

PROJECT MANAGEMENT PLAN

Waste Management Plan

Sydney Metro West – Western Tunnelling Package

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DOCUMENT CONTROL

The current document version number and date of revision are shown in the document footer. All changes made to the Management Plan during its implementation on a live project are to be recorded in the amendment tables below.

Revision History

Revision	Date	Description of changes	Prepared by	Approved by
A	20/12/2021	Early Works Submission		
B	01/03/2022	Revised draft for submission		
C	12/04/2022	Final draft for submission		

Terms and Definitions

Term	Definition
ASS	Acid Sulfate Soil
CEMF	Construction Environmental Management Framework
CEMP	Construction Environmental Management Plan
CERT	Carbon Estimate Reporting Tool
CSSI	Critical State Significant Infrastructure
CT	Contaminant Thresholds
WMP	Construction Waste Management Plan
DF	Deconstruction and Flexibility
DPIE	Department of Planning, Industry and Environment (NSW)
EA	Environmental Advisor
ECM	Environmental Control Measures
EIS	Environmental Impact Statement
EM	Environmental Manager
EMS	Environmental Management System
ENM	Excavated Natural Material
EP	Waste Efficient Procurement
EPA	Environmental Protection Authority
EPL	Environmental Protection License
EP&A	NSW Environmental Planning and Assessment Act 1979
ER	Environmental Representative
ESCP	Erosion and Sediment Control Plan
ESR	Environmental Site Representative
EWMS	Environmental Work Method Statement
GALC	Gamuda Australia – Laing O'Rourke Consortium
GSW	General Solid Waste
IS	Infrastructure Sustainability
ISC	Infrastructure Sustainability Council
MCoA	Ministers' Condition of Approval
MO	Materials Optimisation
NABERS	National Australian Built Environment Rating System
OSC	Offsite Construction
PASS	Potential Acid Sulfate Soil
PM	Project Manager
POEO	Protection of the Environment Operations Act 1997 (NSW)
RAP	Remediation Action Plan
REMM	Revised Environmental Mitigation Measures

Term	Definition
RR	Resource Recovery
RSW	Restricted Solid Waste
SCC	Specific Contaminant Concentrations
SM	Sydney Metro
TCLP	Toxicity Characteristics Leaching Procedure
TfNSW	Transport for New South Wales
VENM	Virgin Excavated Natural Material
WRAPP	Waste Reduction and Purchasing Policy
WTP	Sydney Metro West Western Tunnelling Package

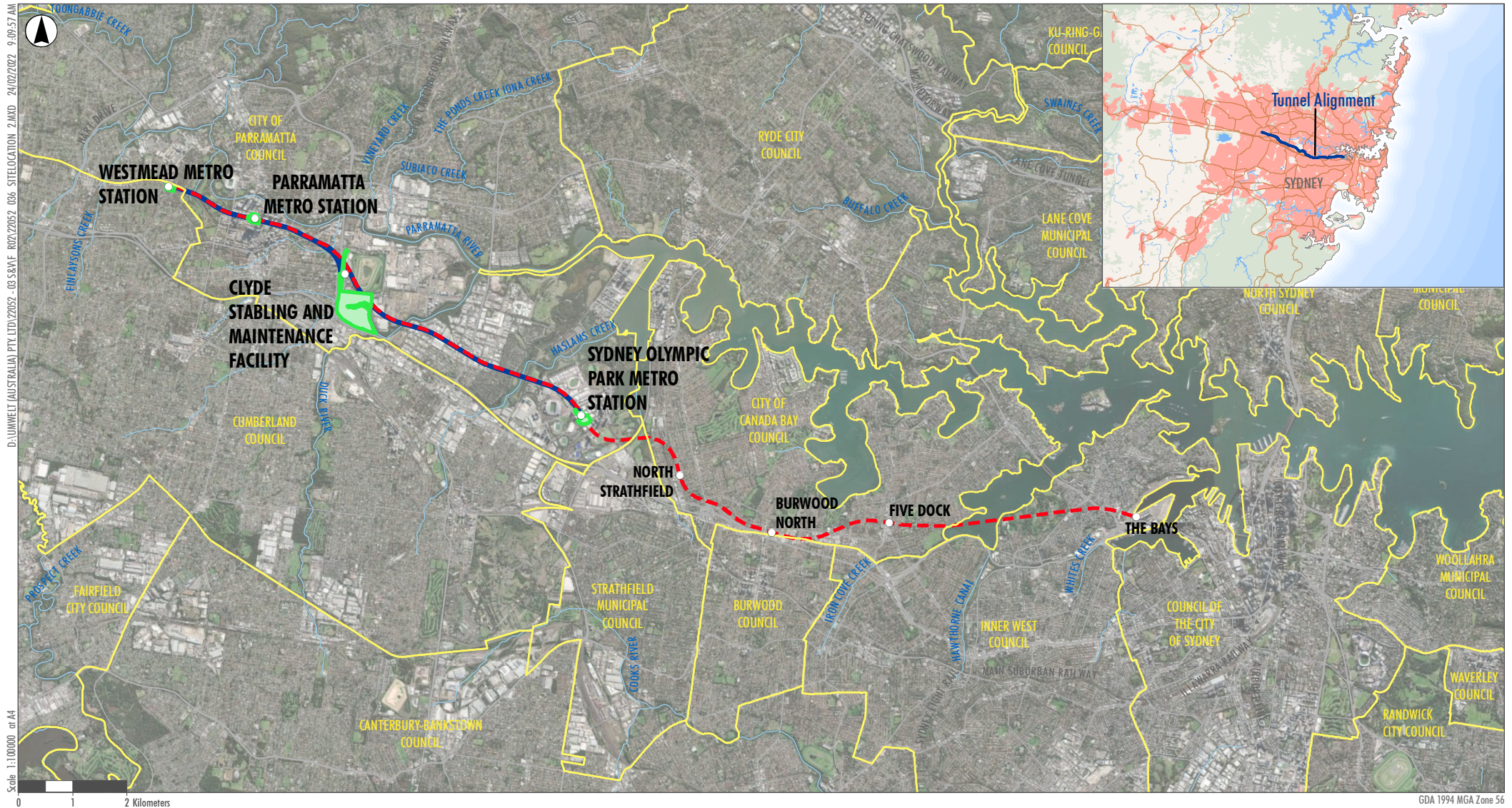
1 INTRODUCTION

1.1 Project Description

The scope of the work being undertaken under the Sydney Metro West Western Tunnelling Package works (WTP) (the Project) includes but is not limited to, the following:

- Westmead Station box excavation, including temporary support, stub tunnels, partially mined station cavern and crossover cavern including permanent lining and support
- Parramatta Station, including excavation of station box and associated support
- Clyde Maintenance and Stabling Facility (MSF), including permanent dive structure, portal, spur running tunnels, spur tunnel junction cavern, bulk earthworks, civil structures, utilities corridor, road crossing and creek diversion
- Rosehill Services Facility, including shaft excavation, permanent lining, and lateral support
- A precast segment manufacturing facility at Eastern Creek
- Demolition and site clearance works
- Tunnelling between Sydney Olympic Park (SOP) and Westmead. Tunnelling will be undertaken by placing the tunnel boring machines (TBMs) at the Rosehill Services Facility box and retrieved out at the SOP Station Box and then placed back at the Rosehill Services Facility and retrieved at the Westmead Station Box. No surface works are proposed at SOP except for the retrieval of the TBM.

Refer to Figure 1 for the location of the WTP project.



- Legend**
- Surface Construction Sites
 - The Project (Western Tunnelling Package)
 - - - Sydney Metro West Concept and Stage 1
 - Approved Station Sites
 - Local Government Boundary
 - Road
 - Drainage Line
 - Railway Line

1.2 Context

The Construction Environmental Management Plan (CEMP) and sub-plans have been developed for the delivery of the WTP. It will be delivered by Gamuda Australia Laing O'Rourke Consortium (GALC). This Waste Management Plan (WMP) forms part of the CEMP (GA-PLN-ENV-001-Construction Environmental Management Plan).

Sydney Metro West – Westmead to The Bays Concept and Stage 1 received planning approval on 11 March 2021 (SSI 10038). The Project comprises the WTP, which is the western portion of Stage 1 of SSI 10038, from Sydney Olympic Park to Westmead. This WMP has been prepared to address requirements of the Minister's Conditions of Approval (CoA), Revised Environmental Management Measures (REMMs) listed in the Sydney Metro West – Submissions Report, dated 20 November 2020, the Construction Environmental Management Framework (CEMF) requirements and all applicable legislation as they relate to the Project.

1.3 Environmental Management System Overview

An overview of the Environmental Management System (EMS) is provided in the CEMP Section 4.

Key interactions for this sub-plan with other management plans in the EMS include:

- Air Quality Sub-plan
- Spoil Management Sub-plan
- Flora and Fauna Management Sub-plan
- Soil and Water Quality Management Sub-plan
- Sustainability Management Plan.

1.4 Consultation Requirements

In accordance with MCoA C5, consultation with relevant government agencies is not required for this WMP.

1.5 Certification and Approval

Sydney Metro West – Westmead to The Bays Concept and Stage 1 was subject to environmental impact assessment under the NSW Environmental Planning and Assessment Act 1979 (EP&A Act). It was also declared a Critical State Significant Infrastructure (CSSI) by the Minister for Planning & Public Spaces (the Minister).

An Environmental Impact Statement (EIS) has been prepared under Division 5.2 of the EP&A Act and in accordance with Part 3 of Schedule 2 of the Environmental Planning and Assessment Regulation 2000. Following exhibition of the EIS, an Amendment Report and Submissions Report were also prepared. After an assessment was carried out, the Minister determined that the Sydney Metro West – Stage 1 would be approved subject to conditions.

The planning approval (Infrastructure Approval SSI 10038) and related environmental assessment documents are located at: <https://www.planningportal.nsw.gov.au/major-projects/project/25631>.

This WMP has been expressly nominated by the Planning Secretary to be endorsed by the ER. This WMP will be submitted to the ER for endorsement and DPIE for information no later than one

(1) month before the commencement of construction. Construction will not commence until this WMP has been endorsed by the ER, unless otherwise agreed by the Planning Secretary.

This WMP, as submitted to the ER, including any minor amendments approved by the ER, will be implemented for the duration of construction.

2 PURPOSE AND SCOPE

2.1 Purpose

The purpose of this WMP is to describe the waste management approach that will be employed by GALC employees and its sub-contractors during construction of the Project. This sub-plan forms an integral part of the project CEMP and GALC's EMS. It applies to all works associated with Project works and establishes the environmental management controls to be implemented by GALC employees and its sub-contractors.

This WMP will address the waste requirements of the:

- Sydney Metro Construction Environmental Management Framework (CEMF)
- Minister for Planning and Public Space's Conditions of Approval for the Project (MCoA)
- Revised Environmental Mitigation Measures (REMM)
- Infrastructure Sustainability Council (ISC) Infrastructure Sustainability (IS) rating tool.

2.2 Scope

This sub-plan outlines the mitigation and management measures that GALC will use to address potential waste impacts during design and construction of the Project, while complying with relevant approval, statutory and contract requirements.

Specifically, this sub-plan addresses environmental aspects and impacts that relate to:

- Excavations
- Importing/exporting fill material
- Vegetation removal
- Transport of waste
- Stockpiling material
- Disturbance of contaminated soils
- Demolition of structures and site clearance
- Disposal of contaminated material
- Establishment of Water Treatment Plants
- Use of office amenities
- Plant and equipment maintenance.

3 OBJECTIVES AND TARGETS

The key objective of this sub-plan is to outline the approach to managing waste in accordance with Project Requirements, including the MCoA, REMMs, CEMF requirements and EPL requirements. This will also include the IS rating tool requirements for material consumption and waste management. Objectives and targets applicable to construction waste management are detailed in Table 1.

Table 1: Objectives and Targets

Objective	Target	Performance Indicators
<p>Ensure waste is minimised throughout the project life cycle</p> <p>Ensure waste management strategies are implemented in accordance with the Waste Avoidance and Resource Recovery Act 2001 management hierarchy as follows:</p> <ul style="list-style-type: none"> • Avoidance of unnecessary resource consumption • Resource recovery (including reuse, reprocessing, recycling and energy recovery); and • Disposal. 	<ul style="list-style-type: none"> • Implementation of waste minimisation initiatives where practical • Waste products are recovered and reused on site where practical • Meeting the following IS Was-2 targets: <ul style="list-style-type: none"> – 100 % of useable spoil is beneficially reused in accordance with the spoil use hierarchy. – 95% of inert and non-hazardous construction waste is recycled. – Waste streams will be segregated to avoid cross-contamination of materials and maximise recycling opportunities. • At least 60% of office waste is recycled or alternatively beneficially reused. 	<p>Waste Tracking Register, monitoring, Compliance Reporting</p>
<p>Ensure all waste is assessed, classified, managed, transported, and disposed of in accordance with the Waste Classification Guidelines.</p>	<ul style="list-style-type: none"> • Quantify 100% of waste in waste management reports • Transfer certificates retained for 100% of prescribed wastes 	<p>Waste Tracking Register, monitoring, Compliance Reporting, audits</p>
<p>Ensure Waste streams are segregated to avoid cross-contamination of materials and maximise reuse and recycling opportunities.</p>	<ul style="list-style-type: none"> • All waste generated during construction is classified in accordance with the EPA's Waste Classification Guidelines, with appropriate records and disposal dockets retained for audit purposes. 	<p>Regular monitoring, audits</p>
<p>Ensure spoil generated during the construction is effectively stored, handled, treated (if necessary), reused, and/or disposed of lawfully and in a</p>	<ul style="list-style-type: none"> • Identify and implement pollution control initiatives in design and construction which 	<p>Waste Tracking Register, monitoring, Compliance Reporting, audits</p>

Objective	Target	Performance Indicators
manner that protects environmental values.	target zero major pollution incidents.	
Ensure importation and exportation of waste complies with the relevant legislation, approvals and licenses		Compliance Reporting
Guide further understanding of where potential for hazardous or special waste material is, and ensure it is handled and managed in accordance with relevant legislation, codes of practice and Australian standards.	No loss of hazardous materials to the environment as a result of works	EPA online waste tracking system, monitoring, audits
Compliance with the Minister for Planning's Project Planning Approval, REMMs, CEMF requirements and relevant legislation as it applies to the Project	Full compliance	Compliance Reporting
Compliance – permits/licences	Full compliance	Compliance Reporting
Implementation of performance outcomes, commitments and mitigation measures specified in planning approval documents	Full compliance	Compliance Reporting
Meet IS rating tool requirements and objectives applicable to waste management detailed in the Sustainability Management Plan	<ul style="list-style-type: none"> Level 2 for credit IS Mat-1 'Materials footprint measurement and reduction', demonstrating a 15% reduction in materials lifecycle impacts compared to a base case footprint. Level 3 for credit IS Was-2 'Diversion from landfill', demonstrating a diversion of 100% of spoil volume, >90% of inert and non-hazardous waste volume, and >60% of office waste material volume. Negotiate and implement packaging take-back arrangements with suppliers. Use reusable formwork where practicable. Use compostable or reusable temporary erosion control devices where practicable 	Compliance Reporting

4 ENVIRONMENTAL REQUIREMENTS

4.1 Legislation and Standards

GALC obligations include satisfying the requirements and complying with the provisions of the relevant legislation, guidelines, and policies, as well as international and Sydney Metro's standards. Details are provided in Table 2.

Table 2: Shows the legislation, standards, policies, and guidelines relevant to the Project

Legislation	<p><i>Environmental Planning and Assessment Act 1979 (EP&A Act)</i> <i>Protection of the Environment Operations Act 1997 (PoEO Act)</i> <i>Protection of the Environment Operations (Waste) Regulation 2014</i> <i>Contaminated Land Management Act 1997 (CLM Act)</i> <i>Environmentally Hazardous Chemicals Act 1985</i> <i>Waste Avoidance and Resource Recovery Act 2001 (WARR Act)</i> <i>Work Health and Safety Act 2011</i> <i>Work Health and Safety Regulation 2017.</i></p>
Standards	<p>AS2601:1991 Demolition of Structures AS 4361.2 2017 Part 2: Lead Paint Management in residential, public and commercial buildings</p>
Guidelines and Specifications	<p>Waste Classification Guidelines, Part 1: Classifying Waste (NSW EPA, November 2014) Waste Classification Guidelines, Part 4: Acid Sulfate Soils (NSW EPA, November 2014) NSW Government Resource Efficiency Policy (OEH, 2014) (Refer to Carbon and Energy Management Plan) NSW Waste Avoidance and Resource Recovery Strategy (2007) Best Practice Waste Reduction Guidelines for the Construction and Demolition Industry (tools for Practice), Natural Heritage Trust, 2000 Environmental Best Practice Guidelines for Concreting Contractors (Department of Environment and Conservation, 2004) Local government guidelines for waste/recycling as appropriate Australian Dangerous Goods Code 7th Edition (ADG7) (National Transport Commission, October 2011) TfNSW Standard Requirements General resource recovery exemptions under Part 9, Clause 91 and 92 of the Protection of the Environment Operations (Waste) Regulation 2014 NSW Code of Practice: Demolition Work, 2016 NSW Code of Practice: How to Manage and Control Asbestos in the Workplace, 2020 Polychlorinated Biphenyls Management Plan, Revised Edition April 2003. NSW Asbestos Waste Strategy 2019-2021 (NSW EPA, 2019)</p>

Code of Practice – How to Safely Remove Asbestos (SafeWork NSW, 2019)

4.2 Approvals, Licenses and Permits

This WMP has been developed to satisfy the requirements of MCoA C1. A full list of applicable MCoAs, REMMs, CEMF requirements and EPL condition requirements is provided in Attachment 1.

The Project's construction activities will be regulated by an Environmental Protection Licence (EPL) issued by the EPA. Any conditions or requirements prescribed by the EPL as they relate to waste management will be listed in Attachment 1 and will be considered in the development of this sub-plan.

In the Assessment Report for Sydney Metro West - Stage 1, the Department of Planning, Industry and Environment considers that EIS has adequately assessed construction waste issues and that they can generally be managed through the MCoA, REMMs, CEMF requirements and EPL condition requirements in Attachment 1. Therefore, no further assessment of construction waste impacts has been undertaken for this WMP.

Other legislation relevant to this WMP is included in Attachment 2 of the CEMP.

4.3 IS Rating Tool Requirements

Table 3: IS rating tool requirements applicable to waste management

ID	IS Rating Tool Requirement	Document Reference
Was-1 L1	<ul style="list-style-type: none"> Predictions for waste quantities and types have been developed for construction and operation Measures to minimise waste during construction and operation have been identified and implemented Monitoring of all wastes is undertaken during construction 	Section 6.1, Section 6.2 and Section 7.3
Was-1 L2	<ul style="list-style-type: none"> Requirements for L1 are achieved. Waste monitoring and management has been managed, reviewed or audited by a suitably qualified professional. Waste handling and disposal/recycling all the way to final destination has been audited at appropriate intervals 	Section 7.4
Was-2 L1	<ul style="list-style-type: none"> 70 to <80% of spoil volume diverted 25 to <50% of volume of inert and non-hazardous waste diverted 25 to <40% by volume of office waste material diverted 	Section 7.3.2
Was-2 L2	<ul style="list-style-type: none"> 80 to <100% of spoil volume diverted 50 to 90% of by volume of inert and non-hazardous waste diverted 40 to 60% by volume of office waste material diverted 	Section 7.3.2
Was-2 L3	<ul style="list-style-type: none"> 100% by volume of spoil diverted >90% by volume of inert and non-hazardous waste diverted >60% by volume of office waste material diverted 	Section 7.3.2

ID	IS Rating Tool Requirement	Document Reference
Mat-1 L1	<ul style="list-style-type: none"> Monitoring and modelling of materials lifecycle impacts is undertaken using the Materials Calculator (or other suitable Lifecycle Assessment technique) across the infrastructure lifecycle. 	Section 7.3.2
Mat-1 L2	<ul style="list-style-type: none"> Requirements for L1 have been achieved. Monitoring and modelling demonstrates a reduction in materials lifecycle impacts compared to a base case footprint up to 15%. 	Section 6.1

5 ASPECTS AND IMPACTS

The key aspects and potential impacts associated with the consumption of materials and generation of waste during construction are detailed in this section. Refer to the Environmental Risk Register included in Attachment 3 of the CEMP for the environmental risks identified as they relate to waste management. These identified aspects, impacts and risks have been taken into account in the development of the Project waste management strategy detailed in this sub-plan.

5.1 Waste Generation

The waste streams anticipated to be generated from construction of the Project are summarised in Table 4.

Table 4: Indicative construction waste streams

Activity	Waste Stream	Anticipated Waste Classification	Document where waste stream is addressed
Demolition of buildings and other structures	General demolition Waste	General Solid Waste (GSW) Non-Putrescible	This WMP
	Hazardous waste including asbestos	Hazardous Waste Special Waste	Hazardous and Special waste (including asbestos) is addressed in the Project Safety Management documentation and will be managed in accordance with Section 6.5
Clearing and grubbing of vegetation, or landscaped areas	Vegetation waste	GSW (Non-Putrescible)	This WMP
Tunnelling, excavation, and general earthworks	Spoil	Virgin Excavated Natural Material (VENM)/ Excavated Natural Material (ENM) GSW (Non-Putrescible) Special waste Restricted solid waste (RSW) Hazardous waste	Spoil from station excavations and general earthworks is addressed in the Spoil Management Plan. Contaminated soil including PASS and ASS is addressed in the Soil and Water Management Plan.
	TBM wastes	GSW (Non-Putrescible)	Waste generated from tunnelling construction will be addressed in

Activity	Waste Stream	Anticipated Waste Classification	Document where waste stream is addressed
			the final revision of this WMP.
	Wastewater	Recycled/treated or clean water (for discharge)	Wastewater to be discharged is addressed in the Groundwater Management Plan and Soil and Water Management Plan.
Dust suppression, wash down of plant and equipment, and staff amenities at construction sites	Wastewater	Recycled/treated or clean water (for discharge)	Wastewater to be discharged is addressed in the Groundwater Management Plan and Soil and Water Management Plan.
		Liquid waste	This WMP
General construction and resource use	General construction wastes	GSW (Non-Putrescible)	This WMP
		Spoil	Spoil Management Plan
Maintenance of plant, vehicles, and equipment	Mechanical wastes	Hazardous waste	Hazardous and Special waste (including oils and greases) is addressed in the Project Safety Management Documentation and will be managed in accordance with Section 6.5
		Liquid waste	This WMP
Site offices and cribs rooms	General Waste	GSW (Non-Putrescible)	This WMP
		GSW (Putrescible)	This WMP

The indicative quantities of waste generated for each of the above waste streams is as follows:

- General Waste: To be determined following further design work

- Mechanical Wastes: To be determined following further design work
- General construction wastes: To be determined following further design work
- Wastewater: 2,850ML of wastewater
- Vegetation waste: To be determined following further design work
- Hazardous waste including asbestos: To be determined following further design work
- General demolition waste: 317,050 tonnes.

While spoil has the potential to be the largest waste stream for this project where around 565,000 cubic metres may be generated through construction and tunnelling, initiatives and targets focusing on spoil reuse will lead to a significant reduction in spoil as a waste stream. Refer to the Spoil Management Plan for further information around management including reuse and disposal as necessary.

5.2 Potential Impacts

Potential impacts could result from poor waste management. These may include:

- Weed infestation from dispersal of seed during vegetation clearing activities
- Excessive volumes of waste directed to landfill due to excessive resource consumption, inadequate recycling and reuse, classification, and disposal of waste
- Contamination of soil, surface and / or groundwater from the inappropriate storage, transport, and disposal of liquid and solid waste
- Waste potentially being unnecessarily directed to landfill due to the inadequate collection and/or incorrect classification which would increase the demand for landfill capacity within the Sydney region
- Potential increase in vermin from the incorrect storage, handling, and disposal of putrescible waste from construction sites
- Potentially excessive amounts of materials being ordered, resulting in a large amount of left-over, unused resources
- Lack of identification of feasible options for recycling or reuse of resources
- Potential cumulative impacts as a result of temporary increases in resource demand and availability, waste and spoil generation
- Temporary impacts to reuse and disposal opportunities within the Sydney metropolitan region.

The impacts outlined above are typical of an infrastructure construction project and are manageable through the implementation of the mitigation measures detailed in Section 6.

6 ENVIRONMENTAL CONTROL MEASURES

6.1 Standard Management and Mitigation Measures

Specific measures and requirements to meet the objectives of this sub-plan and to manage impacts on construction waste are outlined in Table 5, with more detail provided in sections 6.2 to 6.8. These measures have been developed in line with the requirements in the EIS. As a minimum, the following will be incorporated at each construction site and documented on the Environmental Controls Map in Attachment 8 of the CEMP, where applicable.

Table 5: Environmental Mitigation and Management Measures

Item	Mitigation and management measures and Project site requirements	Responsibility	Timing	Reference
SEA – Senior Environmental Advisor, EA – Environmental Advisor, CM – Construction Manager, SS – Site Supervisor				
1.	Should unexpected contaminated waste or asbestos (or suspected contaminated waste or asbestos) be excavated or otherwise discovered during construction, the Unexpected Contaminated Land and Asbestos Finds Procedure will be followed (Attachment 6 of the Soil and Water Sub-plan). The Unexpected Contaminated Land and Asbestos Finds Procedure will be implemented for the duration of construction.	SEA/CM/SS	During construction	MCoA D77
2.	All Heavy Vehicles used for spoil haulage will 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.	CM/SS	During construction	MCoA A47
3.	The locations of all Heavy Vehicles used for spoil haulage will be monitored in real time and the records of monitoring be made available electronically to the Planning Secretary and the EPA upon request for a period of no less than one (1) year following the completion of construction	CM/SS	During construction	MCoA D83
4.	Opportunities to maximise spoil material removal by non-road methods will be investigated and implemented where reasonably practicable to minimise movements by road.	SEA/CM	Pre-construction / During construction	MCoA D99
5.	Waste generated during construction and operation will be dealt with in accordance with the following priorities (outlined further in sections 6.2 and 6.3): <ul style="list-style-type: none"> Waste generation will be avoided and where avoidance is not reasonably practicable, waste generation will be reduced Where avoiding or reducing waste is not possible, waste will be re-used, recycled, or recovered 	EA/CM/SS	Pre-construction / During construction / Operation	MCoA D111, CEMF 14.1a

Item	Mitigation and management measures and Project site requirements	Responsibility	Timing	Reference
SEA – Senior Environmental Advisor, EA – Environmental Advisor, CM – Construction Manager, SS – Site Supervisor				
	<ul style="list-style-type: none"> Where re-using, recycling or recovering waste is not possible, waste will be treated or disposed of. 			
6.	Waste will 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 <i>Protection of the Environment Operations (Waste) Regulation 2014</i> , or to any other place that can lawfully accept such waste. This is further detailed in Section 6.6.	CM/SS	During construction	MCoA D113
7.	All waste will be assessed, classified, managed, transported and disposed of in accordance with the EPA's Waste Classification Guidelines, with appropriate records and disposal dockets retained for audit purposes.	EA/CM/SS	During construction	MCoA D114, REMM WR1, CEMF 14.2a(iv), CEMF 14.2d
8.	A hazardous material survey will be completed for those buildings and structures suspected of containing hazardous or special waste materials (particularly asbestos) prior to their demolition. If hazardous waste or special waste (e.g., asbestos) is encountered, it will be handled and managed in accordance with relevant legislation, codes of practice and Australian standards.	SEA/CM	Pre-construction / during construction	REMM WR2
9.	Construction waste will be minimised by accurately calculating materials brought to the site and limiting materials packaging, following the process in Section 6.2.	SEA/CM/SS	Pre-construction / during construction	REMM WR3
10.	Waste streams will be segregated to avoid cross-contamination of materials and maximise reuse and recycling opportunities.	CM/SS	During construction	REMM WR4

Item	Mitigation and management measures and Project site requirements	Responsibility	Timing	Reference
SEA – Senior Environmental Advisor, EA – Environmental Advisor, CM – Construction Manager, SS – Site Supervisor				
11.	A materials tracking system will be implemented for material transferred between Sydney Metro West sites and to offsite locations such as licensed waste management facilities.	EA/CM/SS	During construction	REMM WR5
12.	Planned resource use for the construction of the Project will be revised following the results of monitoring and modelling using the Materials Calculator (refer to Section 7.3.2) to demonstrate a reduction in materials lifecycle impacts compared to a base case footprint up to 15%.	SEA	Pre-construction / During construction / Operation	Mat-1 L2

6.2 Design for Resource and Waste Efficiency (elimination/reduction)

As part of the design process, and during planning for delivery of the Project, Dematerialisation / Materials efficiency workshops will be held with the design team to identify opportunities to reduce wastage through a more efficient use of raw materials such that waste is eliminated through:

- Materials elimination
- Reduction in material usage
- Material reuse.

These workshops will set the tone for the considerations required during the design phase by identifying existing initiatives and design points at which further optimisation can occur. Such initiatives and design points will include methods for minimising resource use by accurately calculating materials brought to the site and limiting materials packaging. This will assist in predicting waste quantities and types required for construction and operation.

These workshops will be based around identifying opportunities associated with the following principles:

- Reuse and recovery (RR)
- Offsite construction (OSC)
- Materials optimisation (MO)
- Waste efficient procurement (EP)
- Deconstruction and flexibility (DF).

Consideration will be given to the potential reuse of materials. This includes:

- Materials available on site
- Materials available as a result of other contractors' works
- Materials available as an output from construction activities.

Particular consideration will be given to avoiding the production of hazardous waste where practical.

At Design Stage 1, Design Documentation will include evidence of how materials used have been minimised through materials avoidance, reduction, and innovative design.

6.3 Onsite Reuse, Recycling and Disposal Initiatives

6.3.1 Waste Reuse Measures

Every effort will be made to ensure that waste material is seen as a resource and is used, either on-site within the Project or off-site either on other projects or by other persons. The Waste Reuse Principles adopted are:

- Identifying materials for a reuse purpose
- Segregating materials at the source of generation to facilitate reuse, and store or reuse those items, either on-site or off-site
- Re-useable formwork will be used where practicable
- Compostable erosion and sediment control measures will be used where possible
- Recycled and recyclable materials will be used where possible, without compromise to the structural integrity, longevity and visual quality of materials and structure.

6.3.2 Waste Recycling Measures

Recycling is a process involving the collection and separation of waste materials, which are transformed into useable products. The principles adopted for the Project are:

- Erect signage to encourage the reuse and recycling of recovered waste material
- Identify materials for a recycling purpose
- Where practical, construction recycling facilities will be provided within the Site
- Sort materials into components/material streams to facilitate recycling. Separation of materials may occur off-site by specialised licensed waste handling contractors
- A waste contractor with access to a sophisticated materials reclamation facility will be contracted to sort and recycle and manage construction waste to be removed from site
- Implement packaging take-back initiatives with sub-contractors & suppliers.

GALC will recycle or beneficially reuse 60% of office waste through:

- Onboarding process to include processes and opportunities to maximise office recycling
- Training of all office cleaning staff to ensure waste segregation processes are clearly understood and effective
- No individual under-desk bins
- Clearly signed and strategically placed recycling bins with informative recycling posters in communal kitchen and rest areas
- Conducting regular office waste audits to identify problematic waste streams
- Publicly displayed waste performance reporting, including printing data, to promote site-specific accountability.

6.3.3 Waste Disposal/Removal Measures

Waste removal requires the transport and disposal of waste material off-site that cannot be reused or recycled. The following waste removal principles have been adopted:

- The Project will seek to limit the wastes which it sends directly to landfill. A waste contractor with a sophisticated recycling facility will be contracted to achieve the highest recycling rates achievable for the waste streams generated. Residual waste will be landfilled after the reclamation process is carried out at that facility
- Various types and sizes of waste receptacles will be provided to promote separation of materials for ease of reuse/recycling
- Hazardous and liquid wastes will be securely stored within appropriate receptacles within a bunded area prior to removal by licensed contractors
- A regular collection/removal or emptying of bins or skips will be implemented
- Waste will be classified and disposed of in accordance with the guidelines.

6.4 Waste Hierarchy

The Project has planned to take actions to address waste management and recycling risks and opportunities, its compliance obligations, and its objectives. The Project has determined what will be done, what resources will be required, who will be responsible, when it will be completed and how the results will be evaluated.

When planning action, the project has and will apply the waste hierarchy detailed below, focusing on the waste streams with the most significant lifecycle impacts first, by prioritising (in order of preference):

1. Waste elimination
2. Waste reduction
3. Waste reuse onsite
4. Waste reuse offsite
5. Waste recycling
6. Waste to landfill.

6.5 Waste Management

Note: Spoil classification will be dealt with in the Spoil Management Plan.

6.5.1 Classification of Waste Streams

Where waste cannot be avoided, reused or recycled it will be classified and appropriate disposal will then occur. The classification of waste is undertaken in accordance with the EPA's Waste Classification Guidelines Part 1: Classifying Waste (NSW EPA, 2014). This document identifies six classes of waste as defined in clause 49 of Schedule 1 of the Protection of the Environment Operations Act 1997 (POEO Act):

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

The steps below will be implemented to determine which of the above classifications applies to the Project's waste. Once a classification has been established under a particular step, the waste will be taken to have that classification and will be managed accordingly.

Step 1: Is it 'special waste'?

Establish if the waste should be classified as special waste. 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 Protection of the Environment Operations (Waste) Regulation 2005.

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

If it is established that 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 Protection of the Environment Operations (Waste) Regulation 2005 Schedule 1 Waste to which waste tracking requirements apply

- Non-trackable liquid waste.

Step 3: 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 (putrescible) and general solid waste (non-putrescible). If a waste is listed as 'pre-classified', no further assessment is required. Details are provided in the guidelines.

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

If the waste is not special waste, liquid waste or pre-classified, establish if it has certain hazardous characteristics and can therefore be classified as hazardous under the classes or divisions of the Transport of Dangerous Goods Code which include explosives, flammable solids, substances liable to spontaneous combustion, oxidizing agents, toxic substances and corrosive substances.

Step 5: 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 classified and 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).

6.5.2 Contaminated Spoil

Spoil not classified as either VENM or ENM due to contamination from either construction material or other sources will be characterised in accordance with the Waste Classification Guidelines: Part 1 Classifying Waste (EPA 2014). This may include classification as General Solid Waste (Non-putrescible), Hazardous Waste, Special Waste or Restricted Waste.

6.5.2.1 Management of Contaminated Waste

MCoAs D71 through D75 clearly define a process for the management of areas of contamination. The process is consistent with the guidelines for the management of contaminated land in NSW. For all sites with potential or known contamination a DSI will be completed prior to site establishment. If contamination is reported at concentrations exceeding the applicable guidance a Remediation Action Plan (RAP) will be developed to guide remedial activities and then reported in a validation report. The process is shown in Figure 2 and further discussed below.

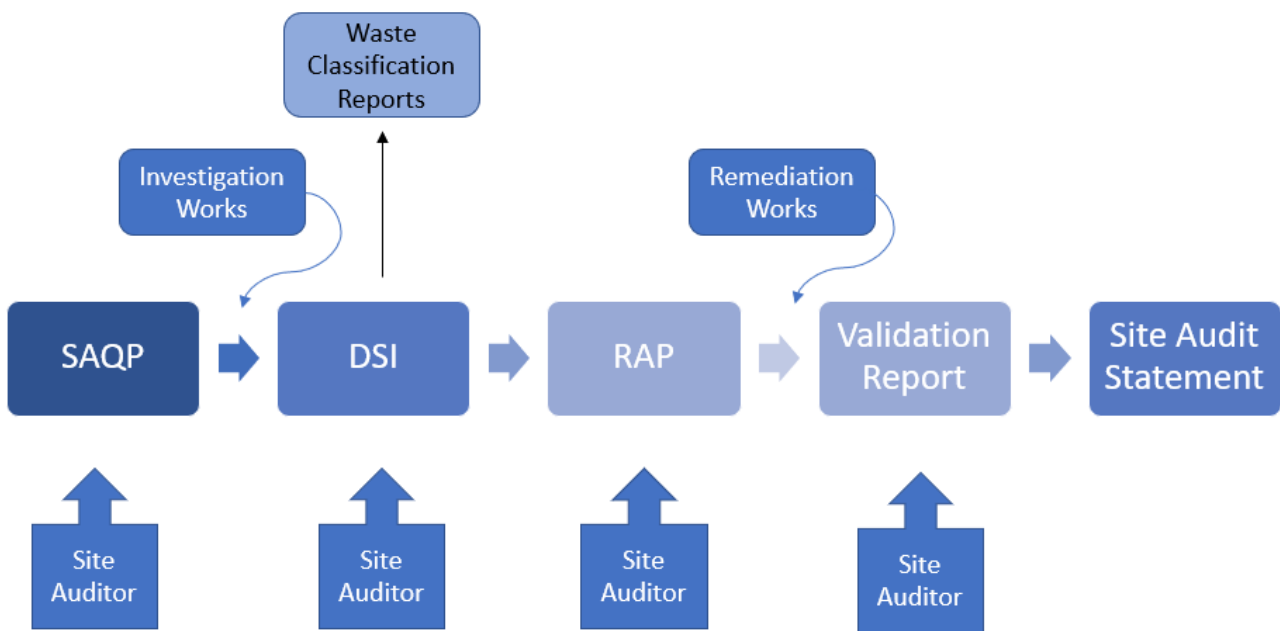


Figure 2: Contamination Management Process

Each RAP will include measures to remediate contamination at the site to ensure the site will be suitable for the proposed use once the RAP has been implemented. Remediation options in the RAP will consider effectiveness, durability, and maintenance and monitoring of the option, including in relation to the removal, transport and disposal of contaminated waste. The RAP will also include at least one indicator from each of the sustainability dimensions – environmental, social and economic from the ‘Framework for Assessing the Sustainability of Soil and Groundwater Remediation’ (SuRF 2009), as described in Table 6.

Table 6: Sustainability indicators from the ‘Framework for Assessing the Sustainability of Soil and Groundwater Remediation’ (SuRF2009)

Environmental	Social	Economic
7. Impacts on air (including climate change);	13. Impacts on human health and safety;	19. Direct economic costs and benefits;
8. Impacts on soil;	14. Ethical and equity considerations;	20. Indirect economic costs and benefits;
9. Impacts on water;	15. Impacts on neighbourhoods or regions;	21. Employment and capital gain;
10. Impacts on ecology;	16. Community involvement and satisfaction;	22. Gearing;
11. Use of natural resources and generation of wastes;	17. Compliance with policy objectives and strategies;	23. Life-span and ‘project risks’;
12. Intrusiveness	18. Uncertainty and evidence.	24. Project flexibility

Contamination reports including the DSIs, RAPs and validation reports will be certified under either the Environment Institute of Australia and New Zealand’s Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme.

To ensure contamination management activities, including fieldwork and reporting, are completed in accordance with relevant guidelines and legislation, an NSW accredited Site Auditor (Site Auditor) will be engaged to provide reviews of key documents. These include the following:

- Review of the RAP and provision of a Section B Site Audit Statement
- Review of the validation report and provision of a Section A1 or Section A2 Site Audit Statement and accompanying Site Audit Report.

At the completion of works, in accordance with MCoA D75, Site Audit Statement (accompanied by an Environmental Management Plan) and its accompanying Site Audit Report will be submitted to the Planning Secretary and the Relevant Council(s) after remediation and before the commencement of operation of the Project.

6.5.3 Liquid Waste

In accordance with the waste classification guidelines, liquid waste means any waste (other than special waste) that:

- Has an angle of repose of less than 5 degrees above horizontal
- Becomes free-flowing at or below 60 degrees Celsius or when it is transported
- Is generally not capable of being picked up by a spade or shovel
- Is classified as liquid waste under an EPA gazettal notice.

If the waste meets the criteria outlined above, it is classified as liquid waste, and no further assessment for classification is required, noting that some liquid waste needs to be tracked.

Liquid wastes (e.g. waste oil) are to be stored in appropriate containers in bunded areas until it can be transported off-site for disposal at a licenced facility. Bunded areas must have the capacity to hold 110% of the liquid waste volume for bulk storage.

Sediment laden water would be managed in accordance with the Soil and Water Management Plan. Where evidence of contamination is present (oil, grease) further testing would be carried out, and appropriate treatment or disposal if required.

Concrete washout water would be contained within the washout area and allowed to either evaporate or harden. In the event that capacity is reached, it would be removed by vacuum truck or pumped to an appropriately bunded container.

Waste from non-destructive digging would be taken offsite for disposal. Where there are significant quantities of waste, a bunded area would be established to allow the waste to be dried out and then reused on site where applicable.

Sanitary wastes from temporary site amenities would be removed by a licenced contractor and taken to an appropriately licenced liquid waste facility for treatment or disposal.

6.5.4 Hazardous Building Materials

Hazardous building materials, including asbestos containing materials, lead paint and transformer oils (including those containing polychlorinated biphenyls) would be managed in accordance with all appropriate legislation, codes, standards and guidelines as per Section 4.

A hazardous material survey would be completed for those buildings and structures suspected of containing hazardous or special waste materials (particularly asbestos) prior to their demolition. Licensed removalists and specialist contractors will be used, and works would be overseen by

Occupational Hygienists. Hazardous building materials would be transported to, and disposed of at, facilities licensed to accept the waste.

6.5.5 Waste Exemptions

Under the Protection of the Environment Operations (Waste) Regulation 2005, the EPA has issued general exemptions that allow for reuse of a range of common waste materials. They specify ways in which the waste can be reused, chemical concentrations or other attributes to be met as well as other requirements such as record keeping. Where the criteria specified in the exemption and/or order is met, the following public exemptions and orders may be applied to the works:

- The excavated natural material exemption and order, 2014
- The reclaimed asphalt pavement exemption and order, 2014
- The recovered aggregate order, 2014
- The treated drilling mud exemption and order, 2014
- The mulch exemption and order, 2016.

Additionally, the project may seek specific resource recovery exemptions from the EPA as required.

6.6 On-site Handling, Transportation and Disposal

The importation of waste and the storage, treatment, processing, reprocessing or disposal of such waste will comply with the conditions of the EPL for the Project (refer to Attachment 1), 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.

6.6.1 On-site Handling

Materials segregation and recycling facilities will be provided on site. This will include:

- Reusable materials will be stored separately, in secure facilities
- Recyclable waste will be stored separately from other waste and recycling bins will be stored adjacent to general waste bins
- Sufficient storage areas which will be secured and materials will be collected on a regular basis
- Work sites will be kept free of litter and good housekeeping will be maintained
- Vermin proof bins will be used on site
- Specialist bins for specialist waste streams (including electrical and electronic waste, and equipment waste)
- Waste oil, other liquid wastes and spillages will be collected and stored in bunded areas.

6.6.2 Transportation

Where waste cannot be reused on site, it will be transported off site using an appropriately licensed waste management contractor. All transport vehicles will be covered, and tailgates secured prior to trucks leaving the work site. All vehicles will be appropriate for transport of the waste as classified.

Transporters will hold an environment protection licence (EPL) if transporting higher risk wastes ('controlled' or 'trackable' waste). High risk waste will be tracked using EPA's online waste tracking system or the Project specific tracking system.

6.6.3 Receiving Facilities

Facilities used for the receiving of waste will be appropriately licensed to accept the classified waste type. The Environmental Manager will review the licence of the receiving facility before any waste is transported. Refer to Attachment 2 for potential facilities and locations.

6.7 Material Tracking

Waste and material tracking data will aim to track waste from 'cradle to grave', capturing:

- Types and quantity of waste sent to landfill
- Types and quantity of waste reused or recycled
- Types and quantity of waste treated
- Types and quantity of hazardous/regulated waste generated and its method of treatment and disposal
- Location of treatment and disposal
- Percentage of waste reused or recycled
- Quantity of spoil generated
- Reduction in disposal to landfill achieved
- Records of legal transport, treatment and disposal, including license reference of receiving and transportation as required.

The quantity of waste in each solid waste stream is measured by weight and liquid waste stream by volume, with records provided by the waste transport contractor in the form of Waste Dockets.

A Waste Tracking Register (refer Attachment 4) will be kept detailing the information listed above. The information will be collated, and register maintained by the Environment Manager (or delegate).

If hazardous waste is being transported offsite, the EPA's online waste tracking system will be used to track waste movements. Any transportation of asbestos waste, asbestos soils or waste tyres will be tracked using the EPA's WasteLocate system.

6.8 Record Keeping

The following records will be retained electronically on the Project's document management system:

- Records of inspections in relation to waste management and recycling activities, including weekly inspections of waste storage facilities
- Records detailing the beneficial re-use or recycling of material either within the project or at off-site locations.

The following records will be retained on site in a designated folder:

- Waste tracking forms and dockets
- Waste register.

7 COMPLIANCE MANAGEMENT

7.1 Roles and Responsibilities

The GALC Project Team's organisational structure and overall roles and responsibilities are outlined in Section 7 of the CEMP. The key roles and their responsibilities critical to the management of waste are outlined in Table 7.

Table 7: Roles, responsibilities, and authorities

Role	Responsibilities for Waste Management
Environment Manager	<ul style="list-style-type: none"> Develop and implement the WMP Manage ongoing compliance with the project's environmental management documents Ensure all waste management and recycling activities are performed in an environmentally compliant and responsible manner Administer compliance with the EPL and Planning Approval requirements Classify, manage and dispose of waste Oversee compliance tracking and reporting Oversee the keeping of all environmental records Engage suitably qualified consultants to support implementation of this sub-plan In consultation with the Project Director and Construction Director, oversee the investigation and reporting of environmental incidents arising from waste management Regularly engage with the key stakeholders and other interface contractors to achieve environmental alignment.
Stakeholder and Community Engagement Manager	<ul style="list-style-type: none"> Manages key stakeholder relationships, including in relation to any waste management issues throughout construction Provision of strategic advice to the leadership team Identify and mitigate reputational risks, including any relating to waste management Accountable for crisis and incident communications
Senior Environmental Advisor	<ul style="list-style-type: none"> Complete inspections and monitoring, particularly of No-Go zones and site clearing limits (refer to Section 7.3) Complete reporting (refer to 7.3) Prepare ECMs to outline the controls in this sub-plan relevant to each work activity Respond to environmental incidents and non-conformances.
Environmental Advisor	<ul style="list-style-type: none"> Delivery of toolbox / prestart presentation (or other specific training) to inform work crews of the controls documented in the ECMs Perform regular on-site liaison and inspections Provide environmental advice and assistance to construction personnel Manage implementation of WMP Respond to environmental incidents and non-conformances

Role	Responsibilities for Waste Management
Construction Manager	<ul style="list-style-type: none"> Ensures compliance with this WMP, procedures and ECMs Work collaboratively with environment teams to ensure the mitigation and management measures in this WMP are integrated into construction works Ensure that waste management is always considered in forward planning and scheduling
Site Supervisor	<ul style="list-style-type: none"> Install and maintain environmental controls in accordance with ESCPs and ECMs, including clear delineation of site boundaries Attend inspections with the Environmental Representative, Sydney Metro / ER, or other stakeholders Implement corrective actions raised during environmental inspections in agreed timeframes Notify the Environmental Advisor any observed impacts on waste.
All personnel	<ul style="list-style-type: none"> Notify Site Supervisor of any observed impacts on waste.

7.2 Training

All personnel working on the Project will undergo a site induction which will include information pertaining to the waste requirements on this Project. The following elements will be addressed as part of the induction:

- The existence of this WMP
- Incident response
- Waste recording and reporting requirements
- The waste hierarchy and reuse and recycling requirements
- Potential for contaminated or hazardous material to be encountered on site and relevant management practices
- Other specific responsibilities as appropriate.

Personnel will receive targeted training appropriate to their role in waste management and recycling on the project. The Training Needs Analysis will identify the need for training as it relates to waste management.

In addition, ongoing toolbox talks covering the requirements for waste management and recycling will be used to raise awareness among the wider project team.

7.3 Monitoring, Inspections and Reporting

The project team will monitor, measure, analyse and evaluate its waste and recycling performance.

7.3.1 Waste Inspections

A weekly waste inspection will be conducted by the Environmental Manager. This may be undertaken during the Weekly Environmental Inspection. This inspection will assess the following as a minimum:

- Visual assessment that the on-site storage of waste is in accordance with the ECM (and CEMP and sub-plans)

- Visual assessment that the segregation of waste in accordance with the ECM (and CEMP and sub-plans)
- Visual assessment that the records of disposal have been collected and stored in the appropriate location
- Discussion with the Site Foreman to confirm the reuse and recycling principals had been adopted where practicable in the preceding week.

The weekly waste inspection will be documented on the GALC Environment Inspection Form (Attachment 7 of the CEMP). Results of the weekly waste inspection, including distribution and potential non-conformances, will be dealt with as per the Weekly Environmental Inspection as outlined in the CEMP.

The ER will undertake inspections as required. The regularity will be based on project environmental risk and contractor performance.

The Project will undertake weekly environmental (including waste) inspections during construction. Site inspections will be completed by the ER and Sydney Metro representatives, where required. The Environmental Manager will be in attendance at any ER site inspections.

7.3.2 Monitoring of Records

Monitoring in relation to waste and recycling will also be undertaken in accordance with the applicable compliance requirements.

Monitoring will include details pertaining to:

- Types and quantity of waste generated
- Types and quantity of waste reused or recycled
- Types and quantity of waste disposed to landfill
- Percentage of waste reused or recycled
- Quantity of spoil generated.

The Waste Tracking Register will be made available to the ER, Sydney Metro, contamination consultants preparing the Validation Reports, and the Site Auditor on request. The Waste Tracking Register will also be subject to review in project site audits.

Monitoring and modelling of materials lifecycle impacts will be undertaken using the Materials Calculator (or other suitable Lifecycle Assessment technique) across the Project's lifecycle, in accordance with Mat-L1.

7.3.3 Reporting

The Project will communicate relevant waste performance information both internally and externally, as identified in its communication processes and as required by its compliance obligations. Project waste information will be captured and provided to Sydney Metro as outlined in Table 8.

Additionally, the following reporting will be undertaken if a complaint is received:

- Within one working day of receiving a complaint, notify Sydney Metro
- Within 5 working days, provide Sydney Metro with a final report regarding the complaint
- Detail of any corrective actions and confirmation of successful implementation.

Table 8: Waste reporting

Form / Frequency	Waste information to be provided
Project Monthly Report <i>Monthly</i>	<p>Relevant waste disposal information will be summarised and included in the Environmental Management section of the Project Monthly Report. This will include all tracking, monitoring, sampling, and testing information and data associated with waste management, including:</p> <ul style="list-style-type: none"> • Demolition waste • Materials scheduled for on-site reuse • Resource consumption • Carbon emissions • Waste recycling and disposal • Spoil management • Concrete mixes • Materials disposed off-site, and • Materials imported to site
Sustainability Report <i>Quarterly</i>	<p>In accordance with Section 5.2.4 of the General Specification, GALC will prepare a quarterly Sustainability Report and submit it to Sydney Metro. This report will include data that conforms to the TfNSW CERT tool.</p>
Compliance Monitoring and Reporting Program <i>Prior to Construction</i> <i>Prior to Completion of works</i>	<p>GALC will provide Sydney Metro and the ER documented evidence that all MCoA and REMMs which have a pre-construction requirement, have been met and are compliant two weeks prior to the anticipated date for commencement of construction</p> <p>GALC will provide Sydney Metro and the ER with all documented evidence demonstrating compliance for each MCoA and REMM prior to the completion of works.</p>
NSW Government Resource Efficiency Policy (GREP) and Waste Reduction and Purchasing Policy (WRAPP) Reporting <i>Annually for the financial year and at completion of works</i>	<p>The aim of the GREP is to reduce the NSW Government's operating costs and lead by example in increasing the efficiency of the resources it uses. The policy will help to ensure NSW meets the goals of NSW 2021: A plan to make NSW number one.</p> <p>This policy replaces the previous NSW Government Sustainability Policy and streamlines reporting under the Waste Reduction and Purchasing Policy (WRAPP).</p>
Waste Avoidance and Resource Recovery Reporting (WARR) <i>Annually for the financial year and at completion of works</i>	<p>There are three components to the report to be addressed as follows:</p> <ul style="list-style-type: none"> • Purchasing data: data on the amount of material purchased by the Project to enable construction works listed under the contract. • Waste and recycling data: data on the amount of material generated and recycled by GALC in the course of completing work under the contract. • Project initiatives and barriers: provide information taken to reduce waste, recycle resources and purchase recycled content materials in the course of completing work under the contract

7.4 Auditing

Audits (both internal and independent) will be undertaken to assess the effectiveness of environmental controls, compliance with this sub-plan, MCoA and other relevant approvals, licenses, and guidelines. These audits will be undertaken at planned intervals to provide information on whether the Project:

- Is meeting its compliance obligations
- Conforms to this sub-plan
- Determines if this sub-plan is effectively implemented and maintained.

GALC will undertake an internal audit within the first three months from commencement of construction and then annually for the WMP.

The approach to internal and independent audits, including auditing schedule, is outlined further in Section 11.3 of the CEMP.

As part of these audits, waste specific audits as required by the IS rating tool will include:

- Annual review covering systems used to manage waste and the data recording and reporting. Must be an objective assessment of the accuracy and completeness of reported waste information with the aim to provide confidence that the reported information represents a faithful, true, and fair account of waste management practices and performance. Must be undertaken by a suitably qualified person (someone with at least five years' waste management experience, or a NABERS Assessor, or equivalent)
- Auditing to final destination at least six monthly for construction. Final destination means at least to a waste facility where the waste is transformed into another product or material or into landfill. Physical sorting of waste is not considered a final destination. The audit should include a physical/visual verification of waste destinations.

In accordance with IS Was-1 credit requirements, a suitably qualified professional will be engaged to waste management for the Project. The nominated suitably qualified professional is GALC's Hayley Young, who has over 5 years' waste management experience and is qualified as Lead Auditor.

7.5 Environmental Incidents

All incidents will be classified by the Environment and Sustainability Lead in consultation with the Deputy Project Director in accordance **GA-MSP-HSEQ-006 Incident Management and Reporting** and the classifications outlined in Section 12.2 of the CEMP.

All incidents will be reported in accordance with the Sydney Metro Environmental Incident and Non-compliance Reporting Procedure Version 5.1 (SM-17-00000096), relevant licenses and legislation.

The report will be completed, and details of the incident will be entered into an electronic incident register, which is to be always accessible from site. This will be done through GALC's Project Safety and Environmental Manager Software. The Incident Register will include:

- Details of any incidents where waste management causes public nuisance
- Details of any encounter with contaminated waste or asbestos
- Details of any other waste related incidents.

Further details about incident classification and notification are detailed in Section 12.2 of the CEMP.

Examples of incidents and non-conformances as they relate to waste management may typically include:

- Bins overflowing
- Waste taken to incorrect waste facility
- Failure to retain waste dockets
- Failure to use a licensed transporter for prescribed waste.

The Project Director, Deputy Project Director, Construction Manager and relevant Project Manager will be made aware of the incident as soon as possible.

In the event an actual or potential incident is reported through the Community Complaints line, the Environment Manager will be contacted immediately to respond and investigate.

The approved ER will review all relevant notifications of incidents, in accordance with MCoA A43.

7.5.1 Sydney Metro

The Project Director will notify Sydney Metro of any incidents. In accordance with MCoA A43, and in order for Sydney Metro to comply with its incident notification requirements under the Planning Approval, the incident notification will include the location and general nature of the incident, any non-conformance with the CSSI Approval and any corrective actions in relation to that non-conformance where relevant.

The Environmental Incident and Non-compliance Notification Report (SM ES-FT-403) or a similar and consistent form approved by Sydney Metro will be completed for all actual and potential Class 1 and 2 environmental incidents within 48 hours and forwarded to the Project Director (refer to Section 12.2 of the CEMP for environmental incident classifications).

GALC will provide notification of the incident to Sydney Metro's Representative in accordance with Table 9.

Table 9: Incident Reporting Requirements

Notification Type	Contract Requirement
Initial verbal notification	<ul style="list-style-type: none">• Notify Sydney Metro and ER of incidents as soon as possible.• If the incident is a notifiable event, GALC will notify the EPA, Sydney Metro and relevant authorities immediately.
Environmental Incident Report requirements	<ul style="list-style-type: none">• Prepare an incident / non-conformance report and submit to Sydney Metro and the ER within 48 hours.

7.5.2 Planning Secretary

The Planning Secretary will be notified via phone or in writing via the Major Projects website immediately after GALC and Sydney Metro become aware of an incident, in accordance with MCoA A43. Any notification via phone will be followed up by a notification in writing via the Major Projects website within 24 hours of the initial phone call, which will include the CSSI application number and name (if it has one), as well as location and general nature of the incident.

Subsequent notification will be given and reports submitted in accordance with the requirements set out in MCoA A44.

7.5.3 EPA and Other Agencies

If a potential environmental pollution event occurs (as specified by the POEO Act), the Environment and Sustainability Manager will immediately notify the EPA and other agencies as nominated by the Pollution Incident Response Management Plan (PIRMP). Information to be provided to the EPA will be in accordance with Section 150 of the POEO Act.

For notifiable events as detailed in the PIRMP, in addition to notifying the EPA of pollution incidents other authorities as outlined below will also be notified immediately:

- The Ministry of Health (via the local Public Health Unit – 02 9391 9000)
- SafeWork NSW (13 10 50)
- Depending on the LGA where the incident occurred: Cumberland City Council (02) 8757 9000, (Westmead) City of Parramatta (02) 9806 5000 (Parramatta, Clyde and Sydney Olympic Park sites)
- Fire and Rescue NSW on 000.

Regardless of the actual or potential impact, these authorities will be notified under the amended legislation for all notifiable pollution incidents. Further information in relation to the incident will be provided immediately it becomes available after the initial notification. Records of contact with and details of the information provided to external authorities will be maintained in the project records.

Incidents requiring notification to the EPA will also be immediately notified to the Gamuda Australia Head of Health, Safety, Environment and Quality, LOR Environmental Leader, LOR HSE General Manager and the Head of Legal for both Gamuda Australia and Laing O'Rourke.

7.6 Complaints Register

All complaints made by the community and stakeholders will be managed in accordance with the Sydney Metro's requirements, the Overarching Community Communication Strategy, including the Sydney Metro Construction Complaints Management System (CCMS) (2021), as well as relevant MCoAs (B1 – B6).

The CCMS will be implemented before the commencement of any construction works and maintained for the duration of construction. The CCMS will be available for a minimum for 12 months following completion of construction of Project.

The following information will 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 Project
- 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
- d) A mediation system for complaints unable to be resolved.

This information will be accessible to all in the community regardless of age, ethnicity, disability or literacy level.

An electronic complaints register will be maintained on-site at all times. This register will record information on all complaints received about the Project during construction works and for a

minimum of 12 months following the completion of construction. This register will include the following information:

- 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
- h) If no action was taken, the reason(s) why no action was taken.

Community members and stakeholders making a complaint will 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 GALC to provide that information to government agencies
- c) the supply of personal information by the complainant is voluntary
- 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 will be included on the GALC or Project website to make prospective complainants aware of their rights under the *Privacy and Personal Information Protection Act 1998*. For any complaints made in person, the complainant will be made aware of the Collection Statement.

In accordance with the overarching CCMS, GALC will submit the complaints register in the online Consultation Manager system. Sydney Metro will provide the Complaints Register to the Planning Secretary upon request, within the timeframe stated in the request.

8 REVIEW AND IMPROVEMENT

8.1 Continuous Improvement

The Project Management Team will review the status and adequacy of the EMS including this CEMP and Sub-plans. The objective of the review will be to ensure that it meets current Sydney Metro and GALC requirements as well as relevant environmental standards.

Continuous improvement of this WMP will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives, and targets for the purpose of identifying opportunities for improvement.

The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of environmental management and performance
- Determine the cause or causes of non-conformances and deficiencies
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies
- Verify the effectiveness of the corrective and preventative actions
- Document any changes in procedures resulting from process improvement
- Make comparisons with objectives and targets.

In order to ensure continual improvement and prevent recurring issues, this sub-plan will be reviewed in response to:

- Corrective actions arising from non-conformance, incidents, or audits
- Opportunity for improvement in environmental management performance which may be identified by the project team, ER or Sydney Metro
- Changes to the Gamuda Australia EMS.

Review of this sub-plan will occur annually as a minimum, or as needed in consultation with Sydney Metro and the ER. A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure as outlined in the CEMP.

8.2 Document Updates

The processes described above may result in the need to update or revise this sub-plan. This will occur annually as a minimum, or as needed, and may only be approved by the Environmental Manager, or delegate.

Where minor amendments are required to this WMP, the revised WMP will be issued to the ER for review and endorsement in accordance with MCoA A30(j).

8.3 Distribution

All GALC personnel and contractors will have access to this WMP via the project document control management system.

The approved WMP will be published on the GALC website within one week of being approved and be publicly available until the end of the Construction Period.

A copy of the WMP will be published and maintained on the Project website, in accordance with MCoA B11. The WMP will be published within one week of its approval or before the commencement of any work to which they relate or before their implementation, as the case may be.

The document is uncontrolled when printed.

ATTACHMENTS

Attachment 1 – Compliance Matrix

The MCoA, REMMs, CEMF requirements and EPL requirements that relate to this WMP are detailed in the following tables.

Conditions of Approval

ID	Conditions of Approval	Document Reference
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.	CEMP
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 6.1
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.	CEMP and this document
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;	This document
	(b) the mitigation measures identified in the documents listed in Condition A1 of this schedule will be implemented;	This document
	(c) the relevant conditions of this approval will be complied with; and	This document
	(d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART principles.	Section 5, Section 6 and the CEMP

ID	Conditions of Approval	Document Reference
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 1.5
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 1.5
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 1.5
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.	Section 6.1 and the Soil and Water Sub-plan
D83	The locations of all Heavy Vehicles used for spoil haulage must be monitored in real time and the records of monitoring be made available electronically to the Planning Secretary and the EPA upon request for a period of no less than one (1) year following the completion of construction.	Section 6.1
D99	Opportunities to maximise spoil material removal by non-road methods must be investigated and implemented where reasonably practicable to minimise movements by road.	Section 6.1
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 6.1
	(b) where avoiding or reducing waste is not possible, waste must be re-used, recycled, or recovered; and	Section 6.1
	(c) where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of.	Section 6.1

ID	Conditions of Approval	Document Reference
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 <i>Protection of the Environment Operations (Waste) Regulation 2014</i> , as the case may be.	Section 6.6
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 <i>Protection of the Environment Operations (Waste) Regulation 2014</i> , or to any other place that can lawfully accept such waste.	Section 6.6.3
D114	All waste must be classified in accordance with the EPA's <i>Waste Classification Guidelines</i> , with appropriate records and disposal dockets retained for audit purposes.	Section 6.7

Revised Environmental Management Measures

ID	Revised Environmental Mitigation Measure	Document Reference
WR1	All waste would be assessed, classified, managed, transported and disposed of in accordance with the Waste Classification Guidelines.	Section 6.5
WR2	A hazardous material survey would be completed for those buildings and structures suspected of containing hazardous or special waste materials (particularly asbestos) prior to their demolition. If hazardous waste or special waste (e.g., asbestos) is encountered, it would be handled and managed in accordance with relevant legislation, codes of practice and Australian standards.	Section 6.5.4
WR3	Construction waste would be minimised by accurately calculating materials brought to the site and limiting materials packaging.	Section 6.3
WR4	Waste streams would be segregated to avoid cross-contamination of materials and maximise reuse and recycling opportunities.	Section 6.1

ID	Revised Environmental Mitigation Measure	Document Reference
WR5	A materials tracking system would be implemented for material transferred between Sydney Metro West sites and to offsite locations such as licensed waste management facilities.	Section 6.1

Construction Environmental Management Framework

Clause	Requirement	Document Reference
3.4 d. iii	For each plan under the CEMP include a matrix of the relevant Conditions of Approval or Consent reference where each requirement is addressed	Attachment 1
3.4 d. iv	For each plan under the CEMP, set objectives and targets and identify measurable key performance indicators relevant to these	Section 3
6.2 b. ii	Spoil management measures will be included in regular inspections undertaken by the Contractor, and compliance records will be retained. These will include: Waste dockets for any spoil disposed of to landfill sites	Section 6.7
14.1 a	The following waste objectives will apply to construction: <ul style="list-style-type: none"> • minimise waste throughout the project life cycle • waste management strategies will be implemented in accordance with the Waste Avoidance and Resource Recovery Act 2001 management hierarchy as follows: <ul style="list-style-type: none"> – avoidance of unnecessary resource consumption – resource recovery (including reuse, reprocessing, recycling and energy recovery) – disposal. 	Section 6.1
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 3
14.2 a	Principal Contractors will develop and implement a Waste Management Plan which will include as a minimum:	
i	The waste management mitigation measures as detailed in the environmental approval documentation	Attachment 1 and Section 6.1

Clause	Requirement	Document Reference
ii	The responsibilities of key project personnel with respect to the implementation of the plan	Section 7.1
iii	Waste management monitoring requirements	Section 7.1
iv	A procedure for the assessment, classification, management and disposal of waste in accordance with the waste classification guidelines	Section 6.5.1
v	Compliance record generation and management	Section 6.8
b	Principal Contractors will undertake the following waste monitoring as a minimum:	Section 7.3.1
i	Weekly inspections	
ii	All waste removed from the site will be appropriately tracked from 'cradle to grave' using waste tracking dockets.	Section 6.7
c	Principal Contractors will report all necessary waste and purchasing information to Sydney Metro as required for Sydney Metro to fulfill their WRAPP reporting requirements	Section 7.4
d	Compliance records will be retained by the Principal Contractors in relation to waste management including records of inspections and waste dockets for all waste removed from the site.	Section 6.7 and 6.8

Environment Protection Licence

The Project construction activities are designated as '**Railway activities—railway infrastructure construction**' under Schedule 1 of the POEO Act. Scheduled activities under clause 48 of the POEO Act, require an Environmental Protection Licence (EPL) for the premise at which a scheduled activity is carried on. The EPL typically regulates the emissions of potentially offensive odours and dust. This table will be updated following receipt of the EPL.

The WMP will address the following EPL requirements (placeholder):

ID	EPL Condition	Document Reference
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ID	EPL Condition	Document Reference
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	—	
	—	
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Attachment 2 - Distances to Location of Waste Facilities and EPL Numbers

Waste Transporter	Waste Disposal Facilities, Transporters and Address	Distance (Km)	EPL Number

Note: the table will be completed in the final Plan.

Attachment 3 - Waste Tracking Register Template

Haulage Date	Mass	Docket/Invoice Number	Vehicle Registration Number	Disposal Contractors Waste Description	Waste Classification	Waste Sub-Classification	Waste Code (Hazardous Waste Only)	Waste End Use	Transporter	Disposal Company and Address
	Volume (m3)	Weight (tonnes)								