Sediment Control Plans (ESCPs) for all active worksites in accordance with Managing Urban Stormwater: Soils & 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.	Section 6.1.5
12.2(c)	ESCPs will detail all required 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).	Section 6.1.5

CEMF	Requirement	Document Reference
12.2(e)	Principal Contractors will undertake the following soil and water monitoring as a minimum: 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); and iii. All water will be tested (and treated if required) prior to discharge from the site in order to determine compliance with the appropriate approvals and licencing. No water will be discharged from the site without written approval of the Contractor's Environmental Manager (or delegate). This is to form a HOLD POINT.	Section 6.8
12.2(f)	The following compliance records will be kept by the Principal Contractors: 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; and iv. Records of the release of the hold point to discharge water from the construction site to the receiving environment.	Section 6.9.1
12.2(g)	The following water resources management objectives will apply to the construction of the project: i. Minimise demand for, and use of potable water; ii. Maximise opportunities for water re-use from captured stormwater, wastewater and groundwater; iii. Examples of measures to minimise potable water consumption include: • Water efficient controls, fixtures and fittings in temporary facilities; • 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; and • Providing designated sealed areas for equipment wash down.	Section 7.4.4

7.4.1 Management objectives and performance outcomes

The following soil and water management objectives will apply to construction:

- Minimise pollution of surface water through appropriate erosion and sediment control;
- Minimise leaks and spills from construction activities;
- Maintain existing water quality of surrounding surface watercourses;
- Source construction water from non-potable sources, where feasible and reasonable;

7.4.2 Existing Environment

The following section summarises Chapter 19 and Chapter 20 of the EIS regarding to soil, water and contamination.

Soil landscapes

Soils within the Westmead site consist primarily of the Blacktown soil unit. The following describes the Blacktown Soil Unit:

- **Landscape:** found on gently undulating rises on Wianamatta Group shales, with slopes of less than five per cent and local reliefs of up to 30 metres
- **Soils:** strongly acidic and hard setting soils
- **Limitations:** low fertility, high aluminium toxicity, localised salinity and sodicity, low wet strength, low permeability, and low available water holding capacity

Groundwater

Groundwater depth at each of the sites is unknown and therefore, cannot be identified in this document. However, groundwater interaction is anticipated to be unlikely or limited. If groundwater is encountered, it will be managed as part of the ongoing risk assessment process and using progressive management documents such as the Progressive ESCP's and Environmental Work Method Statements.

Salinity

Soil salinity refers to the movement and concentration of salt in soils as a result of weathering rock materials, historic inland seas and deposition of salt from the ocean onto land by wind or rain. Saline soils can degrade ecosystems and habitats and reduce the productive agricultural capacity of land.

- Salinity Likelihood: High

Acid Sulfate Soils

Acid sulfate soils are the common name given to naturally occurring sediments and soils containing iron sulfides (principally iron sulfide or iron disulfide or their precursors). Exposure of the sulfide in these soils to oxygen as a result of drainage, groundwater drawdown or excavation leads to the generation of sulfuric acid.

- Acid sulfate soils (ASS) risk: No Risk

Contamination

Contamination assessments were undertaken as part of the EIS (Chapter 20) for the Westmead Station (adjacent to Quickway's work area) area Silverwater Services Facility construction site (Quickway Silverwater Ancillary Facility). The potential contamination is described in [Figure 6](#), [Figure 7](#) and in [Table 19](#) below.



Figure 6 Potential contamination risk adjacent to the Westmead Station site.

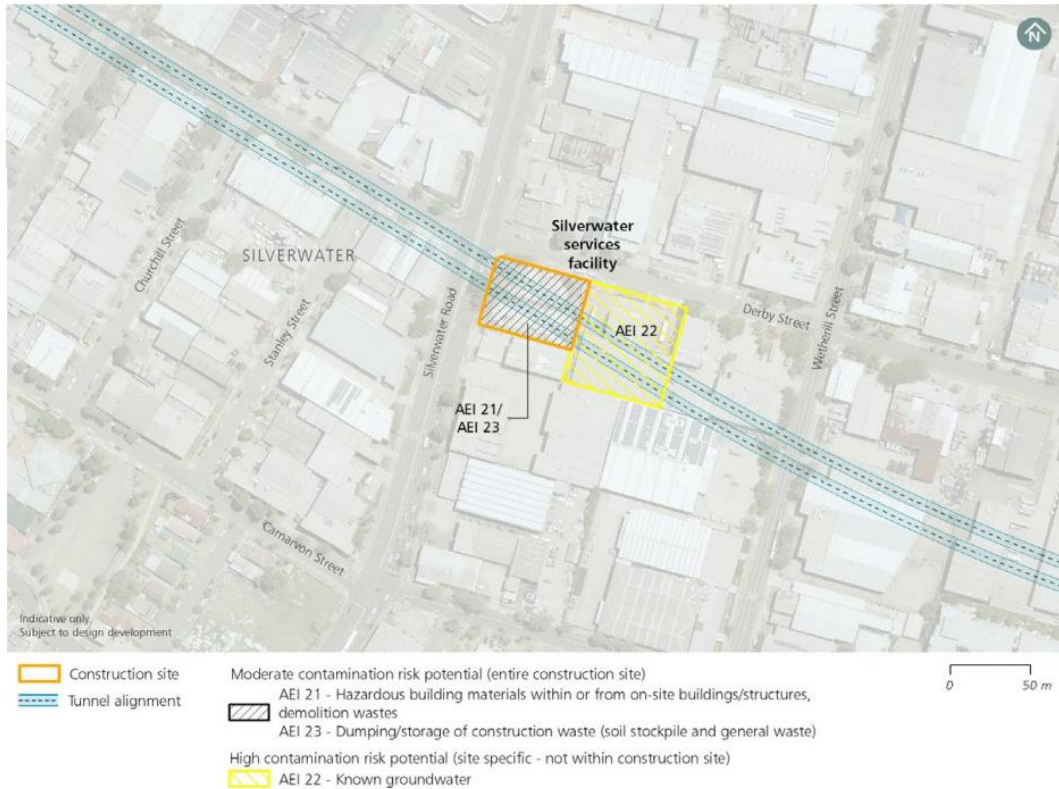


Figure 7 Potential Contamination - Silverwater Ancillary Facility

Table 19 Contamination Areas within Westmead Station footprint and Silverwater Ancillary Facility

Location	Site of concern and potential source of contamination	Media and COPCs	Potential for contamination to be intersected by Stage 1	Overall risk rating	Within Quickway Work Area
Westmead Site	AEI 5: Former and existing structures – Hazardous building materials within or from on-site buildings / structures, demolition wastes	Surface soils Heavy metals, hydrocarbons (TRH, PAH), pesticides, asbestos	Surficial contamination (if present) will be exposed during excavation of surface materials	Moderate	No
	AEI 2: Mechanical workshop / services – Leaks and spills from underground petroleum storage infrastructure / automotive repair work	Surface soils Heavy metals, hydrocarbons (TRH, BTEX, PAH), asbestos Groundwater Hydrocarbons (TRH, BTEX, PAH), volatile organic compounds (VOC)	Contamination (if present) would be exposed during excavation of surface materials Contamination (if present) could be exposed during excavation of materials to the depth of construction	Moderate	No
Silverwater Ancillary Facility	AEI 21 Former and existing structures – Hazardous building materials within or from on-site buildings / structures, demolition wastes	Surface soil Heavy metals, hydrocarbons (TRH, PAH), pesticides, asbestos	Surficial contamination (if present) will be exposed during excavation of surface materials	Moderate	Yes – Ancillary Facility Footprint
	AEI 23 Dumping / storage of construction waste (soil stockpile and general wastes)	Surface soils Heavy metals, hydrocarbons (TRH, PAH), pesticides, asbestos	Surficial contamination (if present) will be exposed during excavation of surface materials	Moderate	Yes – Ancillary Facility Footprint

Westmead

As shown in [Figure 6](#) there is no mapped contamination within Quickway's work areas at the Westmead work site. Given the nature of the contamination within the adjacent Westmead Station being mostly relating to Former and existing structures and building materials within or from on-site buildings / structures, it is not anticipated that the material within the road and verges within Quickway's work areas.

As no existing contamination is identified within the EIS, and contamination is unlikely, in accordance with MCoA D78, the Unexpected Contaminated Land and Asbestos Finds Procedure will be implemented throughout construction. Further measures on how contamination will be managed are described in [Section 7.4.4](#).

Silverwater Ancillary Facility

As described in [Table 19](#), and shown in [Figure 7](#), the EIS identified potential for superficial contamination at the Silverwater Site, which may include potential asbestos, heavy metals, hydrocarbons and pesticides. Upon further inspection and investigation by Quickway, it is evident the site was capped with hardstand material in approximately 2014, with subsequent small stockpiles appearing since.

Further measures on how contamination will be managed are described in [Table 22](#).

Hydrology

7.4.2.1 Key watercourses

The site falls within the catchment of the Paramatta River/Sydney Harbour. The following watercourses are within proximity to the Westmead Station Area.

Table 20 Key watercourses in proximity to works

Watercourse	Conditions	Distance from Site	Sensitivity
Parramatta River / Sydney Harbour	Moderately disturbed	500m	High
Domain Creek	Highly disturbed	300m	Low
Toongabbie Creek	Moderately disturbed	1.2km	Moderate

Water Quality

As shown in [Table 20](#) the existing water quality is considered poor and degraded due to high nutrient concentrations and low dissolved oxygen concentrations.

7.4.3 Potential impacts

The potential for impacts on soil and water will be dependent on the type and extent of the construction activities and their interaction with the surrounding environment. Potential impacts that could result from construction are discussed in detail in [Table 21](#).

Table 21 Potential impacts to environmental factors

Environmental issue	Action/potential impact
Soils, sediments and water quality	
Soil landscape (erosion and sedimentation)	• Temporary erosion and sedimentation of nearby waterways • Nutrient mobilisation and release (leading to water quality degradation or pollution) • Contamination (release of contaminants or encountering contaminants leading to soil quality degradation or contamination).
Contamination/pollution (encountering)	• Contaminant mobilisation leading to soil degradation or contamination • Contaminant mobilisation leading to water quality degradation or pollution • Contaminant mobilisation leading to aquatic and terrestrial ecology degradation • Contaminant mobilisation leading to human health impacts including worker exposure
Contamination/pollution (causing)	• Contaminant release leading to soil degradation or contamination • Water quality degradation or pollution • Aquatic and terrestrial ecology degradation • Human health impacts (including worker exposure) • Potential for creation of preferential pathways for contaminants to travel through
Receiving waters and sensitive environments	• Dust settlement (smothering) and sedimentation and siltation (loss of ecological function) (via soil erosion and runoff) • Fish habitat degradation/loss (as a result of sediment, contaminant and/or pollutant release and migration)
Surface water quality	• Siltation (leading to loss of ecological function) (via soil exposure, erosion, runoff, dust propagation and (riparian) vegetation removal) • Nutrient, metal, organic material and pollutant loading (leading to loss of aquatic values and ecological function) • Water quality degradation (as a result of sediment, tannin or pollutant release and migration) (with reduced tolerance due to existing poor water quality) • Aquatic ecology degradation (as a result of sediment, contaminant and/or pollutant release and migration)
Groundwater (water table)	• Groundwater quality degradation or pollution • Rapid pollution dispersion and migration (with secondary impacts)

Noting the minor nature of the scope of works, impacts on soil and water attributed to the Project are anticipated to be limited. [Table 22](#) provides mitigation measures that will be implemented to prevent or minimise these impacts.

7.4.4 Mitigation Measures

The specific measures and requirements to address soil and water quality impacts are outlined in [Table 22](#).

Table 22 Soil and water mitigation measures

Applicable site	ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
All	SW1	Training will be provided to all Project personnel, including relevant sub-contractors on sound erosion and sediment control practices and the requirements from this plan through inductions, toolboxes and targeted training.	Best Practice	Training records	Pre-construction/ Construction	Environment Manager
All	SW2	Progressive Erosion and Sediment Control Plans (ESCPs) will be developed for all active worksites in accordance with Managing Urban Stormwater: Soils & Construction Volume 1 (Landcom, 2004) (known as the “Blue Book”). The ESCPs will be approved by the 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 Supervisor.	CEMF 12.2(b) REMM SSWQ3	ESCPs	Construction	Environmental Manager Supervisor
All	SW3	ESCPs will detail all required 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 Environmental Manager (or delegate).	CEMF 12.2(c)	ESCPs	Construction	Environmental Manager
All	SW4	The following soil and water monitoring will be undertaken as a minimum:	CEMF 12.2 (e)	Inspection Reports Action Register	Construction	Environmental Manager Supervisor

Applicable site	ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
		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); and ii. All water captured in excavations will be re-used for construction water, dust suppression or infiltration; or removed from site and disposed in accordance with the Section 7.2 CEMP		Dewatering Permits		
All	SW5	Before undertaking any works and during maintenance or construction activities, erosion and sediment controls must be implemented and maintained to prevent water pollution consistent with Managing Urban Stormwater: Soils and Construction Vol 1 4th ed. by Landcom, 2004 (The Blue Book).	MCoA D116	ESCPs Site Inspections	Construction	Environmental Manager Supervisor
All	SW6	Stage 1 of the CSSI must be designed and constructed so as to maintain the NSW Water Quality Objectives (NSW WQO) where they are being achieved as at the date of this approval, and contribute towards achievement of the NSW WQO over time where they are not being achieved as at the date of this approval, unless an EPL in force in respect of the CSSI contains different requirements in relation to the NSW WQO, in which case those requirements must be complied with.	MCoA D117	ESCPs Site Inspections	Construction	Environmental Manager Supervisor
All	SW7	An Unexpected Contaminated Land and Asbestos Finds Procedure must be prepared before the commencement of construction and must be implemented throughout construction, should unexpected contaminated land or asbestos (or suspected contaminated land or	MCoA D77	Appendix E Unexpected Contamination and asbestos finds protocol	Construction	Environmental Manager

Applicable site	ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
		asbestos) be excavated or otherwise discovered during construction.				
Silverwater	SW8	Prior to works within the Silverwater Ancillary Facility the following is to take place as agreed with Sydney Metro: - Classify & dispose offsite 2-3 existing material stockpiles onsite - Cover compound area with geofabric material. - Import & compact approx. 2-300mm thick layer of DGB20 as capping layer.	Sydney Metro Agreement	Site Inspections	Pre-construction	Project Manager / Environmental Manager
All	SW9	Works will be programmed to minimise the extent and duration of disturbance work areas. i.e. minimise the amount of time the trench is left open before backfilling.	Best Practice	Site inspection reports	Pre-construction / Construction	Environment Manager Project Engineer
All	SW10	Vehicle movements from site will be minimised during wet weather if the tracking of mud may become an issue.	Best Practice	Site inspection reports	Pre-construction / Construction	Engineer Supervisor
All	SW11	Hardstand material, rumble grids or similar will be provided at exit points from the ancillary facilities and construction areas onto public roads to minimise the tracking of soil and particulates onto public roads.	Best Practice	Site inspection reports	Pre-construction / Construction	Engineer Supervisor
All	SW12	Loose rock, soil, debris etc will be removed from road surfaces (including sweeping of the road) as required.	Best Practice	Site inspection reports	Construction	Engineer
All	SW13	Designated impervious bunded facilities will be provided for washout of concrete trucks and cleaning and/or maintenance of other vehicles, plant or equipment. These facilities will be located at least 50 m away from natural and built drainage lines/drainage pits.	Best Practice	Site inspection reports	Construction	Environmental manager Supervisor

Applicable site	ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
All	SW14	Where refuelling on site is required, the following management practices will be implemented: • Refuelling will be undertaken on level ground and at least 20 m from drainage lines, waterways and/or environmentally sensitive areas • Refueling will be undertaken within the designated refueling areas with appropriate bunding and/or absorbent material • Refuelling will not be undertaken on or in the vicinity vegetated areas (even roadside grasses) • Refuelling will be attended at all times • Spill kits will be readily available and personnel trained in their use. A spill kit will be kept on the refueling truck at all times. Hand tools will be refueled within bunded areas wherever possible.	Best Practice	Site inspection reports	Construction	Environmental manager Supervisor

7.5 Noise and Vibration

A Noise and Vibration Management Plan (NVMP) has been developed to manage potential noise and vibration impacts resulting from construction of the Project. The NVMP is located in [Appendix I](#) of this CEMP and has been developed in accordance with general MCoA C5-C23.

Sub-plan specific Project requirements are included in the NVMP.

In accordance with CoA C5 a briefing workshop was undertaken with Quickway, Sydney Metro and Cumberland Council and Paramatta Council on 14/09/2023 & 15/09/2023 respectively. The workshop was undertaken to consult the local councils on the Noise and Vibration Sub-Plan and Noise and Vibration Monitoring Program. The council representatives were provided the opportunity to raise any concerns or queries with the proposed management of noise and vibration for the project. No issues were raised during the workshops.

7.6 Non-Aboriginal Heritage

The following information has been included herein to address the management of existing and unexpected non-Aboriginal heritage items on the Project.

- MCoAs are listed in [Table 23](#)
- Mitigation measures are identified in [Table 26](#)

This information and the nominated mitigation measures is supported by the following procedures, which will be implemented across the Project:

- An Unexpected Heritage Finds and Human Remains Procedure as required by MCoA D31 is attached as [Appendix G](#) of this CEMP.

Table 23 MCoAs relevant to non-Aboriginal heritage management

ID	Measure / Requirement	Document Reference
D13	The Proponent must not destroy, modify or otherwise physically affect any Heritage item not identified in documents referred to in Condition A1 of this schedule. Unexpected heritage finds identified by Stage 1 of the CSSI must be managed in accordance with the Unexpected Finds Protocol outlined in Conditions D31 to D33 of this schedule. Consideration of avoidance and redesign to protect state significant unexpected finds must be addressed where this condition applies. <i>Note: Affect in this condition means any impact above "little to no impact" as defined in the Material Threshold Policy (Heritage NSW, 2020)</i>	Section 7.6.5
D14	Before installing protective site boundary hoarding or equipment used for vibration and noise monitoring at any Heritage item identified in the documents listed in Condition A1 of this schedule, the advice of a suitably qualified and experienced built heritage expert must be obtained and implemented to ensure any such work does not have an adverse impact on the heritage significance of the item. The installation must also consider and avoid impacts to potential historical archaeology and seek advice from the Excavation Director approved under Condition D27 below.	Section 7.7.4
D27	Before commencement of archaeological excavation, the Proponent must nominate a suitably qualified Excavation Director, who complies with Heritage Council of NSW's Criteria for Assessment of Excavation Director (September 2019), to oversee and advise on matters associated with historical archaeology for the approval of the Planning Secretary, in consultation with Heritage NSW. The Excavation Director must be present	Section 7.6.6.2

ID	Measure / Requirement	Document Reference
	to oversee excavation, advise on archaeological issues, advise on the duration and extent of oversight required during archaeological excavations consistent with the approved Archaeological Research Design and Excavation Methodology(s) required under Condition D25 of this schedule. Aboriginal archaeological excavations must be conducted by a suitably qualified person in accordance with the requirements of the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010). More than one Excavation Director may be engaged for Stage 1 of the CSSI to exercise the functions required under the conditions of this approval.	
D31	An Unexpected Heritage Finds and Human Remains Procedure must be prepared to manage unexpected heritage finds (heritage items and values) in accordance with any guidelines and standards prepared by the Heritage Council of NSW or Heritage NSW.	Appendix G
D32	The Unexpected Heritage Finds and Human Remains Procedure must be prepared by a suitably qualified and experienced heritage specialist in consultation with the Heritage Council of NSW (with respect to non-Aboriginal cultural heritage) and in relation to Aboriginal cultural heritage, in accordance with the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010) and submitted to the Planning Secretary for information no later than one (1) month before the commencement of construction.	Appendix G
D33	The Unexpected Heritage Finds and Human Remains Procedure, as submitted to the Planning Secretary, must be implemented for the duration of construction.	Appendix G
D47	The Proponent must seek the advice of a heritage specialist on methods and locations for installing equipment used for vibration, movement and noise monitoring at Heritage items.	Section 7.7.4

7.6.1 CEMF requirements relevant to non-Aboriginal heritage management

Note: CEMF Section 9.2 (Non-Aboriginal Heritage Requirements not applicable to Phase H). No CEMF requirements relating to Non-Aboriginal Heritage

7.6.2 Management objectives

The non-Aboriginal heritage management objectives include:

- Minimise impacts on items or places of heritage value.
- Avoid accidental impacts on heritage items.
- Maximise worker's awareness of Non-Aboriginal heritage.

7.6.3 Existing non-Aboriginal Heritage

The following section summarises Section 12 of the EIS regarding non-Aboriginal heritage relevant to the Project.

7.6.3.1 Westmead

The existing environment surrounding The Westmead Station construction site comprises a combination of industrial and residential development within an urban setting.

One local listed heritage item (LEP) has been identified as existing in close proximity to the trenching alignment, consisting of the Westmead Public School. The location of this area is shown in [Figure 8](#).

Additionally, Sydney Metro engaged RPS group to undertake an assessment of unexpected finds that were uncovered during early utility investigation works. The report identified known heritage items within the project area including Sandstone Road and Foundation Stones associated with the Telford Road construction techniques.

The findings and outcomes of this assessment are within a report completed by RPS titled, *Sydney Metro West – Westmead and Westmead ASP3 – Additional Assessment of Road Ballast (RPS, August 2021)*. This report is referred to herein as the RPS Report. The location of the Telford Road is shown in [Figure 9](#).

The heritage context of these items are listed in [Table 24](#).

Further to the above, GML Heritage Consultants were engaged by Quickway on behalf of Sydney Metro to complete an additional assessment of Quickway's work scope against the impacts and outcomes of the RPS report to ensure no further management measures or recommendations beyond that described in the RPS report. This is described herein as the *GML Memo*.

Table 24 Heritage items in proximity to the Westmead Station utilities route

Heritage item	Register listings	Address	Significance	Relationship to construction alignment
Westmead Public School, c1917	Holroyd LEP 2013 (I153)	Hawkesbury Road, Westmead	Local	Located adjacent to utilities corridor off Hawkesbury Rd. Outside work area.
Telford Rd Construction. Sandstone Road	N/A – Unexpected find (RPS report)	Hawkesbury Road, Westmead Bailey Street, Westmead Hassal Street, Westmead	N/A – Unexpected find (RPS report) Classified as 'works' rather than relics under Heritage Act (NSW) 1977	Within all areas of construction

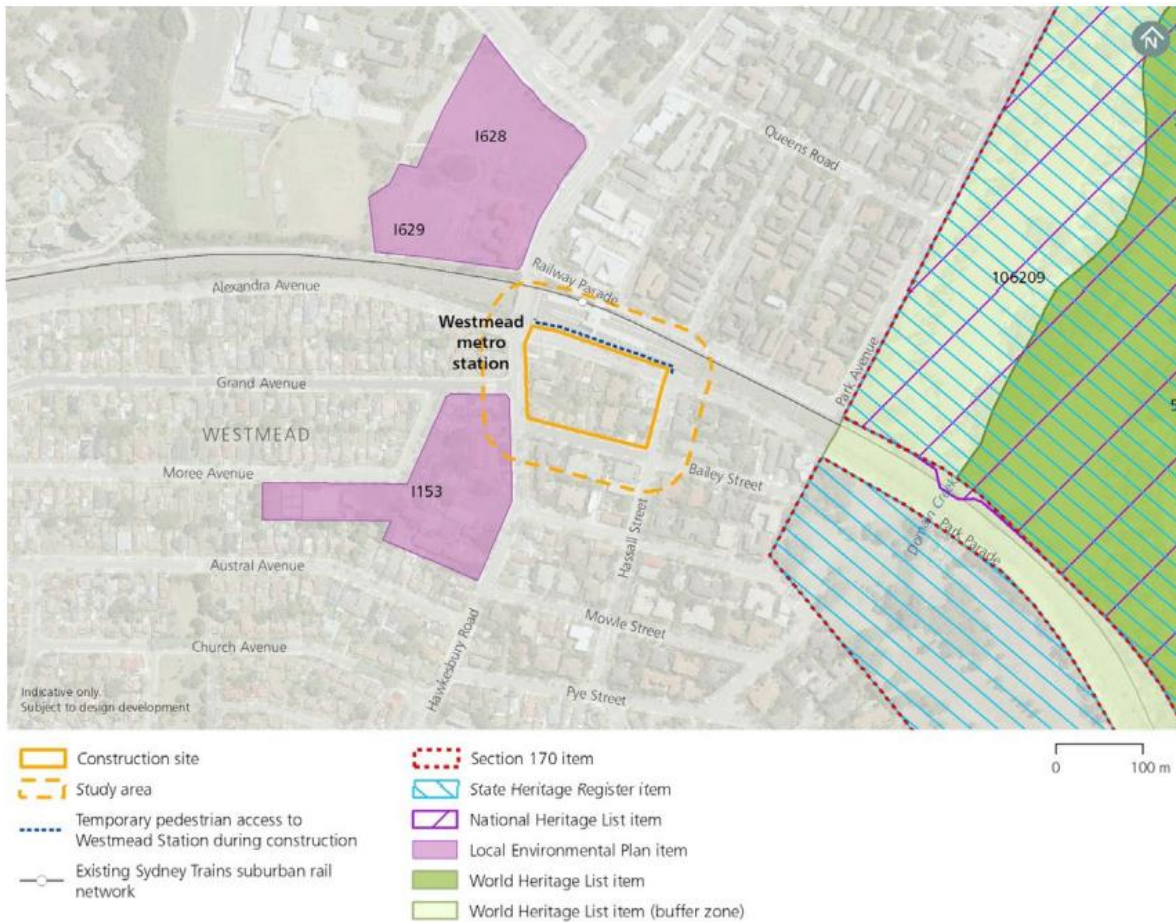


Figure 8 Heritage items in proximity to Westmead Site (EIS)

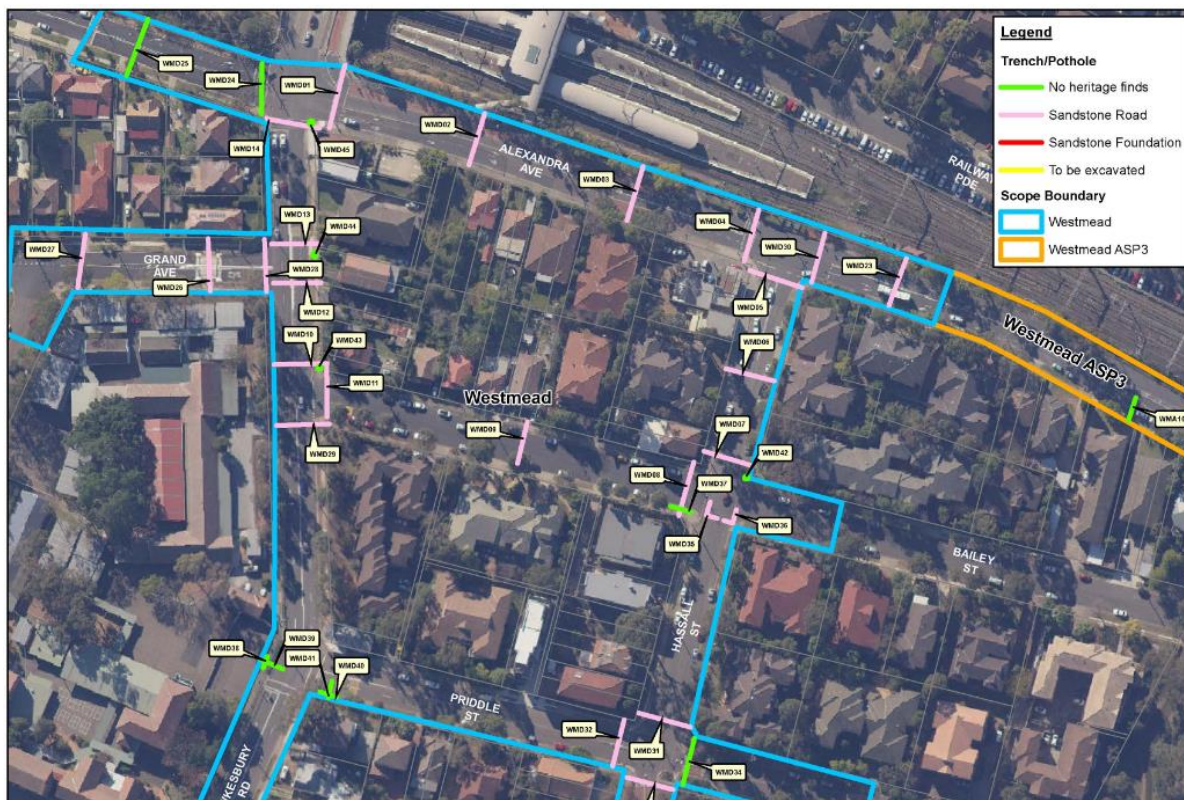


Figure 9 Location of Telford Sandstone Road Construction (RPS, 2021)

7.6.4 Potential Impacts

The EIS (Section 12.6.2), RPS Report and subsequent Heritage Memo describing impacts of utility works completed by GML noted the following of the Project's potential impacts to non-Aboriginal heritage (EIS). A summary of these potential impacts is within [Table 25](#).

Table 25 Impacts on heritage items

Item and Listing	Significance	Potential Impact	Magnitude
Westmead Public School, c1917 Holroyd LEP 2013 (I153)	Local	Indirect impact – views and vistas (temporary). Construction activities would result in changes to the surrounding setting and context of the heritage item. Views and vistas are not considered an integral element of the item's heritage significance.	Minor
Telford Rd Construction. Sandstone Road	N/A – Unexpected find (RPS report/GML Memo)	Classified as 'works' rather than relics under Heritage Act (NSW) 1977. Some of the Telford Rd will be removed during trenching. At Westmead, the distribution of the Telford road elements infers that the preservation of this work is widespread and that impacts to those portions within the Quickway construction areas will not entirely remove the full resource.	Minor

7.6.5 Mitigation Measures

The specific measures and requirements to address impacts of non-Aboriginal heritage are outlined in [Table 26](#).

Table 26 Non-Aboriginal heritage mitigation measures

Applicable site	ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
Westmead	NAH1	The Proponent must not destroy, modify or otherwise physically affect any Heritage item not identified in documents referred to in Condition A1 (<i>i.e. Westmead Public School</i>).	MCoA D13	Site inspection reports	Construction	Environment Manager
Westmead	NAH2	An Unexpected Heritage Finds and Human Remains Procedure must be prepared and implemented to manage unexpected heritage finds in accordance with any guidelines and standards prepared by the Heritage Council of NSW or EES.	MCoA D31, D32 & D33	Unexpected Heritage Finds and Human Remains Procedure	Pre-construction/ Construction	Environment Manager
Westmead	NAH3	Before installing protective site boundary hoarding or equipment used for vibration and noise monitoring at any Heritage item identified in the documents listed in Condition A1 of this schedule, the advice of a suitably qualified and experienced built heritage expert must be obtained and implemented to ensure any such work does not have an adverse impact on the heritage significance of the item. The installation must also consider and avoid impacts to potential historical archaeology and seek advice from the Excavation Director approved under Condition D27 below.	MCoA D14	Inspection Reports Monitoring reports	Construction	Environmental Manager

Applicable site	ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
Westmead	NAH4	Where heritage items, including significant archaeology are impacted by Stage 1 works, Quickway will provide information to Sydne Metro for consideration to their inclusion in the Heritage Interpretation Plan for future stages.	EIS REMM NAH5	Unexpected Heritage Finds and Human Remains Procedure	Construction	Environment Manager Sydney Metro
Westmead	NAH5	If a Heritage item is found to be structurally unsound (following inspection) a more conservative cosmetic damage criterion of 2.5 mm/s peak component particle velocity (from DIN 4150) must be applied.	MCoA D49	Vibration monitoring NVMP	Construction	Environment Manager
Westmead	NAH6	Vibration monitoring will be conducted during vibration generating activities that have the potential to impact on Heritage items, to identify minimum working distances to prevent cosmetic damage. In the event that applicable criteria are exceeded, construction methodology will be reviewed and, if necessary, implement additional mitigation measures.	MCoA D46	Vibration monitoring NVMP	Construction	Environment Manager
Westmead	NAH7	The advice of a suitably qualified and experienced built heritage expert must be obtained and implemented before installing protective site boundary hoarding or attaching any monitoring equipment at any Heritage item. The installation must also consider and avoid impacts to potential historical archaeology and seek advice from the Excavation Director.	MCoA D14 MCoA D47	Written response from relevant subject matter expert	Construction	Environment Manager

7.6.6 Additional Management

7.6.6.1 Telford Road - RPS Report and GML Memo

As identified within the RPS report titled *Sydney Metro West – Westmead and Westmead ASP3 – Additional Assessment of Road Ballast (RPS, August 2021)* trenching works within the Westmead site will be within the area identified as containing the Telford Road sandstone road construction.

As described in this report, and subsequent memo prepared by GML, At Westmead the distribution of the Telford Road elements infers that the preservation of this work is widespread and that impacts to those portions within the Metro construction areas will not entirely remove the full resource. No further work would be required to manage them.

Works within this area will proceed with no further specific measures required. Works will proceed with any unexpected items which are not consistent with the Telford Road construction as identified in the RPS report managed in accordance with the Unexpected Finds Procedure.

7.6.6.2 Excavation Director

In accordance with MCoA D27 Quickway must nominate a suitably qualified Excavation Director before the commencement of archaeological excavation on the Project. The Excavation Director must comply with the Heritage Council of NSW's Criteria for Assessment of Excavation Director, to oversee and advise on matters associated with historical archaeology. Appointment of the Excavation Director will be subject to DPE approval, in consultation with Heritage NSW.

The Excavation Director role will be shared between three (3) Sydney Metro approved Excavation Directors from GML Heritage Consultants.

The Excavation director will be present in the event of any unexpected finds as described above and as advised in the GML Memo, and to advise on archaeological issues.

7.6.6.3 Vibration Monitoring

It is noted that the only structures associated with listed heritage sites are buildings within the footprint of the Westmead Public School adjacent to the works. These structures are not deemed to be unsound.

In the event the DNVIS indicates vibration causing activities may result in risks of impacts from these structures, in accordance with MCoA D46, Quickway will conduct vibration testing during vibration generating activities that have the potential to impact on heritage items, to identify minimum working distances to prevent cosmetic damage. Should vibration testing and monitoring show that the preferred values for vibration are likely to be exceeded, Quickway will follow the process in Section 10 of the NVMP.

Vibration assessments prepared for the Project will also identify where monitoring should be conducted at heritage items.

In line with MCoA D47, Quickway will seek the advice of the Project's heritage and noise and vibration specialists, on methods and locations for installing equipment used for vibration, movement and noise monitoring of heritage-listed structures (if at risk).

7.7 Aboriginal Heritage

The following information has been included herein to address the management of existing and unexpected Aboriginal heritage items on the Project.

- MCoAs are listed in [Table 27](#).
- Mitigation measures are identified in [Table 28](#).
- It is noted that no CEMF measures have been identified.

This information and the nominated mitigation measures is supported by the following procedures, which will be implemented across the Project:

- An Unexpected Heritage Finds and Human Remains Procedure as required by MCoA D31 is attached as [Appendix G](#) of this CEMP.

Table 27 MCoAs relevant to Aboriginal heritage management

MCoA ID	Measure / Requirement	Document Reference
D19	All reasonable steps must be taken so as not to harm, modify or otherwise impact Aboriginal objects except as authorised by this approval.	Section 7.7.4
D24	Where previously unidentified Aboriginal objects are discovered, all work must immediately stop in the vicinity of the affected area and a suitably qualified and an experienced Aboriginal heritage expert must be contacted to provide specialist heritage advice, before construction recommences. The measures to consider and manage this process must be specified in the Heritage CEMP Sub-plan required by Condition C5 of this schedule and, where relevant, include registration in the Aboriginal Heritage Information Management System (AHIMS).	Appendix G
D31	An Unexpected Heritage Finds and Human Remains Procedure must be prepared to manage unexpected heritage finds (heritage items and values) in accordance with any guidelines and standards prepared by the Heritage Council of NSW or Heritage NSW.	Appendix G
D32	The Unexpected Heritage Finds and Human Remains Procedure must be prepared by a suitably qualified and experienced heritage specialist in consultation with the Heritage Council of NSW (with respect to non-Aboriginal cultural heritage) and in relation to Aboriginal cultural heritage, in accordance with the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010) and submitted to the Planning Secretary for information no later than one (1) month before the commencement of construction.	Appendix G
D33	The Unexpected Heritage Finds and Human Remains Procedure, as submitted to the Planning Secretary, must be implemented for the duration of construction. Note: Human remains that are found unexpectedly during the carrying out of work may be under the jurisdiction of the NSW State Coroner and must be reported to the NSW Police immediately. Management of human remains in NSW is subject to requirements set out in the Public Health Act 2010 (NSW) and Public Health Regulation 2012 (NSW). Nothing in these conditions prevents separate procedures for the Unexpected Heritage Finds and Human Remains Procedure.	Appendix G

7.7.1 Management objectives

The Heritage Management Objectives include:

- Minimise impacts on items or places of heritage value.
- Avoid accidental impacts on heritage items.

- Maximise worker's awareness of Aboriginal heritage.

7.7.2 Existing Aboriginal Heritage Environment

The following section summarises Section 13 of the EIS.

7.7.2.1 Westmead

The closest recorded Aboriginal site to the Westmead metro station construction site is an artefact site about 385 metres to the east, in Parramatta Park.

7.7.2.2 Silverwater Ancillary Facility

The Silverwater services facility construction site is comprised of a vacant lot with evidence of earthworks and filling across the site. No Aboriginal sites were identified during the site investigation.

An AHIMS search was conducted on 07/09/23 of the area within and adjacent to the Silverwater Facility. No known aboriginal places or objects were identified as a result of the AHIMS search [Figure 10](#).

No identified Aboriginal sites would be impacted by the proposed works at the Silverwater services facility construction site.



Figure 10 AHIMS search results, Silverwater Ancillary Facility

7.7.3 Potential Impacts

7.7.3.1 Westmead

The archaeological potential associated with the utilities installation at the Westmead Station is considered to be low. No identified Aboriginal sites would be impacted by the proposed works at the Westmead metro station construction site.

7.7.3.2 Silverwater Ancillary Facility

The archaeological potential associated with the Silverwater Ancillary Facility is considered to be low.

No identified Aboriginal sites would be impacted by the proposed works at the Silverwater services facility construction site.

7.7.4 Mitigation Measures

The specific measures and requirements to address impacts of Aboriginal Heritage are outlined in [Table 28](#).

Table 28 Aboriginal Heritage mitigation measures

Applicable site	ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
All	AH1	All reasonable steps must be taken so as not to harm, modify or otherwise impact Aboriginal objects except as authorised by this approval.	MCoA D19	Site inspection reports	During Construction	Environment Manager
All	AH2	Where previously unidentified Aboriginal objects are discovered, all work must immediately stop in the vicinity of the affected area and a suitably qualified and an experienced Aboriginal heritage expert must be contacted to provide specialist heritage advice, before construction recommences.	MCoA D24	Unexpected Heritage Finds and Human Remains Procedure	Pre-construction/ Construction	Environment Manager
All	AH3	An Unexpected Heritage Finds and Human Remains Procedure must be prepared and implemented to manage unexpected heritage finds in accordance with any guidelines and standards prepared by the Heritage Council of NSW or EES.	MCoA D31, D32 & D33	Unexpected Heritage Finds and Human Remains Procedure	Pre-construction/ Construction	Environment Manager
All	AH4	In the event that a potential burial site or potential human skeletal material is exposed during construction, the Sydney Metro Exhumation Management Plan would be implemented.	REMM AH4	Sydney Metro Exhumation Management Plan	Construction	Environment Manager
All	AH5	The project induction will include information about the implementation of the unexpected heritage finds procedure	Best Practice	Project induction	Pre-construction	Environment Manager Site supervisor

7.8 Air Quality Management

The following information has been included herein to address the management of air quality on the Project.

- MCoA are listed in [Table 29](#)
- No CEMF management requirements have been allocated
- REMMs are identified in [Table 31](#)

Table 29 Minister's MCoA relevant to air quality management

MCoA	Requirement	Document Reference
D1	All reasonably practicable measures must be implemented to minimise the emission of dust and other air pollutants during construction.	Section 7.8.5

7.8.1 Management objectives

The air quality management objectives include:

- Minimise gaseous and particulate pollutant emissions from construction activities as far as feasible and reasonable
- Identify and control potential dust and air pollutant sources.

7.8.2 Existing Environment

The following section generally summarises the existing environment for Westmead which correspond to section 23 of the EIS.

Ambient air quality throughout the Sydney Basin is influenced by a number of factors, including topography, prevailing meteorological conditions (such as wind and temperature, which vary seasonally) and local and regional air pollution sources (such as motor vehicles, industrial facilities and bushfires). Consequently, regional air quality can be highly variable and impacted by events occurring a significant distance away.

The NSW Office of Environment and Heritage uses a standardised measurement known as the air quality index to characterise air quality and the acceptability of air quality at a location and compare it in relative terms with other locations throughout NSW.

Air quality data presented in the approval documents, sourced from monitoring stations at Prospect, and Parramatta North is summarised in [Table 30](#). The data shows the existing concentrations of air pollutants were generally below the applicable air quality impact assessment criteria during the 2014 to 2018 reporting periods for sulfur dioxide, nitrogen dioxide and carbon monoxide.

It is noted that existing Particulate Matter (PM₁₀ and PM_{2.5}) generally exceeds air quality impact assessment criterial in most previous years.

Table 30 Background air quality data

Pollutant	Averaging period	Air quality impact assessment criteria	Prospect					Paramatta North				
			2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
PM ₁₀ (ug/m ³)	Maximum 24-hour	50	44	69	110	61	113	-	-	-	-	107
	95 th percentile 24-hour	50	30	30	34	32	37	-	-	-	-	39
	Annual	25	18	18	19	19	22	-	-	-	-	22
PM _{2.5} (ug/m ³)	Maximum 24-hour	25	-	30	85	30	48	-	-	-	-	42
	95 th percentile 24-hour	25	-	16	18	15	16	-	-	-	-	17
	Annual	8	-	8.2	8.7	7.7	8.5	-	-	-	-	9.2
Carbon monoxide (mg/m ³)	Maximum 1-hour	30	2	2	2	2	2	-	-	-	-	2
Nitrogen dioxide (ug/m ³)	Maximum 1-hour	246	88	100	100	113	96	-	-	-	-	120
	Annual	62	19	18	19	19	117	-	-	-	-	-
Sulfur dioxide (ug/m ³)	Maximum 1-hour	570	50	71	55	60	66	-	-	-	-	55
	Annual	60	3	3	3	3	3	-	-	-	-	-

7.8.3 Location of potentially sensitive receivers

7.8.3.1 Westmead

Potential sensitive receivers nearest to the Westmead site include:

- Residential receivers along the route, located at closest 5 metres away from work areas
- Users of several parks, as well as several educational facilities, and places of worship
- Ecologically sensitive receivers associated with Parramatta River.

7.8.3.2 Silverwater

Potential sensitive receivers nearest to the Silverwater site predominantly consist of commercial and industrial businesses in all directions.

7.8.4 Potential impacts

The main potential air quality risk associated with these works would be dust temporarily generated from the excavation, handling, placement and compaction of soils, and from exposed surfaces and stockpiled materials. The small footprint of the active work area and linear nature of the construction activity means potential impacts would be limited in extent and temporary in nature.

Potential dust impact would be temporary in nature and would be substantially reduced with the implementation of standard mitigation measures.

The main source of air emissions would be from the combustion of diesel fuel and petrol from heavy vehicles, mobile excavation machinery, and stationary combustion equipment as well as from the handling and/or on-site storage of fuel and other chemicals. The volume of emissions from construction vehicles and machinery would depend on the type of fuel used, the power output and condition of the engine, and duration of use.

Exhaust emissions generated during construction would be temporary and would not significantly contribute to emissions in the local area, given elevated background particulate matter concentrations in the locality. These emissions would be adequately managed by the implementation of mitigation measures.

The risk of mobilising airborne hazardous materials, odours or vapours could occur as a result of uncovering contaminated soils or hazardous materials (including asbestos). All potential contamination impacts can be managed to acceptable levels with the implementation of appropriate management measures and/or remediation.

7.8.5 Mitigation Measures

The specific measures and requirements to address air quality impacts are outlined in [Table 31](#).

Table 31 Air quality mitigation measures

Applicable site	ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
All	AQ1	The following best-practice dust management measures would be implemented during construction works: - Regularly wet-down exposed and disturbed areas including stockpiles, especially during dry weather - Adjust the intensity of activities based on measures and observed dust levels and weather forecasts - Minimise the amount of materials stockpiled and position stockpiles away from surrounding receivers - Regularly inspect dust emissions and apply additional controls as required. - Cover or spray stockpiles with Soilbinder - Use watercart or other mitigation measures as required to minimise dust. - Use of a road sweeper where required.	MCoA D1 REMM AQ1	Site inspection reports	Construction	Environment Manager Site supervisor Project Engineer
All	AQ2	Plant and equipment would be maintained in a proper and efficient manner. Visual inspections of emissions from plant would be carried out as part of pre-acceptance checks.	REMM AQ2	Pre-acceptance check records Site inspection reports	Construction	Environment Manager Site supervisor Project Engineer

Applicable site	ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
All	AQ3	The following best-practice odour management measures would be implemented during relevant construction works: - The extent of opened and disturbed contaminated soil at any given time would be minimised - Temporary coverings or odour suppressing agents would be applied to excavated areas where appropriate - Regular monitoring would be conducted during excavation to verify that no offensive odours are detected beyond the site boundary.	EIS-REMM AQ3	Site inspection reports	Construction	Environment Manager Site supervisor Project Engineer
All	AQ4	Dust generating work will cease when levels of airborne dust become excessive	Best Practice	Site inspection reports	As required	Project Manager

7.9 Visual Amenity

The following information has been included herein to address the management of visual amenity surrounding the Project.

- MCoAs are listed in [Table 32](#)
- No CEMF management requirements have been allocated
- Mitigation measures including REMMs are identified in [Table 33](#).

Table 32 MCoA for visual amenity management

MCoA	Requirement	Reference
A22	Boundary screening must be erected around ancillary facilities that are adjacent to sensitive land user(s) for the duration that the ancillary facility is in use unless otherwise agreed with relevant affected residents, business operators or landowners.	Section 7.9.4
A23	Boundary screening required under Condition A22 of this schedule must minimise visual impacts on adjacent sensitive land user(s).	Section 7.9.4
D104	Nothing in this approval permits advertising on any element of Stage 1 of the CSSI.	Section 7.9.4
D103	Wayfinding information must be incorporated on temporary hoardings to guide pedestrians around ancillary facilities and enhance their understanding and experience of the locality and space.	Section 7.9.3
D109	Stage 1 of the CSSI must be constructed with the objective of minimising light spill to surrounding properties including from headlights of construction vehicles. All lighting associated with the construction of Stage 1 of the CSSI must be consistent with the requirements of Australian Standard 4282-1997 Control of the obtrusive effects of outdoor lighting and relevant Australian Standards in the series AS/NZ 1158 – Lighting for Roads and Public Spaces. Additionally, mitigation measures must be provided to manage any residual night lighting impacts to protect properties adjoining or adjacent to the CSSI, in consultation with affected landowners.	Section 7.9.4

7.9.1 Management Objectives

The visual amenity management objectives include:

- Minimise impacts on existing landscape features as far as feasible and reasonable.
- Reduce visual impact of construction to surrounding community.

7.9.2 Existing Environment

The following section generally summarises the existing environment for the Westmead site which correspond to section 15 of the EIS.

A description of the criteria used to assess landscape and visual amenity impacts is included in Section 15 of the EIS.

7.9.2.1 Westmead

The existing suburban and intercity rail corridor generally divides the landscape character of Westmead, running east-west through the suburb. The existing Westmead Station is located at the centre of Westmead.

The character south of the rail corridor consists of a leafy low to medium density residential area. Streets are generally tree lined and include mature trees within larger residential garden frontages. Small scale commercial and community uses are scattered through this area, generally along or near Hawkesbury Road. This includes a strip of shops on the corner of Alexandra Avenue and Hawkesbury Road, and also at the corner of Alexandra Avenue and Hassall Street, with shopfronts also on Hassall Street. The locally heritage listed Westmead Public School (c1917) is also located on Hawkesbury Road.

7.9.2.2 Silverwater Site

Silverwater Road is a heavily trafficked road, six lanes wide and with concrete footpaths in a grassed verge near the site. Derby Street is a two-lane road, with a left in left out access, from Silverwater Road, providing access to the surrounding industrial areas of Silverwater. There are no footpaths along Derby Street. The site includes two mature gum trees and some smaller saplings, which provides some visual amenity to the adjacent areas.

Where there are street trees and landscaped areas along these streets, the streetscape of commercial buildings is softened and visual amenity is improved. In other areas, the streetscape is dominated by the character of commercial buildings and heavy vehicle traffic with limited pedestrian amenity. The flat land and consistent building design reduces pedestrian wayfinding within the industrial areas of Silverwater.

Due to the flat topography of Silverwater and visual containment provided by the large scale built form, views to the construction site would generally be limited to short and medium distance views from the street, footpaths and properties adjacent to the site on Derby Street or Silverwater Road.

7.9.3 Potential Impacts

The Westmead view of the construction of trenching route would include relatively small scale construction activities including trenching works within the road corridors, temporary road and footpath closures. The existing trees would be retained and protected during construction.

Wayfinding signage would be installed on temporary hoardings as required to guide pedestrians around ancillary facilities and provide understanding of the works within the locality.

This work would be absorbed into views within the adjacent Westmead Station construction activities.

Overall, due to the minor scale of these works, there would be a noticeable reduction in the amenity of views from the streets and adjacent properties along the power supply route. These views are of local sensitivity and this would result in minor visual impact during construction.

Due to the commercial surroundings of the Silverwater site, the ancillary facility activity would not decrease visual amenity, with only minor impacts to passing road users.

7.9.4 Mitigation Measures

The specific measures and requirements to address Visual Impact are outlined in [Table 33](#).

Table 33 Visual impact mitigation measures.

Applicable site	ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
All sites	LV1	Stage 1 of the CSSI must be constructed with the objective of minimising light spill to surrounding properties including from headlights of construction vehicles. All lighting associated with the construction of Stage 1 of the CSSI must be consistent with the requirements of Australian Standard 4282-1997 Control of the obtrusive effects of outdoor lighting and relevant Australian Standards in the series AS/NZ 1158 – Lighting for Roads and Public Spaces. Additionally, mitigation measures must be provided to manage any residual night lighting impacts to protect properties adjoining or adjacent to the CSSI, in consultation with affected landowners.	MCoA D109	Site inspection reports	Construction	Site supervisor
All sites	LV2	Where feasible and reasonable, the elements within construction sites would be located to minimise visual impacts (for example storing materials and machinery behind fencing).	REMM LV1	Site inspection reports	Pre- Construction, Construction	Site supervisor Project Engineer
All Sites	LV3	Opportunities for the retention and protection of existing street trees and trees within the site would be identified during detailed construction planning.	REMM LV11	Construction planning	Pre- Construction	Environment Manager Site supervisor Project Engineer
All Sites	LV4	Existing trees to be retained would be protected prior to the commencement of construction in accordance with Australian	REMM LV12	Site inspection reports	Pre-Construction, Construction	Environment Manager Site supervisor

Applicable site	ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
		Standard AS4970 the Australian Standard for Protection of Trees on Development Sites and Adjoining Properties.				Project Engineer
All Sites	LV5	Graffiti would be removed promptly from hoardings and any other aspects of construction sites.	REMM LV3	Site inspection reports	Construction	Site supervisor
All Sites	LV6	All structures (including acoustic sheds or other acoustic measures, site offices and workshop sheds) would be finished in a colour which aims to minimise their visual impact, if visible from areas external to the construction site. This finish is to be applied to all visible fixtures and fittings (including exposed downpipes).	REMM LV4	Site inspection reports	Construction	Environment Manager Site supervisor Project Engineer
All Sites	LV7	Lighting of the sites would be orientated to minimise glare and light spill impacts on adjacent receivers in accordance with AS4282:2019.	MCoA D109 REMM LV5	Site inspection reports	Construction	Environment Manager Site supervisor Project Engineer
All Sites	LV8	Where ancillary facilities are located adjacent to sensitive receivers, boundary screening will be installed (unless otherwise agreed with sensitive receivers) to minimise visual impact.	MCoA A22 MCoA A23	Site inspection reports	Construction	Site supervisor
All Sites	LV9	The CSSI name, application number, telephone number, postal address and email address required under Condition B3 of this schedule must be available on site boundary fencing / hoarding at each ancillary facility before the commencement of construction.	A48	Site Inspection Reports	Construction	Site supervisor

7.10 Sustainability

The following information has been included herein to address the management of sustainability the associated requirements of the following approval documents in addition to applicable legislation and industry guidance and standards:

- The EIS approval including the MCoA and REMMs
- The obligations allocated under the CEMF

7.10.1 Management Objectives

The key sustainability management objectives include:

- minimise energy use
- minimise overall water use and maximise the availability and use of non-potable water sources
- maximise the use of recycled materials
- maximise recycling and reuse of materials onsite
- use of sustainably sourced and certified timber and wood products
- influence subcontractors and materials suppliers to adopt sustainability objectives in their works and procurement.
- sustainability targets achieved
- compliance with the CoAs
- educate the workforce on sustainability targets and objectives

7.10.2 Sustainability Targets

The main sustainability targets set for the project include:

- A minimum of 95% of construction and demolition waste generated (non-spoil, uncontaminated) is to be diverted from landfill sites.
- Products made from recycled content are prioritised
- Use of potable water for non-potable purposes is avoided if non-potable water is available
- The reuse of water is maximised, either on-site or off-site.
- Report on carbon emissions from construction and operations
- Beneficially reuse 100 per cent of reusable spoil, in accordance with the Spoil Management Hierarchy
- Reduce potable water compared to business-as-usual, and monitor consumption throughout construction

7.10.3 Sustainability Management Requirements

The Construction Environmental Management Framework (CEMF) establishes Sydney Metro's minimum requirements for management systems and documentation. It allows Principal Contractors to understand

what the expectations are, how to integrate with Sydney Metro systems and procedures, and how to develop approaches to managing requirements from a range of different sources such as Planning Approvals, licences, standards, guidelines, and other legislative obligations.

The sustainability requirements of the CEMF allocated to the Project addressed in this Section are listed in [Table 34](#).

Table 34 Relevant CEMF requirements

CEMF Ref.	Condition Requirements	Document Reference
3.2a	Principal Contractors are required to prepare and implement a Sustainability Management Plan (SMP) relevant to the scale and nature of the Project Works.	Section 7.10
3.2b	The SMP must, as a minimum, address and detail:	Section 7.10
SMP1	The relevant requirements of the Sydney Metro Environment and Sustainability Policy	Section 7.10.2
SMP2	A sustainability policy statement	Quickway Sustainability Policy
SMP3	The sustainability 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	Section 6.2
SMP4	How sustainability initiatives will be identified and integrated into the design of the Project Works	Section 7.10 Noting Quickway are construct only and not responsible for design
SMP5	The carbon and energy mitigation measures as detailed in the planning approval documentation that are applicable to the Project Works	Section 7.10.7
SMP6	The low carbon strategies and initiatives that will be implemented to minimise the carbon emissions	Section 7.10.7
SMP7	The energy efficiency strategies and initiatives that will be implemented to minimise energy use	Section 7.10.7
SMP8	Support innovative and cost effective approaches to energy efficiency, low carbon / renewable energy sources and energy procurement	Section 7.10.7
SMP10	The processes and methodologies for assurance, monitoring, auditing, corrective action, continuous improvement and reporting on sustainability performance	Section 6.8 Section 6.9 Section 6.10

CEMF Ref.	Condition Requirements	Document Reference
SMP11	A process (or processes) for compliance record generation and management	Section 6.9
SMP13	The strategy and methodology for incorporating climate change adaption in designs that response to the climate change risks and baseline adaptation measures allocated to the Project works.	Noting Quickway are construct only and not responsible for design
SMP14	The strategies and initiatives that will be implemented to minimise overall water use, maximise the availability and use of non-potable water sources	Section 7.10.8
SMP15	Estimates of the quantity of potable water which will be consumed during construction	Section 7.10.8
SMP16	Estimates of the quantity of water from non-potable water which will be consumed during construction	Section 7.10.8
SMP17	The strategy to reduce material use throughout the project life-cycle	Section 7.10.7
SMP18	The strategies and initiatives that will be implemented to maximise the use of recycled materials	Section 7.10.9
SMP19	The strategies and initiatives to recycle and reuse materials onsite	Section 7.10.9
SMP20	The strategies and initiatives to prioritise the use of materials with a lower environmental and social embodied impact	Section 7.10.6 Section 7.10.9
SMP21	Estimates of the Portland cement reduction which will be achieved in concrete (averaged across all mixes) compared to a reference case	Section 7.10.2
SMP22	The strategies and initiatives to prioritise the use of low-VOC, low emission materials	Section 7.10.9
SMP23	The use of sustainably sourced and certified timber and wood products	Section 7.10.6
SMP25	Estimates of fuel consumption	Section 7.10.2
SMP26	Estimates of electricity consumption	Section 7.10.2

CEMF Ref.	Condition Requirements	Document Reference
SMP27	Estimates of 'Scope 1', 'Scope 2', 'Scope 3' and total carbon emissions (Carbon Emission Targets) that incorporates direct and indirect emissions associated with electricity and fuel consumption, on-site process emissions and embodied emissions for all main materials used and undertaken	Section 7.10.7
SMP29	The strategy and initiatives to influence subcontractors and materials suppliers to adopt sustainability objectives in their works and procurement	Section 7.10.4
SMP31	The retention of records detailing the consideration of sustainability in the procurement of all materials	Section 7.10.6

7.10.4 Sustainability Policy

Quickway have developed a Sustainability Policy for the Project that states our commitment to balancing environmental, social and economic factors in all our decision making to achieve sustainable development. The policy will draw alignment between the following documents:

- Quickway Corporate Environment Policy Statement (01June 2021)
- TfNSW Environment and Sustainability Policy (2020)
- Sydney Metro Environment and Sustainability Statement of Commitments (2020).
- Sydney Metro Sustainability Framework

7.10.5 Sustainable Procurement Policy

To complement our Sustainability Policy, Quickway have developed a project specific Sustainable Procurement Policy. Sustainable procurement is the use of strategic procurement practice to generate environmental and social benefits beyond the goods and services required. It optimises the environmental, economic and social benefits for an organisation and the community it serves.

Quickway recognise and support the commitments of the TfNSW Sustainable Procurement Policy and the procurement values established by Sydney Metro in its dealings with Sydney Metro, all other contractors and Stakeholders. These values are:

- Safety and Wellbeing
- Collaboration
- Integrity
- Innovation
- Excellence
- Achievement

Quickway's Resource and Project Managers ensure relevant purchasing processes and procedures are applied when procuring products, considering ethically and sustainably sourced materials, and are responsible for the implementation of this policy.

7.10.6 Sustainable Procurement

7.10.6.1 Selection of Subcontractors and suppliers

As part of the subcontractor and supplier selection process, potential suppliers of high materiality contracts will be requested to provide details of their environmental policies, procedures and plans in relation to environmental and social sustainability.

Quickway will also review supplier terms and conditions to ensure they align with our core values and project requirements. This includes for suppliers where equipment, materials or labour are procured from locations outside Australia (except procurement items under the Preferred Supplier Agreement (PSA)).

The Project contract documentation may specify Preferred Supplier Agreements in place to ensure Quickway use preferred suppliers of materials required for the project for quality, pricing or consistency purposes.

Where available, local suppliers will be identified and invited to quote on key procurement packages.

7.10.6.2 Ethical sourcing of labour and materials

Quickway are committed to ethical sourcing of labour and materials for the delivery of the Project. This will be achieved through adherence to the following NSW Procurement obligations:

- ensuring procurement is fair, ethical, transparent and probity rich and ensure that probity is routinely considered in procurement decisions
- safeguarding confidential supplier information and treat potential suppliers' business information fairly, impartially and securely
- not using probity as a 'road-block' or to ignore innovative procurement arrangements with suppliers.

In accordance with Quickway's Sustainable Procurement Policy Statement, suppliers must not use child, forced, bonded or involuntary labour of any form.

7.10.7 Energy and carbon

To help delineate direct and indirect greenhouse gas (GHG) emission sources, three "scopes" (scope 1, scope 2, and scope 3) are defined for GHG accounting and reporting purposes by The Greenhouse Gas Protocol (World Resources Institute, 2004). Quickway will be monitoring and reporting GHG emissions for the Project using the Sydney Metro Sustainability Reporting Template (SM18-00043350). The Scopes provide a useful framework to understand strategies and initiatives to reduce GHG emissions.

7.10.7.1 Scope 1: Direct GHG Emissions

Scope 1 emissions are direct GHG emissions from sources that are owned or controlled by the company (Quickway and its subcontractors for the delivery of the Project). For this Project, Scope 1 emissions will predominantly be emissions associated with:

- Diesel powered vehicles, plant and equipment use on site
- Use of gases onsite (eg Acetylene for welding)
- Transportation of materials, products, waste, spoil and employees within the Project

- Onsite generation of electricity by generators.

Strategies to reduce Scope 1 GHG emissions for the Project will include:

- Encouraging the use of Biodiesel and E10 fuel (E10 is regular unleaded petrol blended with between 9% and 10% ethanol)
- Using solar energy instead of generators for temporary lighting
- Connecting site sheds to mains electricity where practical (then addressing reductions in Scope 2 emissions).
- Turning of plant and equipment when not in use for extended periods of time.

7.10.7.2 Scope 2: Electricity indirect GHG emissions

Scope 2 emissions accounts for GHG emissions from the generation of purchased electricity consumed by the company. For the Project, this will predominantly be associated with site offices and lunch sheds that are connected to mains electricity.

Strategies to reduce electricity usage and Scope 2 GHG emissions for the Project may include:

- GreenPower electricity (renewable energy) (25% GreenPower is considered business as usual on TfNSW projects under the Government Resource Efficiency Policy (GREP))
- energy efficient technologies and such LED/solar temporary streetlights
- electrical equipment in offices and site sheds (new purchases) to be at least the market average star rating under the Greenhouse and Energy Minimum Standards (GEMS) or high efficiency rating under ENERGY STAR® (refer to the NSW Government Resource Efficiency Policy 2014, requirement E3 “minimum standards for new electrical appliances and equipment for further details)
- close site shed doors when air conditioners / heaters are in use
- turning off lights and air conditioners / heaters in site sheds when not occupied. This may be achieved through education of workforce or installing delay switches or detection sensors on lights and air conditioners.

Based on the implementation of GHG emissions reduction strategies aforementioned, it is estimated that approximately 25 per cent of the greenhouse gas emissions associated with consumption of electricity during construction and operation of the proposal could be offset.

7.10.7.3 Scope 3: Other indirect GHG

Scope 3 emissions encompass all other indirect emissions that are a consequence of the activities of Project delivery, but occur from sources not owned or controlled by the company. For the Project, Scope 3 emissions will predominantly be emissions associated with:

- embodied energy and emissions such as those associated with materials (concrete, aggregate, asphalt, steel, HDPE conduit).
- transportation of purchased materials or equipment
- transportation of waste to disposal destination and waste disposal
- employees commuting to and from work

Strategies to reduce Scope 3 GHG emissions for the Project will include:

- procuring concrete with the maximum percentage of supplementary cementitious materials (SCMs), such as fly ash or blast furnace slag, to reduce the percentage of Portland Cement (subject to compliance with Project Specifications and availability)
- procuring asphalt with the maximum percentage of reclaimed asphalt pavement (RAP) to reduce the percentage of virgin bitumen (subject to compliance with Project Specifications and availability)
- selecting local suppliers of bulk materials to minimise transportation distances (such concrete, asphalt, sand and aggregates)
- selecting local waste disposal sites to minimise transportation distances
- Minimising waste, Maximising reuse and recycling of waste and spoil wherever possible

Quickway will provide monthly fuel and electricity consumption data in accordance with the Sydney Metro Sustainability Reporting Template (SM18-00043350) capturing data across the various scopes of emissions, to be included as part of corporate reporting where required under the National Greenhouse and Energy Reporting Act 2007 (Cwlth). Emissions will be calculated using the Commonwealth Government Clean Energy Regulator NGER Emissions and Energy Threshold Calculator 2020-21 to estimate Scope 1, 2 and 3 carbon emissions in accordance with ISO 14064-1, ISO 14064-2 and ISO 14064-3.

7.10.8 Water

The Project will not have a high-water demand. The construction water demand for the Project will include:

- compaction of earthworks
- dust suppression
- street sweeping
- concrete sawing
- line marking removal.

In accordance with the TfNSW Water Discharge and Reuse Guideline (2015) (refer to the CEMP), stormwater collected on site will be used when available and suitable water quality for construction purposes in preference to potable water.

Quickway will prepare a monthly water consumption data record in accordance with the Sydney Metro Sustainability Reporting Template (SM18-00043350).

7.10.9 Waste

Quickway will avoid or reduce waste generation where practicable. This will be achieved by implementing a planned approach to procurement that reduces the purchase of excess quantities and unnecessary packaging.

Where avoiding or reducing waste is not possible, waste is to be reused, recycled, or recovered. Waste separation and segregation will be promoted on-site to facilitate reuse and recycling as a priority of the waste management program as follows:

- Waste segregation onsite – waste materials, including demolition waste, will be separated onsite into dedicated bins/areas for either reuse onsite or collection and transport to offsite facilities
- Waste separation offsite – wastes to be deposited into one bin where space is not available for placement of multiple bins, and the waste is to be sorted offsite by a waste contractor.

Section 7.3 of this CEMP provides the environmental control measures to manage waste in accordance with the NSW Waste Avoidance and Resource Recovery Strategy 2014-21 (EPA 2014) for the Project.

7.10.10 Sustainability Monitoring and Inspection

Regular weekly site inspections will be completed to assess and monitor the ongoing effectiveness and suitability of the Project's environmental and sustainability controls. During the inspections, the implementation and effectiveness of the strategies and initiatives identified in Section 7.10 will be assessed.

Where issues arise, corrective actions or potential improvements are identified during monitoring and inspection, these will be addressed as part of the action close out on an ongoing basis.

7.10.11 Sustainability Reporting and Records

Quickway will prepare a monthly Environment and Sustainability report which will be developed in accordance with the Sydney Metro Sustainability Reporting Template and presented to Sydney Metro for review. The monthly report will include;

- Reporting on tracked materials, energy, greenhouse gas emissions, water and waste products removed from site, in line with Sydney Metro Sustainability Reporting Template (SM18-00043350).
- An inventory of non-road diesel powered vehicles used during construction works using the TfNSW Air Emissions Data Collection Workbook (9TP-FT-439).

All sustainability compliance records are kept and maintained by the Environmental Management team. Where recorded data suggests that targets are not being met or improvements could be made, the project team will be briefed and processes implemented to improve performance.

7.11 Property and utilities management

The following requirements within [Table 35](#) apply to works at both the Westmead site and Silverwater Facility.

Table 35 Mitigation measures for property and utilities management.

ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
PU1	A suitably qualified and experienced person must undertake condition surveys of all buildings, structures, utilities and the like identified in the documents listed in Condition A1 of this schedule as being at risk of damage before commencement of any work that could impact on the subject surface / subsurface structure. The results of the surveys must be documented in a Preconstruction Condition Survey Report for each item surveyed. Copies of Pre-construction Condition Survey Reports must be provided to the relevant owners of the items surveyed in the vicinity of the proposed work, and no later than one (1) month before the commencement of the work that could impact on the subject surface / subsurface structure.	MCoA D60	Survey Reports	Pre-Construction	Project Manager Project Engineer Full Compliance for properties identified as being 'at risk' of damage.
PU2	Condition surveys of all items for which condition surveys were undertaken in accordance with Condition D60 of this schedule must be undertaken by a suitably qualified and experienced person after completion of the work identified in Condition D60 of this schedule. The results of the surveys must be documented in a Post-construction Condition Survey Report for each item surveyed. Copies of Post-construction Condition Survey Reports must be provided to the landowners of the items surveyed, and no later than three (3) months following the completion of the work that could impact on the subject surface / subsurface structure unless otherwise agreed by the Planning Secretary.	MCoA D61	Condition Surveys	Pre-Construction	Project Manager Project Engineer Full Compliance for properties identified as being 'at risk' of damage.

ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
PU3	The Proponent, where liable, must rectify any property damage caused directly or indirectly (for example from vibration or from groundwater change) by the work at no cost to the owner. Alternatively, the Proponent may pay compensation for the property damage as agreed with the property owner. Rectification or compensation must be undertaken within 12 months of completion of the work identified in Condition D60 of this schedule unless another timeframe is agreed with the owner of the affected surface or sub-surface structure or recommended by the IPIAP.	MCoA D62	Site inspection reports	Pre-Construction, Construction	Project Manager
PU4	Appropriate equipment to monitor areas in proximity of construction sites and the tunnel route during construction-must be installed with particular reference to at risk buildings, structures and utilities identified in the condition surveys required by Condition D60 of this schedule and / or geotechnical analysis as required. If monitoring during construction indicate exceedance of the predicted impacts identified in the documents in Condition A1 or determined through geotechnical analysis, then all construction affecting settlement must cease immediately if it is safe to do so and must not resume until fully rectified or a revised method of construction is established that will ensure protection of affected buildings.	MCoA D63	IPIAP findings	Construction	Quickway Sydney Metro

ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
PU5	A Utility Coordination Manager must be appointed for the duration of work associated with Stage 1 of the CSSI. The role of the Utility Coordination Manager must include, but not be limited to: (a) the management and coordination of all utility work associated with the delivery of Stage 1 of the CSSI, to ensure respite is provided to the community; (b) providing advice to the Sydney Metro Place Manager regarding upcoming utility work, including the scope of the work and the responsibility for the work; and (c) investigating complaints received from the Community Complaints Mediator or the Project communication team relating to utility work and providing a response as required.	MCoA D102	Evidence of appointment of Utility coordination manager	Pre-Construction, Construction	Sydney Metro Utility Coordination Manager Quickway Engineer
PU6	Ongoing consultation would be carried out with utility providers for high pressure gas or petroleum pipelines to identify appropriate construction methodologies to be implemented. Any interaction with high pressure gas or petroleum pipelines would comply with the relevant standards, including AS 2885 Pipelines – Gas and Liquid Petroleum	REMM HA3	Evidence of consultation with utility providers	Construction	Project Manager Project Engineer
PU7	Except where required for subsequent construction activities associated with future stages of the Concept, temporary use areas for construction purposes would be stabilised and appropriately rehabilitated as soon as feasible and reasonable following completion of construction. This would be carried out in consultation with the relevant landowner.	REMM LU1	Direction from Sydney Metro about what areas need to be rehabilitated Rehabilitated areas	Construction	Site supervisor Environmental Manager Project Engineer

ID	Measure / Requirement	Source of req.	Evidence	When to implement	Responsibility
PU78	Utilities, services and other infrastructure potentially affected by construction must be identified before works affecting the item, to determine requirements for access to, diversion protection, and / or support. The relevant owner(s) and / or provider(s) of services must be consulted to make suitable arrangements for access to diversion, protection, and / or support of the affected infrastructure as required. The Proponent must ensure that disruption to any service is minimised and be responsible for advising local residents and businesses affected before any planned disruption of service.	MCoA D101	Utilities survey	Pre-Construction	Environmental Manager Project Engineer Project Manager
PU9	Stage 1 of the CSSI must be designed and constructed 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.	MCoA D58	Site inspection reports	Pre-Construction, Construction	Project Manager Design
PU10	The utilities and services (hereafter "services") potentially affected by construction must be identified to determine requirements for diversion, protection and / or support. Alterations to services must be determined by negotiation between the Proponent and the service providers. Disruption to services resulting from construction must be avoided, wherever possible, and advised to customers where it is not possible.	MCoA D59	Evidence of consultation with service providers	Pre-Construction, Construction	Project Manager Project Engineer

Appendix A Quickway Environmental Policy

ENVIRONMENTAL POLICY STATEMENT

With the growing concerns for our environment, Quickway's consideration for our environment is of the utmost importance.

It is our mission to be a responsible business committed to protecting and conserving the resources and preventing pollution in all our business activities through a commitment to the principles of Ecologically Sustainable Development as detailed in the Protection of the Environment Administration Act 1991 (NSW)

Management Commitment

Quickway is committed to conserving and protecting the environment by establishing and meeting the following targets and objectives:

- Compliance with applicable regulations, industry standards, and contractual requirements
- Implement and maintain a documented Environmental Management System compliant to ISO14001
- Promote responsible environmental practices to all employees through project environmental plans and registers that identify as a minimum opportunities to:-
 - Reduce water consumption and improve water efficiency.
 - Minimise pollution emissions or discharges to the environment.
 - Proactively protect, preserve and enhance biodiversity in the work zone and surrounding natural habitats.
- Continual improvement of the Environmental Management System through periodic reviews against defined environmental objectives
- Support of the concept of waste minimization and recycling.
- Support Client initiatives when on sites
- Our Environmental Policy is communicated to employees, clients, contractors and is available to the public

All Quickway workers are required to co-operate with management so that the policy, programmes and legislative requirements ensure that the environment remains in a safe and healthy condition.

Quickway Managers will always be held accountable for detecting conditions detrimental to the environment.

The Directors directly supports the environmental system requirements by integrating environmental deliberation and responsibility into day to day decisions and long term goals across all activities and disciplines.

Signed:



Derek Mullally,
Managing Director

Date: 1st June 2021

Quickway

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Appendix B Environmental Legal Requirements Register

1. Legal Requirements

Act	Activity / aspect	Requirement	Reference	Applicability
General				
<i>Environmental Planning and Assessment Act, 1979 (EP&A Act)</i>	All	The Project has been declared critical State Significant Infrastructure (CSSI) by virtue of Schedule 5, clause 4 of <i>State Environmental Planning Policy (State and Regional Development) 2011</i> . Comply with the terms minister for Planning's approval for the project. Obtain the Minister's approval for any project modifications that are not consistent with the planning approval.	S5.13 S5.14	Yes- provisions are applicable to the EIS Project Area
		Environmental assessment and public consultation, including a preferred infrastructure report that outlines any proposed changes to the SSI	S5.17	
		- Application of other provisions of the EP&A Act - Approvals and legislation that does not apply - Approvals and legislation that must be applied consistently	S5.22 S5.23 S5.24	
		The proponent may request the Minister to modify the Minister's approval for SSI, which should be lodged with the Planning Secretary.	S5.25	
<i>Environmental Planning and Assessment Act, 1979 (EP&A Act)</i>	All	For the purpose of attaining the objects of this Act relating to the protection and enhancement of the environment, a determining authority in its consideration of an activity shall, notwithstanding any other provisions of this Act or the provisions of any other Act or of any instrument made under this or any other Act, examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity.	S.5.5	Not currently applicable, however additional Section 5.1 Assessments may be required throughout the Project.
<i>Protection of the Environment Operations Act 1997</i>	Environmental protection	Do not risk harming the environment by wilfully or negligently: - Disposing of waste unlawfully - Causing any substance to leak, spill or otherwise escape (whether or not from a container) or - Emitting an ozone depleting substance.	S115 S116 S117	Yes
	Notification of pollution incidents	Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	S148	Yes

Environmental Legal Requirements Register

Integrated Management System (Uncontrolled when printed)

Act	Activity / aspect	Requirement	Reference	Applicability
<i>Crown Lands Act 1989</i>	Crown land	Ministerial approval required to grant a 'relevant interest' over a Crown Reserve. Any works on Crown land are likely to occur pursuant to a relevant interest (ie licence, permit, easement or right of way) to be granted for works on this land.	34A	No area of crown land within the project areas
<i>Roads Act 1993</i>	Road work	Requires the consent of the appropriate road authority for carrying out work on, or disturbing, the surface of a public road. Where the proponent is a public authority, the roads authority must consult with the applicant before making a decision.	S138	Yes- consultation with TfNSW and local councils to occur
Water				
<i>Water Management Act 2000</i> With the exception of controlled activity approvals, the <i>Water Management Act 2000</i> (WM Act) only applies in relation to those water sources covered by operational water sharing plans – these areas cover most of the State's major regulated river systems.	Water access and use.	Access licence required to take water from a water source (a lake, river or estuary or place where water occurs naturally on or below the surface of the ground, and includes coastal waters). This also applies to unregulated river access licences. Do not use of water on land (unless supplied by a water utility, irrigation corporation etc or in accordance with basic landholder rights) without a water use approval.	S56 S60A S89 S90 S91A	No- Public authorities are exempt from the need to obtain a Controlled Activity Approval. Third parties (such as Quickway) undertaking works on behalf of the public authorities are similarly exempt.
	Water management works	Do not construct/use a water supply work, drainage work or flood work without the appropriate approval.	S90 S91B S91C S91D	Not applicable to the project
	Waterfront land	Do not deposit material, excavate, or remove material within a watercourse bank, shore or bed, or on land 40 metres inland, or interfere with the likely flow of water to such a body, without a controlled activity approval.	S91	No Public authorities are exempt from the need to obtain a controlled activity approval. Water Management (General) Regulation 2011 (cl.38)
	Activity approvals	An aquifer interference approval confers a right on its holder to carry out one or more specified aquifer interference activities at a specified location, or in a specified area, in the course of carrying out specified activities.	S91(3)	Not applicable to the project

Environmental Legal Requirements Register

Integrated Management System (Uncontrolled when printed)

Act	Activity / aspect	Requirement	Reference	Applicability
<i>Water Act 1912</i> Note that this Act is being progressively repealed by the WM Act. With the exception of controlled activity approvals, the WM Act only applies in relation to those water sources covered by operational water sharing plans – these areas cover most of the State's major regulated river systems.	Surface water	Obtain a licence or permit for construction or use of 'work' for purposes including the taking and using of water	S21B	No Public authorities are exempt from the need to obtain a controlled activity approval.
<i>Sydney Water Act 1994</i>	Wastewater	Approval to discharge wastewater to sewer and Trade Waste Agreement	S49	Not currently applicable as no discharge into the Sydney Water sewer is proposed.
Sydney Water Regulation 1994	Plumbing and drainage	Permit required to do plumbing or drainage work, which includes connection to a stormwater drain	S18	Not currently applicable as no connection into the Sydney Water stormwater system is proposed.
<i>Protection of the Environment Operations Act 1997</i>	Water pollution	Do not cause water pollution (other than to a sewer), except in accordance with the conditions of an Environment Protection Licence.	S120 S122	Yes

Environmental Legal Requirements Register

Integrated Management System (Uncontrolled when printed)

Act	Activity / aspect	Requirement	Reference	Applicability
Noise				
<i>Protection of the Environment Operations Act 1997</i>	Plant maintenance and operation	Do not operate plant if it emits noise caused by poor maintenance or operation.	S139	Yes
	Materials management	Do not cause noise by failing to properly and efficiently deal with materials.	S140	Yes
Contaminated material				
<i>Protection of the Environment Operations Act 1997</i>	Land pollution	Do not cause or permit land pollution other than under authority of a licence or regulation. (However, it is not a land pollution offence to place virgin excavated natural material or lawful pesticides and fertilisers on land, or by placing matter on land that has been notified to the EPA as an unlicensed landfill and which is operated in accordance with the regulations.)	S142A – S142E	Yes
<i>Contaminated Land Management Act 1997</i>	Reporting contamination	Notify the EPA if; - Contaminants exceed thresholds contained in guidelines or the regulations where contamination has entered or will foreseeably enter neighbouring land, the atmosphere, groundwater or surface water. - Contaminants in soil are equal to or exceed guideline levels with respect to the current or approved use of the land. - Contamination meets other criteria that may be prescribed by the regulations.	S60	Yes
Biodiversity				
<i>Biodiversity Conservation Act 2016</i>	Fauna	Do not harm any animal that is; of a threatened species, that is part of a threatened ecological community or is a protected animal, unless authorised under other legislation (e.g. planning approval).	S2.1 S2.8	Yes
	Habitat	Do not damage habitat of a threatened species or ecological community unless authorised under other legislation (e.g. planning approval).	S2.4 S2.8	Yes
	Biodiversity	Do not damage declared areas of outstanding biodiversity value unless authorised under other legislation (e.g. planning approval).	S2.3 S2.8	Yes
	Flora	Do not pick a plant that is; of a threatened species, that is part of a threatened ecological community or is a protected plant, unless authorised	S2.2 S2.8	Yes

Environmental Legal Requirements Register

Integrated Management System (Uncontrolled when printed)

Act	Activity / aspect	Requirement	Reference	Applicability
		under other legislation (e.g. planning approval).		
Biosecurity Act 2015	Biosecurity matters including pests, disease and weeds	The duty to prevent, eliminate and minimise biosecurity risks posed by biosecurity matters as defined by the Act.	S22	Yes
Biosecurity Regulation 2017	Pests and Diseases	Notify the presence any pest or disease listed in Schedule 1 of the Biosecurity Regulation 2014, within 1 working day after suspecting or becoming aware of the pest or disease.	Regulation cl.7 Schedule 1	Yes
Fisheries Management Act 1994	Dredging or reclamation	Provide the Minister for Primary Industries 28 days notice of planned dredging or reclamation work.	S199	No
	Mangroves, seagrasses and marine vegetation	Do not harm any mangroves, seagrasses or other marine vegetation on public water land protected by the regulations without a permit.	S205	Not applicable to project
	Fish passage	Do not block fish passage without a permit	S219	Not applicable to project
Environment Protection Biodiversity Conservation Act, 1999 (Commonwealth)	Flora and fauna conservation	Do not kill, injure or take a member of a listed threatened species without a permit.	Part 13	Yes
		Comply with the terms of any EPBC Act approval for the project.		N/A
Air Quality				
Protection of the Environment Operations Act 1997	Air quality	Do not operate plant which emits air pollution caused by poor maintenance or operation	S124	Yes
		Do not cause or neglect to prevent air pollution (eg dust exceeding reasonable levels without active management measures in place)	S126	Yes
		Do not cause or permit the emission of an offensive odour	S129	Yes
Protection of the Environment Operations (Clean Air) Regulation 2002	Air quality	Excessive impurities are visible for a continuous period of more than 10 seconds	S15	Yes
		Air emission concentrations for scheduled premises	Schedule 4	Yes

Environmental Legal Requirements Register

Integrated Management System (Uncontrolled when printed)

Act	Activity / aspect	Requirement	Reference	Applicability
Waste				
<i>Protection of the Environment Operations Act 1997</i>	Littering	Do not litter in a public place or an open private place. Do not litter from a vehicle. Only deposit advertising material in receptacles provided for mail or newspapers or under the door of the premises. Do not deposit advertising material on or in vehicles.	Part 5.6A	Yes
	Waste and transportation	Do not undertake a scheduled waste activity unless in accordance with an environmental protection licence. A licence must be obtained when construction and demolition wastes are applied to land under certain circumstances. This includes the reincorporation of crushed road base material back into roads and the placing of excess fill material onto properties. A licence is not required if the material: - Is VENM. - Does not exceed 200 tonnes in the Sydney, Newcastle and Wollongong areas, or 20,000 tonnes outside these areas. - Is covered by a "general exemption". Current exempted materials are ENM, recycled aggregates and raw mulch. These exemptions are conditional and require some chemical testing of materials before they are placed onto land. - A licence must be obtained if more than 2,500 tonnes (or cubic metres) is stored on a stockpile site at any one time, or more than 30,000 tonnes of waste is received per year from off site.	Part 3.2 Schedule 1	Yes
		Only transport waste to a facility that can lawfully accept the waste.	S143	Yes
		Do not dispose of waste in a manner that harms or is likely to harm the environment.	S115	Yes
<i>Protection of the Environment Operations (Waste) Regulation 2005</i>	Waste and transportation	Comply with general requirements for the transport of waste. For example, any vehicle used by the person to transport waste must be kept in a clean condition and be maintained so as to prevent spillage of waste. For some wastes only licensed transporters can be used.	Regulation cl.49	Yes
		Comply with record keeping requirements in relation to the transport of certain types of waste.	Regulation Part 3	Yes
<i>Waste Avoidance and Resource Recovery Act</i>	Waste and resource recovery	Establish the waste hierarchy. Promotes waste avoidance and resources recovery by developing waste avoidance and resource recovery strategies.	-	Yes

Environmental Legal Requirements Register

Integrated Management System (Uncontrolled when printed)

Act	Activity / aspect	Requirement	Reference	Applicability
Heritage				
<i>Heritage Act 1977</i>	Heritage	Do not undertake an activity that will affect a place, building, work, relic, moveable object or precinct which is subject to an Interim Heritage Order or is listed on the State Heritage Register without approval from the Heritage Council.	S56-57	No
		Do not disturb or excavate land with knowledge or reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed; or Do not disturb or excavate land on where a relic has been discovered or exposed.	S139	No
		Notify the heritage Council on discovery of a relic	S146	Yes
<i>National Parks and Wildlife Act 1974</i>	Aboriginal places and objects	Do not harm or desecrate an Aboriginal object or Aboriginal place without consent.	S86	N/A
		Notify the NPWS within reasonable time of becoming aware of the location or discovery of certain Aboriginal objects.	S89A	Yes
		An Aboriginal heritage impact permit may be issued	S90	No
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)</i>	Protection of areas and objects	Report any discovery of Aboriginal remains to the Federal Minister for the Environment and Heritage.	S20	Yes
		Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	S22	Yes
Traffic				
<i>Transport Administration Act 1988</i>	Traffic and transport	Comply with the functions of Transport for NSW relating to traffic management and safety.	S52A	Yes
<i>Roads Act 1993</i>	Road Occupancy	Requires the consent of the appropriate road authority for carrying out work on, or disturbing, the surface of a public road. Where the proponent is a public authority, the roads authority must consult with the applicant before making a decision.	S138	Yes
<i>Road Rules 2014</i>	Traffic and transport	Establish the road rules that are applicable to vehicles and road users on roads in NSW		Yes
	Traffic and transport	Provisions of Road Rules 2014 not applicable to a person at the site of, and engaged in, roadworks	310	Yes
Hazard and Risk				

Environmental Legal Requirements Register

Integrated Management System (Uncontrolled when printed)

Act	Activity / aspect	Requirement	Reference	Applicability
<i>Environmentally Hazardous Chemicals Act 1985</i>	Hazards and risks	Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes.	S28	Yes
<i>Dangerous Goods (Road and Rail Transport) Act 2008</i>	Hazards and risks	Ensure that dangerous goods are transported in a safe manner.	S9	Yes
<i>Pesticides Act 1999</i>	Hazards and risks	Do not use an unregistered pesticide without a permit. Use pesticides in an environmentally sensitive manner. Read the label or permit for the pesticide. Use registered pesticides in accordance with instructions on the label. Do not use any restricted pesticide unless authorised by a certificate of competency or a pesticide control order under the Act. Compliance with pesticide codes of practice is required.	S12 S13 S14 S15 S17	Yes
Incident Response				
<i>Protection of the Environment Operations Act 1997</i>	Incident response	Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	S148	Yes
		Requires the holder of an EPL to prepare a pollution incident response management plan (PIRMP).	S153A-F	N/A. EPL not require for this work.
	Pre-emptive pollution/ incident control	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices)	S167	Yes
<i>Rural Fires Act 1997</i>	Fire related incident	Duty to take practical steps to prevent the occurrence of bush fires and to minimise the danger of the spread of bushfires. In the event of a fire related incident the project will comply with the requirements of the Act.	S63	Yes

2. Other approvals and licences

Approval / Licence	Requirement	Relevant section of the CEMP
Section 143 notice of POEO Act	Prior to transportation of waste to receiving facility	WRMP
Road Occupancy Licences	Prior to commencement of traffic related works that require access to roads	Section 7.9

Appendix C Environmental Control Maps (ECMs)



LEGEND



- Jemena Gas
- Telstra Comms
- Westmead Public School - Heritage (LEP)
- Western Sydney University - Heritage (LEP)
- Residential Receivers NCA01
- Residential Receivers NCA02
- Telford Road - Heritage

0 100 200 m





LEGEND



- Jemena Gas
- Telstra Comms
- Westmead Public School - Heritage (LEP)
- Western Sydney University - Heritage (LEP)
- Residential Receivers NCA01
- Residential Receivers NCA02
- Telford Road - Heritage

0 50 100 m



Appendix D Sydney Metro Environmental Incident and Non-Compliance Reporting Procedure



Environmental Incident and Non-compliance Reporting Procedure

SM-17-00000096

Sydney Metro Integrated Management System (IMS)

Applicable to:	Sydney Metro
Document Owner:	Manager, Environment
System Owner:	Executive Director, Safety, Sustainability & Environment
Status:	FINAL
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1. Purpose and scope

This procedure documents the process to be used when classifying and reporting Environmental Events.

This procedure applies to Sydney Metro and any contractor Sydney Metro engages to carry out works. Principal Contractors must ensure their processes for managing Environmental Events is consistent with this document. The requirement for consistency is documented in the Construction Environmental Management Framework (Section 3.3(f)) and shall be allocated as a contractual requirement to each delivery partner.

2. Introduction

Sydney Metro is committed to minimising risks to the environment, the rapid identification and rectification of breaches to Environmental Requirements and efficient and effective responses to Environmental Incidents that grows our ability to minimise harm and prevent future re-occurrences.

This procedure defines an approach to classifying Environmental Issues, Incidents and Non-compliances and establishes the immediate, interim and long term actions that are taken in response to Environmental Events.

3. Definitions

All terminology in this Procedure is taken to mean the generally accepted or dictionary definition with the following exceptions:

Term	Definition
Environment	means components of the earth, including: a) land, air and water, and b) any layer of the atmosphere, and c) any organic or inorganic matter and any living organism, and d) human-made or modified structures and areas, and includes interacting natural ecosystems that include components referred to in (a)-(c).
Environmental Event	An occurrence that identifies actual or potential environmental impacts or non-compliances. Events can include conversations, inspections, incidents, or failures of process.
Environmental Harm	Includes any direct or indirect alteration of the environment that has the effect of degrading the environment and, without limiting the generality of the above, includes any act or omission that results in pollution.
Environmental Incident	An occurrence or set of circumstances, as a consequence of which pollution (air, water, noise, and land) or an adverse environmental impact has occurred or is likely to have occurred.
Environmental Issue	An occurrence or set of circumstances where Environmental Harm or Non-compliance could occur if not rectified.
Environmental Non-compliance	A breach of an Environmental Requirement originating from Planning Approvals, Environment Protection Licenses, lease agreements, and other requirements documented in environmental management plans.

Term	Definition
Material Harm to the Environment	harm to the environment is material if: a) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or b) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and c) 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. It does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.

Terms and jargon specific to this procedure are defined within the [Sydney Metro Glossary](#).

4. Accountabilities

The Executive Director, Safety, Sustainability & Environment is accountable for this Procedure. Accountability includes authorising the document, monitoring its effectiveness and performing a formal document review.

Direct Reports to the Chief Executive are accountable for ensuring the requirements of this document are implemented within their area of responsibility.

The Direct Reports to the Chief Executive who are accountable for specific projects/programs are accountable for ensuring associated contractors comply with the requirements of this document if specified in the relevant contracts.

5. Environmental Events

Environmental surveillance data is relied upon to inform Sydney Metro of performance trends, to provide assurance that legislative requirements are being met and indicate where surveillance activities should be directed. In order to rely upon environmental data for this purpose there needs to be a high degree of consistency in the manner by which it is collected and interpreted. Due to the need for consistency, any incident/Non-compliance procedure produced by a delivery partner to Sydney Metro is required to be consistent with the requirements of this document.

The concept of Environmental Events forms a common starting point for understanding what types of occurrences should be managed and reported as Incidents and what should be reported as Non-compliances or Issues. When an Environmental Event occurs a series of questions can be asked to consistently determine what type of event it is. Commonly, Environmental Events lead to three different processes:

1. Reporting of an Environmental Incident;
2. Reporting of an Environmental Non-compliance; or
3. Reporting of an Environmental Issue.

Incidents and Non-compliances are recorded using the Environmental Incident and Non-compliance Report Form (SM ES-FT-403) and Environmental Issues are recorded through environmental inspection reports using the Environmental Inspection Information & Summary Form (SM ES-FT-406). These paper based records are subsequently entered into the Sydney Metro Compliance Register (Section 6.7) which is used to disseminate the data and facilities reporting internally and externally. Note where a Principal Contractor has submitted alternative processes and these have been approved by Sydney Metro they may also be used.

The figure below shows the process by which Environmental Events are classified (Figure 1).

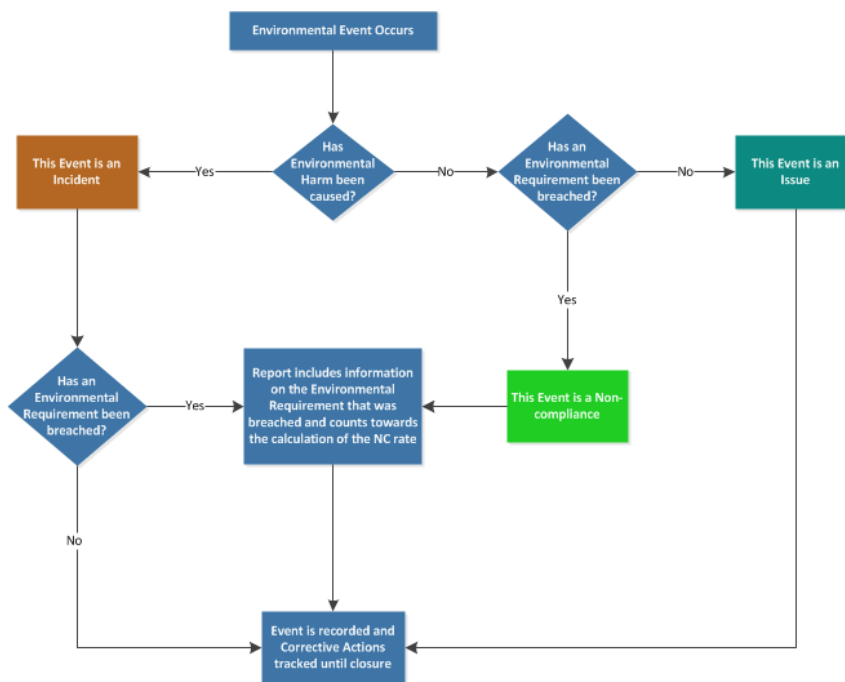


Figure 1: Environmental Event Classification Process

Where Environmental Harm has been caused the event will always be classified as an Environmental Incident regardless of whether one or more Environmental Requirements have been breached. Only when an event occurs without harm being caused to the environment will it be classified as a Non-compliance or Issue. It should be noted that the Incident management process still captures any breaches of Environmental Requirements and these incidents contribute towards the calculation of the NC Rate (Section 7.1).

This flowchart above is intended to be a guide and there may be situations where it is unclear exactly how an Environmental Event should be classified. In these situations a judgement call should be made in consultation with your Manager.

5.1. Worked Example – Classifying Environmental Events

This Section provides a fictitious example of Environmental Events which fall into each of the three different categories. The situations outlined below are provided to explain how event classifications are made. The background for these worked examples is as follows:

Sydney Metro is carrying out works in a newly established site and substantial earthworks are occurring to construct piers for an elevated viaduct. A nearby creek contains a variety of important fish species and the local community are known to use this creek for recreational fishing. The Environmental Impact Statement identified the creek as being at risk of increased sedimentation from dirty water run-off and the Conditions of Approval include a requirement to have a Progressive Erosion and Sediment Control Plan in place. This plan has been produced and indicates that sediment fences must be in place at specific locations to capture dirty water run-off. Regular daily inspections of the sediment controls are carried out by the contractor's Environment Manager and an Independent Environmental Representative has commenced a monthly inspection on this site at 7 am on Thursday morning.

5.1.1. Soil and Water Issue

The Environmental Representative notices a sediment fence has been knocked over in one of the areas indicated as requiring fencing on the ERSED plan. It appears to have occurred recently and there is no record of rainfall in the last few days. During the course of the inspection all other ERSED controls appeared to be in good condition and erected in accordance with the requirements of the Blue Book. In this example no harm has yet been caused and no environmental requirement has been breached so the event is classified as an Environmental Issue which is raised on the inspection report with an action to reinstall the fence.

5.1.2. Soil and Water Non-compliance

Alternatively, the Environmental Representative might have noticed many sediment fences had been knocked down and in some areas an absence of sediment fences where the plan indicates they are required. Despite there being no rain in recent days the Environmental Representative concludes that the requirements of the plan are not being followed and have been breached. The event is raised as non-compliance and actions are set in place to re-enforce the requirements of the ERSED plan for that sites workforce as well as the immediate reinstatement of controls.

5.1.3. Soil and Water Incident

Finally, in a third scenario the Environmental Representative notices many sediment fences are down and some are absent where required by the plan. However, significant rainfall has occurred in recent days and the Environmental Representative determines that it is likely dirty water has escaped through the area into the nearby creek potentially causing harm to the fish population. This event is classified as an Incident by the inspector and immediate notification is undertaken. Similar controls are implemented as described above.

5.2. Notifiable Events

There are a number of Acts and regulations that include a specific requirement to notify a Regulatory Authority. When an Environmental Event triggers one of these notification requirements we then also refer to that event as a Notifiable Event (Table 1).

The Principal Contractor's Environment Manager must determine whether an event is notifiable, and may rely upon advice from Sydney Metro if it is provided.

Table 1: Examples of Notifiable Events

Event type	Legislation		Trigger for Notification
Pollution Incident ¹	POEO Act 1997	Part 5.7	Where Material Harm has occurred contact the EPA Pollution Line as soon as practicable
	POEO (General) Regulation 2009	Section 101	
Land contamination	Contaminated Land Management Act 1997	Section 60(1)	As soon as practicable, after becoming aware of contamination that exceeds the relevant investigation levels in the National Environment Protection Measure, where a person has or will be exposed to the contamination
Discovery of an Aboriginal relic	National Parks & Wildlife Act 1974	Section 89A	Director General of EPA in writing within a reasonable time after becoming aware. Note this is not required for Projects approved under Part 5.2 of the Environmental Planning and Assessment Act (see section 115ZG). Notification and reporting is addressed in the relevant Infrastructure Approval
Discover Aboriginal Remains	Commonwealth Aboriginal & Torres Strait Islanders Heritage Protection Act 1984	Section 20	Commonwealth Minister of the Environment in writing as soon as practicable after becoming aware
Discovery of a relic	Heritage Act 1977	Section 146	Heritage Council in writing within a reasonable time after becoming aware Note -this is not required for Projects approved under Part 5.2 of the Environmental Planning and Assessment Act (see section 115ZG). Notification and reporting is addressed in Infrastructure Approvals

5.3. Event Types

Each Environmental Event is assigned a secondary classification of an Event Type for the purpose of data analysis and general environmental management. They are grouped by areas of environmental management so that targeted auditing, training or awareness initiatives can be initiated in response to emergent trends. Each Event Type is explained in Table 2.

¹ Further information on reporting pollution incidents to EPA is provided in Section 6.6 Environmental Incident/Non-compliance Report

Table 2: Environmental Event Types and their descriptions

Event Type	Applies To:			Description
	Issue	Incident	Non-compliance	
Soil and Water	●	●	●	Covers the physical location, chemical composition and ecology of soils and waterways. Any event which changes these compositions is a Soil and Water event. Within this event type all instances of contamination, erosion and sedimentation of waterways is covered.
Flora and Fauna	●	●	●	Covers vegetation and vegetation communities as well as animals and animal habitat. Any event where vegetation is felled or damaged, animals are killed or injured, or habitat is harmed or destroyed is covered.
Waste and Spoil	●	●	●	Covers the management of Excavated Natural Material (ENM) and Virgin Excavated Natural Material (VENM) including on-site management, and disposal and also the classification and management of Waste materials. Note: that the transportation of spoil is covered under Traffic, Transport and Access.
Heritage	●	●	●	Covers the management of known heritage artefacts or sites, and the treatment of unexpected finds, archaeological investigations and other impacts.
Air Quality	●	●	●	Covers the management of emissions of particulate matter, odours, and gasses used as air quality parameters from worksites.
Noise and Vibration	●	●	●	Covers the management of airborne and ground borne noise and vibration and includes hold points on the commencement of any work where Out of Hours Works permits or Construction Noise Impact Statements are required.
Community Stakeholder and Business	●	●	●	Covers the management of Community and Stakeholder requirements and includes complaint response procedure, community management protocols, and the maintenance of information on websites.
Traffic Transport and Access	●	●	●	Covers the management of traffic inside and outside of sites including access points and parking requirements. This event type also covers any requirements in relation to vehicles and vehicle maintenance or the transportation of waste and spoil.
Spills and Leaks	●	●	●	Covers all instances where environmentally sensitive substances are held within a container which has the potential to leak or spill and covers pipes, hoses, fuel tanks, storage tanks and plastic containers. Note: Spills and Leaks specifically exclude anything in relation to the transport and deposition of sedimentation.
Management Systems	●	●	●	Covers procedural or administrative processes that are common across all areas. It specifically does not cover procedural or administrative processes which are unique to any of the other event types. For example, not completing a vegetation removal form prior to vegetation clearing is still a Flora and Fauna event. Note: A good example of a Management Systems NC would be not reporting an Environmental Incident within required timeframes.

6. Environmental Incident Classification and Management

Sydney Metro has defined an Environmental Incident as:

An occurrence or set of circumstances, as a consequence of which pollution (air, water, noise, and land) or an adverse environmental impact has occurred or is likely to have occurred.

Adverse environmental impact includes contamination, harm to flora and fauna (either individual species or communities), damage to heritage items, or adverse community impacts.

Planning Approvals and Environment Protection Licences permit some environmental impacts and these are not intended to be captured as Environmental Incidents.

Table 3: Examples of Environmental Incidents

Type	Example Incident
Air Quality	Odour that travels beyond the site boundary
Air Quality	Dust exceeding reasonable levels without active management measures in place
Air Quality	Operation or maintenance of plant in a manner that causes or has likely caused excessive air pollution
Soil and Water	Discharge of water on or off site in a manner that causes or has likely caused water pollution without required approvals.
Noise and Vibration	Noise that travels beyond the site boundary as a result of poorly maintained plant or operation of plant in an inefficient manner
Noise and Vibration	Failure to comply with the approved hours of work
Soil and Water	Where the chemical composition of soil or water has been detrimentally modified by a contaminant leading to potential or actual environmental harm. For example, rainfall causes a flow of water across a site that erodes soil and enters a waterway increasing the total suspended solids of that water body.
Spills and Leaks	Where a substance has leaked from, or spilt from a container that is designed to prevent that substance from escaping into the environment (including bunds, fuels tanks, chemical bottles and other containers). Spills and Leaks specifically exclude anything in relation to the transport and deposition of sedimentation.
Soil and Water	Dispose of waste in a manner that harms or is likely to harm the environment
Flora and Fauna	Harm or “pick” a threatened species, endangered population or endangered ecological community without required approvals
Flora and Fauna	Damage to vegetation, fauna or habitat including watercourses without required approvals
Heritage	Damage, disturbance, destruction or works to heritage items/relics without required approvals
Heritage	Damage, disturbance, or destruction of Aboriginal objects or places without required approvals

6.1. Incident Classification

Environmental Incidents are classified into one of three Classes that are based upon the consequence descriptors for environmental risks in the Sydney Metro Risk Matrix (refer to [Sydney Metro Risk Management Standard](#)). Each of these classifications trigger a variety of management actions and/or legislative requirements depending on the severity of the consequence described where Class 3 represents minor consequences and Class 1 represents major consequences.

This matrix is further sub-divided into consequence ratings ranging from C6 (low impact) to C1 (high impact). An incident transitions between a Class 3 to a Class 2 incident once material harm has been caused, and transitions into a Class 1 incident once it is determined that the Environmental Harm caused is large-scale and cannot be remediated (Table 4).

Table 4: Classification System for Environmental Incidents

Class 3			Class 2		Class 1
C6	C5	C4	C3	C2	C1
No appreciable changes to environment and/or highly localised event	Change from normal conditions within environmental regulatory limits and environmental effects are within site boundaries	Short-term and/or well-contained environmental effects. Minor remedial actions probably required	Impacts external ecosystem and considerable remediation is required	Long-term environmental impairment in neighbouring or valued ecosystems Extensive remediation required	Irreversible large-scale environmental impact with loss of valued ecosystems

6.1.1. Class 3 Incidents

These Incidents are events which cause Environmental Harm, but do not cause Material Harm to the environment. Normally Class 3 Incidents are not Notifiable Events and therefore a simple notification protocol is adopted whereby Sydney Metro must be notified within 48 hours verbally, and in writing.

In some cases it will be unclear whether Material Harm has been caused in the early stages of Incident Management. If this is the case then the process for Class 2 Incidents is followed (see Section [Class 2 Incidents](#)) until it is clear that Material Harm has not been caused.

A formal Incident Investigation report is not required for Class 3 Incidents, however, it is expected that the person responsible for completing the Incident Notification Report makes appropriate enquiries to determine the likely causal factors involved and assigns effective corrective actions.

6.1.2. Class 2 Incidents

These Incidents are events which cause Material Harm to the environment and they always trigger notification of Regulatory Authorities. These Incidents represent events that are far more serious than Class 3 Incidents and therefore strict communication protocols are required to ensure that effective and informed decisions are made (Figure 2).

The Environmental Lead, contract Environment Manager and the Independent Environmental Representative must be notified verbally as soon as possible after the observer becomes aware of a Class 2 Incident.

Class 2 Incidents must be investigated and the investigation must produce an investigation report containing corrective or preventative actions. This investigation report must be provided to Sydney Metro within 7 days of the event unless another timeframe is agreed with the EL.

Despite any arrangements for the submission of investigation reports, an Incident Notification Report must be provided with all available information and submitted to Sydney Metro within 48 hours. It is not expected that initial Incident Notification Reports for Incidents under investigation initially include actions as these will be informed by the findings of the investigation. The report should be updated with actions resulting from the investigation when available.

6.1.3. Class 1 Incidents

Class 1 Environmental Incidents are managed in the same manner as Class 2 Incidents except where a determination is made by the Chief Executive (or delegate) that a Crisis Management Team should be activated. In this situation the [Sydney Metro Crisis Management Implementation Plan](#) is followed.

6.2. Incident Notification

When an Environmental Event occurs which causes Environmental Harm in all cases both verbal and written communication of the incident must be carried out immediately and within 48 hours respectively. For Class 1 and 2 Incidents the notification process shown in Figure 2 must be followed. Written communication of Environmental Incidents is via an Incident Notification Report (Section 6.3).

This process includes specific roles and responsibilities within Sydney Metro and our delivery Partners who are required to take notification actions in response to Incidents.

This notification process has been developed to ensure that crucial information about Incidents is captured early and communicated to specific individuals who can ensure the Environmental Impacts are minimised and efficient and effective responses to the event are implemented.

In particular the Principals Representative and the Environmental Lead for Sydney Metro play a crucial role in the communication of Incidents within Sydney Metro and these roles are explained in more detail below.

6.2.1. Principal's Representative (PR)

Each works package establishes a contractual interface for communication between the contracted party and Sydney Metro. Generally this interface is between the Principal Contractors Project Director and an appointed representative of Sydney Metro called the Principals Representative.

All formal written communications must pass between these two individuals electronically using TeamBinder. The Principals Representative holds certain responsibilities in the Incident management Process outlined in Figure 2.

6.2.2. Environmental Lead (EL)

Where this procedure is applied to a works package an Environmental Lead (EL) will be selected for the relevant works package. The Environmental Lead must possess environmental experience and competency in managing Incidents and be a representative of Sydney Metro for those works. This representative holds specific responsibilities outlined in Figure 2.

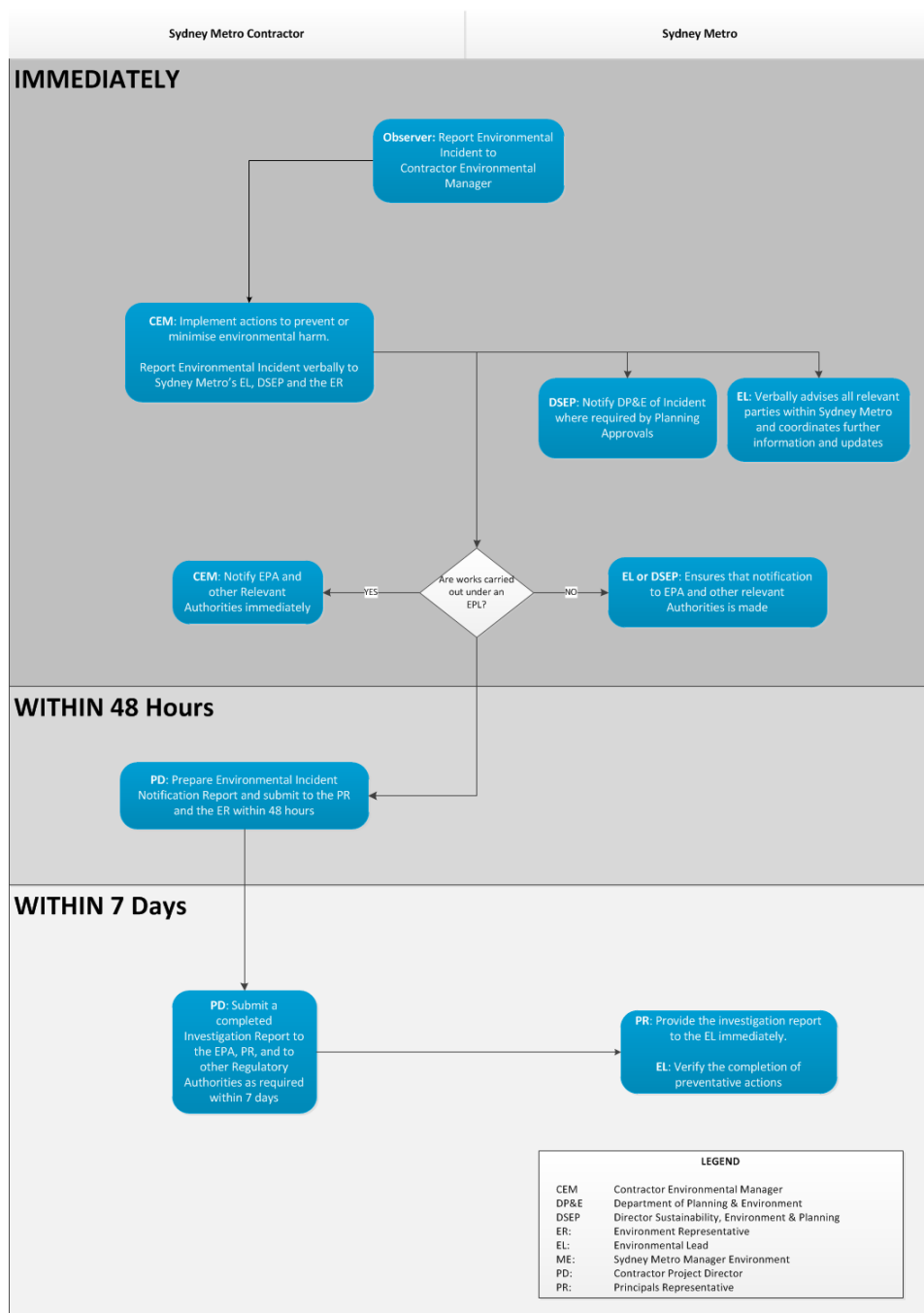


Figure 2: Environment Incident notification process for Class 1 and 2 Incidents

6.3. Incident Notification Reports

For all Incidents an Incident Notification Report must be completed and submitted to Sydney Metro within 48 hours. These reports satisfy the requirement for written communication to Sydney Metro and are completed using the Environmental Incident and Non-compliance Notification Report (SM ES-FT-403) or a similar and consistent form approved by Sydney Metro.

6.4. Incident Investigations

Environmental Incident Investigations must be carried out for all Class 1 and Class 2 Incidents. Investigations may also be requested for any other Environmental Event at the discretion of Sydney Metro. This discretion is likely to be exercised where incidents of a similar nature are occurring repetitively.

When conducting an Environmental Incident investigation, they must:

- Be led by a lead investigator who is suitably independent investigator capable of arriving at objective findings and is experienced in conducting environmental incident investigations;
- Consider the need for legal privilege during the investigation process in consultation with legal counsel;
- Be informed by all available information that is relevant to the investigation;
- Analyse the timeline of events which led up to and followed the occurrence of Environmental Harm including the immediate incident response;
- Be conducted in a manner that is consistent with recognised investigation techniques such as ICAMS;
- Gather and record evidence;
- Seek the input of key stakeholders; and
- Identify Preventative and Corrective actions and document these in the Incident Notification Report.

6.5. Environmental Incidents with Health and Safety Impacts

It is possible that where an Event occurs that causes Environmental Harm, harm is also caused to the health, safety or wellbeing of people. In these situations there will also be a Health and Safety Incident process undertaken which is separate to the process outlined in this document.

While the definition of the Environment covers people under the POEO Act, the management of impacts upon them are carried out using the Health and Safety Incident Management protocols. This is because Health, Safety and Wellbeing requirements are governed by a range of legislation other than the POEO Act and this procedure is not comprehensive in that regard. Sydney Metro has well established processes to manage impacts on people without the need for the Environmental Incident Process to intervene.

Furthermore, where Environmental Events cause harm to both the 'environment' and people it is possible that the root causes for the respective impacts are different. It is also possible that differences in the severity of the impacts trigger inconsistent notification requirements and investigation levels. It is prudent to identify appropriate and effective corrective actions that reduce the risk of impacts to both people and the environment, therefore separate Incident Management Processes are undertaken in these situations.

For more detail on the management of Health and Safety Incidents please refer to the [Health & Safety Incident Reporting & Investigation Standard \(SM-17-00000040\)](#).

6.6. Reporting Pollution Incidents to Relevant Authorities

If an Incident or Non-compliance is a Notifiable Event, then a report must be provided to the relevant Regulatory Authority within the timeframe(s) specified by the relevant legislation. Pollution Incidents which are causing or threatening Material Harm to the environment must be reported to each of the following authorities immediately after project personnel become aware of the Incident, as required by Section 148 of the POEO Act 1997. The contact numbers for these authorities are listed in Table 5.

Table 5: Contact details for Relevant Authorities

Type	Example incident
EPA Environment Line	131 555
Local Authority	Local Council (specific to area)
Ministry of Health	Public Health Unit (refer to http://www.health.nsw.gov.au/Pages/default.aspx to confirm local area contact details)
SafeWork NSW	131 050 or contact@safework.nsw.gov.au
Fire and Rescue NSW	000

Relevant information required to be given to EPA when making a notification is specified in Section 150 of the POEO Act 1997 as follows:

- Time, date, nature, duration and location of the incident;
- Location of the place where pollution is occurring or is likely to occur;
- Nature, the estimated quantity or volume and the concentration of any pollutants involved;
- Circumstances in which the Incident occurred (including the cause of the Incident, if known);
- Action taken or proposed to be taken to deal with the Incident and any resulting pollution or threatened pollution; and
- Other information prescribed by the regulations.

All relevant information known at the time of making the notification must be reported. If the information required by (c), (d) or (e) above is not known at the time of initial notification but becomes known afterwards, it must be reported to each authority immediately after it

becomes known. Verbal notification must be followed by notification in writing within seven days of the date on which the Incident occurred.

Pollution Incidents are not required to be reported if the Incident has already come to the attention of the EPA or the Incident involves only the emission of an odour.

Failure to report a pollution Incident as required by the POEO Act 1997 is an offence.

Where any work or activity is regulated by an Environment Protection License (EPL), notification of a pollution Incident to the EPA should be made by the licensee. Thus, where the contractor holds the EPL for the project, notification to EPA shall be made by the contractor.

For any work or activity that is not regulated by an EPL, notification of pollution Incidents to EPA shall be made by Sydney Metro, unless the contractor is instructed otherwise by Sydney Metro. This includes pollution Incidents that occur as a result of pre-construction activities which may be undertaken prior to an EPL being required for a project. Pre-construction activities are determined by the Planning Approval and may include, for example, geotechnical investigations or surveys.

Where the Environmental Representative determines there to have been a significant off-site impact on people or the biophysical environment, the program Director Sustainability Environment and Planning will notify the Secretary of the Department of Environment and Planning within 48 hours in accordance with Project Infrastructure Approval Conditions. This notification will be followed by a full written report within seven days of the date on which the incident occurred.

6.6.1. Maritime Related Incident Notification and Reporting

Marine Incidents involving vessels and personnel on board vessels must be reported to the Australian Maritime Safety Authority in accordance with the guidance published on their website at:

- [Australian Maritime Safety Authority Incident Reporting](#); and
- [Reporting obligations of owners and masters of domestic commercial vessels](#).

6.7. Environmental Compliance Register

The Environmental Compliance Register is used to manage the information associated with reporting of Environmental Events. This register is maintained by the Manager Environment and may be used by a variety of individuals to input data. For access to the register or information on its use contact the Manager Environment.

This register analyses the data it contains and produces environmental compliance statistics that are used to meet a range of reporting and environmental management requirements.

7. Environmental Non-compliance

An Environmental Non-compliance is a breach of an Environmental Requirement originating from Planning Approvals, Environment Protection Licenses, lease agreements, and other requirements documented in environmental management plans. It is important to note that regardless of whether an event is classified as a Non-compliance or an Incident the process behind managing the event remains the same, with the following exceptions:

- Non-compliances are not notifiable to Regulatory Authorities under the POEO Act;
- Non-compliances are reported to have occurred on the day the breach was raised as opposed to the date when the requirement was breached (this is to preserve historical reporting and analysis – see Section 7.1);
- Non-compliances are not divided into severity classes (Section 5.2);
- Non-compliances do not have the potential to trigger crisis or emergency management processes; and
- There is an informal notification process in the immediate timeframe following a Non-compliance being raised.

When an Environmental Event occurs that causes Environmental Harm and also breaches one or more Environmental Requirements, then an Incident Notification Report will be created which records what requirements were breached.

If a Non-compliance is identified then it must be raised using the Environmental Incident and Non-compliance Report Form within 48 hours by the party responsible for the breach.

7.1. Non-compliance Rate

A key environmental performance statistic used by Sydney Metro is the Non-compliance Rate. This statistic provides a standardised way of comparing the performance of different projects or contractors. The NC Rate is calculated using the following formula:

$$= \left(\frac{NCs + Incidents\ with\ breaches\ raised\ in\ month + (Open\ NCs + Open\ Incidents\ with\ breaches\ from\ previous\ months)}{Total\ Number\ of\ Ongoing\ Requirements} \right) \times 100$$

Each month a count of the number of NCs raised, and Incident raised where Environmental Requirements have also been breached is counted. Added to this number is the number of these events which were raised in previous months that still held an Open status in the current reporting period. Non-compliance and incident Events are considered Open if any of the associated Actions are Open. The total is divided by the number of Environmental Requirements which are actively being complied with (Ongoing Requirements) and a multiplying factor of 100 is applied.

8. Corrective and Preventative Actions

Whenever an Environmental Event is raised actions will be assigned to the event irrespective of whether it is an Issue, Incident or Non-compliance. These actions will generally be Corrective Actions which are implemented to eliminate the cause of the Incident, Non-compliance or Issue and can be thought of as reactive measures in response to the Environmental Event.

Preventative Actions may also be assigned to prevent the occurrence of an Incident, Non-compliance or Issue and can be considered pro-active measures which may be recommended following a detailed investigation of the event.

Actions must:

- Limit impacts as far as is reasonably practicable;
- eliminate risk where practicable;
- where it is not practicable to eliminate the risk, follow the hierarchy of controls;
- address root causes and contributing factors; and
- be prioritised based on risk.

The Executive Director, Safety Sustainability & Environment must ensure there are systems in place to:

- monitor corrective action status;
- escalate issues to the executive where progress on a corrective action is inadequate; and
- retain all corrective action responses for recording purposes.

8.1. Action Status

Actions are allocated to a person who will take accountability for ensuring it is carried out within a timely manner and completed by the due date.

Actions are either closed immediately if the Action has already been carried out and verified by Sydney Metro, or are created with an open status. The Action will remain in an open state until such a time as Sydney Metro verifies that the responsible person has completed the Action in a satisfactory manner. Until all actions associated with an Incident, Non-compliance or Issue are closed the original Environmental Event is considered to be open as well. This is relevant when calculating the NC Rate as open Non-compliances and Incidents contribute toward the calculation of this statistic.

Verification is determined by the Environmental Lead by sighting evidence of the Actions implementation.

9. Related Documents and References

Related Documents and References

- [Environmental & Sustainability Management Manual](#)
- [Risk Management Standard](#)
- [Health & Safety Incident Reporting & Investigation Standard \(SM-17-00000040\)](#)
- [Crisis Management Implementation Plan](#)
- [Environmental Incident and Non-compliance Notification Report](#)
- [Environmental Inspection Information & Summary](#)
- [Sydney Metro Glossary](#)

10. Superseded Documents

Superseded Documents

There are no documents superseded as a result of this document.

11. Document History

Version	Date of approval	Notes
1.0	31 March 2015	New document
2.0	7 July 2016	IMS Review
3.0	7 April 2017	IMS Review
4.0	23 November 2018	IMS Review
5.0	11 February 2019	IMS Review
5.1	18 February 2019	Minor correction to formula

Appendix E Unexpected Contamination and Asbestos Finds Procedure

Sydney Metro West - Westmead Telstra and Jemena Gas Relocation

Unexpected Contaminated Land and Asbestos Finds Procedure

T23.156-ENV-PRO-03

Revision 01

23 August 2023

CURRENT DOCUMENT REVISION			PROJECT NO.		T23.156
ISSUE	DATE	ISSUE DETAILS / REMARKS	AUTHOR	CHECKED	APPROVED
01	23/08/2023	Issued for initial review	Tom St Vincent Welch	Des Leyden	Des Leyden
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1. Introduction

1.1 Context

This Unexpected Contaminated Land and Asbestos and Finds Procedure (the Procedure) forms part of the Construction Environmental Management Plan (CEMP) for the Sydney Metro West – Westmead Telstra and Jemena Gas Relocation (The Project).

This Procedure required under Condition of Approval MCoA D77 details the actions to be taken and describes how Quickway will manage unexpected contamination and potential asbestos finds including asbestos containing material (ACM) discovered during construction activities. Implementation of this Procedure will fulfil the requirements of MCoA D78 and ensure that contamination and ACM is managed in such a way as to avoid harm to site personnel, visitors, the environment and the community.

This procedure has been developed in accordance with relevant legislation, EPA endorsed guidelines (including the waste guidelines) and industry standards.

This procedure will form part of and be reviewed and updated in accordance with the procedures described in the Construction Environmental Management Plan (CEMP).

1.2 Purpose

The primary objective of this Procedure is to detail best practices for managing contaminated land discovered during construction. This Procedure describes a process to ensure that appropriate measures and controls are established and maintained to manage the discovery of contaminated land during construction of the Project.

There is the potential for previously unidentified contaminants to be uncovered during construction of the Project. Unexpected finds may include the discovery of hazardous materials, such as asbestos, Asbestos Containing Material (ACM), Acid Sulfate Soils (ASS) or contaminants that are not known to be occurring in that location.

For clarity, in this document bonded asbestos (or just 'asbestos') is where asbestos is mixed with other materials, such as cement. In this form, it is non friable. Unbonded asbestos is where the raw mineral is used generally as lagging or insulation – in this form it is friable, meaning it breaks easily and easily gives off dust. Within this document the term asbestos is intended to include bonded and unbonded asbestos. ACM is soil or some other matrix which contains asbestos (of any form) within it.

1.3 Scope

This Procedure is applicable to all activities undertaken for the Project that have the potential to uncover contamination.

The existence of this Procedure does not replace the need to prepare Environmental Work Method Statements and Safe Work Method Statements where required in accordance with the requirements outlined in the CEMP and the Safety Management Plan or Quickway Environmental Management Systems, for the management of contaminated materials.

This document describes the required management and controls of contaminated material in the context of waste handling from first identification onsite to removal to an appropriately licensed facility. This Procedure will be implemented for the duration of the Project as required under MCoA D78.

The scope of this Procedure does not include handling, monitoring and management measures to comply with Work Health and Safety legislation nor to provide management controls required to protect human safety or meet health and safety industry requirements. The management of the discovery, handling and removal of asbestos is the responsibility of the Occupational Hygienist under the direction of the Project Safety Team. Please refer to the Work Health and Safety Plan for guidance on these measures.

1.4 Responsibilities

The management of the discovery, handling and removal of asbestos is the responsibility of the Occupational Hygienist with overview by the Safety Team.

The management of other (not asbestos) contaminants is the responsibility of the environment team insofar as the prevention of spread (within or off-site) and engagement of the contaminated lands consultant for the collection and interpretation of materials and waste classification data.

The Environmental Team are responsible for the tracking and ensuring appropriate disposal of all waste, including contaminated waste and asbestos, in accordance with the Project Waste and Spoil Management Plan (included in the CEMP).

The construction workers would be informed of the potential of finding contaminated materials during construction activities within site EWMS, as well as the content of this Unexpected Finds Procedure.

1.5 Legislation, guidelines and standards

With the specific exclusion of health and safety obligations, relevant legislation, guidelines and standards pertaining to management of contaminated land are listed in [Section 6.2](#) of the CEMP and Appendix B of the CEMP.

1.6 Requirements

The requirements for the preparation of this unexpected finds procedure are listed in [Table 1](#) below.

Table 1 Relevant requirements

Requirement	Commitment	Timing	Document Reference
MCoA			
D77	An Unexpected Contaminated Land and Asbestos Finds Procedure must be prepared before the commencement of construction and must be followed should unexpected contaminated land or asbestos (or suspected contaminated land or asbestos) be excavated or otherwise discovered during construction.	Pre-construction	This Procedure
E78	The Unexpected Contaminated Land and Asbestos Finds Procedure must be implemented throughout construction.	Construction	Section 1.3

2. Unexpected Find Procedure

An unexpected find of contamination is triggered in the event of identification or disturbance of contamination in any area of works that is not already under the management controls described in the CEMP (i.e. already being managed for contamination).

The process of disturbance of the existing ground in any location may result in the discovery of unexpected contamination, however the potential for contaminated land disturbance depends on a variety of factors including the location, nature, extent and magnitude of construction activities.

If contaminated land is discovered and not controlled appropriately there is potential for the contamination to impact soil, water and human health during construction, including:

- Contaminant exposure risk to construction personnel and the general public
- Contaminant exposure to environmental receptors
- Cross contamination associated with the incorrect handling or disposal of spoil/unexpected finds
- Contamination of previously uncontaminated areas

In order to ensure appropriate environmental management, the process described in the following tables implemented in the case of discovery of unexpected finds of potential contamination, until testing results or other confirmation that the contamination is false.

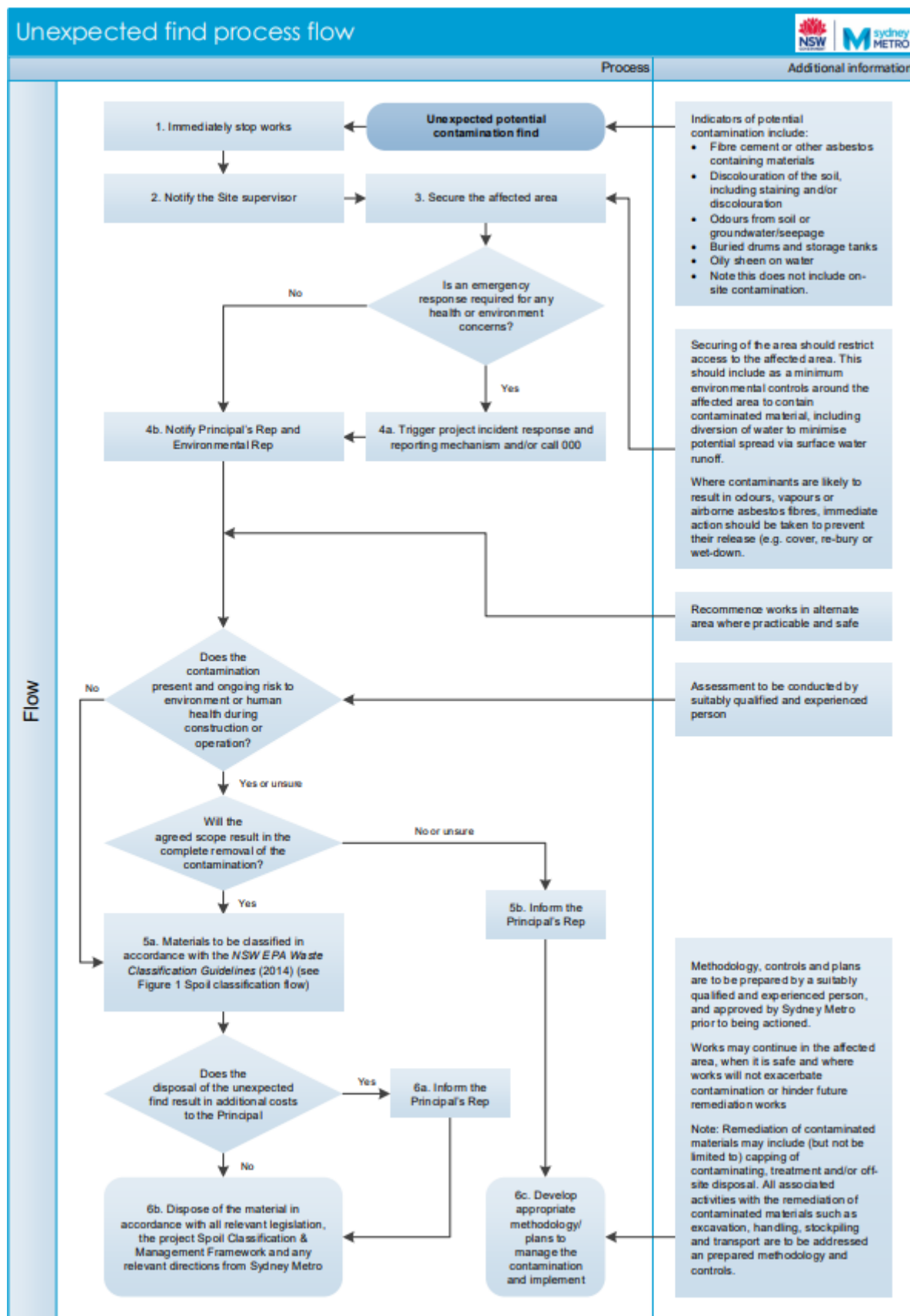


Figure 1 Sydney Metro Unexpected finds process flow chart.

Table 2 Unexpected finds procedure - general contamination (not asbestos)

Step	SM Process Ref	Action	Responsibility		
			Other	Enviro	Safety
1	1 2 3	Immediately Stop work in the area potentially impacted by contaminated material as soon as it is safe to do so and delineate the area using fencing and/or appropriate barriers and signage to prevent further works. Implement minimum environmental controls to contain material (ie water diversion, dust, odour)	√	√	√
2	4a	If the contaminant is an emergency and poses risk to health and/or environmental impacts. If so the Incident response procedure will be triggered and further remediation work will occur in accordance with this Procedure.	√	√	√
3	4b	Notify the Site Supervisor and Environmental Manager or delegate, who will notify Principals Representative (PR) and Environmental Representative (ER).	√	√	
4	4b	EM and/or Site supervisor (SS) to contact Contaminated Land Specialist (external consultant) for sampling of material and further advice.	√		
5		The EM will develop management options after guidance from the Contaminated Lands Specialist is received, in consideration of the type and level of contamination discovered and the proposed final land use.	√		
6		The Safety Manager (SM) will assess if works can recommence in alternate areas if safe and practicable to do so.	√		√
7a	5a 6c	The removed contaminated material will be managed in accordance with the Waste and Spoil Management Plan developed as part of the CEMP. Contaminated material will be disposed of off-site in accordance with the Waste Management Plan at a licensed waste facility or as otherwise identified within the Waste and Spoil Management Plan. Notification to EPA will be undertaken where required in line with the NSW EPA Guidelines on the Duty to Report Contamination (2015) and the CLM Act (1997).		√	√
7b	5b 6b	If the agreed scope for management will not result in complete removal of the contamination, the PR will be informed to ensure an alternative management plan is developed for any remaining contamination. Following implementation of agreed management, work can recommence after clearance from EM.		√	
Process complete - works can commence without further control					

Table 3 Unexpected finds procedure - asbestos and ACM

Step	SM Process Ref.	Action	Responsibility		
			Other	Enviro	Safety
1	1 2 3	Immediately Stop work in the area potentially impacted by asbestos containing material as soon as it is safe to do so and delineate the area using fencing and/or appropriate barriers and signage to prevent further works. Implement minimum environmental controls to contain material (ie water diversion, dust, odour)	√	√	√
2	4a	If the contaminant is an emergency and poses risk to health and/or environmental impacts. If so the Incident response procedure will be triggered and further remediation work will occur in accordance with this Procedure.	√	√	√
3	4b	Notify the Site Supervisor and Environmental Manager or delegate, who will notify Principals Representative (PR) and Environmental Representative (ER).	√	√	
4	4b	Safety Manager (SM) or delegate to contact Occupational Hygienist for sampling of material and further advice regarding required management actions and securing the area as required.	√		√
5		On confirmation of actual asbestos or ACM that requires removal for the continuation of work, install appropriate signage warning that the area is undertaking asbestos removal in accordance with the SafeWork NSW: Code of Practice: How to safely remove asbestos (August 2019)			√
6		The SM will assess if works can recommence in alternate areas if safe and practicable to do so.	√		√
7a	5a 6c	The removed material will be managed in accordance with the Waste and Spoil Management Plan developed as part of the CEMP. Removal of ACM to be undertaken by the Project's nominated licensed occupational hygienist or licensed delegate. Removed ACM to be transported to a licensed waste facility in accordance with the Waste and Spoil Management Plan for classification and disposal. Records of waste disposal will be maintained (Section 3.2). Notification to EPA will be undertaken where required in line with the NSW EPA Guidelines on the Duty to Report Contamination (2015) and the CLM Act (1997).	√	√	√
7b	5b 6b	If the agreed scope for management will not result in complete removal of the asbestos or ACM, the PR will be informed to ensure an alternative management plan is developed for any remaining contamination. A clearance inspection would be undertaken by the Occupational Hygienist upon completion of management, and copy of clearance report received.			√
Process complete - works can commence without further control					

2.1 Removal of Asbestos

Removal of asbestos or ACM would be undertaken in accordance with NSW Government regulations.

Quickway will engage an external Occupational Hygienist who holds Certification with the Australian Institute of Occupational Hygienists (AIOH), along with experience in the assessment and control of occupational health hazards, relevant to the activities and processes inherent to the works.

Waste Classification reports will be authored or reviewed and approved by a Certified Contaminated Land Consultant that holds certification under a scheme endorsed by the Contaminated Land Consultant Certification Policy (NSW EPA, Version 2, November 2017) and will have at least 5 years' experience in the management of contamination on linear infrastructure projects.

Should an event where any material exhibiting indicators of asbestos or ACM be unexpectedly encountered during excavation works, senior full-time members of Quickway's project delivery team, inclusive of Site Supervisors, Superintendents, Senior Project Engineer(s) and Project Manager(s) will be responsible for engaging the Occupational Hygienist/Licensed Asbestos Assessor and Certified Contaminated Land Consultant, as required.

The Occupational Hygienist will provide any further advice on the management of the encountered material from an occupational health and hygiene perspective. The Certified Contaminated Land Consultant will author or review and approve the waste classification prior to disposal, and provide any further advice as required on the encountered material.

This process will be detailed in relevant Project safety documentation. Any removal of asbestos will be conducted in accordance with the following relevant legislation and their associated regulations; Contaminated Land Management Act (1997), Protection of Environment Operations Act (1997), POEO Waste Regulation 2014, Work Health and Safety Act (2017).

2.2 Waste tracking

All waste removal regardless of type will be tracked by the Project and evidence of receipt at appropriate waste facilities will be obtained from the waste removal contractor.

Asbestos transporters and facilities receiving asbestos waste in NSW weighing more than 100 kilograms, or consisting of more than 10 square metres of asbestos sheeting in one load must track and report this waste to the EPA using WasteLocate. Additionally, people transporting asbestos contaminated soil in NSW, weighing more than 100 kilograms, must track and report this waste to the EPA using WasteLocate.

WasteLocate tracks each load of applicable waste from pick up to disposal using the GPS and generates a unique consignment number. Records evidencing the use of WasteLocate will be retained as required.

2.3 External Reporting

Sydney Metro would be informed immediately when encountering of a potential or actual contaminant which may require a Duty to Report. In the case of an unexpected find triggering the process described in [Table 2](#) and [Table 3](#), notification and reporting to authorities such as the EPA and Environmental Representative (ER) will be undertaken by the Environmental Manager in accordance with the NSW EPA Guidelines on the Duty to Report Contamination (2015) and the CLM Act (1997).

In the event of an environmental incident, the Sydney Metro Environmental Incident and Non-compliance Reporting Procedure will be implemented.

Under section 148 of the POEO Act, anyone causing a pollution incident are required to report the incident 'immediately' to the relevant authorities. 'Immediately' is defined as promptly and without delay, after the person becomes aware of the incident.

Appendix F Sydney Metro Waste Classification Procedure



Waste Classification Procedure

SM-20-00040677

Sydney Metro Integrated Management System (IMS)

Applicable to:	Sydney Metro
Document Owner:	Hugh Chapman, Associate Director Environment, Operations, Customer & Place-Making
System Owner:	Carolyn Riley, Director Environment, Sustainability & Planning
Status:	Final
Version:	3.0
Date of issue:	Pending
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1. Introduction

1.1. Purpose and scope

This framework describes the approach to classifying spoil and demolition materials generated during works in accordance with environmental legislation and guidelines.

This framework considers the reuse of materials on site, the beneficial reuse of materials transported off site as waste (for example as virgin excavated natural material [VENM]), the recycling of materials at offsite facilities, and the offsite disposal of materials when reuse/recycling is not achievable.

The framework considers only the compliance and classification elements of the spoil management process and does not consider all of the practical issues associated with construction, geotechnical properties of the spoil or market forces and costs that influence the reuse potential of spoil or other wastes.

Section 1.6 of this framework outlines an Unexpected Find Protocol (UFP) to be implemented should unexpected potential contamination be found during works.

1.2. Definitions

All terminology in this Procedure is taken to mean the generally accepted or dictionary definition. Other terms and jargon specific to this Procedure are defined within the [SM-17-0000203 Sydney Metro glossary](#). Acronyms specific to this document are listed below.

	Definitions
2014 Waste Regulation	<i>Protection of the Environment Operations (Waste) Regulation 2014.</i>
CLM Act	<i>Contaminated Land Management Act 1997.</i>
Contamination	As defined in the CLM Act “means the presence in, on or under the land of a substance at a concentration above the concentration at which the substance is normally present...in the same locality...that presents a risk of harm to human health or any other aspect of the environment.”
Demolition materials	Materials such as concrete, bricks and timber resulting from the demolition of buildings and structures. Most demolition materials are pre-classified as General Solid Waste (non-putrescible) (see definition below) under the NSW EPA (2014) <i>Waste Classification Guidelines</i> . However, some demolition materials such as asbestos have other classifications as described below.
EIS	Environmental Impact Statement for the project, which assesses potential environmental impacts and mitigation measures in accordance with the EP&A Act (see below)
ENM	Excavated Natural Material as defined in <i>The excavated natural material order 2014</i> , being excavated material that is at least 98% (by weight) natural material that does not meet the definition of VENM (see below).
EPA	NSW Environment Protection Authority.
EP&A Act	<i>Environmental Planning & Assessment Act 1979.</i>

	Definitions
EPL	Environment Protection Licence, as may be held by an owner or operator of a premise licensed to receive, process, recover or store waste. The EPL will contain a number of conditions that must be met by the holder. These will specify the type(s) of waste the facility is permitted to receive, process, recover or store, and include pollution prevention or monitoring requirements.
Fill	Soil and any associated extraneous materials (such as demolition wastes, industrial by-products and refuse) imported to and placed at the location.
GSW	General Solid Waste, classified in accordance with the NSW EPA (2014) <i>Waste Classification Guidelines</i> . GSW may be classified as putrescible or non-putrescible depending on the content of putrescible organic material. Spoil and demolition materials are typically non-putrescible.
HW	Hazardous Waste, classified in accordance with the NSW EPA (2014) <i>Waste Classification Guidelines</i> . HW must be treated prior to disposal to landfill. HW is typically spoil that is contaminated with chemicals at concentrations that exceed all screening criteria specified in Step 5 of the <i>Waste Classification Guidelines</i> .
Naturally Occurring Soil	Any soil which has not been significantly disturbed by human activities.
NEPM	<i>National Environmental Protection (Assessment of Site Contamination) Measure 2013</i>
POEO Act	<i>Protection of the Environment Operations Act 1997</i> .
Recycling	Material that is removed from the project site (thereby becoming Waste) and is deposited at an appropriately licenced recycling facility for processing prior to reuse by others.
REF	Review of Environment Factors, which addresses the likely environmental impacts and details protective measures to manage against any adverse effects in accordance with the EP&A Act.
Remediation	As defined in the CLM Act, remediation of contaminated land includes: <i>(a) preparing a long-term management plan (if any) for the land, and</i> <i>(b) removing, dispersing, destroying, reducing, mitigating or containing the contamination of the land, and</i> <i>(c) eliminating or reducing any hazard arising from the contamination of the land (including by preventing the entry of persons or animals on the land)."</i> Remediation is the act of mitigating exposure to contamination in its original location. The process of remediation can generate spoil that may be subject to reuse within the project area (where that reuse is adequately controlled in order to mitigate exposure risks), or the removal of contaminated spoil for treatment and/or disposal off site.
Reuse offsite	Material to be reused by application to land at a location outside of the project site, without the need for processing prior to reuse. Material meeting the definition of VENM or ENM or material that is subject to an RRO and RRO, are suitable (from an environmental perspective) for reuse at remote sites where all requirements of the POEO Act and CLM Act are met.
Reuse onsite	Material that is excavated on the project site and reused on the project site. Material to be reused onsite is not defined as Waste and does not require classification in accordance with NSW EPA (2014) <i>Waste Classification Guidelines</i> . The material must be suitable for the final land use at the placement location in accordance with EPA guidelines made or approved under the CLM Act and must not cause pollution under the POEO Act. If transport to another part of the project area requires material to be taken outside the site boundary temporarily, this must be undertaken in accordance with the EIS or following consultation with relevant regulators.
RRE	Resource Recovery Exemption, contains the conditions that must be met by consumers of a waste type to allow its exempt reuse as granted by the EPA under the 2014 Waste Regulation.
RRO	Resource Recovery Order, contains the conditions that must be met by generators and processors of a waste type to allow its exempt reuse as granted by the EPA under the 2014 Waste Regulation.

	Definitions
RSW	Restricted Solid Waste, classified in accordance with the NSW EPA (2014) <i>Waste Classification Guidelines</i> . An example of RSW is spoil that is contaminated with chemicals above the criteria specified in Step 5 of the <i>Waste Classification Guidelines</i> .
Special Waste	As defined in the NSW EPA (2014) <i>Waste Classification Guidelines</i> , a class of waste with unique regulatory requirements. Asbestos, or any waste containing asbestos (e.g. spoil containing any fragments of asbestos cement sheeting), is Special Waste. If Special Waste is mixed with RSW or HW (e.g. spoil classified as RSW that also contains asbestos) then the waste must be managed in accordance with both classifications.
Spoil	Soil or rock material generated from excavation activities.
UFP	Unexpected Find Protocol.
VENM	Virgin Excavated Natural Material as defined in Schedule 1 of the POEO Act, being excavated natural material not mixed with any other waste and not from a contaminated area.
WARR Act	<i>Waste Avoidance and Resource Recovery Act 2001</i> .
Waste	Spoil or demolition material that has been taken off site, which may be classified as Special Waste, GSW, RSW or HW.

1.3. Spoil Management Decision Framework

Figure 1 provides a high-level flowchart for decisions regarding the fate of spoil generated on the site. As reflected in **Figure 1**, the preferred spoil management hierarchy for the project, listed from most preferred to least preferred is as follows:

1. Spoil is reused within the project boundary.
2. Spoil is beneficially reused at an appropriate offsite location.
3. Spoil is recycled at an offsite licenced facility.
4. Spoil is disposed to landfill.

The approach to spoil classification is further detailed in **Table 1**. **Table 1** describes the criteria, information inputs and control measures required to be applied when reusing spoil on site, reusing spoil offsite, recycling spoil offsite or disposing of spoil.

The framework does not account for the practical, site based, engineering or financial constraints associated with the hierarchy. These must be addressed during delivery and the most appropriate efficient and sustainable method of spoil management adopted.

1.4. Spoil Handling and Segregation

Careful excavation, handling and segregation of spoil is critical to ensuring that materials with varying classifications are not mixed (cross-contaminated) and are not reused, recycled or disposed in a manner inconsistent with their classifications.

Appropriate segregation is also important in controlling the costs of spoil disposal to landfill, noting that the inadvertent mixing of materials with low concentrations of contaminants, with materials containing higher concentrations, typically results in a higher classification and higher disposal rate (financial) being applied to all of the materials.

The following processes are to be applied when excavating, handling and segregating all spoil (for clarity a reference to a “geological unit” includes units or different layers/types of Fill):

- Spoil from each geological unit should be classified separately, using sampling data that relates only to that unit. Classification sampling may be performed in-situ (prior to excavation) or ex-situ (following excavation);
- Spoil from each geological unit (as described in Part 4 below) should be excavated, segregated and stored separately from spoil arising from other geological units;
- Excavations should be carefully monitored for visual indications of contamination, such as stained soils, odorous soils or the presence of anthropogenic waste materials. Any spoil containing visual indicators of contamination will be excavated, segregated and stored separately from other spoil. Where unexpected contamination is identified, an appropriate unexpected finds procedure must be implemented to manage potential human health or environmental risk (refer to **Section 1.6**);
- Each spoil stockpile should be treated as a “batch”, with its classification data clearly identifiable, and will be handled, stored, transported and reused/recycled/disposed as a batch. Spoil stockpiles will not be managed in a “continuous” manner, with portions added, taken away or mixed over a period of time; and

Spoil should be tracked from cradle to grave to ensure a complete and accurate record of movement from the point of excavation to the final point of placement. For clarity this includes tracking of spoil movement on the site as well as off the site.

1.5. Typical Application of the Framework

This section provides some practical guidance in implementing the spoil classification framework (further detailed in the attached **Figure 1** and **Table 1**).

An explanation of the likely classification of spoil excavated during works based on typical geological units is provided below:

- **Fill** – Fill is imported materials which have been placed on the site at some time in the past. Fill generally exists at depths ranging up to 3m below ground surface on developed areas and brownfield sites. Fill may exist to depths exceeding 20m in reclaimed lands, landfill sites, former brick pits, footings and similar. Fill cannot be classified as VENM. Fill has an increased likelihood of being contaminated (compared to natural soils) and will predominantly be classifiable for offsite disposal as GSW, Special Waste, RSW or HW. Some materials, such as road base or crushed concrete may be recoverable under generic or specific RRE/RRO arrangements.
- **Naturally Occurring Soils** – Soil which has not been significantly disturbed by human activities. Naturally occurring soils may be residual soil, sediments, aeolian or other. In the majority of cases, naturally occurring soils will be classifiable as VENM or ENM for offsite reuse. However, where overlying contamination in Fill has leached and caused contamination of underlying natural soils; where point sources of contamination are present (such as industrial facilities or fuel storage facilities); or

where significant groundwater contamination has migrated into the area, offsite reuse may not be appropriate and other classifications such as GSW, RSW or HW may be applicable. Where evidence of potential contamination exists, spoil is required to be sampled and classified in accordance with NSW EPA (2014) *Waste Classification Guidelines*.

- **Rock** – Rock in-situ will, in the majority of scenarios, be classifiable as VENM or ENM unless significant contamination is present in overlying soils or significant contamination has migrated to the rock within groundwater. Where the excavation of rock involves the use of additives (for example to facilitate tunnel boring) the material would no longer be classifiable as VENM or ENM and would instead likely be classifiable as GSW. A project specific RRE/RRO would then be required to allow for offsite reuse.

The type of material (i.e. geological unit) excavated during works will provide guidance on implementing the spoil classification framework in regard to reuse opportunities:

- **Reuse Onsite** – Any of the material excavated which is Fill, a Natural Occurring Soil or Rock may be suitable for reuse on the project site. Wherever reuse onsite is to occur, the material does not require classification in accordance with the NSW EPA (2014) *Waste Classification Guidelines*. Instead the material must be validated as being suitable for the final land use at the placement location in accordance with EPA guidelines made or approved under the CLM Act and the material must not cause pollution under the POEO Act. For clarity the classifications GSW, RSW and HW have no direct relationship to the potential for reuse of materials on the project site.
- **Reuse Offsite** – With the exception of Fill, it is likely that the majority of spoil will be suitable from an environmental perspective for reuse off-site. Specifically, all VENM, ENM and material to which an RRE/RRO apply, will be suitable (from a legislative and environmental perspective) for reuse at an offsite location.

1.6. Unexpected Finds Protocol

This section provides guidance on implementing the Unexpected Finds Protocol (UFP) which is detailed in the attached **Figure 2**. The purpose of the UFP is to provide a clear procedure in the event of an unexpected find of contamination or potential contamination. The UFP is only to be implemented following an **unexpected** find. The handling of known contamination should already be addressed in construction and environmental management plans.

Key indicators of potential contamination include (but are not limited to):

- Fibrous cement or other asbestos containing materials;
- Discolouration of soil;
- Odours from soil and/or groundwater;
- Buried drums or underground storage tanks; and
- Oily sheen on water.

Should any of the above be discovered and is considered to be unexpected, then the UFP in **Figure 2** will need to be implemented.

An explanation of key actions within the UFP is provided below:

- **Notifying the Site Supervisor** – Site Supervisor, or an appropriate delegate are to be made aware of the find immediately.
- **Securing the affected area** – This includes restricting access to the area and implementing appropriate environmental controls around affected area in minimise risk to the environment and human health. Examples of controls include barricading the affected area; the diversion of water to minimise potential spread via surface water runoff; covering the area; re-burying; and/or wet-down. Environmental controls are to be implemented appropriately in regard to the contamination source and site conditions.
- **Emergency Response** – In the event that the find presents and/or creates health or environmental concerns which would require an emergency response, call 000 and/or implement the projects incident response and reporting process.
- **Notify Principal or Sydney Metro** – The Principal's Representative and the Environmental Representative must be notified of the unexpected find.
- **Recommence works** – Works can be recommenced in an alternate area where practicable and where it is safe to do so.
- **Assessment** – The potential for any ongoing risk to the environment or human health during construction or operation of the site, and whether or not the agreed scope appropriately manages the contamination will need to be assessed by a competent and qualified person (i.e. a contaminated land specialist or in the case of asbestos a hygienist or asbestos assessor).
- **Material Classification** – Contaminated materials which are to be removed from the site are to be classified in accordance with the NSW EPA *Waste Classification Guidelines* and the Spoil Classification Framework detailed in this document. See **Figure 1** and **Table 1**.

An unexpected find may result in additional works being required for the remediation of contaminated materials which fall outside of the current scope of the project. Any such works will need to comply with all relevant legislation and guidelines and will require appropriately qualified persons to prepare the methodology and controls. Any such works will require approval from Sydney Metro.

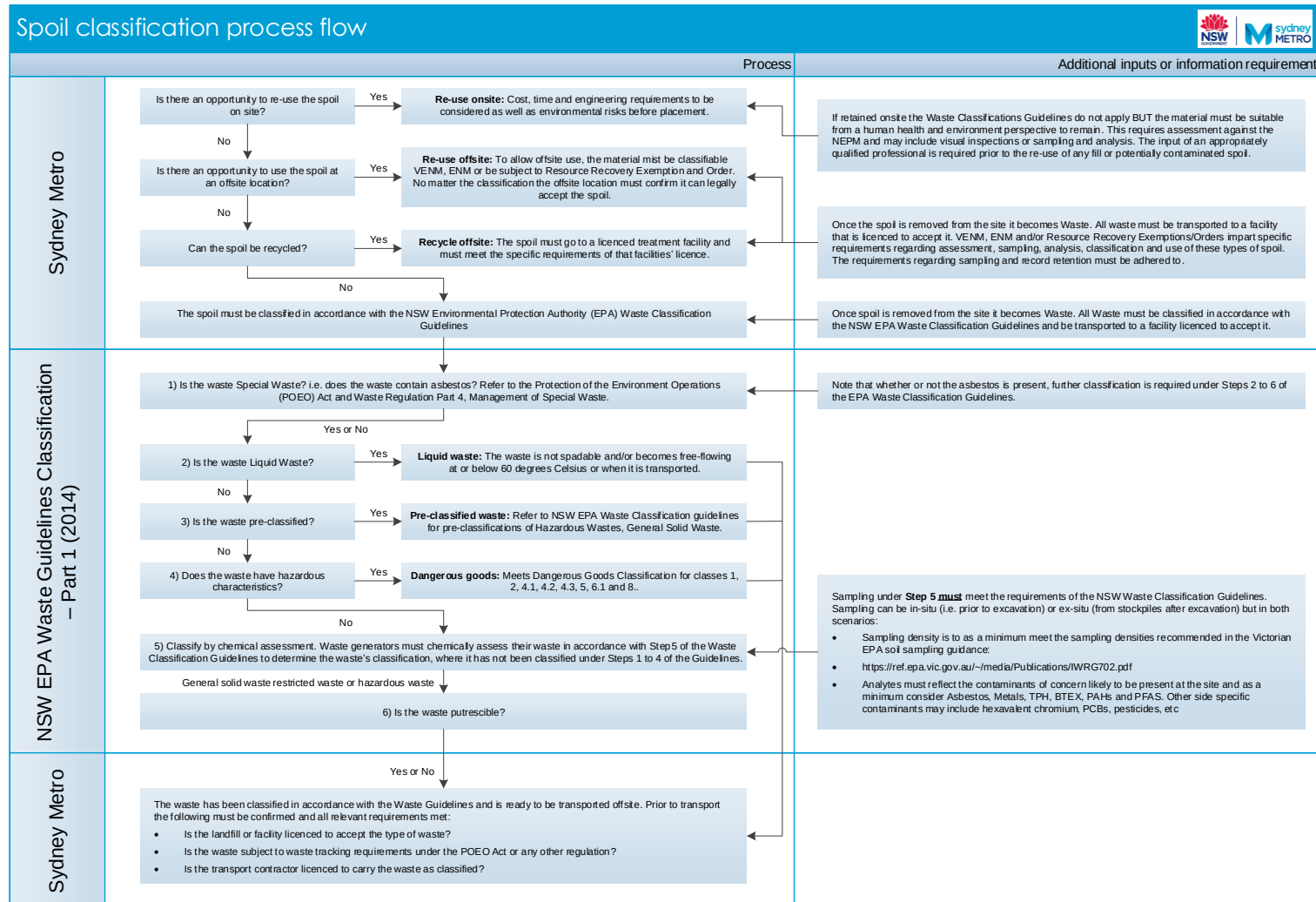


Figure 1: Spoil Classification process flow

Table 1: Spoil Classification process flow

Decision	Criteria	Inputs/Data	Controls/Review
Reuse of the material on or within the approved project area Most preferred option under WARR Act and Sydney Metro environment and sustainability policy.	Suitable placement locations have been identified The material is suitable for the final land use at the placement location in accordance with EPA guidelines made or approved under the CLM Act and will not cause pollution under the POEO Act. The spoil meets engineering requirements for placement locations Where spoil or demolition materials require treatment or processing onsite to treat contaminants or to amend engineering properties, the need for an EPL must be assessed and resulting conditions met. If transport to another project area is required, and such transport requires material to be taken outside the site boundary temporarily, this will need to be appropriately address in the project's environmental approvals (e.g. EIS or REF).	Appropriate risk-based assessment confirms the material is suitable for proposed final land use from a contamination perspective. Appropriate geotechnical assessment confirms the material is suitable for proposed final land use. EPL if required for onsite processing.	Complete material tracking record, including documentation of final placement location. Environmental controls to prevent cross-contamination of material prior to placement and pollution during placement. Training of relevant personnel in spoil reuse framework and underlying management plans. Audits of sampling data, tracking and placement information, and reuse locations/sites. Long-term management plan and monitoring and/or Environmental Protection Licence under the POEO Act (if required).
Reuse of the material off site. Spoil becomes waste under POEO Act once removed from site.	Material meets VENM definition. Suitable off site reuse locations have been identified and sites have the necessary approvals to accept the material.	Assessment confirms material is VENM. Sampling may be required depending on nature of material and source. Receival site provides confirmation that waste can be accepted: Approval under EP&A Act or EPL. Section 143 certificate.	Material tracking record from the Metro site to the receival site. Environmental controls to prevent pollution during transport.

Decision	Criteria	Inputs/Data	Controls/Review
	Material meets ENM definition. Suitable off site reuse locations have been identified and sites have the necessary approvals to accept the material.	Sampling conducted in accordance with ENM RRO prior to transport off site, and results meet criteria. Statement of RRO compliance provided to each receival site. Receival site provides confirmation that waste can be accepted: - Approval under EP&A Act or EPL - Section 143 certificate - Meets RRE conditions.	Material tracking record from the Metro site to the receival site Environmental controls to prevent pollution during transport RRO records maintained for six years, including details of sampling plan, sampling results, quantities supplied and receival sites
	Material does not meet VENM or ENM definitions but has potential for reuse under a specific RRO/RRE. An example is tunnel spoil containing additives. Suitable off site reuse locations have been identified and sites have the necessary approvals to accept the material	Consult with the EPA, prepare and submit application for specific RRO/RRE. Characterisation data will be required for the application. Once specific RRO/RRE is granted, obtain sampling data (and meet any other specific obligations) in accordance with conditions and confirm results meet criteria prior to transport off site. Statement of compliance provided to each receival site. Receival site provides confirmation that waste can be accepted: - Approval under EP&A Act or EPL - Section 143 certificate - Meets RRE conditions.	As for reuse on site plus: - Statement of compliance provided to each receival site - RRO records maintained for six years.
Recycling off site. Material (spoil and demolition materials) becomes waste under POEO Act once removed from site.	Material meets the EPL and/or planning approval requirements for the receival facility and has value for recycling. Suitable receival facilities have been identified and sites have the necessary approvals to accept the material.	Assessment/sampling confirms the material meets the receival facility EPL conditions (typically GSW). Appropriate EPL held by receival facility. Receival facility has confirmed waste can be accepted.	As for reuse on site plus: Waste tracking documentation depending on waste type

Decision	Criteria	Inputs/Data	Controls/Review
Disposal off site. Material does not fit one of the above categories and/or suitable reuse or recycling locations could not be identified. Least preferred option.	Waste is classified as GSW, RSW or Special Waste. Suitable receival facilities have been identified and sites have the necessary approvals to accept the material	Pre-classification or sampling results to classify material in accordance with NSW EPA (2014) Waste Classification Guidelines. Appropriate EPL held by receival facilities. Receival facility has confirmed waste can be accepted.	As for reuse on site plus: Waste tracking documentation depending on waste type.
	Waste is classified as HW. Suitable treatment facilities have been identified and sites have the necessary approvals to accept the material.	Pre-classification or sampling results to classify material in accordance with NSW EPA (2014) Waste Classification Guidelines. Appropriate EPL held by treatment facilities Treatment facility has confirmed waste can be accepted.	As for reuse on site plus: Waste tracking, treatment and disposal documentation.

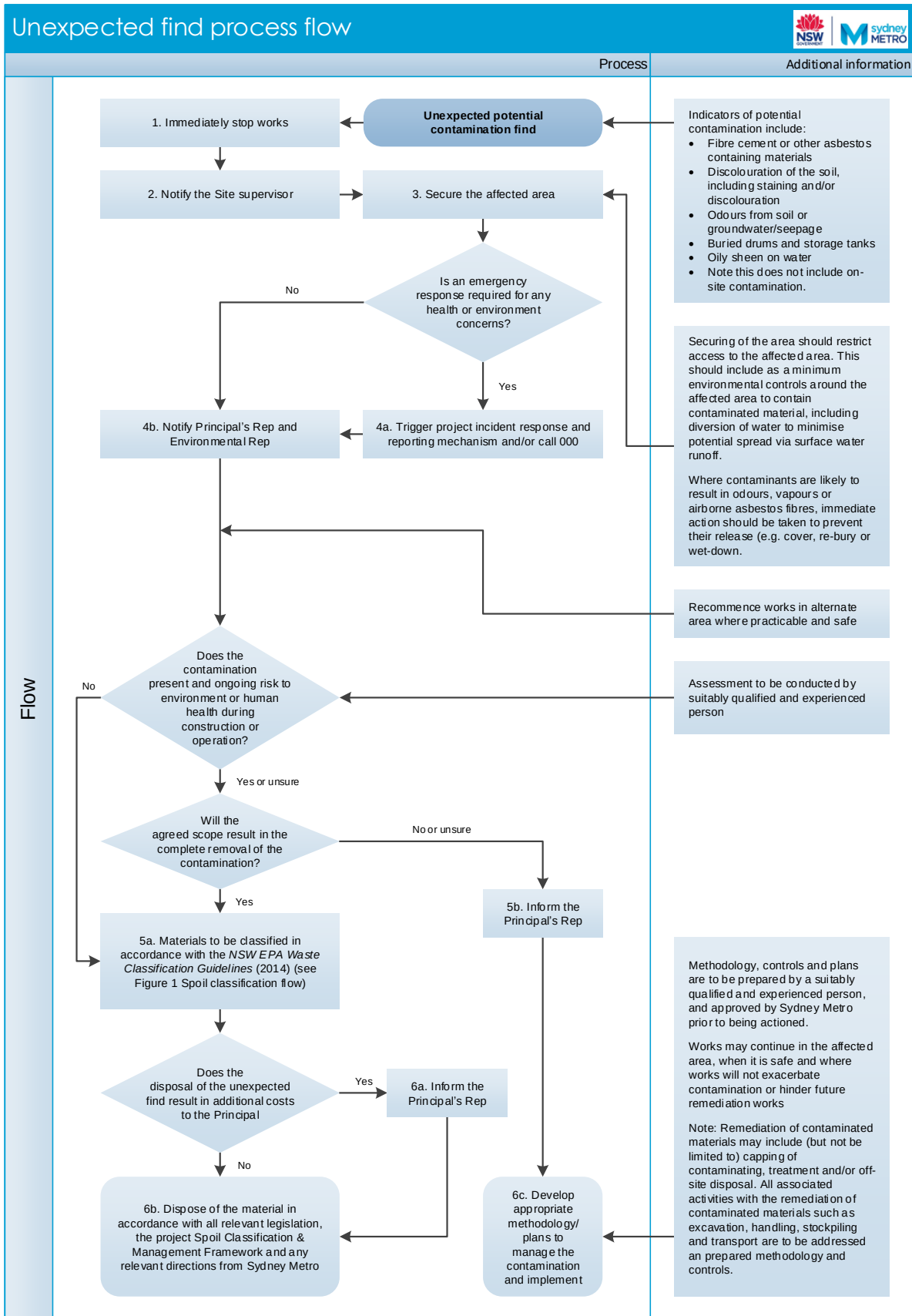


Figure 2: Unexpected finds procedure

1.7. Accountabilities

The Director, Environment, Sustainability & Planning is accountable for this document including approving the document, monitoring its effectiveness and performing a formal document review.

Direct Reports to the Chief Executive are accountable for ensuring the requirements of this document are implemented within their area of responsibility.

Direct Reports to the Chief Executive who are accountable for specific projects/programs are accountable for ensuring associated contractors comply with the requirements of this document.

2. Related documents and references

Related documents and references

- Entries should be formatted with IMS/iCentral number followed by correct title and hyperlinked, e.g.
- [SM-17-00000203 Sydney Metro glossary](#)

3. Superseded documents

Superseded Documents

There are no documents superseded as a result of this document.

4. Document history

Version	Date of approval	Notes
3.0	Pending	New IMS document.

Appendix G Unexpected Heritage Finds and Humans Remains Procedures



Sydney Metro Unexpected Heritage Finds Procedure

SM-18-001105232

Metro Body of Knowledge (MBoK)

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1. Introduction

1.1. Purpose

This procedure has been prepared to provide a consistent approach to the management of unexpected Aboriginal and non-Aboriginal heritage uncovered during Sydney Metro activities. It applies to all Sydney Metro activities, both the pre-construction (prior to the Construction Heritage Management Plan approval) and construction phase (post Construction Heritage Management Plan approval) and pre or post-approval activities that are subject to the NSW *Heritage Act (1977)* (Heritage Act) and the *National Parks and Wildlife Act 1974* (NPW Act).

In NSW, there are strict laws to protect and manage both Aboriginal and non-Aboriginal heritage. As a result, appropriate management measures need to be implemented to avoid or minimise impacts, ensure compliance with statutory requirements, and to minimise the risk of penalties to individuals, Sydney Metro and its contractors. This procedure includes Sydney Metro's heritage notification obligations under the Heritage Act, NPW Act and the *Coroner's Act 2009* and the requirements of the conditions of approval (CoA) issued by NSW Department of Planning, Industry and Environment.

Note that a Contractor must not amend the *Sydney Metro Unexpected Finds Procedure* or use a different procedure without the prior approval of Sydney Metro.

This procedure must be read in conjunction with the relevant approval conditions, contract documents and other plans and procedures including the *Sydney Metro Exhumation Management Procedure*, in addition to any other relevant documents as developed by the contractor for the delivery of Sydney Metro activities.

1.2. Scope

This procedure applies to the discovery of any unexpected heritage item, where the find is not anticipated in an approved Archaeological Research Design (ARD) or Archaeological Method Statement (AMS) or other project specific document related to heritage. It applies to all Sydney Metro activities.

This procedure must be followed by all Sydney Metro staff, contractors, subcontractors or any person undertaking work for Sydney Metro. It includes references to some of the relevant legislative and regulatory requirements, but is not intended to replace them.

This procedure *does not apply* to:

- the discovery and disturbance of heritage items as a result of investigations being undertaken in accordance with the *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW*^{4376 2010}¹; an Aboriginal Heritage Impact Permit (AHIP) issued under the NPW Act; or a permit approval issued under the Heritage Act;
- the discovery and disturbance of heritage items as a result of construction related activities, where the disturbance is permissible in accordance with an AHIP or an approval issued under the Heritage Act or State Significant Infrastructure (SSI) /State Significant Development (SSD) planning approval; or

- the discovery and disturbance of a heritage item of local significance, where the find is identified and anticipated to occur in an AMS or ARD.

Construction Environment Management Plans (CEMP) should reference or include this procedure. Where there is an approved CEMP, it must be followed in the first instance. Where there is a difference between approved CEMPs and this procedure, the approved CEMP must be followed. Where an approved CEMP does not provide sufficient detail on particular issues, this procedure should be used as a reference.

1.3. Definitions and abbreviations

1.3.1. What is an unexpected heritage find?

An 'unexpected heritage find' can be defined as:

- any unanticipated discovery of an Aboriginal object or archaeological work or relic, which Sydney Metro does not have approval to disturb and/or is not covered under an existing management process or plan
- a find that has not been identified or assessed in a project assessment or document related to heritage
- a find that is not referenced in an archaeological research design (ARD) or archaeological method statement (AMS)
- a find that is not covered by an existing approval under the NPW Act or Heritage Act.

1.3.2. Abbreviations

All terminology in this document is taken to mean the generally accepted or dictionary definition. Other terms and jargon specific to this document are defined within the [SM-17-00000203 Sydney Metro glossary](#). Acronyms specific to this document are listed below.

	Definitions
AHIP	Aboriginal Heritage Impact Permit
Aboriginal object	An Aboriginal object is any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains. An Aboriginal object may include a shell midden, stone tools, bones, rock art, Aboriginal-built fences and stockyards, scarred trees and the remains of fringe camps.
ARD	Archaeological Research Design
AMS	Archaeological Method Statement
CEMP	Construction Environmental Management Plan
CoA	Conditions of Approval
CSSI	Critical State Significant Infrastructure
EP&A Act	NSW <i>Environmental Planning and Assessment Act 1979</i>

Disturbance	Disturbance is considered to be any physical interference to an item that results in it being destroyed, defaced, damaged, harmed, impacted or altered in any way (this includes archaeological investigation activities).
Excavation Director	A person that has been determined by the Heritage Council of NSW or delegate to meet the Criteria for Assessment of Excavation Directors (4 September 2019 and as updated) and can therefore competently archaeologically investigate a site of either local and/or state significance.
Heritage Act	NSW <i>Heritage Act 1977</i>
NPW Act	NSW <i>National Parks and Wildlife Act 1974</i>
Heritage NSW	Formerly Office of Environment and Heritage (OEH). Now Heritage NSW as part of the Department of Premier and Cabinet NSW.
IMS	Integrated Management System (IMS)
Relic (non-Aboriginal heritage)	A relic means any deposit, artefact, object or material evidence that: a) relates to the settlement of the area that comprises NSW, not being Aboriginal settlement, and b) is of State or local significance.
SSD	State Significant Development
SSI	State Significant Infrastructure
TfNSW	Transport for New South Wales
Work (non-Aboriginal heritage)	Archaeological features such as historic utilities or buried infrastructure that provide evidence of prior occupations such as former rail or tram track, timber sleepers, kerbing, road pavement, fences, culverts, historic pavement, buried retaining walls, cisterns, conduits, sheds or building foundations, but are also subject to assessment by the Excavation Director to determine its classification.

1.4. Accountabilities

The Director Environment, Sustainability and Planning is accountable for this document including approving the document, monitoring its effectiveness and performing a formal document review.

Direct Reports to the Chief Executive are accountable for ensuring the requirements of this document are implemented within their area of responsibility.

Direct Reports to the Chief Executive who are accountable for specific projects/programs are accountable for ensuring associated contractors comply with the requirements of this document.

2. Types of unexpected heritage finds and their statutory protections

Project, field and environmental personnel (including construction contractors) are critical to the early identification and protection of unexpected heritage finds.

Appendix 1 illustrates the wide range of heritage items uncovered to date during Transport for NSW projects and provides an understanding of what unexpected finds may look like.

Unexpected heritage finds are categorised as either:

- (a) Aboriginal objects;
- (b) Historic (non-Aboriginal) heritage items; or
- (c) Human skeletal remains.

The relevant legislation that applies to each of these categories is described below.

2.1. Aboriginal objects

The NPW Act provides the basis for the care, protection and management of Aboriginal objects and places in NSW.

An Aboriginal object is defined as: *any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.*

An 'Aboriginal place' is an area declared by the Minister administering the Act to be of special significance with respect to Aboriginal culture. An Aboriginal place does not have to contain physical evidence of occupation (such as Aboriginal objects).

Under section 87 of the Act, it is an offence to harm or desecrate an Aboriginal object or place. There are strict liability offences. An offence cannot be upheld where the harm or desecration was authorised by an AHIP and the permit's conditions were not contravened. Defences and exemptions to the offence of harming an Aboriginal object or Aboriginal place are provided in section 87, 87A and 87B of the Act. A person must notify Heritage NSW if a person is aware of the location of an Aboriginal object.

Penalties for some of the offences can include two years imprisonment and/or up to \$550,000 (for individuals), and a maximum penalty of \$1.1 million (for corporations).

Examples of Aboriginal objects include stone artefacts, shell middens, axe grinding grooves, pigment or engraved rock art, burials and scarred trees.

IMPORTANT!

All Aboriginal objects, regardless of significance, are protected under law.

If any impact is expected to an Aboriginal object, an AHIP is usually required from Heritage NSW. When a person becomes aware of an Aboriginal object they must notify the Director-General of Heritage NSW about its location. Assistance on how to do this is provided in section 4 (Step 5).

2.2. Historic (non-Aboriginal) heritage items

The Heritage Act provides for the care, protection and management of heritage items in NSW. Historic (non-Aboriginal) heritage items include:

- archaeological 'relics' as defined under the Heritage Act; and

- other items such as works, buildings or movable objects, which are not considered 'relics' under the Act.

2.2.1. Archaeological relics

Under section 139, it is an offence to disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed, unless the disturbance or excavation is carried out in accordance with an excavation permit issued by Heritage NSW under the Act.

A relic is defined as: *'any deposit, artefact, object or material evidence that: (a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and (b) is of State or local heritage significance.'*

A person must notify Heritage NSW, if a person is aware or believes that they have discovered or located a relic (section 146). Penalties for offences under the Heritage Act can include six months imprisonment and/or a fine of up to \$1.1million.

IMPORTANT!

All relics are subject to statutory controls and protection.

If a relic is likely to be disturbed, an approval is usually required from the Heritage Council of NSW. When a person discovers a relic, they must notify the Heritage Council of NSW of its location.

2.2.2. Other items

Some historic heritage items are not considered to be 'relics', but are instead referred to as works, buildings, structures or movable objects. Examples of these items that may be encountered include culverts, historic pavements, retaining walls, tramlines, rail tracks, turn tables, timber sleepers, cisterns, fences, sheds, buildings and conduits.

Usually archaeological relics are uncovered via a process of excavation or soil removal. When an unexpected find is uncovered, an archaeological excavation permit under section 140 or section 60 of the Heritage Act may be required to further investigate or remove it if investigation is not covered by an existing approval. In contrast, 'other historic items' either exist above the ground surface (for example a shed), or they are designed to operate and exist beneath the ground surface (for example a culvert). They may also need a permit to alter, disturb or remove them if there is not an approval already in place.

2.3. Human skeletal remains

The *Sydney Metro Exhumation Management Procedure* provides a more detailed explanation of the approval processes related to human skeletal remains.

Human skeletal remains can be classified as:

- reportable deaths
- Aboriginal objects; or

- relics

Where it is suspected that less than 100 years has elapsed since death, human skeletal remains come under the jurisdiction of the State Coroner and the *Coroners Act 2009* (NSW). Under s35(2) of the Act, a person must report a death to a police officer, a coroner or an assistant coroner as soon as possible. This applies to all human remains less than 100 years old regardless of ancestry. Public health controls may also apply.

Where the remains are suspected of being more than 100 years old, they are considered to be either Aboriginal objects or non-Aboriginal relics, depending on the ancestry of the individual. Aboriginal human remains are protected under the NPW Act, while non-Aboriginal heritage remains are protected under the Heritage Act.

The discovery of Aboriginal human remains also triggers notification requirements to the Commonwealth Minister for the Environment under s20 (1) of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.

IMPORTANT!

All human skeletal remains are subject to statutory controls and protections.

All bones must be treated as potential human skeletal remains and work around them must stop while they are appropriately protected and investigated, the relevant authorities notified and approvals received.

3. Unexpected heritage finds procedure

In the event that an unexpected find is encountered on a Sydney Metro project, the steps summarised in Figure 1 and detailed in Table 1 must be followed. There are seven steps in the procedure.

IMPORTANT!

Sydney Metro may have approval to impact certain heritage items during construction. If you think that you may have discovered a heritage item and you are unsure whether an approval is in place or not, **STOP** work and follow this procedure.

Figure 1: Summary of steps to be taken on the discovery of an unexpected heritage item

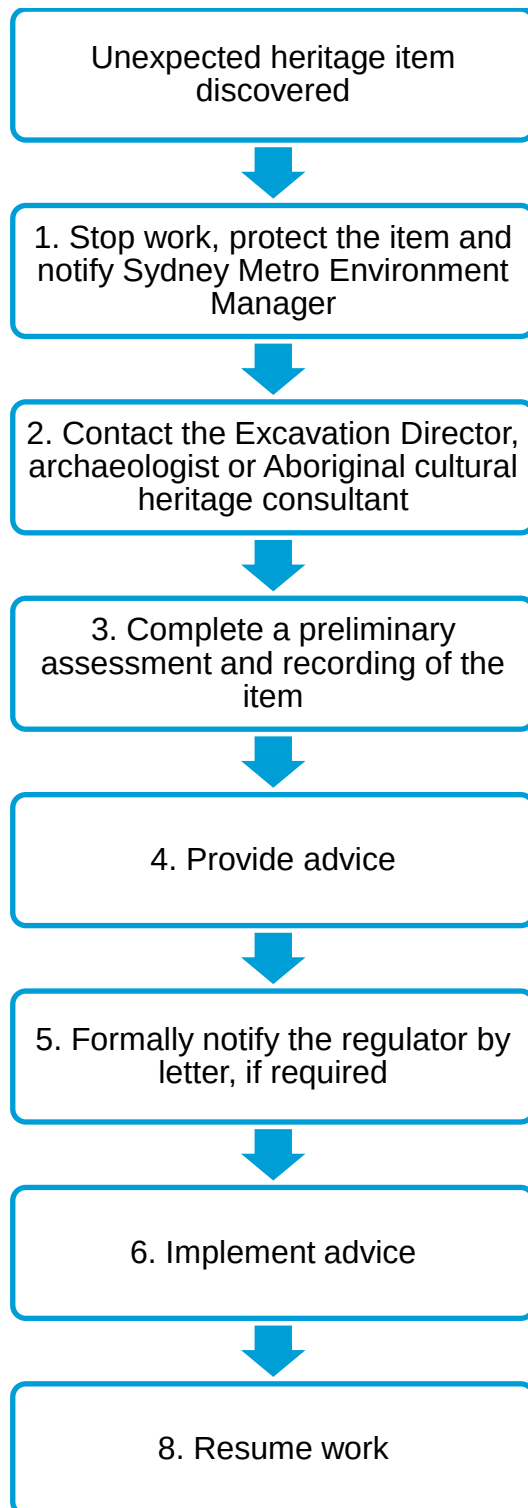


Table 1: Specific tasks to be implemented following the discovery of an unexpected heritage item

Step	Task	Responsibility	Guidance and tools
1	Stop work and protect the item		
1.1	Stop all work in the immediate area of the item and notify the Project Manager	Contractor / Supervisor	Appendix 1 Identifying Unexpected Heritage Items
1.2	Establish a 'no-go zone' around the item. Use high visibility fencing, where practical. No ground disturbing work is to be undertaken within this zone until further archaeological investigations are completed, and if required, appropriate approvals are obtained. Inform all on-site personnel about the no-go zone.	Contractor's Project Manager or Supervisor	
2	Engage an archaeologist		
2.1	Contact the nominated Excavation Director, archaeologist or Aboriginal cultural heritage consultant to discuss the location and nature of the item and arrange an inspection. The project CEMP should contain the contact details of the archaeologist. Provide as much information as possible to the Excavation Director, archaeologist or Aboriginal cultural heritage consultant, including photographs of the item. Inform the Sydney Metro Environment Manager, and keep them involved in the process. The Environment Manager will inform the Sydney Metro Senior Heritage Advisor.	Contractor's Project Manager	
2.2	Where there is no project Excavation Director, archaeologist or Aboriginal cultural heritage consultant engaged for the work, engage a suitably qualified consultant to assess the find. If the find is likely to be an Aboriginal object, engage a suitably qualified and experienced Aboriginal cultural heritage consultant. If the find is a non-Aboriginal heritage item, engage a suitably qualified and experienced historical archaeological consultant.	Contractor's Project Manager	

Step	Task	Responsibility	Guidance and tools
3	Preliminary assessment and recording		
3.1	Occasionally, the Excavation Director, archaeologist or Aboriginal cultural heritage consultant may determine from the photographs provided at Step 2.1 that it is not necessary to inspect the item because no heritage constraint exists for the project (for example the item is not an Aboriginal object or archaeological relic). This advice should be provided in writing (for example via email or letter with the consultant's name and company clearly identifiable) to the Sydney Metro Project Manager, Environment Manager and Senior Heritage Advisor.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant	Proceed to Step 7
3.2	Arrange access for the Excavation Director, archaeologist or Aboriginal cultural heritage consultant to inspect the item as soon as practicable. In most cases, a site inspection is required to conduct a preliminary assessment.	Contractor's Project Manager / Excavation Director	
3.3	Subject to the Excavation Director, archaeologist or Aboriginal cultural heritage consultant's assessment, work may recommence at a set distance from the item. This is to protect any other archaeological evidence that may exist in the vicinity, which may have not yet been uncovered. The 'no-go zone' established in Step 1.2 may need to be adjusted to reflect the area of archaeological potential, as determined by the Excavation Director, archaeologist or Aboriginal cultural heritage consultant.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant / Contractor's Project Manager	
3.4	Has the item been damaged or harmed? If yes, record the incident in the Incident Management System. Implement any additional reporting requirements related to the planning approval and CEMP where relevant	Contractor's Project Manager / Excavation Director, archaeologist or Aboriginal cultural heritage consultant	
3.5	Can the work avoid further impact to the item? Project Manager to confirm with Sydney Metro Environment Manager.	Contractor's Project Manager	

Step	Task	Responsibility	Guidance and tools
3.6	Record the item and complete the Unexpected Heritage Item Recording Form.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant	Appendix 2 Unexpected Heritage Item Recording Form Appendix 3 Photographing Unexpected Heritage Items
3.7	Is the item likely to be bone? If yes, follow the steps in Appendix 4 'Uncovering bones'. Where it is obvious that the bones are human remains, you must notify the local police by telephone immediately. They may take command of all or part of the site. Also refer to the Sydney Metro Exhumation Management Procedure. If no, proceed to the next step.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant	
3.8	The Excavation Director, archaeologist or Aboriginal cultural heritage consultant may provide advice after the inspection and preliminary assessment that no heritage constraint exists for the project (for example the item is not an Aboriginal object or relic). This advice should be provided in writing (for example via email or letter with the consultant's name and company clearly identifiable) to the Sydney Metro Project Manager, Environment Manager and Senior Heritage Advisor.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant	Proceed to Step 7
3.9	Where required, seek additional specialist technical advice (such as a forensic or physical anthropologist to identify skeletal remains). The Excavation Director, archaeologist or Aboriginal cultural heritage consultant can provide contacts for such specialist consultants.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant	
4	Provide advice		
4.1	The Excavation Director, archaeologist or Aboriginal cultural heritage consultant should provide written advice with input from Registered Aboriginal Parties where appropriate. The plan should include as a minimum a) a description of the item, b) an assessment of the significance of the item, c) approval or statutory notification requirements, d) reporting requirements, e) consultation requirements, and f) relevance	Excavation Director, archaeologist or Aboriginal cultural heritage consultant	Appendix 4 Archaeological / heritage advice checklist Other references DECCW 2010, Aboriginal Cultural Heritage Consultation

Step	Task	Responsibility	Guidance and tools
	to other project approvals or management plans.		Requirements for Proponents 2010 DECCW 2010, Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW Heritage Branch 2009, Assessing Significance for Historical Archaeological Sites and 'Relics'
4.2	In preparing the advice, the Excavation Director, archaeologist or Aboriginal cultural heritage consultant must review the CEMP, heritage sub-plans, conditions of project approval and associated heritage assessment documentation (for example an Environmental Impact Statement Technical Paper). The Excavation Director, archaeologist or Aboriginal cultural heritage consultant must determine if the item is consistent with previous heritage or project approvals or management plans. The Project Manager must provide all relevant documents to the Excavation Director to assist with this.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant / Contractor's Project Manager	
4.3	The Excavation Director, archaeologist or Aboriginal cultural heritage consultant must submit this advice as a report, letter or email to the Project Manager as soon as practicable.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant	
4.4	The Project Manager, Sydney Metro Environment Manager and Sydney Metro Senior Heritage Advisor should review the advice to ensure that all requirements are addressed and can be reasonably implemented.	Consultant's Project Manager / Sydney Metro Environment Manager / Sydney Metro Senior Heritage Advisor	
5	Notify the regulator, if required		
5.1	Based on the advice and any statutory requirements, is notification to Heritage NSW and the Secretary required? If no, proceed directly to Step 6. If yes, proceed to next step.	Sydney Metro Environment Manager / Sydney Metro Senior Heritage Advisor	

Step	Task	Responsibility	Guidance and tools
5.2	If notification is required, complete the template notification letter and forward with supporting documentation (including advice obtained at Step 4) to the Sydney Metro Environment Manager. The Environment Manager will seek the approval of the Sydney Metro Senior Heritage Advisor and the signature of the Director Project Environment, Sustainability & Planning or Director Environment, Sustainability & Planning	Sydney Metro Environment Manager	Appendix 5 Template Notification Letter
5.3	Forward the signed notification letter to Heritage NSW once approved and cc Sydney Metro. Informal notification (via a phone call or email) to Heritage NSW prior to sending the letter is appropriate. The advice and completed Unexpected Heritage Item Recording Form (Appendix 2) must be submitted with the notification letter (for both Aboriginal objects and non-Aboriginal relics). If the item is an archaeological relic as defined under the Act, a section 146 notification form must also be completed and sent to Heritage NSW as part of the notification.	Sydney Metro Environment Manager	Appendix 2 Unexpected Heritage Item Recording Form Appendix 5 Template Notification Letter
5.4	A copy of the final signed notification letter, archaeological or heritage management plan and the Unexpected Heritage Item Recording Form is to be kept on file and a copy sent to the Sydney Metro Project Manager	Sydney Metro Environment Manager / Contractor's Project Manager	
6	Implement advice		
6.1	The advice should be modified to take into account any additional advice resulting from notification and discussions with the regulator if required.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant / Contractor's Project Manager	
6.2	Implement advice. Where impact cannot be avoided, this could include a formal assessment of heritage significance and impact assessment, preparation of excavation or recording methodologies, consultation with Registered Aboriginal Parties and obtaining heritage approvals if required.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant / Contractor's Project Manager	DECCW 2010, Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 DECCW 2010, Code of Practice for the Archaeological Investigation of

Step	Task	Responsibility	Guidance and tools
			Aboriginal Objects in NSW
6.3	Where heritage approvals are required, contact the Sydney Metro Environment Manager for further advice and support. Please note there are time constraints associated with heritage approval preparation and processing.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant / Contractor's Project Manager	
6.4	For SSI or SSD projects, or projects approved under Part 5 of the EP&A Act, assess whether the heritage impact is consistent with the project approval or if project approval modification is required from the Department of Planning, Industry and Environment or the relevant consent authority.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant / Contractor's Project Manager	
6.5	Where statutory approvals (or project modifications) are required, impact upon Aboriginal objects or relics must not occur until heritage and planning approvals have been issued by the appropriate regulator.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant / Contractor's Project Manager	
6.6	Where statutory approval is not required but where recording is recommended by the Excavation Director, archaeologist or Aboriginal cultural heritage consultant, sufficient time and resources must be allowed for this to occur.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant / Contractor's Project Manager	
6.7	Ensure short term and permanent storage locations are identified for archaeological material or other heritage material recovered from site, where required. Interested third parties (for example local Aboriginal land councils, local councils or museums) should be consulted on this issue. Contact the Excavation Director, archaeologist or Aboriginal cultural heritage consultant for advice on this issue.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant / Contractor's Project Manager	
7	Resume work		
7.1	Seek written clearance to resume project work from the Excavation Director, archaeologist or Aboriginal cultural heritage consultant. Clearance would only be given once all archaeological excavation or heritage recommendations and approvals (where required) are complete. Resumption of	Contractor's Project Manager	

Step	Task	Responsibility	Guidance and tools
	project work must be in accordance with all the relevant project and heritage approvals / determinations.		
7.2	If required, ensure archaeological excavation / heritage reporting and other heritage approval conditions are completed in the required timeframes. This includes artefact retention repositories, conservation and / or disposal strategies.	Excavation Director, archaeologist or Aboriginal cultural heritage consultant / Contractor's Project Manager	
7.3	If additional unexpected heritage items are discovered, this procedure must begin again from Step 1.	All	

4. Responsibilities

Table 2: Roles and responsibilities

Role	Responsibility
Contractor / Supervisor	Stop work immediately when an unexpected heritage item is encountered. Cordon off area until Contractor Environmental Manager / Excavation Director, archaeologist or Aboriginal cultural heritage consultant advises that work can recommence. Manage the process of the identification, protection and mitigation of impacts on the heritage item. Liaise with the Sydney Metro Project Manager, Environment Manager and Senior Heritage Advisor. Assist the Excavation Director, archaeologist or Aboriginal cultural heritage consultant with mitigation and statutory requirements. Complete Incident Report and review CEMP for any changes that may be required. Proposed amendments to the CEMP if any changes are required.
Contractor's Project Manager	Ensure all aspects of this procedure are implemented. Advise the Contractor / Supervisor to recommence work if all applicable requirements have been satisfied and the Contractor Environmental Manager/ Excavation Director, archaeologist or aboriginal cultural heritage consultant has approved recommencement of work.
Contractor's Excavation Director / archaeologist or Aboriginal cultural heritage consultant	Provide expert advice to the Contractor and Sydney Metro Environment Manager on find identification, significance, mitigation, legislative procedures and requirements.
Environmental Representative	Ensure compliance with relevant approvals (new and existing) and the Construction Environment Management Plan.
Sydney Metro Environment Manager	Notify the Director Project Environment, Sustainability & Planning of find and help support Contractor with managing Incident Reporting.
Sydney Metro Senior Heritage Advisor	Provide expert advice to Sydney Metro Environment Manager and project as required.

5. Seeking advice

Advice on this procedure should be sought from the Sydney Metro Environment Manager in the first instance. Contractors and delivery partners should ensure their own project environment managers are aware of and understand this procedure.

Technical archaeological or heritage advice regarding an unexpected heritage item should be sought from a suitably qualified and experienced archaeologist / Aboriginal heritage consultant.

6. Related documents and references

Related documents and references

- SM ES-PW-315/5.0 Sydney Metro Exhumation Management Procedure
- SM-17-00000096 Sydney Metro Environmental Incident Classification and Reporting
- 3TP-SD-015/7.0 Transport for NSW Guide to Environmental Control Map
- Roads and Maritime Services, November 2015, Unexpected Heritage Items Heritage Procedure 02
- [SM-17-00000203 Sydney Metro glossary](#)
- Department of Environment, Climate Change and Water 2010, Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010
- Department of Environment, Climate Change and Water 2010, Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW
- Heritage Branch Department of Planning 2009, Assessing Significance for Historical Archaeological Sites and 'Relics'

7. Superseded documents

Superseded documents

Sydney Metro Unexpected Heritage Finds Procedure v3.3

8. Document history

Version	Date of approval	Notes
1.1	June 2017	Incorporates Environmental Representative comments
1.2		Amends p13 step 8 reference to s146
1.3		Incorporates Planning Mods 1-4 including amended CoA E20
1.4	March 2018	Incorporates Environmental Representative comments
2.0		Removes SSI 15-7400 COA reference
3.0		Revises definitions
3.1		Revises procedure
3.2		Revises roles and responsibilities
3.3		Minor edits and corrections
4.0	April 2021	Revises definitions and procedure; references the Sydney Metro Exhumation Management Procedure v5 with amendments throughout for consistency with that document.
4.1	April 2021	Updates to related documents and references.

Appendix 1: Examples of unexpected heritage finds



Plate 1: Aboriginal stone artefacts found at the Wickham Transport Interchange, 2015



Plate 2: Aboriginal artefacts (shell material) found at the Wickham Transport Interchange, 2015



Plate 3: 1840s seawall and 1880s retaining wall uncovered at Balmain East, 2016



Plate 4: Sandstone pavers uncovered at Balmain East, 2016



Plate 5: Platform at Hamilton Station classified as a 'work' by the project archaeologist, Wickham Transport Interchange project, 2015



Plate 6: Sandstone flagging and cesspit, Wynyard Walk project, 2014



Plate 7: Chinese Ming Dynasty pottery and English porcelain / pottery dating back to the early nineteenth century, Wynyard Walk project, 2014



Plate 8: Pottery made by convict potter Thomas Ball during the early settlement, Wynyard Walk project, 2014

The following images, obtained from the Roads and Maritime Services Unexpected Heritage Items Heritage Procedure 02.



Plate 9: Top left hand picture continuing clockwise: Stock camp remnants (Hume Highway Bypass at Tarcutta); linear archaeological feature with post holes (Hume Highway Duplication), animal bones (Hume Highway Bypass at Woomargama); cut wooden stake; glass jars, bottles, spoon and fork recovered from refuse pit associated with a Newcastle Hotel (Pacific Highway, Adamstown Heights, Newcastle area)



Plate 10: Culturally modified stone discovered on Main Road 92, about two kilometres west of Sassafras. The remaining images shown a selection of stone artefacts retrieved from test and salvage archaeological excavations during the Hume Highway Duplication and Bypass projects from 2006-2010.

Appendix 2: Unexpected Heritage Find Recording Form

This form is to be completed by the Excavation Director on the discovery of an archaeological heritage find during construction or maintenance works

Date:		Recorded by: (include name and position)	
Project name:			
Description of works being undertaken:			
Description of exact location of item			
Description of item found (What type of item is it likely to be? Tick the relevant boxes).			
A. A relic	☐	A 'relic' is evidence of a past human activity relating to the settlement of NSW with local or state heritage significance. A relic might include bottle, utensils, plates, cups, household items, tools, implements, and similar items	
B. A 'work', building or structure'	☐	A 'work' can generally be defined as a form infrastructure such as track or rail tracks, timber sleepers, a culvert, road base, a bridge pier, kerbing, and similar items	
C. An Aboriginal object	☐	An 'Aboriginal object' may include stone tools, stone flakes, shell middens, rock art, scarred trees and human bones	
D. Bone	☐	Bones can either be human or animal remains. Remember that you must contact the local police immediately by telephone if you are certain that the bone(s) are human remains.	
E. Other	☐		
Provide a short description of the item (E.g. metal rail tracks running parallel to the rail corridor. Good condition. Tracks set in concrete, approximately 10 cm below the current ground surface).			

Sketch <i>(Provide a sketch of the item's general location in relation to other road features so its approximate location can be mapped without having to re-excavate it. In addition, please include details of the location and direction of any photographs of the item taken)</i>			
Action taken (Tick either A or B)			
A. Unexpected item would not be further impacted on by the works ☐ Describe how works would avoid impact on the item. (E.g. the rail tracks would be left in situ and recovered with paving).			
B. Unexpected item would be further impacted by the works ☐ Describe how works would impact on the item. (E.g. milling is required to be continued to a depth of 200 mm depth to ensure the pavement requirements are met. Rail tracks would need to be removed.)			
Excavation Director, archaeologist or Aboriginal cultural heritage consultant		Name	
		Signature	

IMPORTANT

It is a statutory offence to disturb Aboriginal objects or relics (including human remains) without an approval. All work affecting Aboriginal objects and relics must cease until an approval is sought.

Appendix 3: Photographing unexpected heritage items

Photographs of unexpected finds in their current context (*in situ*) may assist archaeologists/Aboriginal heritage consultants to better identify the heritage values of the item. Emailing good quality photographs to specialists can allow for better quality and faster heritage advice. The key elements that must be captured in photographs of the item include its position, the item itself and any distinguishing features. All photographs must have a scale (ruler, scale bar, mobile phone, coin etc.) and a note describing the direction of the photograph.

Context and detailed photographs

It is important to take a general photograph (Figure 1) to convey the location and setting of the item. This will add value to the subsequent detailed photographs also required (Figure 2).

Removal of the item from its context (e.g. excavating from the ground) for photographic purposes is not permitted.

Photographing distinguishing features



Figure 2: Close up detail of the sandstone surface showing material type, formation and construction detail. This is essential for establishing date of the feature.

Where unexpected items have a distinguishing feature, close up detailed photographs must be taken of these features, where practicable. In the case of a building or bridge, this may include diagnostic details architectural or technical features. See Figures 3 and 4 for examples.



Figure 3: Ceramic bottle artefact with stamp.



Figure 4: Detail of the stamp allows 'Tooth & Co Limited' to be made out. This is helpful to a specialist in gauging the artefact's origin, manufacturing date and likely significance.

Photographing bones

The majority of bones found on site will be animal bones often requiring no further assessment (unless they are in archaeological context). However, if bones are human, the police must be contacted immediately (see Appendix 5 for detailed guidance). Taking quality photographs of the bones can often resolve this issue quickly. The project archaeologist can confirm if bones are human or non-human if provided with appropriate photographs.

Ensure that photographs of bones are not concealed by foliage (Figure 5) as this makes it difficult to identify. Minor hand removal of foliage can be undertaken as long as disturbance of the bone does not occur. Excavation of the ground to remove bone(s) should not occur, nor should they be pulled out of the ground if partially exposed.

Where sediment (adhering to a bone found on the ground surface) conceals portions of a bone (Figure 6) ensure the photograph is taken of the bone (if any) that is not concealed by sediment.



Figure 5: Bone concealed by foliage.



Figure 6: Bone covered in sediment

Ensure that all close up photographs include the whole bone and then specific details of the bone (especially the ends of long bones, the *epiphysis*, which is critical for species identification). Figures 7 and 8 are examples of good photographs of bones that can easily

be identified from the photograph alone. They show sufficient detail of the complete bone and the epiphysis.



Figure 7: Photograph showing complete bone.



Figure 8: Close up of a long bone's epiphysis.

Appendix 4: Archaeological / heritage advice checklist

The archaeologist/Aboriginal heritage consultant must provide advice to the Sydney Metro Environment Manager and Senior Advisor Heritage as soon as possible after an inspection of the site has been completed. This advice can include a range of activities and processes, which differ depending on the find and its significance.

In discussions with the archaeologist/Aboriginal heritage consultant the following checklist can be used as a prompt to ensure all relevant heritage issues are considered when developing this plan. This will allow the project team to receive clear and full advice to move forward quickly. Archaeological and/or heritage advice on how to proceed can be received in a letter or email outlining all relevant archaeological and/or heritage issues.

	Required	Outcome/notes
Assessment and investigation		
• Assessment of significance	Yes/No	
• Assessment of heritage impact	Yes/No	
• Archaeological excavation	Yes/No	
• Archival photographic recording	Yes/No	
Heritage approvals and notifications		
• AHIP, section 140, section 139 exceptions, section 60, exemptions etc.	Yes/No	
• Regulator Aboriginal objects / relics notification	Yes/No	
• Notification to the appropriate agency for s170 heritage conservation register	Yes/No	
• Compliance with CEMP or other project heritage approvals	Yes/No	
Stakeholder consultation		
• Consultation with Registered Aboriginal Parties	Yes/No	
Management		
• Retention or conservation strategy (e.g. items may be subject to long conservation and interpretation)	Yes/No	
• Disposal strategy	Yes/No	
• Short term and permanent storage locations (interested third parties should be consulted on this issue).	Yes/No	
• Control Agreement for Aboriginal objects	Yes/No	

Appendix 5: Template notification letter

Note: Notification of the discovery of a relic is required under section 146 of the Heritage Act 1977. The notification should be submitted through the Heritage Management System (HMS).

Insert on Sydney Metro letterhead

[Name]

Heritage NSW

[Address]

[Select and type salutation and name],

Re: Unexpected heritage item discovered during Sydney Metro activities

I write to inform you of an unexpected [select: Aboriginal object / relic] found during Sydney Metro activities at [insert location] on [insert date] in accordance with the notification requirement under select: [NPW Act, section 146 of the *Heritage Act 1977* (NSW)]. [Where the regulator has been informally notified at an earlier date by telephone, this should be referred to here].

NB: On finding Aboriginal human skeletal remains this letter must also be sent to the Commonwealth Minister for the Environment in accordance with notification requirements under section 20(1) of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Commonwealth).

[Provide a brief overview of the project background and project area. Provide a summary of the description and location of the item, including a map and image where possible. Also include how the project was assessed under the *Environmental Planning and Assessment Act 1979* (NSW) (e.g. Part 5). Also include any project approval number, if available].

Sydney Metro [or contractor] has sought professional archaeological advice regarding the item. A preliminary assessment indicates [provide a summary description and likely significance of the item]. Please find additional information on the site recording form attached.

Based on the preliminary findings, Sydney Metro [or contractor] is proposing [provide a summary of the proposed archaeological/heritage approach (e.g. develop archaeological research design (where relevant), seek heritage approvals, undertake archaeological investigation or conservation, interpretation). Also include preliminary justification of such heritage impact with regard to project design constraints and delivery program].

The proposed approach will be further developed in consultation with a nominated Heritage NSW staff member.

Should you have any feedback on the proposed approach, or if you require any further information, please do not hesitate to contact [Environment and Planning Project Manager] on [add contact number].

Yours sincerely

[Name]

Sydney Metro Director, Environment, Sustainability & Planning

[Attach the advice from the Excavation Director, archaeologist or Aboriginal cultural heritage consultant, completed recording form and section 146 notification]

Appendix H Not Used

Appendix I Noise and Vibration Management Plan

Appendix J DPE Incident and Non-Compliance Notification Requirements

Appendix A

WRITTEN INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS

1. A written incident notification addressing the requirements set out below must be submitted to the Planning Secretary via the Major Projects website within seven (7) days after the Proponent becomes aware of an incident. Notification is required to be given under this condition even if the Proponent fails to give the notification required under **Condition A43** or, having given such notification, subsequently forms the view that an incident has not occurred.
2. Written notification of an incident must:
 - (a) identify the CSSI and application number;
 - (b) provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
 - (c) identify how the incident was detected;
 - (d) identify when the Proponent became aware of the incident;
 - (e) identify any actual or potential non-compliance with conditions of approval;
 - (f) describe what immediate steps were taken in relation to the incident;
 - (g) identify further action(s) that will be taken in relation to the incident; and
 - (h) identify a project contact for further communication regarding the incident.
3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Proponent must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.
4. The Incident Report must include:
 - (a) a summary of the incident;
 - (b) outcomes of an incident investigation, including identification of the cause of the incident;
 - (c) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
 - (d) details of any communication with other stakeholders regarding the incident.

Appendix K Risk Assessment Workshop



Sydney Metro West - Westmead Utilities Relocation

Appendix K– Environmental Aspects and Impacts Register

Document number
4271-ENV-REG-02

DOCUMENT APPROVAL		PROJECT NO.		4271	
VERSION	DATE	DETAILS / REMARKS	Prepared By	Reviewed By	Approved By
01	26/10/2023	Initial version for review during risk assessment workshop	Daniel Mutkins	Tom St Vincent Welch	Des Leyden
02	27/10/2023	Issued for review post risk assessment workshop	Daniel Mutkins	Tom St Vincent Welch	Des Leyden

The information contained in this document form's part a number of plans and should be read in conjunction with all project documentation

Environmental Aspects and Impacts Register

This Environmental Aspect and Impact Register forms part of the CEMP, and has been prepared by Quickway to identify Environmental Risks specific to the works associated with the Project.

The identification of significant construction activities and associated impacts that could eventuate during construction of the Project is central to the selection of appropriate environmental safeguards.

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

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

This register will be updated after an Environmental Risk Workshop has been completed.

Table 1 Environmental Aspects and Impacts register

Issue	Construction activity / aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures (to be considered and where applicable further developed in associated management documents)	Risk level following mitigation	Management Documents / Training Required
Soils, sediments and water	- Clearing and grubbing - Earthworks / Trenching - Storage of fuels, chemicals and other dangerous goods - Material stockpiles - Maintenance of plant and equipment, including servicing and refuelling - Concrete works - Dewatering	• Changes to water chemistry altering aquatic habitats, including fish habitats	B (moderate) i	- Appropriately designed erosion control structures (eg silt fences and sand bags) will be installed as per ESCPs, maintained and cleaned regularly. - Locate spoil stockpiles, plant and equipment away from drainage lines, watercourses or stormwater drains in accordance with established criteria. - Storage, compound access and parking areas sealed, as early during works as practicable. - Chemical storage meets WorkCover and EPA bunding/storage requirements. - Wheel mud reduction/ cleaning measures at exit of all sites where required. - Provide and maintain spill kits. - Implement the Project dewatering guidelines. - Implement appropriate procedures to identify, contain, handle and management contaminated material. - All dewatering must be completed in accordance with Dewatering Permit requirements - Contaminated Land consultant to advise on removal or remediation of contaminated material.	C (low) i	CEMP EWMS ESCP ERSED training Unexpected contaminated land and asbestos finds procedure Induction Dewatering Permit / Procedure
		• Impacts to various sensitive receiving environments through accidental release of water pollutants during construction	B (moderate) iii		B (moderate) iii	
		• Impact to water quality due to fuels and leaks and inappropriate storage of material	B (moderate) iv		C (low) iv	
		• Changes in water chemistry, in particular pH values, affecting aquatic ecosystems	B (moderate) v		C (low) v	
		• Exposed soils during earthworks erode and cause sedimentation of waterways and aquatic environments	B (moderate) v		C (low) v	
		• Potential release of tannins from stored mulch piles	B (moderate) v		C (low) v	
		• Disturbance of contaminated material causing pollution • Degradation of local soils due to erosion • Smothering of vegetation from erosion	B (moderate) ix		C (low) ix	
Biodiversity	- Clearing of native vegetation - Stockpile construction near vegetation - General earthworks near vegetation - Vehicular movements - Use of chemicals - Noise impacts	• Loss of native vegetation to be retained	B (moderate) i	- Induct personnel on biodiversity issues and mitigation measures. - Minimise clearing of all vegetation and undertake progressive revegetation. - Engage arborist to provide advice on habitat tree health and provide ongoing advice. - Engage Project ecologist to advise on biodiversity matters	B (moderate) i	CEMP Induction
		• Clearing and fragmentation of native vegetation	B (moderate) ii		B (moderate) ii	
		• Direct or indirect injury or mortality of fauna in general	B (moderate) ii		C (low) ii	
Visual amenity	- Earthworks / Trenching - Stockpiling - Clearing of vegetation - Evening / night works - Ancillary Facilities	• Change to landscape character and visual environment as a result of works	B (moderate) i	- The use of night-lighting will be minimised where possible during the construction phase and directed away from residential areas. - Site compounds and areas surrounding them will be kept tidy and be regularly cleaned and maintained. - Screening/hoarding will be installed around AF site	C (low) i	CEMP Induction
		• Temporary visual impacts as a result of construction activities	B (moderate) ii		C (low) ii	

Issue	Construction activity / aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures (to be considered and where applicable further developed in associated management documents)	Risk level following mitigation	Management Documents / Training Required
Heritage	Earthworks / Trenching	- Disturbance and/or destruction of items of heritage significance. - Impacts to unexpected heritage finds	B (moderate) i	- Induct personnel on heritage issues and mitigation measures. - Implement unexpected find procedures as required. - No vibrating activities within safe working distances for heritage structures	C (low) i	CEMP Unexpected heritage finds and human remains procedure Induction Toolbox Talk – Heritage ECMS
Traffic and transport	- Earthworks / Trenching - Import of material / plant / equipment. - Construction site compounds - Construction vehicle movements and deliveries - Travel to /from site	Temporary disruptions / delays to local and highway traffic	A (high) i	- Develop and update CTMPs for all stages of work. - Identify and local roads likely to be affected by Project construction and seek approval for use (HVLR) - Undertake before and after dilapidation surveys on local roads - Traffic controllers and / or signage for both egress and ingress off the work sites. - All vehicles carrying materials to be adequately covered to prevent any loss of material, which may cause driver safety issues. - Alternative arrangements for pedestrians and cyclists to move safely through the work area - Ensure road plates are installed as per TfNSW QA Spec M209.	B (moderate) i	CTMPs Induction EWMS Toolbox Talks
		Temporary restrictions to private access/driveways	B (moderate) ii		C (low) ii	
		Impacts to some existing local roads	A (high) iii		B (moderate) iii	
		- Changed traffic patterns - Changes to pedestrian and cyclist movements and interaction with work areas	B (moderate) iv		C (low) iv	
		Noise vibration and dust nuisance to residents on haul routes	B (moderate) v		C (low) v	
Noise and vibration	- Site establishment - Clearing and grubbing - Earthworks / Trenching	Temporary noise impacts on sensitive receivers during site establishment and construction including OOHV.	A (high) i	Liaise (agreements where applicable) with local communities and affected residents (Sydney Metro).	B (moderate) i	Noise and Vibration Management Sub-Plan

Issue	Construction activity / aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures (to be considered and where applicable further developed in associated management documents)	Risk level following mitigation	Management Documents / Training Required
	- Installation and commissioning of utilities - Pavement restorations - Removal of redundant utility infrastructure - Use of the Ancillary Facility	Temporary vibration impacts on sensitive receivers during construction	A (high) i	- Adherence to working hours in Noise and Vibration Management Plan unless otherwise approved. - Respite periods/Offers to affected receivers for particularly (in accordance with regulatory guidelines, OOHW approval, Noise and Vibration Management Plan). - Construction equipment selected, operated and maintained to minimise noise impacts and where necessary fitted with silencers and “smart” reversing alarms. - Reduced use of horns to signal trucks loaded where residences close by. - Modelling noise and vibration impacts. - Regular noise monitoring to monitor predicted verses actual noise levels. - Implementing management measures to minimise noise (e.g. Noise Blankets, battery/solar powered equipment) - Establish and maintain complaints management system. - Implementation of Additional Mitigation Measures as per approved OOHW Permit. - Vibration monitoring to be undertaken as applicable. - Noise and Vibration complaints will be reported immediately to the site Supervisor, Site supervisor will immediately notify Quickway Management personnel who will contact SM comms team. - Community notification cards to be distributed to community members onsite as required. - Cumulative impacts identified through regular interface meetings with GLC and Sydney Metro to ensure noise and vibration impacts to the community are minimised. - Complaints from GLC works immediately relayed to SM comms team.	B (moderate) i	Induction Toolbox Talk – Noise Management and OOH OOHW work approval
Greenhouse gas emissions	- Vehicular movements - Vehicle emissions - Equipment / plant use	Greenhouse gases emitted from construction plant, equipment and vehicles	B (moderate) i	- Reuse of materials maximised where possible. - Maximise use of resources with recycled components / contents. - Vehicles and equipment switched off when not in use. - Use electric plant and equipment where feasible - Equipment and machinery size selection optimised for activity wherever possible - Equipment, vehicles and machinery regularly inspected and maintained to manufactures requirements. - Maximise efficiency of haulage (i.e. full trucks)	C (low) i	CEMP Induction
		Greenhouse gases embodied in materials consumed in construction or impacted by the project, such as backfill materials and concrete	B (moderate) ii		C (low) ii	
Air quality	- Earthworks / Trenching - Spoil handling/haulage - Stockpiling - Vehicular movements	Potential for decreases in air quality during construction associated with dust generating activities and emissions from heavy construction machinery	B (moderate) i	- Induct personnel on air quality issues and safeguards. - Suppress dust on unsealed surfaces, stockpiles and other exposed surfaces. - Modify or cease operations during high winds.	C (low) i	CEMP EWMS ESCP

Issue	Construction activity / aspect	Potential impact	Risk level prior to mitigation	Indicative Mitigation Measures (to be considered and where applicable further developed in associated management documents)	Risk level following mitigation	Management Documents / Training Required
	Handling of chemicals, waste and hazardous goods	Impacts on residential sensitive receivers, including impacts on living areas, swimming pools and general amenities	C (low) ii	- All trucks on public roads to cover loads. - Vehicles, equipment, machinery used and sites – designed, operated and maintained to control the emission of smoke, dust, odours and fumes. - All disturbed areas stabilised, revegetated and/or landscaped as soon as practicable. - No burning or incineration of any material at any time. - Regularly inspect erosion control measures. - Visual Dust monitoring.	C (low) ii	Induction Toolbox Talk – Dust and Air Quality
		Potential adverse health effects	C (low) iii		C (low) iii	
		Impacts on water quality and vegetation health from dust deposition	C (low) iv		C (low) iv	
		Complaints from neighbours	B (moderate) v		C (low) v	
Resource management and Waste	- Earthworks / Trenching - Vegetation clearing - Spoil handling - Stockpiling - Material haulage - Handling of chemicals, waste and hazardous goods	Disposal of unsuitable or surplus earthworks material	B (moderate) i	- Maintain a waste register. - Classify waste and spoil in accordance with the Waste Classification Guidelines and PoEO Act. - Use recycled products where possible - Locate appropriate waste removal contractor and / or appropriately licenced waste facilities in the area - Maximise onsite reuse of spoil, and reuse offsite	C (low) i	CEMP EWMS Induction
		Disposal of green waste	B (moderate) ii		C (low) ii	
		Disposal of materials resulting from replacement of existing pavements	B (moderate) iii		C (low) iii	
		Depletion or sterilisation of non-renewable resources, including sand and aggregate materials	B (moderate) iv		C (low) iv	
		Difficult disposal of waste materials including hazardous waste, and contaminated material if encountered.	B (moderate) v		C (low) v	

Appendix L Sustainability Policy

SUSTAINABILITY POLICY STATEMENT

Quickway is committed to maximising our environmental, social, and economic performance, in the interests of the business, our stakeholders and our planet.

Quickway's sustainability policy framework is continually reviewed in order to promote sustainable growth through our practiced policies such as:-

- Health & Safety Policy
- Environmental Policy
- Equal Employment Opportunity Policy
- Partner Relationship Management Policy
- Community Stake Holder Engagement Policy
- Quality Policy

Our journey to sustainability will be pursued as an integral part of fulfilling our corporate vision. We will continually endeavour and ensure to:

- Create a workplace that puts safety first
- Increase profit and value
- Work to the highest ethical, social and environmental standards
- Minimise carbon emissions by using resources in an efficient and environmentally responsible manner
- Promote a culture of learning, diversity and inclusion where employees integrate economic, environmental and social considerations into their roles
- Invest in our people; they are at the heart of our vision
- Support and enrich the communities in which we work
- Protect our environment
- Share our policy of sustainability with our people, partners and stakeholders to ensure alignment across the board

Quickway reviews its policies annually to meet client needs and strives to balance environmental, social economic factors in our decision making in our rapidly changing world. Sustainability is central to the Quickway business strategy.

Signed: 

Derek Mullally,
Managing Director

Date: 1st June 2021

Appendix M Sustainable Procurement Policy

SUSTAINABLE PROCUREMENT POLICY STATEMENT

Sustainable procurement is the use of strategic procurement practice to generate environmental and social benefits beyond the goods and services required. Quickway seeks excellence in every part of our business and we are committed to improving the social and environmental impact of our operations. We support fundamental human rights and we do not participate in business activities that diminish these. We act in a socially responsible manner and within the law. We are committed to supporting efforts to eliminate corruption and financial crime, to creating positive environmental impacts, to ensuring appropriate workplace management practices, and to promoting the highest standards of workplace health and safety. The high quality of the services we provide to our clients is partly due to the quality of the goods and services we procure from our suppliers. We strive to ensure that our procurement practices are fair, ethical, and responsible. Quickways' Resource and Project Managers ensure relevant purchasing processes and procedures are applied when procuring products, considering ethically and sustainably sourced materials.

To ensure our suppliers to align with our core values, we require our suppliers to:

- Strictly comply with all applicable laws and regulations regarding:
 - bribery; corruption; and prohibited business practices
 - land and water management; waste and recycling; the handling and disposal of toxic substances, discharges, and emissions; noise; transportation of products, wastes and materials; material selection; environmental management and community consultation
 - employment practices and benefits; anti-discrimination; and health and safety
- Have a written environmental policy which states their level of compliance against ISO 14001
- Have a written workplace health and safety policy
- Have written workplace management policies and standards (where applicable)
- Demonstrate a preference to source local materials where practicable
- Conduct themselves in a highly ethical manner in the carrying out of their business activities
- Maintain a sustainable supply chain, as demonstrated by implementing policies and procedures to ensure sustainable and ethical practices of their suppliers
- Maintain compliance records of materials sourced, processes and transportation of the product
- Ensure a workplace free of direct or indirect discrimination or harassment
- Compliance with modern slavery law forced, bonded or involuntary labour in any form
- Provide fair pay and working conditions, including adequate rest periods and parental leave
- Not act in a discriminatory way based on gender, age, race, nationality, religious beliefs, marital status, disability, sexual orientation, union membership or, political affiliation
- Not allow physical abuse, or the threat of abuse, or any other forms of intimidation
- Strictly comply with all applicable laws and regulations regarding workplace health and safety

Signed:



Derek Mullally,
Managing Director

Date: 23rd February 2023

Quickway

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