



# Appendix B9

## Waste CEMP Sub-plan

M6 Stage 1 Motorway

October 2021

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## Document control

### Approval and authorisation

<b>Title</b>	Waste CEMP Sub-plan
<b>Endorsed by Environment Representative</b>	Derek Low
<b>Signed</b>	
<b>Dated</b>	20/10/2021
<b>Approved on behalf of Transport for New South Wales by</b>	Roy Morizzi
<b>Signed</b>	
<b>Dated</b>	
<b>Approved on behalf of CGU JV by</b>	Craig Gibson
<b>Signed</b>	
<b>Dated</b>	19/10/2021

## Document status

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A.01	13 July 2021	Initial submission to TfNSW	
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02	19/10/2021	DPIE comments addressed – Issued for approval	

## Distribution of controlled copies

This Waste CEMP Sub-plan, as part of the CEMP, is available to all personnel and sub-contractors via the Project document control management system. An electronic copy can be found on the Project website.

The document is uncontrolled when printed. One controlled hard copy of the Waste CEMP Sub-plan as part of the CEMP and supporting documentation will be maintained by the Quality Manager at the Project office.

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## Glossary/ Abbreviations

Abbreviations	Expanded text
CEMP	Construction Environmental Management Plan
CoA	Conditions of Approval
DPIE	NSW Department of Planning Industry and Environment
DPI	NSW Department of Primary Industries
EIS	Environmental Impact Statement
EMM	Environmental Management Measures
ENM	Excavated Natural Material, as defined in <i>The excavated natural material exemption</i>
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPL	Environmental Protection Licence
EWMS	Environmental Work Method Statements
GSW	General Solid Waste
PIR	Preferred Infrastructure Report
RAP	Reclaimed asphalt pavement
Resource	Resource covers energy, fuel, oil, water and other materials used for construction of the project.
RRE	Resource Recovery Exemption
RRO	Resource Recovery Order
RTO	Response to Submissions
TfNSW	Transport for New South Wales
VENM	Virgin Excavated Natural Material
UEMM	Updated Environmental Management Measures
WARR Act	<i>Waste Avoidance and Resource Recovery Act 2001</i>
WRAPP	Waste Reduction and Purchasing Policy

# 1 Introduction

## 1.1 Context

This Waste CEMP Sub-plan (WMP or the Plan) forms part of the Construction Environmental Management Plan (CEMP) for the M6 Stage 1 (the Project).

This Plan has been prepared to address the requirements of the Minister's Conditions of Approval (CoA), the Environmental Management Measures (EMM) listed in the M6 Stage 1 Environmental Impact Statement (EIS) and all applicable legislation.

## 1.2 Background and project description

The Project comprises a new twin motorway tunnel (around four kilometres in length) between the M8 Motorway at Arncliffe and President Avenue at Kogarah with a tunnel portal and entry and exit ramps connecting the tunnels to the surface (Figure 1). Works will include a connection to the M8 Motorway, line marking of additional travel lanes between the St Peters interchange to the M6 Stage 1 tunnels, an intersection with President Avenue (including widening and raising of President Avenue), and intersection improvements at the President Avenue/Princes Highway intersection. Mainline tunnel stubs would be constructed to allow for connections to future stages of the M6 Extension.

The Project was declared as a Critical State Significant Infrastructure and the M6 Stage 1 Project was approved by the Minister for Planning and Public Spaces on 18 December 2019.

Key features of the Project include:

- Mainline tunnels approximately 3.0km in length, sized for three lanes of traffic and line marked for two lanes on opening of the motorway;
- Entry and exit ramp tunnels approximately 1.5km in length and a tunnel portal connecting the tunnels to a surface intersection with President Avenue;
- Provision of a new intersection at President Avenue including the widening and raising of President Avenue at this location;
- Upgrade of the President Avenue and Princes Highway intersection to improve capacity and network integration;
- Provision of a new shared cycle and pedestrian pathways;
- Mainline tunnel stubs for a future connection to extend the Project to the south;
- Two motorway operation complexes (MOCs) as follows:
  - Arncliffe: including mechanical and electrical fit-out of the ventilation facility built by the New M5 Motorway project, and provision of a new water treatment plant and substation.
  - Rockdale (south): including a ventilation building, Disaster Recover Site (DRS), substation and power supply, deluge tanks.
- A tunnel ventilation system, including ventilation facilities located at Marsh Street, Arncliffe and West Botany Street, Rockdale, and in-tunnel ventilation systems (jet fans and ventilation ducts);
- New Utility Services, and modifications and connections to existing Utility Services;
- A permanent power supply connection to the Rockdale Ventilation Facility Site MOC from Ausgrid's Canterbury Sub-Transmission Substation;
- Emergency access and evacuation facilities, including pedestrian and vehicular cross, long passages, fire and safety life systems;



- Ancillary infrastructure for motorway operations including operations management and control systems, permanent power supply, communications, lighting, electronic toll collection system, toll gantries and traffic control and signage (both fixed and variable signage);
- Drainage infrastructure to collect surface water and groundwater inflows for treatment;
- Reinstatement of Bicentennial Park and recreation facilities;
- Reinstatement and rehabilitation of construction leased areas within the Arncliffe Site;
- Minor adjustments to local roads in the Project area;
- Development and implementation of systems integration and operating procedures with WestConnex Motorways to ensure safe operation of the interfaces between the Project and the WestConnex Motorways; and
- Any other works as required to complete the project within the scope of the Environmental Impact Statement (EIS), Preferred Infrastructure Report (PIR), Submissions report (including EMMs) and CoA requirements.

The following six surface compounds will facilitate construction of the Project:

- Arncliffe construction ancillary facility (C1), an existing construction site which was used for the construction of the M8 Motorway;
- Rockdale construction ancillary facility (C2), within an existing TfNSW depot;
- President Avenue construction ancillary facility (C3) at Rockdale, within Rockdale Bicentennial Park and an industrial area west of West Botany Street;
- Construction ancillary facilities (C4 and C5) near Muddy Creek to support construction of the Active Transport Corridor; and
- Princes Highway construction ancillary facility (C6) on the corner of Princes Highway and President Avenue, Kogarah to support the intersection surface works.

### **1.3 Scope of the Sub-Plan**

The scope of this Plan is to describe how the CPB Contractors, Ghella, UGL Engineering (CGU) joint venture (CGU) proposes to manage waste during construction of the Project.

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

### **1.4 Environmental management systems overview**

The environmental management system is based on CPB Contractors Environmental Management Systems. An overview of this System is described in Section 1.5 of the CEMP.

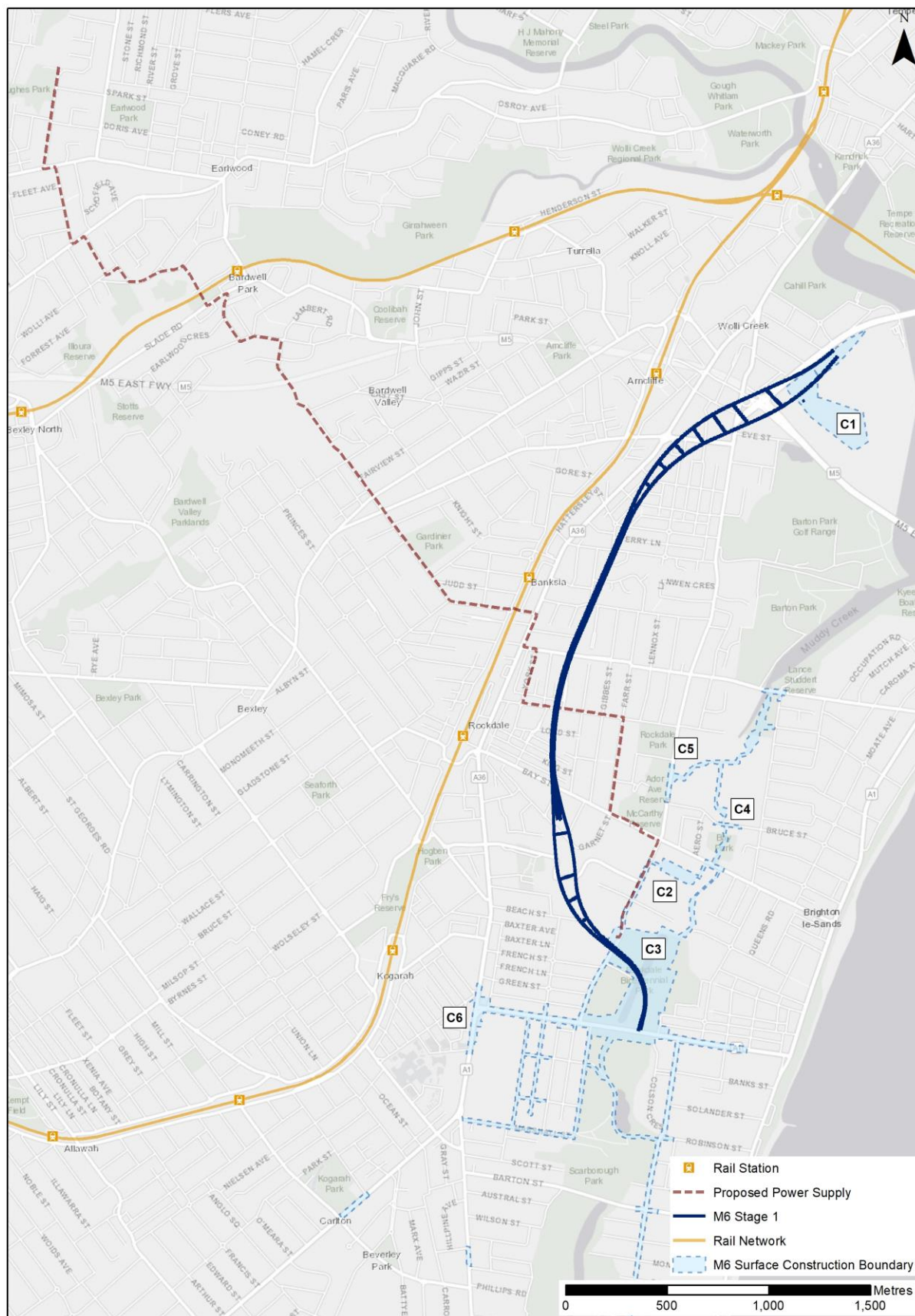


Figure 1: Project footprint

## **1.5 Consultation for preparation of Waste CEMP Sub-plan**

The Waste CEMP Sub-plan was prepared in consultation with relevant stakeholders including Bayside Council, Canterbury Bankstown Council and Georges River Council. Comment was sought on a draft Waste CEMP Sub-plan and each council confirmed that the document had been received and was reviewed. The Waste CEMP Sub-plan was described as comprehensive and whilst no new key issues were identified during the consultation, feedback from the councils was used to update and correct the document.

## 2 Purpose and objectives

### 2.1 Purpose

The purpose of this Plan is to describe how CGU proposes to manage and protect waste and resources during construction of the Project.

### 2.2 Objectives

The key objective of the Plan is to ensure all CoA, EMM and licence/permit requirements relevant to waste and resources are described, scheduled and assigned responsibility as outlined in:

- The Environmental Assessment prepared for M6 Stage 1 Project, including the EIS, the Response to Submissions on the EIS, the PIR and Response to Submissions on the PIR;
- CoA granted to the project on 18th December 2019 (SSI 8931);
- Roads and Maritime specifications G36, G38 and G40;
- SWTC requirements including Appendix D.5 Sustainability Requirements;
- The Project's Environment Protection Licence; and
- All relevant legislation and other requirements described in Section 3.1 of this Plan.

### 2.3 Environmental Performance Outcomes and Targets

The desired environmental performance outcome for waste management, as outlined and addressed in the EIS, is that all wastes generated during the construction of the Project are effectively minimised, stored, handled, treated, reused, recycled and/or disposed of lawfully and in a manner that protects environmental values.

To achieve this CGU will seek the performance outcomes identified in Table 1.

Table 1: Performance outcomes for WMP

No.	Project Outcome	Source	Document Reference
1	Uncontaminated spoil will be recycled or reused either on-site or off-site	EIS, Chapter 24, Section 24.7	Section 4.4.2
2	Off-site waste re-use will be managed in accordance with relevant NSW EPA resource recovery orders, exemptions and requirements	EIS, Chapter 24, Section 24.7	Section 4.7
3	Waste will be disposed of at appropriately licensed facilities	EIS, Chapter 24, Section 24.7	Section 4.4.6
4	80% of construction and demolition waste (uncontaminated material excluding spoil) reused/recycled	Sustainability Strategy	Section 4.4.3

## 3 Environmental requirements

### 3.1 Relevant legislation and guidelines

#### 3.1.1 Legislation

Legislation relevant to waste and resource management for this project includes:

- Environmentally Hazardous Chemicals Act 1985;
- Protection of the Environment Operations Act 1997 (NSW);
- Protection of the Environment Operations (Waste) Regulation 2014 (NSW);
- Waste Avoidance and Resource Recovery Act 2001 (NSW); and
- Work Health and Safety Act 2011 (NSW).

All legislation relevant to this WMP is included in Appendix A1 of the CEMP.

#### 3.1.2 Guidelines and standards

The main guidelines, specifications and policy documents relevant to this plan include:

- NSW Waste and Resource Recovery Strategy 2014-21 (EPA, 2014);
- NSW Government Resource Efficiency Policy (GREP) (OEH 2014);
- Construction and demolition waste: a management toolkit (EPA, 2019);
- Guidelines on Resource Recovery Orders and Exemptions (EPA, 2017);
- Waste Classification Guidelines (EPA 2014);
- Management of Wastes on Roads and Maritime Services Land (Roads and Maritime 2014);
- Management of road construction and maintenance wastes (Roads and Maritime 2016);
- Technical Direction: Legal offsite disposal of Roads and Maritime Services Waste (Roads and Maritime 2015);
- Technical Direction: Coal tar asphalt handling and disposal (Roads and Maritime 2015);
- Stockpile Site Management Guideline (Roads and Maritime 2011);
- TfNSW waste fact sheets:
  - Waste Fact Sheet 1 - Virgin Excavated Natural Material
  - Waste Fact Sheet 2 - Excavated Natural Material
  - Waste Fact Sheet 3 - Excavated Public Road Materials
  - Waste Fact Sheet 4 - Recovered Aggregates
  - Waste Fact Sheet 5 - Asbestos Waste
  - Waste Fact Sheet 6 - Waste Sampling
  - Waste Fact Sheet 7 – Reclaimed asphalt pavement (RAP)
  - Waste Fact Sheet 9 – Re-use of waste off-site
- TfNSW Environment and Sustainability Policy (Jan 2020);
- Transport Environment and Sustainability Policy Framework (TfNSW 2013);
- Guideline for the Management of Contamination (Roads and Maritime 2013);

- AS2601: 2001 The Demolition of Structures;
- Code of Practice for the Safe Removal of Asbestos 2nd Edition (National Occupational Health and Safety Commission 2005a);
- Code of Practice for the Management and Control of Asbestos in Workplaces (National Occupational Health and Safety Commission 2005b);
- Guideline for the Management of Acid Sulfate Materials (NSW Roads and Traffic Authority 2005c);
- TfNSW Specification G36 – Environmental Protection;
- TfNSW Specification G40 – Clearing and Grubbing;
- National Environment Protection (assessment of site contamination) Measure 1999; and
- Storing and Handling Liquids: Environmental Protection – Participants Manual (NSW Department of Environment and Climate Change (DECC) 2007).

## 3.2 Minister's Conditions of Approval

The CoA relevant to this Plan are listed in Table 2 below. A cross reference is also included to indicate where the condition is addressed in this Plan or other Project management documents.

Table 2: Conditions of Approval relevant to the Waste CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference						
C4	<p>CEMP Sub-plans must be prepared in consultation with the relevant government agency(s) and council(s) as identified for each CEMP Sub-plan in Table 4.</p> <p>Table 4: CEMP Sub-plan and relevant public authorities</p> <table> <tr> <th></th><th>Required CEMP Sub-plan</th><th>Relevant government agencies and council(s) to be consulted for each CEMP Sub-plan</th></tr> <tr> <td>(h)</td><td>Waste</td><td>Relevant council(s)</td></tr> </table>		Required CEMP Sub-plan	Relevant government agencies and council(s) to be consulted for each CEMP Sub-plan	(h)	Waste	Relevant council(s)	This Plan
	Required CEMP Sub-plan	Relevant government agencies and council(s) to be consulted for each CEMP Sub-plan						
(h)	Waste	Relevant council(s)						
C5	<p>The CEMP Sub-plans must state how:</p> <p>(a) the environmental performance outcomes identified in the documents listed in Condition A1 as modified by these conditions will be achieved;</p> <p>(b) the mitigation measures identified in the documents listed in Condition A1 as modified by these conditions will be implemented;</p> <p>(c) the relevant terms of this approval will be complied with; and</p> <p>(d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed.</p>	<p>Section 2.3</p> <p>Sections 4.4, 4.5, 4.6, 4.7, 4.8, 5, 6 and 7</p> <p>Sections 4.4, 4.5, 4.6, 4.7, 4.8, 5, 6 and 7</p> <p>Issues requiring management and ongoing risk analysis are discussed in Section 4.1 – 4.3 of the WMP, Section 3.2.1 of the</p>						

CoA No.	Condition Requirements	Document Reference
		<p>CEMP, and Appendix A2 of the CEMP.</p> <p>How the issues will be managed is in Sections 4.4, 4.5, 4.6, 4.7, 4.8, 5, 6 and 7</p> <p>Cumulative impacts and how they are identified and managed are addressed in Section 4.3.3 of this Plan and Sections 2.5 and 3 of the Staging Report</p>
C9	The Waste CEMP Sub-plan must include, but not be limited to:	Section 4.6
	(a) details of the types of waste to be generated by the CSSI;	
	(b) details of the waste tracking register required by Condition 0, including methods of record keeping; and	Section 4.8
	(c) a process for verifying that all waste is being managed, transported, reused, recycled or disposed of in a lawful manner.	Sections 4.5 and 4.8
C10	The CEMP Sub-plans must be endorsed by the ER and then submitted to the Planning Secretary for approval no later than one (1) month prior to the commencement of the construction activities to which they apply.	CEMP Section 2
C11	Any of the CEMP Sub-plans may be submitted to the Planning Secretary along with, or subsequent to, the submission of the CEMP.	CEMP Section 2



CoA No.	Condition Requirements	Document Reference
C12	Construction must not commence until the CEMP and all relevant CEMP Sub-plans for such construction activities to which they apply have been approved by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning Secretary, including any minor amendments approved by the ER, must be implemented for the duration of construction. Where construction is staged, construction of a stage must not commence until the relevant CEMP and CEMP Sub-plans for that stage have been endorsed by the ER and approved by the Planning Secretary.	CEMP Section 2 Staging Report
A41	All heavy vehicles used for spoil haulage must be clearly marked on the sides and rear with the project name and CSSI application number to enable immediate identification by a person viewing the heavy vehicle. Details of the project identification markings must be submitted to the Planning Secretary for approval prior to the heavy vehicles used for spoil haulage being utilised for the CSSI.	Section 4.8
E126	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 4.8
E163	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 4.4.1
	(b) where avoiding or reducing waste is not possible, waste must be re-used, recycled, or recovered; and	Section 4.4.2

CoA No.	Condition Requirements	Document Reference
	(c) where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of at a waste management facility or premise lawfully permitted to accept the materials or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014 (NSW), or to any other place that can lawfully accept such waste.	Sections 4.4.5
E164	Waste generated outside the CSSI site must not be received at the CSSI site for storage, treatment, processing, reprocessing or disposal on the CSSI site, except as expressly permitted by a licence or waste exemption under the <i>Protection of the Environment Operations Act 1997 (NSW)</i> , if such a licence is required in relation to that waste.	Section 6 MMW4
E165	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 <i>Protection of the Environment Operations (Waste) Regulation 2014 (NSW)</i> , as the case may be.	Section 6 MMW4
E166	All waste generated during construction and operation 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 4.5
E167	The Proponent must develop and implement a waste tracking register that details:	Section 4.8 Section 6 MMW9
	(a) the quantity of each type of waste generated, its classification and source location (recorded using latitude and longitude coordinates);	
	(b) the destination location(s) for all wastes generated during construction;	
	(c) the quantities of any waste types imported onto the CSSI site, including their classification and emplacement location (recorded using latitude and longitude coordinates);	

CoA No.	Condition Requirements	Document Reference
	(d) the quantities and types of wastes that are subject to a Resource Recovery Order and/or Exemption; and	
	(e) disposal records demonstrating that receiving facilities have lawfully accepted the waste type.	

### 3.3 Environmental Management Measures

Relevant EMMs are listed in Table 3 below. This includes reference to required outcomes, the timing of when the commitment applies, relevant documents or sections of the environmental assessment influencing the outcome and implementation.

Table 3: Environmental management measures relevant to this Waste CEMP Sub-plan

Outcome	Ref #	Commitment	Timing	Waste CEMP Sub-plan Reference
Waste generation and disposal	W1	<p>A Construction Waste Management Plan will be prepared for the project prior to construction and will detail appropriate waste management procedures.</p> <p>The CWMP will:</p> <ul style="list-style-type: none"> <li>• Document expected waste types and volumes for the project</li> <li>• Describe procedures for managing office and project waste materials including separation, treatment and disposal in accordance with relevant guidelines</li> <li>• Detail waste reporting requirements including the implementation of a waste register</li> <li>• Detail the process for identifying waste re-use sites including approval requirements.</li> </ul>	Prior to construction	This plan

Outcome	Ref #	Commitment	Timing	Waste CEMP Sub-plan Reference
	W2	A Spoil Management Plan will be prepared for the project. The plan details spoil management measures including spoil haulage routes and spoil disposal sites.	Prior to construction	Section 4.4.3, Appendix A (disposal sites) and Appendix C (Haulage Routes)
Large volumes of spoil directed to landfill due to inadequate recycling and reuse	W3	The project will target the reuse or recycling of 95 percent of uncontaminated spoil generated for beneficial purposes in accordance with the project spoil management hierarchy.	Construction	Section 4.4.3
Unexpected waste volumes and types during construction	W4	Suitable areas will be identified to allow for contingency management of unexpected waste materials, including contaminated materials. Suitable areas will be required to be hardstand or lined areas that are appropriately stabilised and bunded, with sufficient area for stockpile storage.	Construction	Section 6 MMW10

## 4 Environmental aspects and impacts

### 4.1 Construction waste streams and resource use

The following construction related waste streams are expected to be generated during construction of the Project:

- Excavated wastes, such as soil and rock, primarily from tunnelling and cutting including Virgin Excavated Natural Material (VENM);
- Demolition wastes including concrete, bricks, tiles, timber (untreated and treated), metals, plasterboard, carpets, electrical and plumbing fittings and furnishings (doors, windows). May also include asbestos and lead paint;
- Asbestos containing waste materials (including contaminated spoil);
- Vegetation waste from the removal of trees, shrubs and ground cover that are unable to be mulched and reused within the Project;
- General construction waste such as timber formwork, scrap metal, steel, concrete, plasterboards and packaging material (crates, pallets, cartons, plastics and wrapping materials);
- Surplus construction material and general site reinstatement waste such as fencing, sediment, concrete, steel, formwork and sand bags;
- Sediment laden/potentially contaminated wastewater;
- General wastes from site offices such as putrescibles, paper, cardboard, plastics, glass and printer cartridge;
- Waste from operation and maintenance of construction vehicles and machinery including adhesives, lubricants, waste fuels and oils, engine coolant, batteries, hoses and tyres; and
- Surplus construction material and general site reinstatement waste such as demarcation fencing, sediment, concrete, formwork and sand bags. Vegetation waste from the removal of ground cover that is unable to be reused within the project.

Quantities of waste produced during construction of the Project will be tracked as described in Section 4.8 and Section 5.2.

### 4.2 Construction resource consumption

Construction of the Project will require the consumption of a number of resources and materials. Estimates of the type and quantity of materials required for construction of the Project are included in Table 4. The following construction activities resulting in the consumption of materials and resources are expected during construction of the Project, include:

- Procurement and delivery of materials to site;
- Removal of vegetation;
- Site establishment, including compound set up;
- Relocation and protection of services and utilities;
- Earthworks including earth and rock cuttings and retaining walls;
- Tunnelling works;
- Removal, relocation and compaction of excavated material;
- Construction of pavements, bridges and culverts;

- Demolition of structures and pavements;
- Operation of site compounds and lighting;
- Use of construction plant;
- Removal of waste from site; and
- Laying concrete and installing precast concrete.

Table 4: Indicative major sources of consumption for construction of the Project

Material	Estimated quantity <sup>1</sup>	Anticipated source / origin
Concrete	317,000 m <sup>3</sup>	Sydney suppliers located close to the Project
Precast concrete	1,000 m <sup>3</sup>	Combination of NSW and overseas suppliers
Structural steel	3,000 m <sup>3</sup>	Manufactured in Australia and/or overseas
Reinforcing steel	12,000 T	Manufactured in Australia
Asphalt	3,000 m <sup>3</sup>	Sydney suppliers located close to the Project
Road base	2,000 m <sup>3</sup>	Quarries within the Sydney region
Water	608,632 kL	Recycled construction and mains water
Petrol	50 kL	Local Sydney supplier
Diesel	15,963 kL	Local Sydney supplier
Power	90,000,000 kWh	Renewable energy sources and local substations

<sup>1</sup> approximate quantities, could change with finalisation of design

Quantities of resources and materials required during construction of the Project, and waste will be tracked as described by Sections 4.8 and 5.2. Evidence of tracking resources and materials outlined in Table 4 will be available for review and will be provided during audits (as per Section 7.4). The Project's waste and resource performance will also be reported within the Sustainability Monthly Report.

## 4.3 Impacts

### 4.3.1 Waste Management Impacts

The impacts associated with construction waste management include:

- Generation of domestic waste from construction personnel and ancillary facilities;
- Generation of spoil from tunnelling and surface excavation works;
- Generation of hazardous waste from demolition and excavation activities; and
- Large number of spoil haulage vehicles on road network impacting local traffic:

- During Stage 1 Preliminary Construction activities, estimated vehicle numbers will be described and managed in accordance with the Traffic and Access Management Procedure.
- During Stage 2 Construction activities, estimated vehicle numbers will be described and managed by the Traffic and Access CEMP Sub-plan (TAMP).

These impacts will be managed through the implementation of the mitigation measures detailed in Section 6.

#### **4.3.2 Resource Consumption Impacts**

The potential environmental impacts associated with construction resource use include:

- Impacts on construction resource availability within the local suburb boundary over the construction period;
- Consumption of non-renewable resources such as energy, diesel and other chemicals; and
- Greenhouse gas emissions due to consumption of energy or fuels from non-renewable resources.

#### **4.3.3 Cumulative impacts**

Cumulative impacts associated with the management of waste are not anticipated during the construction of the Project. Where unexpected cumulative impacts are identified during, they will be managed through compliance with relevant CoAs, coordination with external stakeholders including utility providers, and implementation of EMMs related to key environmental impacts. The mechanism for identifying any potential unexpected cumulative impacts will be through monitoring, inspections, reporting and auditing.

### **4.4 Waste management hierarchy**

To achieve positive waste and resource management outcomes, the Project will adopt waste management strategies in accordance with the waste hierarchy and requirements identified in the CoA, EIS, PIR, *NSW Waste Avoidance and Resource Recovery Act 2001* (WARR Act) and the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21* (EPA 2014).

Waste generated during delivery of the Project will be managed in accordance with the following priorities (in order of preference):

- Waste generation is to be avoided, and where avoidance is not reasonably practicable, waste generation is to be reduced (refer to Section 4.4.1);
- Where avoiding or reducing waste is not possible, waste is to be reused, recycled, or recovered (refer to Section 4.4.2); and
- Where re-using, recycling or recovering waste is not possible, waste is to be treated or disposed of at a waste management facility (premise lawfully permitted to accept the materials), 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 (refer to Section 4.4 and Appendix A).

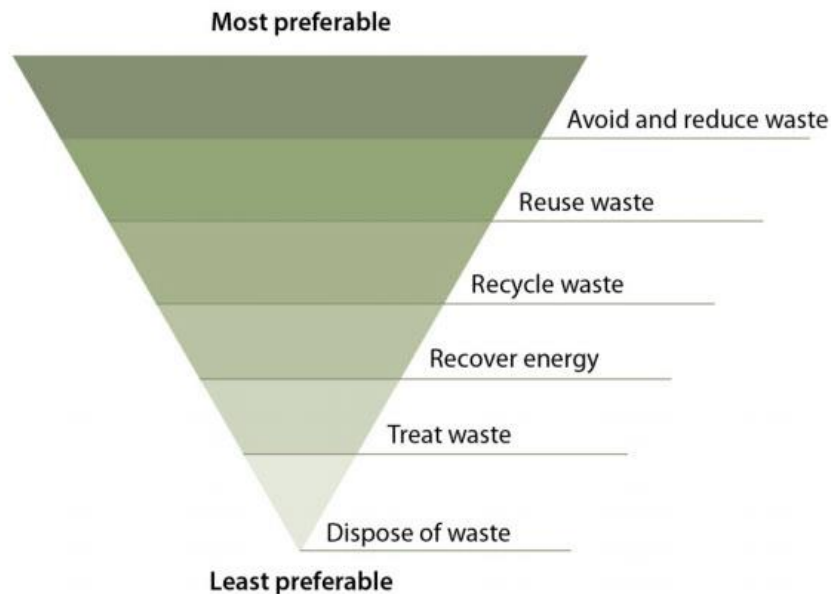


Figure 2: Waste management hierarchy (NSW Waste Avoidance and Resource Recovery Strategy 2014-21 (EPA 2014))

#### 4.4.1 Waste Avoidance and Reduction Schemes

As demonstrated in Figure 2 the waste hierarchy (which governs the management of waste during construction of the Project) nominates avoidance of waste as the most important priority. During the construction phase, the following measures will be implemented to minimise waste:

- Ensuring that the necessary planning is undertaken to enable efficient management of the delivery and storage of materials, to avoid spoilage of materials;
- Wherever possible, establishing agreements with suppliers for 'take back' arrangements for packaging/pallets/drums;
- Highlighting the minimisation of packaging as an important factor in the product procurement process;
- Ensuring correct types and quantities of materials are ordered, essentially avoiding excess material waste;
- Coordinating site activities to minimise waste through utilisation of unused materials;
- Employing trained and qualified plant and machinery operators to avoid damage to materials and reduce wastage of consumables during plant and machinery maintenance;
- Ensure that stored supplies are properly protected from the weather; and
- Where feasible and reasonable suppliers that can demonstrate sustainable practices will be selected e.g., locally sourced, produced with sustainable practices, EMS accredited.

#### 4.4.2 Reuse and recycling

In accordance with the waste hierarchy principles, if avoiding or reducing waste is not possible, waste should be reused on site or off site for the same or a similar use. It may also be recovered through recycling and reprocessing, so that waste can be processed into a similar non-waste product.

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 on site (construction activities) – waste materials, including spoil and demolition waste, will be separated on site into dedicated bins / areas for either reuse on site or collection by a waste contractor and transport to offsite facilities;
- Waste segregation on site (office) – waste within site offices shall be segregated on site with colour coded bins being provided for mixed recyclable, organic waste, landfill and paper. Paper bins will be provided throughout the office to encourage the recycling of scrap paper; and
- Waste separation off site at an appropriately licenced facility – wastes to be deposited into one bin where space is not available for placement of multiple bins, and the waste is to be sorted off site by a waste contractor.

When possible, waste shall be beneficially reused on or offsite in accordance with relevant approvals. This may occur through the following pathways and in compliance with appropriate legislation:

- Resource recovery exemptions as referenced in Section 4.7 of this Plan;
- Appropriately approved recycling facility; and
- Appropriately approved developments which are able to accept waste through the use of a notice under Section 143(3A) of the POEO Act (s.143 Notice) as detailed in TfNSW QA Specification G36.

Waste sampling and classification must occur if waste is intended for re-use or disposal off site. Waste sampling for offsite re-use of soils and aggregates shall be in accordance with the Roads and Maritime 'Waste Sampling' Environment Fact sheet on the TfNSW website. All offsite disposal of waste will be subject to classification of the material in accordance with the NSW EPA (2014) Waste classification guidelines, and relevant Resource Recovery Orders (Section 4.4.1). Where large quantities are involved, further input from specialists may be obtained. In some instances, Project specific resource recovery exemptions may be sought from EPA.

#### 4.4.3 Spoil

The Spoil Management Plan details the spoil management measures including spoil haulage routes and spoil disposal sites.

Spoil haulage routes will be selected to minimise impacts to sensitive receivers, the travelling public, and the local community while meeting compliance with road traffic rules in relation to vehicle length and weight limits. Anticipated haulage routes are based on the EIS and SWTC requirements, along with the strategy outlined. Refer to Appendix C Haulage Routes.

Wherever possible and fit for purpose, spoil will be beneficially reused as part of the Project before alternative spoil disposal options are pursued. Spoil may include multiple possible classifications such as Virgin Excavated Natural Material (VENM), Excavated Natural Material (ENM) or classified in accordance with other waste exemptions or orders. The indicative anticipated spoil volumes associated with the Project are outlined in Table 5.

Table 5: Anticipated spoil types and volumes

Waste type	Expected classification	Estimated Spoil Volume (m <sup>3</sup> ) <sup>1</sup>
Clean Spoil (tunnel excavation)	VENM (under waste exemption)	1,130,660 <sup>3</sup>
Contaminated material for landfill from cut-and-cover excavation at President Avenue	General solid waste (non-putrescible), Restricted waste, Hazardous waste and/or Special waste <sup>2</sup>	83,705

Waste type	Expected classification	Estimated Spoil Volume (m <sup>3</sup> ) <sup>1</sup>
Unsuitable material (alluvium spoil which is not suitable for reuse on site)	General solid waste (non-putrescible)	3,463
Acid sulfate soils	General solid waste (non-putrescible) following treatment or VENM ASS (as per licence conditions for reburial)	98,143
Construction and demolition waste (from President Avenue surface works)	General solid waste (non-putrescible) and Special waste <sup>2</sup>	1,450
Approximate Total (subject to final design)		1,317,421

**Notes:**

1 Classified in accordance with the Waste Classification Guidelines: Part 1 Classifying Waste (NSW EPA, 2014).

2 Spoil would be classified in accordance with the Waste Classification Guidelines: Part 1 Classifying Waste (NSW EPA, 2014) prior to disposal

3 95% of clean spoil from tunnel excavation will be reused (EMM W3).

Excess spoil that cannot be reused or recycled would be disposed of at suitably licensed landfills or waste management facilities (see Appendix A for potential disposal locations). Spoil reuse would be prioritised in accordance with the spoil management hierarchy outlined below.

Where feasible and reasonable, spoil would be managed according to the following hierarchy:

- Minimisation of spoil generation through design and management;
- Reuse of spoil within the Project;
- Beneficial reuse of spoil outside the Project; and
- Where reuse isn't possible, spoil disposal would be the last resort.

The following spoil reuse opportunities are identified within the Project:

- The use of suitable project spoil for the infill of temporary access shafts and declines;
- The use of tunnel and civil surface works spoil for fill, landscaping and site rehabilitation purposes; and
- Potential use of tunnel spoil for local road upgrades, namely the replacement of existing unsuitable pavement subgrade material.

Further spoil reuse opportunities will be investigated during the construction of the Project. Preliminary spoil disposal and reuse receipt locations identified for the Project are shown in Appendix A, with a map of potential waste facilities for the Project included in Appendix B.

Delivery of spoil to these reuse / disposal sites would occur in accordance with any EPL and other licencing / approvals requirements governing those sites. All sites (including any additional sites) identified as potential spoil receipt sites would be reviewed, seeking confirmation that the facility is appropriately licenced to accept waste material, following the s.143 Notice hold point process detailed in Section 4.4.6.

The following factors will be considered to determine appropriate spoil management (in order of priority): the environmental benefits (including meeting sustainability targets), traffic impacts, approvals and economic feasibility.

Waste management targets (refer to Section 2.3) were developed from the Project's environmental assessment and the NSW Waste Avoidance and Resource Recovery Strategy 2014-21 (EPA 2014). These targets include:

- Reuse or recycling of 100% of VENM generated during construction of the Project for beneficial purposes either within the Project or offsite, in accordance with the Project waste management hierarchy.
- The reuse or recycling of 80% of uncontaminated construction and demolition waste, including:
  - 100% of clean concrete reused; and
  - 100% of asphalt pavement reclaimed.
- The reuse or recycling of 95% of uncontaminated spoil (excluding VENM and construction and demolition waste) generated during construction of the Project for beneficial purposes, either within the Project or at other locations in accordance with the Project waste management hierarchy.

During Stage 1 Preliminary Construction activities, stockpile management would be carried out in accordance with the Soil and Surface Water Management Procedure. During Stage 2 Construction, stockpile management would be carried out in accordance with the Soil and Surface Water CEMP Sub-plan.

#### **4.4.4 Water**

The project Water Reuse Strategy has been prepared and is available on the Project website: <https://caportal.com.au/rms/m6>

In the event that water is encountered which can not be reused on site or discharged in accordance with an EPL (i.e. does not meet discharge criteria or cannot be treated to meet discharge criteria), it will be disposed to a licenced facility.

#### **4.4.5 Waste handling and storage**

Where waste is required to be handled and stored onsite prior to either onsite reuse or offsite recycling/disposal, it will be stored in accordance with Clause 42 (Schedule 1) of the POEO Act.

The following handling and storage measures will apply:

- Spoil, topsoil and mulch would be stockpiled on site in allocated areas adjacent to work zones, with appropriate mitigation measures for dust control and surface water management as per the AQOMP and the Soil and Surface Water Procedure (or Soil and Surface Water during construction). Bulk stockpiling is anticipated at C1 Arncliffe (current M8 stockpile), and the C3 construction compound in Rockdale Bicentennial Park. Spoil sheds will be included in the tunnel construction ancillary facilities located at C1, C2 and C3;
- Liquid wastes are to be stored in appropriate containers in bunded areas until transported off site. Bunded areas will have the capacity to hold 110 per cent of the liquid waste volume for bulk storage or 120 per cent of the volume of the largest container for smaller packaged storage;
- The excavation, handling, management and temporary storage of asbestos containing material will be undertaken in accordance with procedures detailed in the Unexpected Contaminated Lands and Asbestos Finds Procedure as per CoA E113 (see Contamination CEMP Sub-plan Appendix A). Asbestos waste will be disposed of off-site by authorised contractors at a licenced facility and the NSW EPA WasteLocate system will be used to track asbestos waste;
- Identified Acid Sulfate Soils (ASS) and Potential Acid Sulfate Soils (PASS) material will be managed by the following strategies:
  - Treated and neutralised within a bunded area on-site, before being reused on site.

- Treated and neutralised within a bunded area on site, before being removed to a licenced facility.
- Removed directly from site and reburied at a licenced facility (PASS only).
- Handling, treatment and disposal will be carried out in accordance with the Guideline for the Management of Acid Sulfate Materials (NSW Roads and Traffic Authority 2005c).
  - During Stage 1 Preliminary Construction activities, the disturbance of PASS will be minimised. Where disturbance of PASS is unavoidable (e.g. minor piling, installing footings for noise walls, utility adjustment) CGU will undertake the storage, treatment and disposal of PASS in accordance with mitigation measures outlined in Section 6 of the Contamination CEMP Sub-plan and measures in the Site Environment Plan (Appendix A4 Site Establishment Management Plan).
  - During Stage 2 Construction, the disturbance, treatment, reuse and disposal of ASS/PASS will be managed in accordance with the Acid Sulfate Soil Management Plan (Appendix C of the Soil and Surface Water CEMP Sub-plan).
- The excavation, handling and temporary storage of waste material identified as contaminated will be undertaken in accordance with the procedures detailed in the CEMP, the Contamination CEMP Sub-plan and Remediation Action Plan (where applicable). Contaminated material will be stockpiled and stored on hardstand or lined areas and segregated from uncontaminated material to prevent cross-contamination. Contaminated material will be disposed off-site at a licenced facility;
- Hazardous waste will be managed by appropriately qualified and licensed contractors, in accordance with the requirements of the Environmentally Hazardous Chemicals Act 1985 and the EPA waste disposal guidelines; and
- Recyclable and non-recyclable wastes will be stored in appropriately covered receptacles (e.g. bins or skips) on site and contractors will be commissioned to regularly remove/empty the bins to approved disposal or recycling facilities.

Onsite treatment of waste will be limited to ASS prior to offsite disposal. No other wastes are proposed to be treated onsite or at an offsite Project facility.

#### **4.4.6 Waste disposal and s.143 notices**

Wastes and spoil that are unable to be reused or recycled on site will be disposed of offsite at an appropriately licenced waste management facility or spoil management site following classification. The disposal of any waste including spoil generated from the construction of the Project would be in accordance with the POEO Act and the WARR Act.

Prior to transporting spoil wastes generated by the Project to a spoil management site where an EPA licence is not required (such as a beneficial reuse site), CGU will submit (via hold point) a completed and signed notice under section 143(3A) of the POEO Act ("s.143 Notice") along with accompanying documentation confirming that the proposed disposal site holds appropriate licences / approvals to receive the spoil. Disposal of the spoil material will not occur until the hold point is released.

All waste generated during construction would be classified in accordance with the Waste Classification Guidelines (EPA 2014) prior to off site disposal, with appropriate records and disposal dockets retained for audit purposes. Details of waste types, volumes and destinations would be recorded in the Waste and Spoil Management Tracking Register. Potential identified waste disposal locations are listed in Appendix A.

### **4.5 Classification of waste streams**

Waste classification will be undertaken in accordance with the Waste Classification Guidelines (EPA 2014). Part 1 of the Waste Classification Guidelines (EPA 2014) identifies six classes of

waste: Special, Liquid, Hazardous, Restricted Solid, General Solid (putrescible) and General Solid (non-putrescible) and describes a six-step process to classifying waste. Sampling and testing requirements for the waste streams are detailed in Section 4.2 of the Contamination CEMP Sub-plan. The process is outlined in Figure 3 below.

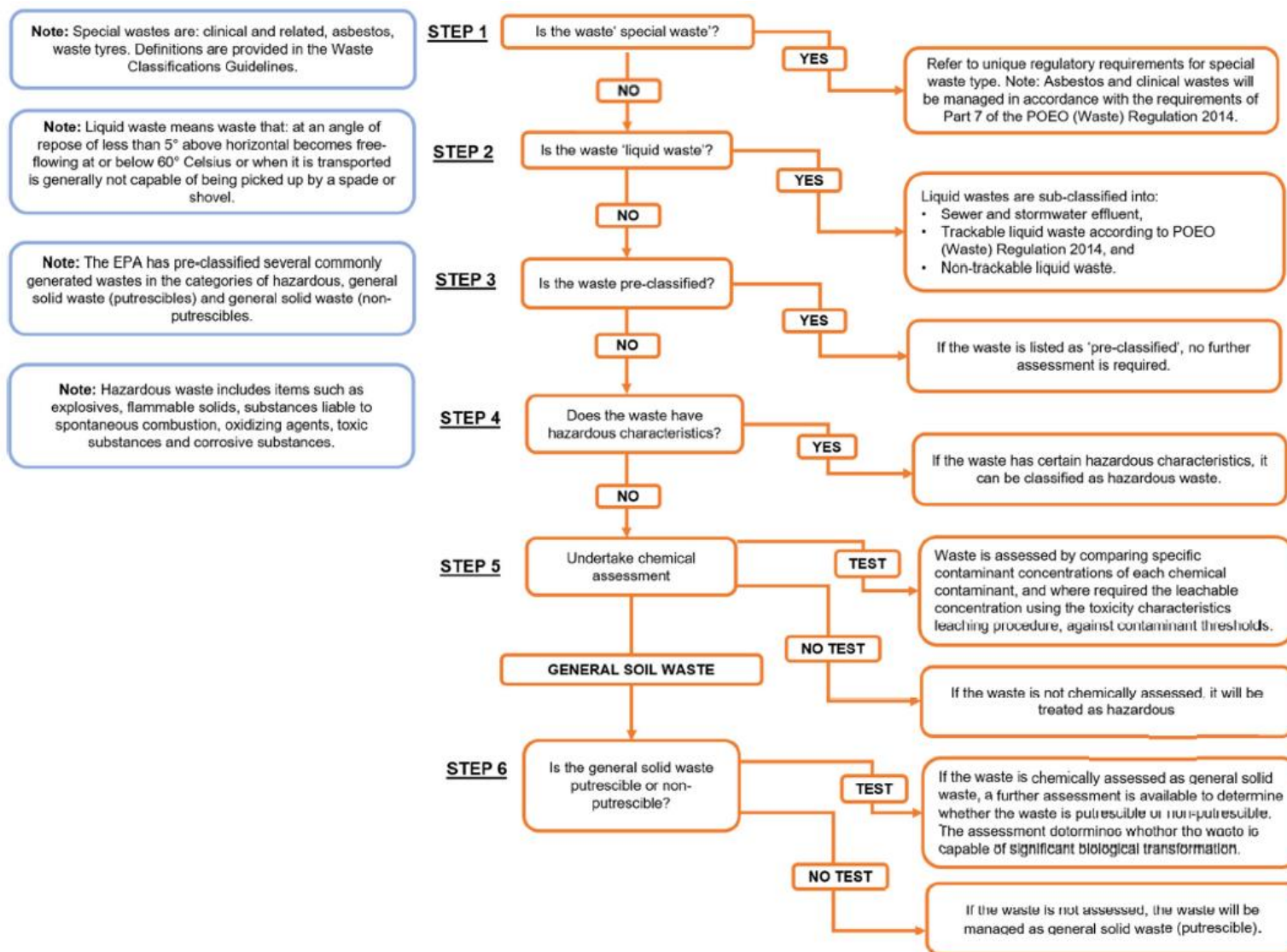


Figure 3: Waste Classification Process

## 4.6 Management of waste streams

The types of wastes which may be generated during construction are outlined within classifications in Table 6.

Table 6: Management of waste streams

Construction Activity	Waste Type	Indicative Quantity (m <sup>3</sup> )
Site Establishment and Demolition	Demolition Waste: vegetation waste	1,450
	Demolition Waste: scrap metal	
	Demolition Waste: concrete, asphalt, bricks and gravel (not including refractory bricks, refractory materials or asphalt containing coal tar)	
	Demolition Waste: hazardous or special waste	
Earthworks and excavation, including tunnelling activities	Spoil	Refer to Table 5
	Potentially contaminated or contaminated soils	
Surface works and general construction activities (including utility works)	Construction Wastes: steel reinforcing	33,177
	Construction Wastes: conduits and pipes	
	Construction Wastes: conduits, pipes and buildings (asbestos containing)	
	Construction Wastes: concrete (solids and washouts) and asphalt	
	Construction Wastes: timber formwork	
	Construction Wastes: packaging materials, including wood, plastic, cardboard and metals	
	Construction Wastes: empty oil and other drums	
	Construction Wastes: pesticides, herbicides, spill clean ups, paints and other chemicals	
	Construction Wastes Metals and electrical cabling	

Construction Activity	Waste Type	Indicative Quantity (m³)
	Construction Wastes: aerosol cans	
Compounds and Workshop Operation	Tyres	136
	Waste generated by the maintenance of equipment including oil filters and rags	
	Oils, grease, fuel, chemicals and other fluids	
	Batteries	
	Radiator fluid	
	Hydraulic fluid	
	Domestic waste generated by workers	
	Gas cylinders and bulk chemicals containers for Water Treatment Plant	
	Wastewater / recycled water / stormwater	N/A
Site Office Use	Paper, cardboard and plastic	6,600
	Glass bottles and aluminium cans	
	Ink cartridges	
	Food waste	
	Effluent and sewage	N/A
	Sanitary waste	N/A



## 4.7 Waste exemption

Clause 91 Protection of the Environment Operations (Waste) Regulation 2014 enables the EPA to grant orders and exemptions to the licensing and payment of levies for the land application or use of waste. The EPA has issued general resource recovery orders and exemptions for a range of commonly recovered, high volume and well characterised waste materials that allow their use as fill or fertiliser at unlicensed, off-site facilities. Under the Protection of the Environment Operations (Waste) Regulation 2014, there are a number of resource recovery orders and exemptions currently in force.

The general resource recovery orders and exemptions that may be applicable to this project are listed in Table 7. These are gazetted exemptions that do not require additional approval. A specific exemption may be granted where an application is made to the EPA.

Table 7: Resource Recovery Orders and Exemptions, and associated conditions relevant to the project

Exemption/Order	General Conditions
The Excavated Natural Material Order and Exemption (2014)	<p>The chemical concentration or other attributes of the excavated natural material listed in the Excavated Natural Material Exemption must not be exceeded.</p> <p>The excavated natural material can only be applied to land as engineering fill or used in earthworks.</p> <p>Material handling, processing and testing requirements are outlined in detail in the order and exemption.</p>
The Excavated Public Road Material Order and Exemption 2014	<p>To meet the requirements of this order and exemption, material can only be stored within the road corridor at the site where it is to be applied to land.</p> <p>Excavated public road material can only be applied to land within the road corridor for public road related activities including road construction, maintenance and installation of road infrastructure facilities. This exemption does not apply to the application of material on any land outside the road corridor.</p> <p>The Excavated Public Road Material Exemption does not apply to private land.</p> <p>The consumer must apply the relevant waste within a reasonable period of time.</p>
The Reclaimed Asphalt Pavement Order and Exemption 2014	<p>Reclaimed asphalt can only be:</p> <ul style="list-style-type: none"><li>• Applied to land for road related activities including road construction or road maintenance activities, being:<ul style="list-style-type: none"><li>◦ A use as a road base and sub base;</li><li>◦ Applied as a surface layer on road shoulders and unsealed roads; and</li><li>◦ Use as engineering fill material.</li></ul></li><li>• Used as an alternative raw material in the manufacture of asphalt.</li></ul>

Exemption/Order	General Conditions
The Recovered Aggregate Order and Exemption 2014	<p>The chemical concentration or other attribute of the recovered aggregate listed in the Recovered Aggregate Order must be met.</p> <p>The recovered aggregate material can only be applied to land for road making activities, building, landscaping and construction works. The order and exemption do not apply to any of the following applications:</p> <ul style="list-style-type: none"> <li>• Construction of dams or related water storage infrastructure;</li> <li>• Mine site rehabilitation;</li> <li>• Quarry rehabilitation;</li> <li>• Sand dredge pond rehabilitation;</li> <li>• Back-filling of quarry voids;</li> <li>• Raising or reshaping of land used for agricultural purposes;</li> <li>• Construction of roads on private land unless: <ul style="list-style-type: none"> <li>◦ The relevant waste is applied to land to the minimum extent necessary for the construction of a road;</li> <li>◦ A development consent for the development has been granted under the relevant environmental planning Instrument;</li> </ul> </li> </ul>
The Stormwater Order and Exemption 2014	<p>Stormwater can be applied to land by:</p> <ul style="list-style-type: none"> <li>• Spraying, spreading or depositing on the land;</li> <li>• Ploughing, injecting or mixing into the land; and</li> <li>• Filling, raising, reclaiming or contouring the land.</li> </ul>
The Cement Fibre Board Waste Order and Exemption 2014	<p>The chemical concentration or other attributes of the cement fibre board material listed in the order must not be exceeded.</p> <p>Cement fibre board can only be applied to land when incorporated within road making material or used as an alternative input into thermal processes for non-energy recovery purposes in the manufacture of building products.</p> <p>Handling, processing, sampling and testing requirements are outlined in the order.</p>
The Mulch Order and Exemption 2016	<p>The raw mulch can only be applied to land for the purposes of filtration or as a soil amendment material or used either singularly or in any combination as input material(s) to a composting process.</p> <p>The consumer must land apply the raw mulch within a reasonable period of time.</p>
The Recovered Plasterboard Order and Exemption 2014	<p>The chemical concentration or other attributes of the recovered plasterboard material listed in the order must not be exceeded.</p> <p>Recovered plasterboard can only be applied to land as a soil amendment. Prior to application to land the soil to which the material will be applied must be characterised to determine appropriate application rates. The recovered plasterboard must be incorporated into the topsoil.</p>

Exemption/Order	General Conditions
	Handling, processing, sampling and testing requirements are outlined in detail in the order. Protection of the Environment Operations (Waste) Regulation 2014 applies to this order.

## 4.8 Waste tracking

Consistent with the Protection of the Environment Operations (Waste) Regulation 2014 the following wastes potentially encountered/generated are required to be tracked within NSW:

- Hazardous Wastes as defined by Table 3 in the NSW EPA 'Waste that must be tracked' guideline;
- Liquid Waste (Category 1 trackable waste);
- More than 100 kilograms of asbestos waste or more than 10 square meters of asbestos sheeting in any single load;
- More than 200kg of waste tyres, or 20 tyres (whichever is heavier);
- Waste oil/water, hydrocarbon/water mixtures emulsions; and
- Wastes listed in Table 1 of the NSW EPA 'Waste that must be tracked' Guideline.

Details of waste types (including spoil and waste subject to a Resource Recovery Order and/or Exemption), volumes and destinations will be recorded in the Waste and Spoil Management Register for all waste movements off site and, where required, on site. The Waste and Spoil Management Register will include:

- the quantity of each type of waste generated, its classification and source location (recorded using latitude and longitude coordinates);
- Whether the waste or spoil is suitable for reuse;
- the address and facility/business names of destination location(s) for all wastes generated during construction;
- written confirmation from each place of disposal that they can lawfully receive the types of waste proposed to be transported there;
- the quantities of any waste types imported onto the CSSI site, including their classification and emplacement location (recorded using latitude and longitude coordinates);
- details of all waste received on the premises or transported off the premises that is subject to a resource recover order and/or exemption, and demonstrating that the waste meets the requirements of the Order and/or Exemption;
- disposal records demonstrating that receiving facilities have lawfully accepted the waste type; and
- records of all compliance checks.

The Waste and Spoil Management Register will be reviewed by the Spoil Manager, who will verify that all waste is being managed, transported, reused, recycled or disposed of in a lawful manner.

The NSW EPA Waste Locate system will be used to track asbestos waste and waste tyres, whilst the online waste tracking system developed by EPA will be utilised to track all other trackable waste.

In accordance with the CoA E126, the locations of all construction spoil haulage vehicles will be monitored in real time via GPS tracking. Electronic vehicle monitoring records will be made

available to the Planning Secretary and the EPA (upon request) for a period of no less than one (1) year following the completion of construction.

Furthermore, in accordance with the CoA A41 these haulage vehicles will be clearly marked on the sides and rear with the project name and CSSI application number in such a manner to enable immediate identification within at least 50 metres of the vehicles such as through Project branding on haul trucks. Details of the project identification markings will be submitted to the Planning Secretary for approval prior to the heavy vehicles being used for spoil haulage.

## 5 Resource management and conservation

Significant quantities of materials, water and electricity are expected to be consumed for the construction of the Project. Consequently, the EIS identified that resource consumption and waste generated by the Project could also contribute to the emission of greenhouse gases during construction.

Construction materials would likely be sourced from offsite suppliers, however locally sourced construction materials will be prioritised for use where practical to minimise haulage distances and the associated impacts on traffic in the area.

Water would be required during construction for tunnelling activities, surface works, site offices and ablutions. Preference would be given to the use of non-potable water over potable water, where reasonable and feasible. Water would be sourced (in order of general preference) from stormwater harvesting (non-potable water), on site construction water treatment and reuse (non-potable water) and mains supply (potable water). It is anticipated that the local water supply network would have sufficient capacity to accommodate water requirements.

Similarly, power requirements are expected to be significant during construction of the Project, however local substations are expected to have the required capacity to supply the construction ancillary facilities without affecting the local supply network.

### 5.1 Resource management

The general resource recovery principles that will govern the management and conservation of resources are:

- Recovery of resources for reuse - reusable materials generated by the Project will be segregated for reuse on site, or off site where possible; and
- Recovery of resources for recycling - recyclable resources (such as metals, plastics and other recyclable materials) generated during construction and demolition will be segregated for recycling and sent to an appropriate recycling facility for processing.

Recovery of resources for reprocessing cleared vegetation will be mulched or chipped on site and used for landscaping, in the absence of a higher beneficial use being identified

The Project will commit to implementing the resource recovery principles stated above during construction of the Project. These practices include:

- Monitoring and recording quantities of materials used, waste to be beneficially reused and waste to be recycled during the construction stage;
- Conducting awareness programs for all site personnel regarding energy conservation methods;
- Capitalise on opportunities to reduce material use and maximise the use of materials with low environmental impact;
- Maximise the use of reused/recycled timber products and source 100% of new timber from sustainably managed forests that have obtained Forest Management Certification (FMC);
- Optimise the amount of cement replacement material used in concrete;
- Optimise the amount of recycled material used in road base and sub-base;
- Preference would be given to the use of non-potable water over potable water in accordance with workplace health and safety considerations, economic feasibility, the functional specifications of the design, tunnelling equipment specifications, and non-potable water availability; and

- Non-potable water will be used where possible during construction for dust suppression and end of project landscaping.

With the adoption of these principles, the Project would minimise long-term impacts through the sustainable use of construction materials, water resources, electricity consumption and consequently reduce greenhouse gas emissions.

## 5.2 Tracking of resources and sustainability reporting

The Project will track the quantities of materials and resources used, quantities of waste beneficially reused, quantities of waste recycled and quantities of waste unable to be recycled or beneficially reused. This will assist in the management of resource consumption and identifying areas for improvement. The quantities of materials, resources and waste streams will be obtained by the CGU sustainability team from various channels including:

- Directly from waste subcontractor/s for waste stream quantities and disposal location;
- From site commercial, construction and environment teams for asphalt, road base and water quantities used;
- From the commercial team for fuel quantities and energy captured through the National Greenhouse and Energy Reporting Scheme (NGERS); and
- Directly from suppliers (on a monthly basis) for concrete and steel quantities used.

These quantities will be reported in the Sustainability Quarterly Report and Sustainability Annual Report. In addition, all data collated relating to consumption of resources and materials will be provided in the Project's ISCA submission. To demonstrate reductions in materials consumption, the ISCA submission will compare the quantities estimated from the tender reference design to the actual quantities of materials used in the 'As Built' design. This submission will contribute to the Project's ISCA rating. The Project must achieve a minimum 'Excellent' 'Design' and 'As built' rating using the ISCA infrastructure rating tool. This is set out in the Project's Sustainability Strategy, required in accordance with CoA E115.

## 6 Environmental control measures

Specific measures and requirements to meet the objectives of this Waste CEMP Sub-plan and to address contract specifications, CoA and EMM's are outlined in Table 8.

Table 8: Waste, energy, and water management and mitigation measures

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
<b>General Project Requirements</b>						
MMW1	<p>Waste generated during construction will be managed in accordance with the following priorities:</p> <ul style="list-style-type: none"> <li>waste generation must be minimised. Where avoidance is not reasonably practicable, waste generation must be reduced.</li> <li>where avoiding or reducing waste is not possible, waste must be re-used, recycled, or recovered.</li> <li>where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of at a waste management facility or premise lawfully permitted to accept the materials or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014</li> </ul>	<p>Waste CEMP Sub-plan</p> <p>Waste and Spoil Management Register</p>	Construction	Construction Manager; Spoil Manager; Environmental and Sustainability Manager; Supervisor	<p>CoA E163</p> <p>TfNSW QA Specification G36 Section 4.11.1</p> <p>EMM W1</p>	<p>Waste and Spoil Management Register records</p> <p>WARR reporting</p>

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
	(NSW), or to any other place that can lawfully accept such waste.					
MMW2	<p>Prior to transporting wastes generated under the Contract to a place that is not owned by TfNSW and is not a licensed waste facility, a completed and signed notice under section 143(3A) of the POEO Act ("s.143 Notice") will be submitted as a hold point. Disposal of the spoil material will not occur until the hold point is released.</p> <p>A completed and signed original copy of "s.143 Notice" received from the landholder receiving the waste will be retained as evidence that the Waste Site has the appropriate planning consent. This includes waste transported for reuse, recycling, disposal or stockpiling.</p>	s.143 Notice letter from landholder and completed notice	Construction	Spoil Manager; Construction Manager; Environmental and Sustainability Manager	TfNSW QA Specification G36 Section 4.11.4 EMM W1	Completed s.143 Notice Waste and Spoil Management Register records
MMW3	All staff and subcontractors will receive a site induction and ongoing toolbox talks that detail waste and resource management measures (including the waste management hierarchy).	N/A	Construction	Construction Manager; Environmental and Sustainability Manager; and Supervisor	CoA C2 Best Practice	Induction records Toolbox talk records
<b>Management of Waste – General</b>						



ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
MMW4	Waste generated offsite will not be received onsite for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence or waste exemption under the POEO Act, if such a licence is required in relation to that waste.	N/A	Construction	Construction Manager; Environmental and Sustainability Manager; Supervisor	CoA E164 and E165	Licence or waste exemption, if relevant
MMW5	All waste generated during construction must be classified in accordance with the Waste Classification Guidelines (EPA 2014) with appropriate records and disposal dockets retained for audit purposes.  Waste sampling and testing to be guided by the Waste Classification Guidelines and Roads and Maritime Fact Sheet 'Waste Sampling'.	Waste Classification Guidelines (EPA 2014)  Roads and Maritime Fact Sheet 'Waste Sampling'.	Prior to Construction Construction	Construction Manager; Spoil Manager; Environmental and Sustainability Manager	CoA E166 Roads and Maritime QA Specification G36 Section 4.11.1	Waste Classification Reports
MMW6	Any disposal of weeds and exotics resulting from clearing and grubbing operations will be managed in accordance with <i>Biosecurity Act 2015</i> and the FFMP.	Waste Classification Guidelines (EPA 2014)	Construction	Environmental and Sustainability Manager; Supervisor	Roads and Maritime QA Specification G40/D	Permit to Clear and Grub  Waste and Spoil Management Register records
MMW7	Stockpile sites will be located away from drainage lines and watercourses and arranged to minimise damage to natural vegetation and trees.	Stockpile Management Procedure	Construction	Construction Manager; Environmental and Sustainability	Roads and Maritime QA Specification G40 Section 4.2	Environmental Inspection Checklist  Site Environmental Plan

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
				Manager; Supervisor		ESCP
MMW8	<p>Suitably licensed waste contractors will be used for the collection and transport of all non-domestic, retail and commercial wastes for either off site processing and/or disposal to an appropriately licensed facility.</p> <p>Receipts for waste transfer and disposal will be checked to ensure all details are correct and retained for audit purposes.</p>	N/A	Construction	Construction Manager; Spoil Manager; Environmental and Sustainability Manager; Supervisor	Best Practice EMM W2	<p>Receipts for waste transfer and disposal</p> <p>Waste and Spoil Management Register records</p>
MMW9	A waste tracking register will be developed for the Project. The waste tracking register will include the quantity and classification of all wastes generated and imported to the site. The register will also include the source of the waste and destination (either on-site or off-site).	N/A	Construction	Spoil Manager	CoA E167	<p>Receipts for waste transfer and disposal</p> <p>Waste and Spoil Management Register records</p>
MMW10	Contingency areas for unexpected waste materials will be allocated at the project sites (to allow for required assessment). Contingency areas will be stabilised appropriately and segregated according to the waste materials being stored. If unexpected waste types are encountered, they will be classified in accordance with the NSW EPA (2014) Waste Classification Guidelines, and managed in accordance	N/A	Construction	Construction Manager; Spoil Manager; Environmental and Sustainability Manager; Supervisor	EMM W4	<p>Construction Management Plan</p> <p>Environmental Inspection Checklist</p> <p>Site Environment Plan</p>

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
	with the principals of this plan. Unexpected volumes of waste will be stored in contingency areas, prior to their re-use or disposal, with comparisons between proposed waste types and quantities against actual waste types and quantities made in the monthly sustainability reports and the quarterly environmental reporting.					
<b>Management of Waste - Spoil</b>						
MMW11	The handling and transport of spoil generated during Stage 1 Preliminary Construction will be managed in accordance with this WMP and the Traffic and Access Management Procedure.  The handling and transport of spoil generated during Stage 2 Construction activities will be conducted in accordance with this WMP and the Traffic and Access CEMP Sub-plan.	Traffic and Access Management Procedure  Traffic and Access CEMP Sub-plan	Construction	Spoil Manager  Environmental and Sustainability Manager  Construction Manager	Best Practice	Waste and Spoil Management Register records
MMW12	Where possible and fit for purpose, spoil will be beneficially reused as part of the Project before alternative spoil disposal options are pursued. Spoil reuse opportunities will be regularly reviewed and updated during detailed design and Project construction.	N/A	Construction	Environmental and Sustainability Manager; Spoil Manager	Best Practice EMM W3	Spoil Management records  Quarterly and Annual Sustainability Reporting

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
<b>Management of Waste - Hazardous or special waste</b>						
MMW13	Hazardous substances, dangerous goods and hazardous materials will not be stored on site except in small volumes within a well-ventilated area with cover. The store will have a concrete sealed or equivalent impervious floor with bunding, isolated drainage (if required), signage and be secured.	N/A	Construction	Construction Manager Supervisor	Best practice	Site Environment Plan  Environmental Inspection Checklist
MMW14	The discovery and excavation of previously unexpected contaminated land or asbestos will be managed and disposed of in accordance with an <i>Unexpected Contaminated Lands and Asbestos Management Procedure</i> in the CLMP. Any contaminated waste will be handled, separated, contained, managed and disposed of to prevent migration and further contamination.	Unexpected Contaminated Lands and Asbestos Management Procedure	Construction	Environmental and Sustainability Manager  Safety Manager Supervisor	Best Practice <i>Contaminated Land Management Act 1997</i> (CLM Act)	Incident Reports  Waste and Spoil Management Register records
MMW15	Asbestos handling and management will be undertaken in accordance with the <i>Unexpected Contaminated Lands and Asbestos Management Procedure</i> and area specific Demolition Management Plans. Adjacent communities will be provided with advance notification about potential hazards.	Unexpected Contaminated Lands and Asbestos Management Procedure (Appendix A of the Contamination	Construction	Safety Manager Supervisor	Best practice	Safety Inspections  Incident Reports  Waste and Spoil Management Register record

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
		CEMP Sub-plan) Demolition Management Plans				
<b>Resource Consumption – General</b>						
MMW16	<p>Resource recovery will be applied to the management of construction waste and will include:</p> <ul style="list-style-type: none"> <li>Recovery of resources for reuse-reusable materials generated by the Project will be segregated for reuse on site, or off site where possible, including the reuse of the major waste streams (VENM)</li> <li>Recovery of resources for recycling - recyclable resources (such as metals, plastics and other recyclable materials) generated during construction and demolition</li> <li>Resources will be segregated for recycling and sent to an appropriate recycling facility for processing</li> <li>Recovery of resources for reprocessing - cleared vegetation will be mulched or chipped on site and used for</li> </ul>	<p>WMP FFMP</p> <p>Appropriate receptacles for segregation</p>	Construction	<p>Spoil Manager Environmental and Sustainability Manager Commercial Director Construction Manager</p>	CoA E163 Best Practice EMM W1	<p>Waste and Spoil Management Register records WARR reporting</p>

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
	landscaping, in the absence of a higher beneficial use being identified.					
<b>Resource Consumption – Materials</b>						
MMW17	Waste will be segregated between recyclable and non-recyclable waste, as well as between categories of recyclable wastes (paper/ cardboard/ plastic/ glass/ timber/ metals/ fluorescent lighting/ printer cartridges/ICT equipment) and volumes reported. Wherever possible, packaging will be avoided or minimised.	Appropriate receptacles for segregation	Construction	Construction Manager Supervisor Environmental and Sustainability Manager Procurement Manager	CoA E163 Best Practice	Waste and Spoil Management Register records Environmental Inspection Checklist Subcontractor Procurement Package
MMW18	The Project will reuse or recycle more than 95 per cent of uncontaminated spoil generated for beneficial purposes, either within the Project or at other locations in accordance with the Project waste management hierarchy.	N/A	Construction	Environmental and Sustainability Manager Spoil Manager Sustainability Manager	EMM W3 Sustainability Management Plan	Waste and Spoil Management Tracking Register records ISCA Scorecard
MMW19	The Project will source all timber products from either reused timber, recycled timber, or from timber sustainably managed forests (FMC certified). Acceptable FMC schemes include the Program for the Endorsement of Forest Certification,	Reused/recycled timber or FMC certified timber	Construction	Environmental and Sustainability Manager	Sustainability Management Plan	Timber with an FMC or source records ISCA Scorecard Design reports

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
	Forest Stewardship Council and Australian Forest Certification Scheme.			Procurement Manager		Subcontractor contracts
MMW20	Locally produced goods and services will be procured where feasible and cost effective to reduce transport fuel emissions.	N/A	Prior to Construction Construction	Commercial Director Procurement Manager	EMM GG8	Subcontractor Procurement Pack
<b>Resource Consumption – Water</b>						
MMW21	Where practicable construction water will either be reused on site wherever feasible and opportunities for the reuse of treated water would be considered in preference to discharge into the stormwater system.	N/A Water reuse strategy	Construction	Environmental and Sustainability Manager Project / Site Engineers Supervisor	Water re-use strategy Best practice	ISCA Scorecards Sustainability reports
MMW22	Wastewater not reused on site will be discharged into the local stormwater system in accordance with the requirements of an EPL issued for the Project.	EPL	Construction	Construction Manager; Supervisor Environmental and Sustainability Manager	Best practice	EPL Annual Returns Permit to Dewater
<b>Resource Consumption – Power</b>						

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
MMW23	<p>At least 20 per cent of construction energy (electricity) required for the Project will be sourced from renewable energy generated on site and/or an accredited GreenPower energy supplier, where possible.</p> <p>Six per cent of construction energy (electricity) requirements will be offset, with any offset undertaken in accordance with the Australian Government National Carbon Offset Standard.</p>	N/A	Construction	<p>Environmental and Sustainability Manager</p> <p>Procurement Manager</p>	EMM GG1	<p>ISCA Scorecards</p> <p>Sustainability reports</p>
<b>Resource Consumption – Emissions</b>						
MMW24	<p>Construction plant and equipment will be operated and maintained to maximise efficiency and reduce emissions</p> <p>Construction planning will focus on minimising vehicle wait times and idling on site and machinery turned off when not in use.</p>	N/A	Construction	<p>Mechanical Supervisor</p> <p>Construction Manager</p>	EMM GG6	<p>Plant records</p> <p>Onboarding records</p> <p>Environmental Inspection Checklist</p> <p>Toolbox records</p>
MMW25	<p>Opportunities to use low emission construction materials, such as recycled aggregates in road pavement and surfacing, and cement replacement materials will be investigated and incorporated where feasible and cost-effective.</p>	N/A	Construction	<p>Design Manager</p> <p>Environmental and Sustainability Manager</p>	EMM GG4	<p>Procurement records</p> <p>Design reports</p> <p>Subcontractor contracts</p>



ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
				Procurement Manager		
MMW26	Construction site layouts will be designed to reduce vehicle travel distances. Construction area managers will organise spoil and deliveries to reduce the double handling of materials.	N/A	Construction	Construction Manager	EMM GG5	Design Drawings Construction Plan
<b>Recording / Reporting</b>						
MMW27	A Waste and Spoil Management Tracking Register will be maintained until the construction completion date, to record the type, amount and location of waste reused, recycled, stockpiled and disposed of.	Waste and Spoil Management Tracking Register	Prior to Construction	Spoil Manager Environmental and Sustainability Manager	Roads and Maritime QA Specification G36 Section 4.11.2	Waste and Spoil Management Tracking Register records Waste Dockets
MMW28	Any servicing of plant and equipment will be performed in accordance with a risk assessment and within an appropriate onsite servicing area supported by immediately accessible spill controls and waste storage. Maintenance records will be readily available for inspection.	N/A	Construction	Environmental and Sustainability Manager Mechanical Supervisor	Best Practice	Plant maintenance records Environmental Inspection Checklist
MMW29	An annual WARR report will be submitted containing information relating to wastes generated or recycled in accordance with Roads and Maritime QA Specification G36 Annexure G36/F.	Completed WARR Report	Construction	Environmental and Sustainability Manager	Roads and Maritime QA Specification G36 Section 4.11.3	WARR reporting

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
					Roads and Maritime QA Specification G36/F1	
MMW30	All construction spoil haulage vehicles will be clearly marked for The M6 Stage 1 project and the locations of these haulage vehicles will be GPS tracked and monitored in real time. Records of haulage vehicle monitoring will be made available electronically to the Secretary and the EPA upon request <u>for a period of no less than one (1) year following the completion of construction.</u>	GPS tracking ID stickers	Construction	Environmental and Sustainability Manager	CoA A41	GPS Tracking records  M6 Stage 1 project branding on haul trucks including the CSSI application number
MMW31	The Spoil Manager will review the Waste and Spoil Registers to verify wastes are appropriately managed including achieving sustainability targets. Project Managers will ensure measures are in place to ensure the segregation of wastes and avoidance of cross contamination.	Waste and Spoil Management Register	Construction	Spoil Manager Project Managers	Best Practice CoA C9	Waste and Spoil Management Register  Site Environment Plans

## 7 Compliance management

### 7.1 Roles and responsibilities

The CGU Project Team's organisational structure and overall roles and responsibilities are outlined in Section 3.4 of the CEMP. Specific responsibilities for the implementation of environmental controls are detailed in Section 6 of this Plan.

### 7.2 Training

All employees, contractors and utility staff working on site will undergo site induction training relating to waste and resource management issues. The induction training will address elements related to waste and resource management including:

- Existence and requirements of this Sub-plan;
- Existence and requirements of other management plans and guidelines such as the Unexpected Contaminated Lands and Asbestos Finds Procedure, the Sustainability Strategy and the Sustainability Management Plan;
- Relevant legislation and guidelines;
- Roles and responsibilities for waste management;
- Incident response, management and reporting;
- Waste reporting requirements;
- Requirements of the waste hierarchy;
- Waste/recycle storage requirements;
- Energy and resource use efficiency best practices;
- Potential for contaminated material to be present on site and management requirements if such material is identified; and
- Expectations for targets relevant to waste and resource management including ISCA targets.

Targeted training in the form of toolbox talks or specific training will also be provided to personnel with a key role in waste and resource management.

Further details regarding staff induction and training are outlined in Section 3.10 of the CEMP.

### 7.3 Monitoring and inspection

Compliance with the requirements of this Waste CEMP Sub-plan and its implementation and effectiveness, will be monitored through:

- Regular inspections of worksites and activities;
- CGU Environmental Inspections (weekly and event triggered); and
- Internal and external audits, including regular audits of waste management contractors and waste disposal facilities.

The monitoring and inspection measures identified above will be targeted, in order to verify that waste is being managed, transported, reused, recycled or disposed in a lawful manner.

Regular monitoring and inspections will be carried out during construction in accordance with Section 3.9 of the CEMP. Inspection and monitoring requirements relevant to waste management for the Project are identified in Table 9.

Table 9: Inspection and monitoring requirements relevant to waste management

Item	Frequency	Standards	Records	Responsibility
Asbestos survey	As required, prior to demolition	Inspection to be undertaken by a qualified asbestos surveyor	Reporting as per Demolition Plan	Safety Manager
Site Inspections	Weekly	Waste Classification Guidelines (EPA 2014) TfNSW Fact Sheets	Environmental Inspection Checklist	Environment and Sustainability Manager
Site Inspections	Fortnightly	Implementation of this Plan	Environmental Representative Inspection Report	ER
Site Inspections	As required	Implementation of this Plan	TfNSW Inspection Report	TfNSW
Visual surveillance	Daily	Storage containers (bins, skips, tanks, etc.) in sufficient numbers to facilitate segregation  Correct bin type used  Containers clearly sign posted  Containers emptied at sufficient frequency	Log book and photos as relevant	Supervisor  Environmental and Sustainability Manager
Monitoring and review	Monthly	That waste is managed, transported, reused, recycled or disposed in a lawful manner	Waste and Spoil Management Register records  Tracking systems of haulage vehicles	Spoil Manager

## 7.4 Auditing

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, compliance with this Plan, CoA, EMM's and other relevant approvals, licenses and guidelines. Audit requirements are detailed in Section 3.9.3 of the CEMP.

## 7.5 Reporting

Reporting requirements and responsibilities are documented in Section 3.9.5 of the CEMP. Subcontractors will supply required data to the delivery team including data for waste movements to inform the Tracking Register.

Additional reporting requirements relevant to waste management are identified in Table 10.

Table 10: Reporting requirements relevant to waste management

Item	Frequency	Standards	Records	Responsibility
Diesel Plant and Equipment Reporting	Annual	TfNSW QA Specification G36 Section 4.4.2 and GREP reporting tool	Reporting on the conformity, or otherwise, of mobile non-road diesel plant and equipment used for the work under the deed. Prepared in accordance with the GREP "Clean Air Data Management Tool1"	Construction Manager
GREP Reporting	Annually (before 31 July) and on completion of construction	GREP "Clean Air Data Management Tool1" United States Environmental Protection Agency, European Union (EU) standards or approved equivalent emission standards	Conformity, or otherwise, of mobile non-road diesel plant and equipment used for the work under the deed with the relevant United States Environmental Protection Agency, European Union (EU) standards or approved equivalent emission standards.	Construction Manager
NGER Reporting	Annual	NGER Scheme	Required report information including: <ul style="list-style-type: none"> <li>• Diesel usage,</li> <li>• Electricity from site generators,</li> <li>• Bitumen and asphalt produced,</li> <li>• Explosives used on site, and</li> <li>• Amount of acetylene.</li> </ul>	Environmental and Sustainability Manager

Item	Frequency	Standards	Records	Responsibility
Sustainability / resource consumption monitoring	As specified in the Sustainability Management Plan	As specified in the Sustainability Management Plan	As specified in the Sustainability Management Plan.	Sustainability Manager
WARR Reporting	Annual	TfNSW Specification G36 Annexure G36/F	<p>Reporting will include the following three components to the report to be addressed:</p> <ul style="list-style-type: none"> <li>• Purchasing data: data on the amount of material purchased by the Project to enable construction works listed under the contract</li> <li>• Waste and recycling data: data on the amount of material generated and recycled by CGU JV in the course of completing work under the contract</li> <li>• 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.</li> </ul>	Environmental and Sustainability Manager

## 8 Review and improvement

### 8.1 Continual improvement

Section 3.2.2 of the CEMP describes the process for the continual improvement of project documents.

Continual improvement of this Plan 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 continual improvement process is designed to:

- Identify areas of opportunity for improvement of environmental management and performance;
- Determine the cause or causes of non-conformances and deficiencies and develop and implement a plan of corrective and preventative action (refer to Section 3.10 of the CEMP);
- Verify the effectiveness of the corrective and preventative actions;
- Document any changes in procedures resulting from process improvement; and
- Make comparisons with objectives and targets.

Comparisons between proposed waste types and quantities against actual waste types and quantities, and intended reuse, recycling or disposal locations against actual reuse, recycling and disposal locations will be made in the monthly sustainability reports and the quarterly environmental reporting in accordance with SWTC C.2 4.11.2.

### 8.2 Waste CEMP Sub-plan update and amendment

Section 3.13 of the CEMP describes the process for revising and updating the CEMP and its Sub-plans.

A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure – refer to Section 2 of the CEMP. An updated copy will also be kept on the premises for the duration of the licence and available to an EPA officer upon request.

## Appendix A Contact List and Locations of Potential Local Waste Transporters and Waste Facilities

Waste disposal/spoil re-use site details	Street Address	Specified Waste in EPL / Planning Documents (DA / REF / other)
Environmental Treatment Solutions, Minto and associated disposal sites	7 Pembury Road, Minto NSW 2566	Asbestos, Ceramic based fibres similar to asbestos
Sydney Recycling Park, Kemps Creek	16-23 Clifton Avenue, Kemps Creek, NSW 2178	Asbestos, GSW (non-putrescible)
Bingo (Genesis) Recycling Centre Eastern Creek	1 Kangaroo Avenue, Eastern Creek (HONEYCOMB DRIVE EASTERN CREEK NSW 2766)	Asbestos, GSW, Wood Waste, Garden Waste, Building and Demolition Waste, Soils
Bingo Recycling Centre, Greenacre	35 Wentworth Street, Greenacre, NSW 2190	Asbestos, Wood Waste, Paper, Glass/Plastic/rubber, Garden waste, Office waste, Asphalt, Soils (CT1 & EPL limit), VENM, ENM, Building and Demo waste
SCE Processing & SCE Recycling	LOT 1 Shellharbour Rd, Port Kembla NSW 2505	Ash, Coal Washery Reject, Cement Fibre board, ENM, VENM, Electric Arc Laddle Slag, Sand, Rail Ballast, Building and Demo, Glass, Asphalt Waste, Wood Waste, Soils (below CT1 and other limits as per the EPL)
Bingo (Genesis) Recycling Centre Eastern Creek	1 Kangaroo Avenue, Eastern Creek (HONEYCOMB DRIVE EASTERN CREEK NSW 2766)	Asphalt, VENM, Wood Waste, Garden Waste, Building and demolition waste, Tyres, Soils (CT1 & EPL limits), GSW (non-putrescible)
Gow Street Recycling Centre	81-87 Gow Street, Padstow, NSW 2211	Building and Demo Waste, Asphalt waste
Bingo Recycling Centre, Ingleburn	8 Heald Rd Ingleburn, NSW 2565	Building and demo waste, Glass/Plastic/Metal, VENM, Soils (CT1 & EPL)
Bingo Recycling Centre, St Marys	25 Dunheved Circuit, St Marys, NSW 2760	Building and demo waste, household waste, office waste, VENM
Aussie Skips Waste Services Pty Ltd, Strathfield	Unit 5, 84-108 Madeline Street, Strathfield South, NSW 2136	Building and Demo Waste, Soils (CT1 and EPL limits)
Bingo Recycling Centre, Banksmeadow	38 McPherson Street, Banksmeadow, NSW, 2019	Building and demo waste, VENM, Asphalt, Garden Waste, Wood Waste, Soils (CT1 & EPL limits)
Boral Recycling Pty Ltd, St Peters	25 Burrows Road South, St Peters, NSW 2044	Building and demo waste, VENM, Asphalt Waste



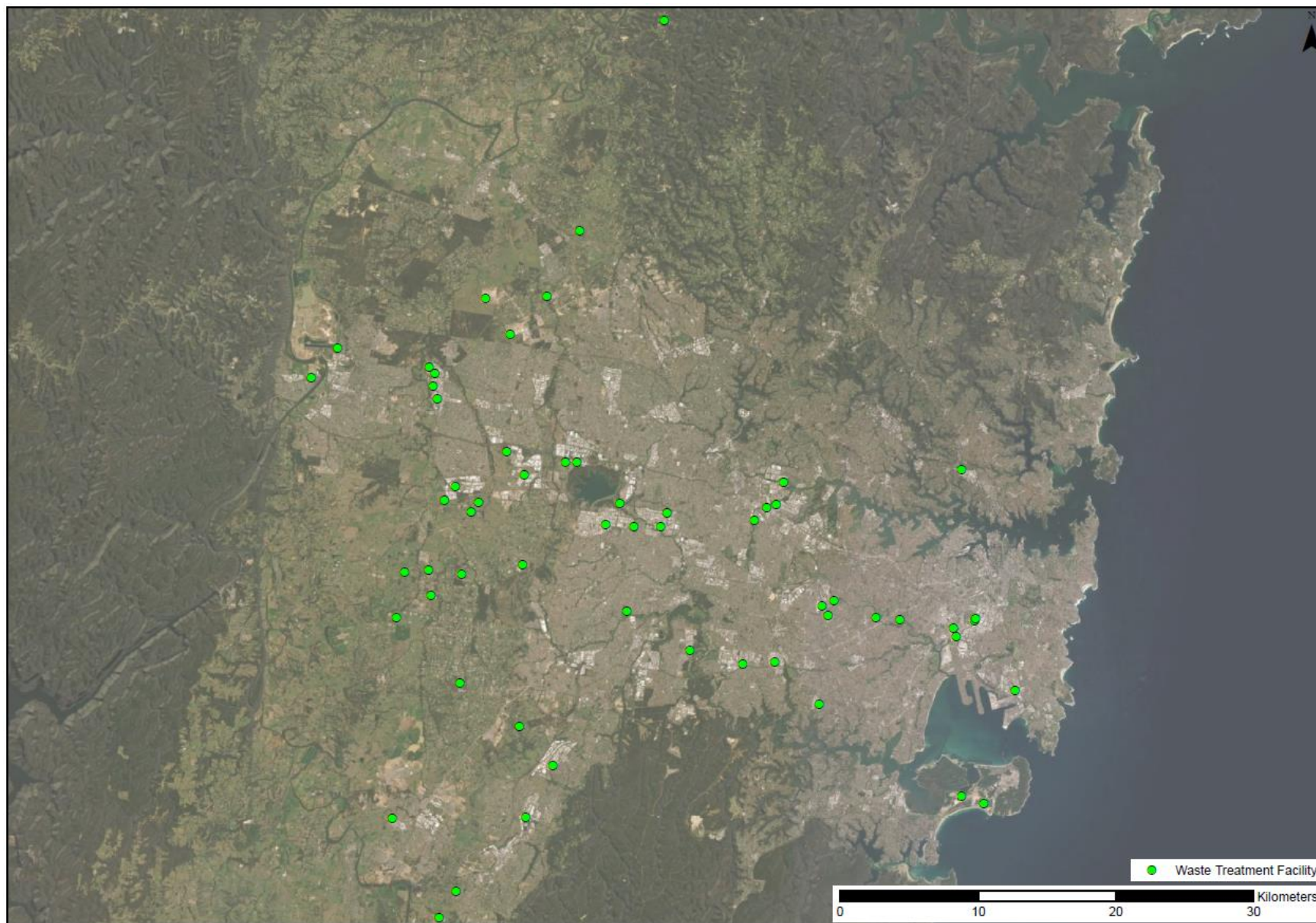
Waste disposal/spoil re-use site details	Street Address	Specified Waste in EPL / Planning Documents (DA / REF / other)
MotoPark complex Peter Brock Drive	50 Peter Brock Drive Eastern Creek	Clean Fill in accordance with council works specification (current spec shows VENM)
MET Recycling, Silverwater	Cnr Newton Street North and Carnarvon Street, Silverwater, NSW 2128	Concrete, brick, Asphalt, building and demo waste
Concrete Recyclers, Camellia	14 Thackeray Street, Camellia NSW 2142	Concrete, clean brick, bitumen and excavation sand
Tox Free, St Marys	42-46 Charles Street, St Marys, NSW 2760	Contaminated Soils, Asbestos, ASS, PASS
Bingo Recycling Centre, Auburn	3-5 Duck Street, Auburn, NSW 2144	Foundry Sands, VENM, Building and Demo waste, Soils (EPL limits) Asphalt, Office paper
PGH Bricks Cecil Park	49 Cecil Rd Cecil Park	General or Specific exempted Waste, Waste (below schedule 1 of the PEOEO Act)
Bingo Recycling Centre, Artarmon	10 McLachlan Avenue, Artarmon, NSW 2064	Glass, Plastic, Metal, Asphalt, Soils (CT1 & EPL limits), VENM, Garden Waste, Wood Waste, Paper, Building and Demolition Waste
Cleanaway Enviroguard	85-87 Quarry Road, Erskine Park, NSW 2759	GSW (non-putrescible) includes low level contaminated soil, asbestos (contaminated soil only), hazardous waste via approved immobilisation
Suez, Kemps Creek	1725 Elizabeth Drive, Kemps Creek, NSW 2178	GSW (non-putrescible) including material to which and immobilisation order applies, Asbestos, tyres, RSW including material to which and immobilisation order applies
Menangle Park	7 Menangle Road, Menangle Park	GSW EPRM
ETS Blayney	79 Marshalls Lane Blayney NSW 2799	hazardous, restricted solid, liquid, clinical and related waste and asbestos waste
Breen Holdings, Kurnell	330 Captain Cook Drive, Kurnell, NSW 2231	Immobilised Wastes, VENM, Tyres, Paper, Glass, plastic, bricks, Building and Demo Waste, Asphalt, Ferric Sludge, Dredge Spoil, Soils (GSW), Soils (GSW with limits)

Waste disposal/spoil re-use site details	Street Address	Specified Waste in EPL / Planning Documents (DA / REF / other)
EnviroPacific, Rutherford Waste Facility	26 Hinkler Avenue Rutherford NSW 2320	Research Waste (unknown effects on human health), Pharmaceutical Waste, Surface active agents, Isocyanate compounds, Waste oil, organic solvents, Lead, Mercury, Base solutions, Acid solutions, Waste ink, Waste mineral oils, General or specific exempted waste, waste (all other types, below schedule 1)
Sims Metal Management	70-72 Burrows Road, Alexandria NSW 2015	Scrap metal transfer facility
Aussie Skips Waste Services Pty Ltd, Greenacre	13 Bellfrog Street, GREENACRE, NSW 2190	Soils (CT1 and EPL limits), Asphalt, concrete waste from batch plant, Grit/sediment/litter/grass pollutants, VENM
Hi Quality Waste Management, St Marys	37 Lee Holm Road, St Marys, NSW 2760	Soils (GSW CT1 & EPL Limits), Blast furnace slag, Asphalt, Building and demo waste, VENM.
Cabramatta Golf Course	Cabramatta Rd, Cabramatta	VENM
Penrith Lakes	Mc Carthys Lane, Cranebrook	VENM RRO, VENM, ENM
Fairfield City Council's Sustainable Resource Centre, Wetherill Park	Hassall Street, Wetherill Park, NSW 2164	VENM, Building and demo waste, Asphalt, Soils (CT1 and EPL limits), Waste (below schedule 1)
Metropolitan Demolition and Recycling, St Peters	396 Princes Highway, St Peters, NSW 2044	VENM, Building and Demo waste, Asphalt
North St Schofields	North St Schofields	VENM, Building and Demo waste, Waste under Schedule 1 of the POEO Act
300 Manchester Rd, Auburn NSW 2144	300 Manchester Rd, Auburn NSW 2144	VENM, ENM Tunnel Spoil
Boundary Rd Box Hill	43-43a Boundary Rd Box Hill	VENM, ENM, GSW EPRM
Sydenham to Bankstown upgrade	8 South Prde, Canterbury	VENM, ENM, Material covered by a resource recovery order/exemption
Oakdale West Kemps Creek (Residential Development)	3 Aldington Street Kemps Creek	VENM, ENM, Rozelle Interchange Spoil
Oakdale West Kemps Creek (North South Link Rd)	2 Aldington Street Kemps Creek	VENM, ENM, Rozelle Interchange Spoil, GSW EPRM
Boral Dunmore	38 Tabbitta Rd Dunmore, NSW 2529	VENM, PASS (VENM), Waste (below schedule 1 threshold)
Holt Land Rehabilitation Centre (Besmaw Pty Ltd)	280-282 Captain Cook Drive, Kurnell, NSW 2231	VENM, PASS (VENM), Waste (below schedule 1 threshold)

Waste disposal/spoil re-use site details	Street Address	Specified Waste in EPL / Planning Documents (DA / REF / other)
320-400 Badgerys Creek Rd	320-400 Badgerys Creek Rd	VENM, Rozelle Interchange Tunnel Spoil
Maroota Quarry - 878 Wisemans Ferry Road, South Maroota	878 Wisemans Ferry Road, South Maroota	VENM, RRE/O Treated PASS
Elara Boulevard Marsden Park	Elara Boulevard Marsden Park	VENM, RRO/E
Lot 1102 Glenlee Road Mount Annan	Lot1102 Glenlee Road Mount Annan	VENM, RRO/E
9 Devon Street, Rosehill	Lot 100 DP 1168951, 9 Devon Street, Rosehill	VENM, Tunnel Spoil
Forrester Rd, St Mary	Lot 2, Forrester Rd, St Mary's 2760	VENM, Tunnel Spoil
146 Newbridge Rd, Moorebank	146 Newbridge Rd, Moorebank	VENM, Tunnel Spoil
Astoria Street, Marsden Park	Lot 4 DP 1210172 Part Lots 50 and 51 DP 1265695 Astoria Street, Marsden Park	VENM, Tunnel Spoil
AWJ Mamre Rd	651-769 Mamre Rd Kemps Creek	VENM, Tunnel Spoil
Boral Recycling Pty Ltd, Emu Plains	Railway Street, Emu Plains, NSW 2760	VENM, Tunnel Spoil
Bringelly Road Business Park, Bringelly	LOT11 DP 29104 Bringelly Rd, Leppington NSW 2179	VENM, Tunnel Spoil
Denham Court Road Upgrade Phase 2	Denham Court Road	VENM, Tunnel Spoil
Eastern Creek Drive	10 Eastern Creek Drive, Eastern Creek	VENM, Tunnel Spoil
Ferrers Road, Sydney Motorsport Park, Eastern Creek	Gate D Ferrers Road, Sydney Motorsport Park, Eastern Creek	VENM, Tunnel Spoil
Hurlstone Park Metro Services Building	M24 9.000 (Rail Corridor access gate adjacent to 5 Railway Street Hurlstone Park	VENM, Tunnel Spoil
Narellan Sports Hub	2 Porrende Street, Narellan	VENM, Tunnel Spoil
ANL Badgerys Creek	210 Martin Rd, Badgerys Creek, NSW, 2555	VNEM, Wood Waste, Food Waste, Foundry Sands
Bingo Recycling Centre, Revesby	37-51 Violet Street, Revesby, NSW 2212	Waste (below schedule 1), Garden waste, Soils (CT1 and EPL limits), Building and demo waste
Bingo Recycling Centre, Smithfield	165 Woodpark Road, Smithfield, NSW, 2164	Waste (below schedule 1), Wood waste, Garden waste, Soils (CT1 and EPL limits), Building and demo waste, Asphalt, VENM

Waste disposal/spoil re-use site details	Street Address	Specified Waste in EPL / Planning Documents (DA / REF / other)
Boral Recycling Pty Ltd, Widemere	39 Widemere Road, Wetherill Park NSW 2164	Waste concrete slurry, Concrete, bricks and roof tiles, ENM, Building and demolition waste, Asphalt Waste, VENM, Plasterboard and ceramics, Cured concrete waste from a batch plant, Soils
Bingo Recycling Centre, Mortdale	20 Hearne Street, Mortdale, NSW 2223	Wood waste, Asphalt waste, Soils (CT1 & EPL limits), Paper/Cardboard, Glass/Plastic/rubber, Household waste, Office waste, Building and demo waste, VENM
Dial a Dump Industries Pty Ltd, Alexandria (Genesis Waste Transfer Station)	76 Burrows Road, Alexandria, NSW 2015	Wood Waste, Garden Waste, Building and demolition waste, Soils (CT1 & EPL Limits), Waste (below schedule 1)
Demast	7 Long St, Smithfield NSW 2164	Liquid waste
Western Sydney Airport (WSA)	680 Badgerys Creek Road, Badgerys Creek	VENM, Tunnel Spoil

# Appendix B    Location of Potential Waste Facilities (Map)



# Appendix C    Haulage Routes

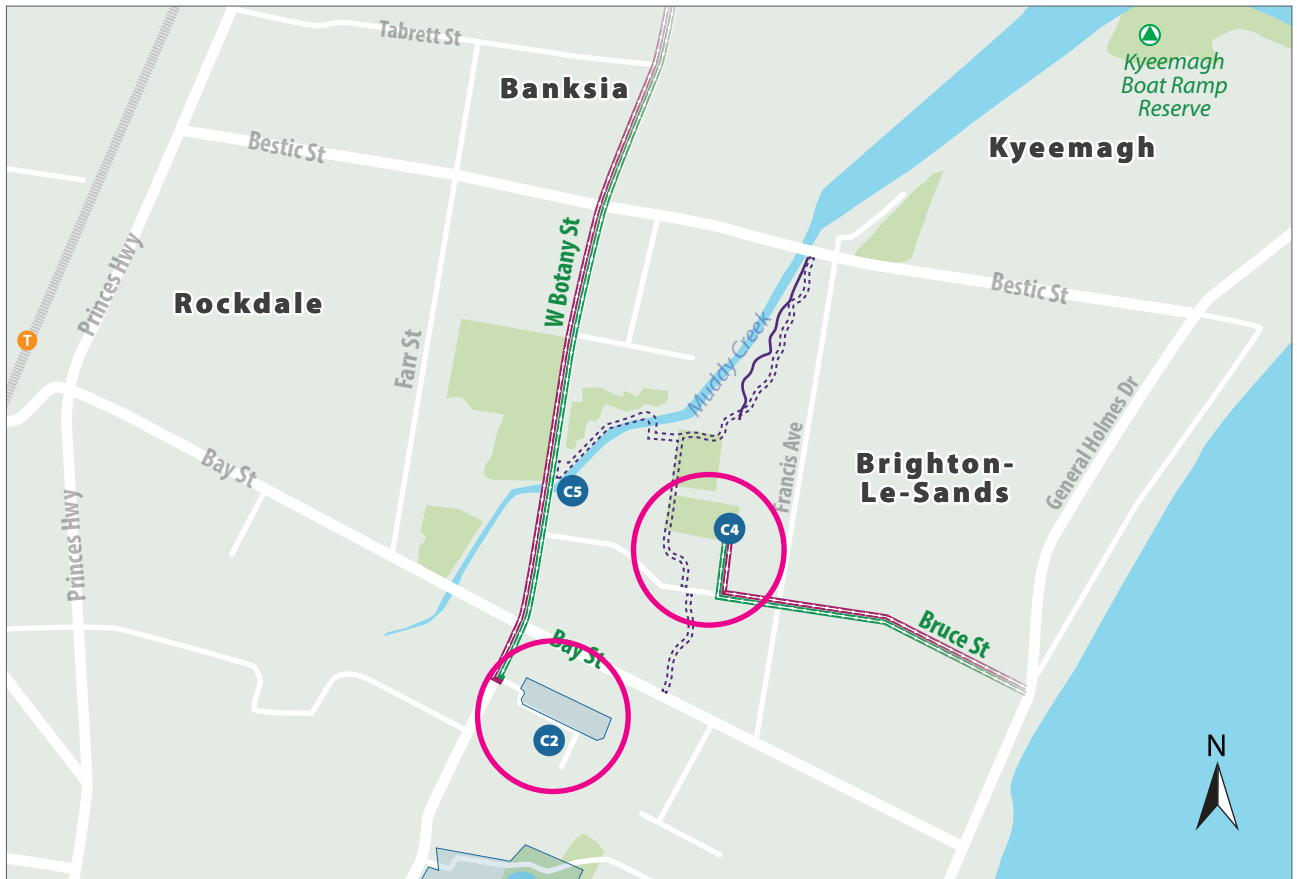




Legend

- Inbound Weekdays 7am - 6pm  
Weekends 6am - 10am
- Inbound Weekdays 6pm - 7am  
Weekends 10am - 6am
- Outbound All hours





**Legend**

- Construction ancillary facility
- Inbound spoil haulage
- Outbound spoil haulage



**Legend**

- Construction ancillary facility
- Inbound spoil haulage
- Outbound spoil haulage