



CAPITAL DELIVERY OFFICE

Work Package Environmental Management Plan
(Standard)

Document No. 0001-PLN-EN-0002

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The Work Package Environmental Management Plan Standard and any subsequent revisions are controlled documents and shall be controlled and approved by the Environmental Lead (EL) and approved by the Alliance Leadership Team (ALT) before re-issue. The EL shall define distribution requirements for this plan and referenced documents. Any minor alterations to this document shall be maintained in Project Central. Electronic versions of the Plan are maintained in Aconex.

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Definitions

The following definitions have been provided to assist with common terms and acronyms used in this plan.

'ALT' means the Alliance Leadership Team

'APMP' means Approvals and Permits Management Plan

'APMT' means the Alliance Program Management Team

'AWDG' means Australia Drinking Water Guidelines

'CDO' means the Capital Delivery Office established between TasWater and the Alliance Contractor and the resources created by the Program Alliance Agreement

'CEMP' means Construction Environmental Management Plan

'CWPG' means the TasWater Capital Works Program Group who are responsible for governance and approval processes between the CDO and TasWater

'DOA' means Delegation of Authority

'DPBE' or **'Design Project Budget Estimate'** means a budget estimate prepared for a Design Project, as endorsed by the ALT

'KPI' means Key Performance Indicator

'LTSP' means the TasWater Long Term Strategic Plan (2018-37)

'Minor Works Programs' refers to a range of minor works projects under one of three program areas: Linear Renewals, Treatment Plants and Electrical & SCADA

'Non-TOC Project' is a low value or urgent Project TasWater requires the Alliance Contractor to deliver based on a Project Budget Estimate

'PEMP' means Program Environmental Management Plan

'PEMR' means Project Environmental Management Representative

'PEPA Checklist' means Programs Environment and Planning Approvals Checklist

'PBE' or **'Project Budget Estimate'** means a budget estimate for a Non-TOC Project, as endorsed by the ALT

'PMS' means Program Management System

'Program' means the program of management, planning, design, construction, commissioning and proving works to be developed in respect of the series of proposed Projects to develop and upgrade water storage, treatment and distribution; sewage treatment and storage; and sewerage networks, as part of the TasWater Capital Works Program

'Program Management Plans' mean the suite of plans developed and kept current by the APMT detailing the procedures, resources and other factors to be applied to ensure the delivery of the Program

'Program Services Brief' means the brief for the Program, and containing general requirements for Program Management and the development, design and construction of Projects, together with any amendments or additions to that brief as agreed by the APMT and the ALT

'Project' means any or all of a TOC Project, a Non-TOC Project and a Design Project

'Project Definition Statement' means a document issued by TasWater requiring the Alliance Contractor to initiate the PBE Development Phase of a Non-TOC Project or the DPBE Development Phase of a Design Project

'RFT' means Request for Tender

'SEP' means Site Environment Plan

'SECR' means Site Environmental Conditions Report

'TasWater' means Tasmanian Water & Sewerage Corporation Pty Ltd

'TOC' means a target outturn cost, which is the total estimated value of Direct Costs to deliver services or works

'TOC Project' means one or more Projects, forming a work package, for which a TOC is to be or has been developed

'Work Package' means a package of work required by TasWater, containing one or more TOC Projects, in respect of which the Alliance Contractor is required to carry out Project Delivery

'WPEMP Standard' means the Work Package Environmental Management Plan Standard (this document)

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PART A: Overview

1. Purpose and Structure of this Document

This Work Package Environmental Management Plan (WPEMP) Standard has been developed to provide CDO staff and construction contractors guidance on the CDO’s environmental management expectations for all projects and minor works programs.

This WPEMP Standard supports the implementation of the CDO Environmental Policy [Ref.1] (Appendix 1) and Program Environmental Management Plan (PEMP) [Ref.2] through the provision of minimum requirements for environmental management and mitigation measures for CDO controlled activities, as detailed in the environmental sub-plans in Section 3.

This document can be adopted by the contractor as the Construction Environmental Management Plan (CEMP) for a project or alternatively the contractor can utilise their own EMS and develop their own CEMP, provided it addresses the minimum standards of the environmental management and mitigation measures outlined in Section 3, noting it must be accepted by the CDO and all CDO-specific permits must still be completed.

A Site Environmental Conditions Report (SECR) is developed, where required, for each CDO project and is provided to the contractor at the Request for Tender (RFT) stage. The SECR, provides site-specific environmental information, permits and approval conditions, and other relevant environmental information. The SECR together with the WPEMP Standard (or alternatively the CDO-accepted contractors CEMP) is then used to develop a Site Environment Plan (SEP) using the CDO’s Site Environment Plan Template [Ref.3].

The SEP(s) lists all the environmental management and mitigation measures to be implemented and identifies all approval and permit conditions for the project, as extracted from the WPEMP Standard (or alternatively the CDO accepted contractors CEMP) and the SECR. It also details the locations of site-specific environmental controls and environmental monitoring locations. Unless otherwise agreed and communicated by the CDO, the SEP is developed by the contractor in conjunction with the CDO’s Project Environmental Management Representative (PEMR).

This WPEMP Standard (or CDO accepted contractor CEMP) and the SEP form the WPEMP for each project or minor works program.

<p>Part A: Overview</p>	<p>This section provides:</p> <ul style="list-style-type: none"> • Purpose and Structure of this Plan
<p>Part B: Environmental Management System</p>	<p>This section provides:</p> <ul style="list-style-type: none"> • CDO EMS Overview including contractual requirements • Overview of the Program Environmental Management Plan • Overview of the WPEMP components • Overview of the environmental sub-plans • Procedures and Permits • Roles and Responsibilities • Environmental Objectives • Environmental Monitoring • Incident Reporting
<p>Part C: Environmental Sub-Plans</p>	<p>This section contains the environmental sub-plans for each environmental aspect:</p> <ul style="list-style-type: none"> • Sediment and Erosion Control Management • Flora and Fauna Management • Weed, Pest and Disease Management • Noise and Vibration Management

- Air Quality Management
- Heritage Management
- Environmentally Hazardous Materials Management
- Bushfire Risk Management
- Waste Management
- Traffic Management
- Contaminated Land Management
- Acid Sulfate Soils Management
- Energy and GHG Management
- Water Management

Part D: References and Appendices

This section contains the reference list to those documents referenced throughout this plan provides the relevant appendices to support this plan, including but not limited to:

- CDO Environmental Policy

PART B: CDO Environmental Management System

2. CDO Environmental Management System

2.1. Governance Structure

TasWater has established a Capital Delivery Office with an Alliance partner to manage the planning, development, design, construction and commissioning of a program of capital projects. TasWater selected an Alliance Contractor comprising the following parties as its Alliance partner for the CDO:

- UGL Engineering Pty Ltd (UGL)
- CPB Contractors Pty Ltd (CPB)
- WSP Australia Pty Ltd (Sub-Alliance Contractor)

The CDO has a legal and moral obligation to manage the environmental compliance requirements of all projects, minor works programs or “work packages” undertaken by the Alliance. All Alliance parties have agreed to base the CDO’s Program Management System (PMS), as illustrated in Figure 1, on the UGL Management System to manage these responsibilities. The UGL Management System is certified and maintained in compliance with AS/NZS/ISO 14001:2015.

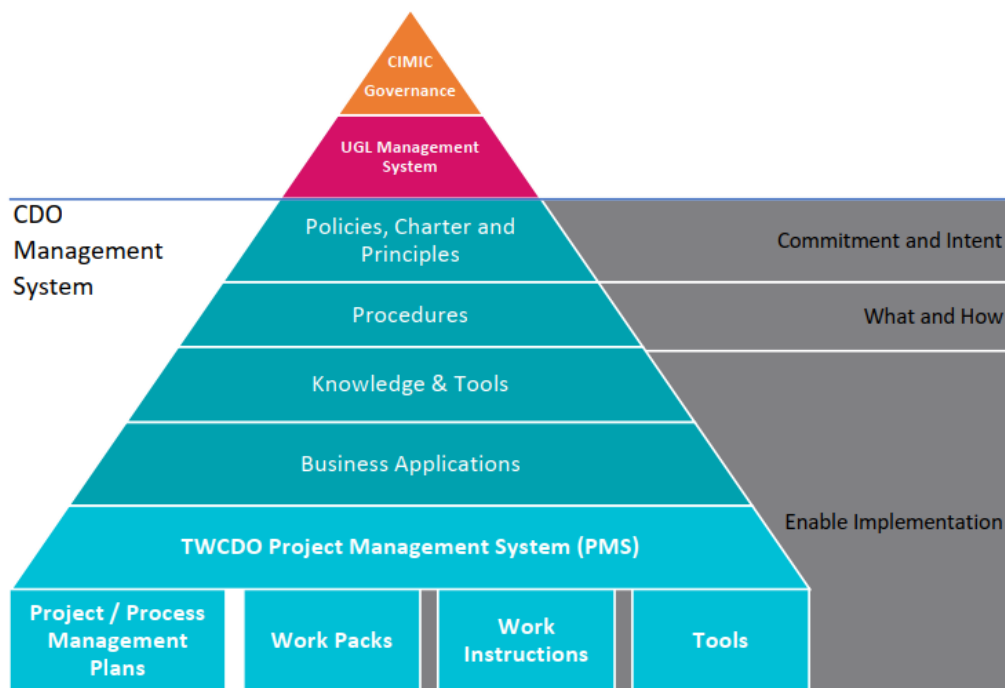


Figure 1: CDO Management System Governance

The CDO PMS, whilst based on the UGL system, has been specifically tailored to ensure compliance with additional TasWater and Tasmanian environmental requirements.

The CDO’s contractual requirements relating to environmental management are summarised in Table 1 and have driven the development of the environmental requirements of the CDO PMS.

Table 1: Contract Requirements for Environmental Management

Contract Reference	Contract Requirements	Where addressed
Contract CF.2018/74 Section 24.6 Environment	<i>(a) As part of the Program Management activities, the APMT must develop an overall environmental management plan for the Program, and must submit that plan to the ALT for Endorsement in accordance with clause 8</i>	CDO Program Environmental Management Plan [Ref.2]
	<i>(b) The APMT must develop environmental management plans at the Project Delivery level which comply with the Program environmental management plan and must submit those Environmental Management Plans to the ALT for Endorsement in accordance with clause 8.</i>	Work Pack Environmental Management Plan (including this document)
	<i>(c) The Environmental Plans must as a minimum demonstrate compliance with TasWater's policies and procedures relating to the environment.</i>	CDO Program Environmental Management Plan [Ref.2]
	<i>(d) The Alliance Contractor must carry out all its activities in relation to the Program: (i) in such a way as to minimise the impact on the natural environment, other than the impact permitted by any Approvals; and (ii) in compliance with the Operating Licence and the Environmental Plans.</i>	Work Pack Environmental Management Plan (including this document)
Contract CF.2018/74 Section 24.7 Notification and Reporting	<i>The Alliance Contractor must comply with all notification and reporting requirements set out or referred to in the Program Services Brief in relation to safety and the environment.</i>	CDO Program Environmental Management Plan [Ref.2]
Contract CF.2018/74 Section 25.1 Access	<i>(b) When entering onto any Project Site, the Alliance Contractor must: (i) so far as reasonably practicable: (B) prevent nuisance and unnecessary noise and disturbance (ii) comply with any conditions of access to a Project Site or Existing Assets which are specified in: (A) The applicable Definition Statement; (B) any access permit; or (C) the consent of an operator or other third party; including any site induction or security requirements</i>	Work Pack Environmental Management Plan (including this document)

2.2. Program Environmental Management Plan

The CDO maintains a Program Environmental Management Plan (PEMP) that provides a high-level structure on how the CDO will manage its environmental responsibilities across all work activities in compliance with CDO Management System requirements. The PEMP demonstrates that:

- Contractual environmental requirements are being fulfilled at the program level.
- The Program of works is compliant with all relevant environmental legislation.
- The effect of environmental impacts on the community is minimised.

2.3. APMP / PEPA Checklist

The initial step in the environmental management of a CDO project, post the Planning and Investigation phase (P&I), is the development of an Approvals and Permits Management Plan (APMP) or for minor works programs, a Programs Environmental and Planning Approvals (PEPA) Checklist. These investigations are generally undertaken based on a preliminary project design or Task Notice and are intended to:

- Highlight the potential environmental constraints associated with a scope of works.
- Identify potential environmental approvals and permits required.
- Identify potential environmental investigations or studies required to inform required approvals and/or permits.
- Identify specific environmental management and mitigation that may be required during construction.

The conclusions from these investigations are then used to guide the development of all approvals and permits required for the project or minor works program, including studies and investigations.

2.4. Site Environmental Conditions Report

The development of an SECR is the next step in the development of environmental documentation for a project. It is collated by the CDO following the completion of all required studies and investigations and once all approvals and permits are obtained. For each project, the SECR provides:

- A summary of all site-specific environmental information for each environmental aspect.
- A summary of studies undertaken with full reports appended.
- Identifies and attaches environmental and planning permits and approvals obtained for the project and lists relevant conditions.
- Advice on any specific environmental management required for the site
- Inputs into the CDO HSE Risk Register – Environmental Aspects and Impacts.

The SECR is provided to the contractor at the RFT stage to pass on all relevant environmental management information for a project.

In cases where an SECR is not required, including for most minor works programs, the CDO Environment team will advise the contractor and project team that this is the case and provide the information in an alternative form.

2.5. CDO HSE Risk Register – Environmental Aspects and Impacts

Prior to the commencement of a project or a minor works program, a HSE risk assessment is undertaken and a HSE Risk Register developed for the activity by the CDO project team following the HSE Risk Management Procedure (Ref. 4).

This register captures all environmental risks for the project following the Environmental Aspects and Impacts Procedure (Ref.5). This task utilises information in the SECR and APMP developed for the project as well as any knowledge from the CDO engineering and environment teams.

The resultant CDO HSE Risk Register for each project or minor works program is used to identify all the environmental hazards and risks that are present, lists the environmental sub-plans and proposes how to manage and mitigate those risks and identifies any site-specific environmental controls required to be implemented and documented in the WPEMP.

2.6. Work Package Environmental Management Plan

A Work Package Environmental Management Plan (WPEMP) is developed for each project or minor works program by either the contractor or the CDO, dependant on contractual requirements, but always in consultation.

The WPEMP describes the environmental management and mitigation measures required to be undertaken to ensure compliance with the CDO EMS requirements. The WPEMP ensures that:

- Contractual environmental requirements are being fulfilled (i.e. those outlined in Table 1).
- The work package is compliant with all relevant environmental legislation.
- The effect of environmental impacts on the community is minimised.

The WPEMP is comprised of the following two components:

1. the WPEMP Standard (this document) (or contractors CEMP)
2. the Site Environment Plan.

An explanation for each document is provided below.

2.6.1. WPEMP Standard (this document) (or contractors CEMP)

This is the generic governing document for site environmental management for all projects and minor works programs in the CDO. The document:

- Provides information on the CDO EMS.
- Identifies roles and responsibilities.
- Provides monitoring requirements.
- Provides an incident reporting process.
- Provides an array of environmental management sub-plans for each environmental field with the minimum management and mitigation measures listed.
- Identifies the minimum environmental objectives for a project or minor works program.
- Identifies within the sub-plans the procedures and permits required to operate in line with the CDO EMS.
- Can be used as the contractor's CEMP for the project unless the contractor can provide a CDO accepted CEMP that meets the minimum requirements of the environmental sub-plans outlined in Section 3 of this document.

2.6.2. Site Environment Plan(s)

The SEP pulls together the information within the WPEMP Standard (or contractor's CEMP) and SECR (or PEPA Checklist) to develop an overall site-specific environmental management document. The SEP provides:

- A summary of project information including contacts, working hours, inspection requirements, and applicable permits.
- A summary of environmental management and mitigation measures to be implemented for the work package and associated responsibilities. This includes the measures outlined in the WPEMP Standard plus any additional measures that may be required as a result of an approval, permit, or specific site condition.

- A site plan or series of site plans showing environmental constraints on site, environmental management aspects and environmental monitoring points. Examples include sediment and erosion controls, waste area designations, and traffic flow directions.

The SEP is developed by the contractor or the CDO using the CDO template [Ref.3], but always in consultation, dependant on contractual arrangements. Every CDO project must have an SEP in place and every CDO minor works program must have an overarching SEP in place.

2.7. Environmental Sub-Plans

A series of environmental sub-plans have been developed by the CDO based on a combination of CPB and UGL-developed environmental management and mitigation measures, together with new measures created specifically for working within the Tasmanian regulatory environment. The environmental sub-plans apply to all projects, with only the relevant mitigation and management measures transferred to the SEP.

The environmental management and mitigation for each environmental sub-plan identifies which CDO procedures and permits (or contractor equivalents) are required to be followed.

The sub-plans are provided in Section 3 of this document and are outlined in Table 2.

Table 2: Environmental Sub-Plans

Section	Sub-Plan
Section 3.1	Sediment and Erosion Control Management
Section 3.2	Flora and Fauna Management
Section 3.3	Weed, Pest and Disease Management
Section 3.4	Noise and Vibration Management
Section 3.5	Air Quality Management
Section 3.6	Heritage Management
Section 3.7	Environmentally Hazardous Materials Management
Section 3.8	Bushfire Risk Management
Section 3.9	Waste Management
Section 3.10	Traffic Management
Section 3.11	Contaminated Land Management
Section 3.12	Acid Sulfate Soils Management
Section 3.13	Energy and GHG Management
Section 3.14	Water Management

2.8. Procedures and Tools

The CDO has developed a series of environmental procedures to guide contractors on how the CDO requires various environmental management aspects to be undertaken, including supporting tools such as permits and checklists.

The procedures and permits developed by the CDO are identified in Table 3. Each environmental sub-plan identifies the relevant procedures required to be followed and permits required to be completed. Additional procedures and tools may be developed to support the management of site-specific environmental conditions.

Procedures and tools will be made available to the contractor via an online platform when required.

Table 3: Procedures and Tools

Procedure / Tool	Document Number
<i>Erosion and Sediment Control Procedure</i>	0001-PRO-EN-0002
<i>Heritage Management Procedure</i>	0001-PRO-EN-0003
<i>Waste Management Procedure</i>	0001-PRO-EN-0004
<i>Weed, Pest and Disease Management Procedure</i>	0001-PRO-EN-0005
<i>Noise and Vibration Management Procedure</i>	0001-PRO-EN-0006
<i>Flora and Fauna Management Procedure</i>	0001-PRO-EN-0007
<i>Air Quality Management Procedure</i>	0001-PRO-EN-0008
<i>Spill and Remediation Management Procedure</i>	0001-PRO-EN-0009
<i>Revegetation Procedure</i>	0001-PRO-EN-0019
<i>Permit to Dewater and Bypass Pump</i>	0001-FRM-EN-0002
<i>Permit to Enter Protected or 'No-Go' Areas</i>	0001-FRM-EN-0008
<i>Permit to Disturb Land or Vegetation</i>	0001-FRM-EN-0009
<i>Permit to Dispose Fill</i>	0001-FRM-EN-0058
<i>Out of Standard Hours Work Permit</i>	0001-FRM-EN-0003
<i>Environmental Monitoring Procedure</i>	0001-PRO-EN-0009
<i>Dewatering and Bypass Pumping Procedure</i>	0001-PRO-EN-0010
<i>Environmentally Hazardous Materials Management Procedure</i>	0001-PRO-EN-0011
<i>Working In and Around Water Procedure</i>	0001-PRO-EN-0012
<i>Machinery, Plant & Vehicle Clean-Down Checklist [Doc No.</i>	0001-FRM-EN-0005
<i>Machinery, Plant & Vehicle Washdown Log</i>	0001-FRM-EN-0013
<i>Herbicide and Pesticide Checklist</i>	0001-FRM-EN-0004
<i>Materials Tracking Form</i>	0001-FRM-EN-0011
<i>Invasive Marine Pests Risk Assessment</i>	0001-FRM-EN-0017
<i>Plume Observation Form</i>	0001-FRM-EN-0010

2.9. Roles and Responsibilities

The roles and responsibilities for environmental management of CDO projects are shown in

Table 4, and explained as follows:

- The CDO Project Manager has the overall responsibility for the Project and is the conduit to passing information up to executive level management of the CDO Alliance.
- The CDO Project Environmental Management Representative (PEMR) is the nominated CDO person responsible for the overall environmental management of a project.
- The Contractor means the contractor's representative responsible for environmental management, this may be the site supervisor, project manager, or dedicated environment manager.
- All Personnel are the workforce for the project.

Responsibilities are also assigned throughout the environmental sub-plans in Section 3.

Table 4: Roles and responsibilities

Role	Responsibility
<i>CDO Project Manager</i>	Approve the project WPEMP and subsequent revisions
	Ensure a PEMR is assigned designated to the project
	Promptly notify CDO Alliance Environmental Lead of any significant environmental incident.
	Monitor overall environmental management performance.
	Review and acknowledge periodic environmental inspection reports.
	Initiate Project meetings as required or directed, in which environmental items are discussed as appropriate.
<i>CDO Project Environmental Management Representative (PEMR)</i>	Ensure works proceed with all necessary environmental approvals / permits
	Ensure contractor personnel assigned to perform environmental tasks for a project are competent to do so
	Promptly notify CDO Project Manager of any environmental incident.
	Ensure all non-conformances are investigated, reported and corrective action taken in accordance with agreed timeframes.
	Ensure contractors comply with the WPEMP.
	Develop SEP(s) in coordination with Contractor.
	Facilitate the environmental induction and training of contractors as required.
	Attend site on a periodic basis, monitor environmental compliance and supervise high-risk environmental activities when appropriate.
	Confirm that all necessary environmental controls are implemented and maintained for the duration of a project.
	Promote environmental awareness throughout the course of a project.
Complete and maintain all necessary environmental documentation for the contract, if appropriate.	
<i>Contractor</i>	Ensure the project is undertaken in accordance with all WPEMP requirements, including all relevant environmental management and mitigation measures, environmental permits and approvals, and CDO procedures.
	Ensure all project personnel receive environmental inductions and training.
	Ensure that all site personnel and subcontractors are aware of their environmental responsibilities.
	Manage installation of environmental controls.
	Stop work or otherwise mitigate the effects of an activity that is causing serious environmental harm, material environmental harm or environmental nuisance.
	Report all environmental incidents to the CDO PEMR
	Assist the CDO PEMR in promoting environmental awareness
Ensure that any changes to the schedule of works are communicated to the CDO PEMR in a timely manner, where environmental aspects are likely to become affected.	
<i>All Personnel</i>	Be aware of the Site Environment Plan(s) for the project and its' content and purpose

Role	Responsibility
	Follow environmental instruction given in toolboxes and inductions
	Report all environmental incidents to your supervisor.

2.10. Environmental Objectives

Environmental objectives have been developed by the CDO for each environmental aspect and are presented in each sub-plan in Section 3. They form the starting point for what the CDO considers environmental compliance for the project.

2.11. Environmental Monitoring and Inspection

Environmental monitoring is performed to ensure environmental objectives, approvals and/or permit conditions are met, and to identify potential non-compliances before they occur.

The CDO's Environmental Monitoring Procedure (Ref.6) outlines how to undertake monitoring for various environmental management aspects, detailing topics such as equipment requirements, monitoring site selection, and data collection.

Monitoring and analysis of data will be carried out by a competent person. Evidence of competence must be retained.

During project delivery, monitoring, inspection, reporting, review and audits (MIRRA) will be planned, scheduled and conducted to ensure compliance with this WPEMP.

The CDO maintains an internal Check-it Activity Planner to ensure MIRRA activities are assessed, planned and implemented throughout the project. The contractor must schedule and implement its own project MIRRA activities in consultation with the PEMR.

It is the accountability of the PEMR, with contractor support, to ensure all monitoring is performed according to these requirements.

A series of Environmental Inspection Checklists have been developed to assist the CDO and the contractor to assess the effectiveness of environmental mitigation measures. Environmental inspections shall be conducted in accordance with the requirements of the CDO Workplace Inspection Testing and Monitoring Procedure (Ref.7).

2.12. Environmental Incident Reporting

An **environmental incident** is an occurrence that has caused or has the potential to cause an adverse impact to the environment, as a result of the project. Specific examples include, but are not limited to:

- Any event that results in actual or potential serious or material environmental nuisance or harm as defined by Section 5 of EMPCA.
- Fauna death or injury within the project site boundary
- Unauthorised vegetation or land clearing
- Damage to heritage items, places or values
- Spills of environmentally hazardous materials such as hydrocarbons or paints to land or waterways
- Non-compliant monitoring results (water, noise, vibration, air quality etc)
- Enforcement notices and penalties received from regulators
- Community or stakeholder complaints related to an environmental nuisance received by TasWater, Council or the EPA

All environmental incidents or near-misses must be immediately reported to the PEMR for the project and subsequently entered into the CDO's Synergy reporting system.

All environmental incidents will be reported and investigated in accordance with the CDO's **Incident Management Procedure (0001-PRO-HS-0034)**. For more serious environmental events, the site **Emergency Response Plan** must be followed.

PART C: Environmental Sub-Plans

3. Environmental Sub-Plans

A series of environmental sub-plans have been developed by the CDO for each environmental management area encountered during construction projects.

Each Environmental Sub-Plan contains the following key information:

- Environmental Objectives
- Applicable environmental legislation
- Guidelines, standards and other references relevant to the environmental aspect
- CDO Alliance reference relevant to the environmental aspect
- A set of management or mitigation measures to prevent and control environmental impacts. Each measure is uniquely numbered for auditing purposes
- Minimum monitoring requirements.

The environmental sub-plans developed for the CDO are presented in Table 5.

Table 5: Environmental Sub-Plans

Section	Sub-Plan
Section 3.1	Sediment and Erosion Control Management
Section 3.2	Flora and Fauna Management
Section 3.3	Weed, Pest and Disease Management
Section 3.4	Noise and Vibration Management
Section 3.5	Air Quality Management
Section 3.6	Heritage Management ¹
Section 3.7	Environmentally Hazardous Materials Management
Section 3.8	Bushfire Risk Management
Section 3.9	Waste Management
Section 3.10	Traffic Management
Section 3.11	Contaminated Land Management
Section 3.12	Acid Sulfate Soils Management
Section 3.13	Energy and GHG Management
Section 3.14	Water Management

¹ Even if not applicable, the Project will still utilise an Unanticipated Discovery Plan

3.1. Sediment and Erosion Control Management

SEDIMENT AND EROSION CONTROL MANAGEMENT				
Environmental Objectives	Metric/Measure	Objective	Time Frame	Accountability
	Number of actions taken by regulators and/or client	Zero (0)	At all times	Project Manager
Legislation	<ol style="list-style-type: none"> 1. <i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> 2. <i>Environmental Management and Pollution Control Act 1994 (Tas)</i> 3. <i>Environmental Management and Pollution Control (Waste Management) Regulations 2020 (Tas)</i> 4. <i>Water Management Act 1999 (Tas)</i> 5. <i>Water Management (Safety of Dams) Regulations 2015 (Tas)</i> 6. <i>Water and Sewerage Industry Act 2008 (Tas)</i> 7. <i>State Policy on Water Quality Management 1997 (Tas)</i> 8. <i>State Coastal Policy 1996 (Tas)</i> 			
Guidelines, Standards & Other References	<ol style="list-style-type: none"> 1. EPA (Victoria) Publication 960 - Doing it Right on Subdivisions - Temporary Environmental Protection Measures for Subdivision Construction Sites (Sep 2004) 2. EPA (Victoria) Publication 480 - Environmental Guidelines for Major Construction Sites, Feb 1996 3. EPA (Victoria) Publication 275 - Best Practice Environmental Management Series: Construction Techniques for Sediment Pollution Control. Publication 275, 1999 4. National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013 5. Australian Standard AS1940 "The storage and handling of flammable and combustible liquids" 6. Tasmanian Coastal Works Manual: A best practice management guide for changing coastlines, DPIPWE 2010 7. Fact sheets - Soil and water management on building and construction sites, NRM South, NRM North, Derwent Estuary Program 8. IECA Best Practice Erosion and Sediment Control (BPESC) document 			
Knowledge, Procedures & Tools	<ol style="list-style-type: none"> 1. Erosion and Sediment Control Procedure [0001-PRO-EN-0002] 2. Dewatering and Bypass Pumping Procedure [0001-PRO-EN-0010] 3. Permit to Dewater and Bypass Pump [0001-FRM-EN-0002_1] 4. Revegetation Procedure [0001-PRO-EN-0019] 			

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
1.1	Erosion and sediment controls must be designed, developed and implemented in consultation with the Project Environmental Management Representative (PEMR).	PEMR / Contractor	CDO Erosion and Sediment Control Procedure [1]	CPB Soil & Water Management Plan - Modified
1.2	Erosion and sediment controls, including clean water diversions, must be installed prior to commencement of ground disturbance. These controls must be maintained and remain in place until ground stabilisation has occurred.	Contractor		CPB Soil & Water Management Plan - Modified
1.3	Cleared areas must be kept to a minimum and be progressively rehabilitated/revegetated as they become available.	Contractor		CPB Soil & Water Management Plan - Modified
1.4	All materials must be stockpiled away from water flow paths or suitable clean water diversions installed.	Contractor	CDO Erosion and Sediment Control Procedure [1]	CPB Soil & Water Management Plan - Modified
1.5	Sediment laden water (dirty water) captured onsite must be preferentially reused onsite e.g. dust control.	Contractor		CPB Soil & Water Management Plan - Modified
1.6	Water discharged from dewatering activities must occur in accordance with the CDO Dewatering and Bypass Pumping Procedure (or similar, as accepted by the PEMR).	Contractor	CDO Dewatering and Bypass Pumping Procedure [2]	CPB Soil & Water Management Plan - Modified
1.7	No transfer/discharge will be made without a CDO Permit to Dewater and Bypass Pump authorised by the PEMR.	Contractor	CDO Permit to Dewater and Bypass Pump [3]	CPB Soil & Water Management Plan - Modified
1.8	Water bypass pumping must be undertaken in accordance with the CDO Dewatering and Bypass Pumping Procedure (or similar, as accepted by the PEMR).	Contractor	CDO Dewatering and Bypass Pumping Procedure [2]	CDO Developed
1.9	An adequate number of concrete washout facilities must be installed and maintained. The washout facilities will be isolated from surface water flows using bunds to prevent contamination of clean surface waters and will be lined to prevent contamination of soil and groundwater.	Contractor		CPB Soil & Water Management Plan - Modified
1.10	Temporary water and/or sewage treatment plants are subject to scheduled routine maintenance that as a minimum complies with the requirements of the supplier. Records of water quality discharged through the treatment plants must be retained.	Contractor		CPB Soil & Water Management Plan - Modified

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
1.11	All hazardous substances (liquids and solids) must be stored and managed in accordance with the Environmentally Hazardous Materials Management Sub-plan.	Contractor		CPB Soil & Water Management Plan - Modified
1.12	All refueling points and refueling/service vehicles must have fully stocked hydrocarbon spill kits.	Contractor		CPB Soil & Water Management Plan - Modified
1.13	Existing ground conditions and weather forecasts will be taken into consideration prior to conducting civil works. Excavation works will not be conducted if ground conditions are unsuitable or pose environmental risk.	Contractor		CDO Developed
1.14	Meteorological data must be collected on regular basis to allow the interpretation of monitoring data and to assess compliance. Data must include temperature, wind and rainfall at a minimum and the BOM Station Location must be recorded. This data must be collected on a monthly basis or as required for interpretation.	PEMR / Contractor		CDO Developed
1.15	The type and location of environmental control equipment and devices to manage, mitigate and monitor water quality and soil impacts shall be detailed and maintained in the Site Environment Plan (SEP). Additional management and mitigation measures required to address site-specific conditions, legal requirements, and risk must be included in the SEP.	PEMR / Contractor	Site Environment Plan	CDO Developed

	Aspect	Monitoring Requirements	Frequency	Accountability
Minimum Monitoring Requirements	Erosion and sediment control structure(s)	Visual Inspection	Weekly	Contractor
	Erosion and sediment control structure(s) – Rain event	Visual Inspection	-Within one hour of the commencement of any runoff resulting from rain events during working hours; -Every four hours during periods of continuous rain during working hours; -Within 12 hours of a rain event outside working hours.	Contractor

3.2. Flora & Fauna Management

FLORA & FAUNA MANAGEMENT				
	Metric/Measure	Objective	Time Frame	Accountability
Environment Objectives	Number of native fauna injured	Zero (0)	At all times	Project Manager
	Area of unauthorised vegetation cleared	Zero (0)	At all times	Project Manager
	Number of enforcement notices / penalties issued by regulators and/or client	Zero (0)	At all times	Project Manager
Legislation	<ol style="list-style-type: none"> 1. <i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> 2. <i>Environmental Management and Pollution Control Act 1994 (Tas)</i> 3. <i>Nature Conservation Act 2002 (Tas)</i> 4. <i>Wildlife (General) Regulations 2010 (Tas)</i> 5. <i>Forest Practices Act 1985 (Tas)</i> 6. <i>National Parks and Reserves Management Act 2002 (Tas)</i> 7. <i>National Parks and Reserved Land Regulations 2009 (Tas)</i> 8. <i>Threatened Species Protection Act 1995 (Tas)</i> 9. <i>Wellington Park Act 1993 (Tas)</i> 			
Guidelines, Standards & Other References	<ol style="list-style-type: none"> 1. AS 4970-2009 – Protection of trees on development sites 			
Knowledge, Procedures & Tools	<ol style="list-style-type: none"> 1. Flora and Fauna Management Procedure [0001-PRO-EN-0007] 2. Permit to Disturb Land or Vegetation [0001-FRM-EN-0009] 3. Permit to Enter Protected or 'No-Go' Areas [0001-FRM-EN-0008] 4. Revegetation Procedure [0001-PRO-EN-0019] 			

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
2.1	Prior to any disturbance, clearing or grubbing activities in any locations the following must be in place: <ul style="list-style-type: none"> • A signed-off CDO Permit to Disturb Land or Vegetation; • No-Go Zones for significant flora and fauna habitat must be established, fenced/flagged and sign posted prior to commencement of land or vegetation disturbance; • A qualified fauna handler or the PEMR must conduct a search for any wildlife that may need to be removed and relocated; • All required statutory pre-clearance surveys must be completed by a qualified and suitably experienced ecologist; and 	Contractor	CDO Flora and Fauna Management Procedure [1] CDO Permit to Disturb Land or Vegetation [2]	CPB Flora & Fauna Management Plan

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
	<ul style="list-style-type: none"> All Permits to Take for species that may be impacted by the project (including kill, injure, pursue, catch, damage, destroy and collect) must be acquired in accordance with the <i>Threatened Species Protection Act 1995</i> (Tas). 			
2.2	Where a threat to any fauna onsite is evident, the PEMR must be notified immediately. Works may need to cease if fauna is in danger or harmed, until it has been relocated. Only qualified wildlife handlers or the PEMR should attempt to relocate fauna.	All		CPB Flora & Fauna Management Plan - Modified
2.3	Site speed limits must be obeyed at all times.	All		CPB Flora & Fauna Management Plan - Modified
2.4	All vehicles must use formed access tracks and laydown areas as designated.	All		CPB Flora & Fauna Management Plan - Modified
2.5	Access to No-Go Zones is prohibited until a CDO Permit to Enter Protected or 'No-Go' Areas has been issued by the PEMR. Any damage to No-Go Zone fencing or signage must be reported to the site supervisor and PEMR immediately.	All	CDO Permit to Enter Protected or 'No-Go' Areas [3]	CPB Flora & Fauna Management Plan - Modified
2.6	Cleared/removed vegetation shall be beneficially reused where practicable (e.g. for habitat, chipped for mulch etc.).	Contractor		CPB Flora & Fauna Management Plan - Modified
2.7	Where possible revegetation activities will preferentially use only species that are indigenous to the area as documented in the site rehabilitation plan or equivalent.	Contractor		CPB Flora & Fauna Management Plan - Modified
2.8	Boundaries of allowable site disturbance must be clearly marked and delineated in accordance with CDO accepted plans.	PEMR / Contractor		CPB Flora & Fauna Management Plan - Modified
2.9	Trees to be retained will be clearly marked. Tree protection areas will be delineated by markers, construction tape webbing or other barriers. No equipment, plant, vehicle and material should be stored within the drip line of a tree.	Contractor		CDO Developed
2.10	Dead fauna shall be removed from site trenches/excavations/access tracks and disposed of accordingly to reduce potential impacts to scavenging species	All	CDO Flora and Fauna Management Procedure [1]	CDO Developed
2.11	No domestic pets are allowed on site.	All		CDO Developed

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
2.12	Trenches shall be covered and/or fenced at the end of a shift, or fauna egress provided, to prevent animals becoming trapped.	Contractor	CDO Flora and Fauna Management Procedure [1]	CDO Developed
2.13	Rehabilitated areas shall be sign posted and state "Rehabilitation area – Do Not Enter" or similar. Access to these areas shall be restricted to prevent unauthorized disturbance.	Contractor		CDO Developed
2.14	The type and location of environmental control equipment and devices to manage, mitigate and monitor flora and fauna impacts shall be detailed and maintained in the Site Environment Plan (SEP). Additional management and mitigation measures required to address site-specific conditions, legal requirements, and risk must be included in the SEP.	PEMR / Contractor		CDO Developed

Minimum Monitoring Requirements	Aspect	Monitoring Requirements	Frequency	Accountability
	Flora and fauna mitigation measures	Visual Inspection	Weekly	Contractor

3.3. Weed, Pest and Disease Management

WEED PEST & DISEASE MANAGEMENT				
	Metric/Measure	Objective	Time Frame	Accountability
Environment Objectives	Number of non-compliant monitoring results	Zero (0)	At all times	Project Manager
	Number of enforcement notices / penalties issued by regulators and/or client	Zero (0)	At all times	Project Manager
	Reportable incidents of weed or invasive animals' outbreak or infestation	Zero (0)	At all times	Project Manager
Legislation	<ol style="list-style-type: none"> 1. <i>Biosecurity Act 2015 (Cth)</i> 2. <i>Environmental Management and Pollution Control Act 1994 (Tas)</i> 3. <i>Plant Quarantine Act 1997 (Tas)</i> 4. <i>Weed Management Act 1999 (Tas)</i> 5. <i>Weed Management Regulations 2017 (Tas)</i> 6. <i>Vermin Control Act 2000 (Tas)</i> 7. <i>Cat Management Act 2009 (Tas)</i> 8. <i>Cat Management Regulations 2012 (Tas)</i> 			
Guidelines, Standards & Other References	<ol style="list-style-type: none"> 1. Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds and diseases in Tasmania (DPIPWE, 2015) 2. Weed inspection and control during and post operation in accordance with the Quarry Code of Practice 2017 3. Coastal Weeds of Tasmania – A Guide to Coastal and Environmental Weeds of Tasmania 4. Weeds of Southern Tasmania - A Guide to Environmental and Agricultural Weeds of Southern Tasmania 5. https://dPIPWE.tas.gov.au/invasive-species/weeds/weeds-index/declared-weeds-index 			
Knowledge, Procedures & Tools	<ol style="list-style-type: none"> 1. Weed, Pest and Disease Management Procedure [0001-PRO-EN-0005] 2. Machinery, Plant & Vehicle Clean-Down Checklist [0001-FRM-EN-0005] 3. Machinery, Plant & Vehicle Washdown Log [0001-FRM-EN-0013] 4. Herbicide and Pesticide Checklist [0001-FRM-EN-0004] 			

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
3.1	All weed, pest and disease management and mitigation used for the site must be in general accordance with the CDO Weed, Pest and Disease Management Procedure and/or the <i>Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds and diseases in Tasmania</i> (DPIPWE, 2015).	Contractor	CDO Weed, Pest and Disease Management Procedure [1]	CDO Developed

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
3.2	Weeds, pests or disease infested/infected areas must be identified (on ground and/or on the SEP) prior to undertaking any ground disturbance activities.	PEMR / Contractor	Site Environment Plan	CDO Developed
3.3	Wash down and inspection stations shall be established to clean and inspect vehicles and machinery of any dirt or mud that may harbor weeds or seeds.	Contractor		CDO Developed
3.4	All ground engaging plant and equipment shall be cleaned down of all soil and vegetation material in accordance with the CDO Machinery, Plant & Vehicle Clean-Down Checklist and/or the washdown procedures outlined in the <i>Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds and diseases in Tasmania</i> (DPIPWE, 2015); a documented inspection of the plant and/or equipment must be completed: <ul style="list-style-type: none"> Prior to arrival on site. Prior to movement within the project site from infested/infected areas to non-infested/infected areas Prior to demobilisation from the project site. <p>A CDO Machinery, Plant & Vehicle Washdown Log must be maintained.</p>	Contractor	CDO Machinery, Plant & Vehicle Clean-Down Checklist [2] CDO Machinery, Plant & Vehicle Washdown Log [3]	CDO Developed
3.5	Only CDO approved access tracks/roads shall be used when accessing the project site.	All		CDO Developed
3.6	All soils or mulch materials bought to the project site must be certified (including documentation) by the supplier as weed-free.	Contractor		CDO Developed
3.7	Where <i>Phytophthora cinnamomi</i> (root rot), amphibian chytrid fungus, or any other pathogen has been identified, or is considered a potential risk at the project site, hygiene protocols must be included in the SEP in accordance with the <i>Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds and diseases in Tasmania</i> (DPIPWE, 2015).	PEMR / Contractor	Site Environment Plan	CDO Developed
3.8	Prior to applying herbicide or pesticide the CDO Herbicide or Pesticide Checklist must be completed and accepted by the PEMR.	Contractor	CDO Herbicide or Pesticide Checklist [4]	CDO Developed
3.9	The type and location of environmental control equipment and devices to manage, mitigate and monitor weed, pest, and disease impacts shall be detailed and maintained in the SEP. Additional management and mitigation measures required to address site-specific conditions, legal requirements, and risk must be included in the SEP.	PEMR / Contractor	Site Environment Plan	CDO Developed

Minimum Monitoring Requirements	Aspect	Monitoring Requirements	Frequency	Accountability
	Weed, pest and disease mitigation measures	Visual Inspection	Weekly	Contractor

3.4. Noise and Vibration Management

NOISE AND VIBRATION MANAGEMENT				
	Metric/Measure	Objective	Time Frame	Accountability
Environment Objectives	Number of non-compliant monitoring results	Zero (0)	At all times	Project Manager
	Number of nuisance noise and/or vibration complaints	Zero (0)	At all times	Project Manager
	Number of incidents of damage caused by vibration	Zero (0)	At all times	Project Manager
Legislation	<ol style="list-style-type: none"> 1. <i>Environmental Management and Pollution Control Act 1994 (Tas)</i> 2. <i>Environmental Management and Pollution Control (Noise) Regulations 2016 (Tas)</i> 3. <i>Environment Protection Policy (Noise) 2009 (Tas) (“Noise EPP”)</i> 			
Guidelines, Standards & Other References	<ol style="list-style-type: none"> 1. DPIWE (Tasmania), 2008. Noise Measurement Procedures Manual, Second Edition July 2008, ISBN / ISSN 978-0-9805182-1-4 2. EPA (Victoria) Publication 480 - Environmental Guidelines for Major Construction Sites, Feb 1996 3. EPA (Victoria) Publication 1254 Noise Control Guidelines 4. AS 2436-2010: Guide to Noise Control on Construction, Maintenance and Demolition Sites. Standards Australia www.standards.org.au. 5. AS 2012.2-1990: Acoustics – Measurement of Airborne Noise Emitted by Earth-moving Machinery and Agricultural Tractors – Stationary. Standards Australia www.standards.org.au. 6. AS 1055.2-1997: Acoustics – Description and measurement of environmental noise. Standards Australia www.standards.org.au. 7. DPTI, 2012. Underwater Piling Noise Guidelines. First published November 2012, Version 1. Viewed online on 20 June 2019, at https://www.dpti.sa.gov.au/standards/environment 8. ISO 9533:2010 Earth-moving machinery - Machine-mounted audible travel alarms and forward horns - Test methods and performance criteria. ISO, Geneva. 			
Knowledge, Procedures & Tools	<ol style="list-style-type: none"> 1. Noise and Vibration Management Procedure [0001-PRO-EN-0006] 2. CDO Out of Standard Hours Work Permit [0001-FRM-EN-0003] 			

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
4.1	Undertake project activities in accordance with the CDO Noise and Vibration Management Procedure and within the nominated hours of work to comply with contractual and legal requirements. A CDO Out of Standard Hours Work Permit must be obtained prior to commencing work outside of the allowable working hours for the site.	Contractor	CDO Noise and Vibration Management Procedure [1] CDO Out of Hours Work Permit [2]	CPB Noise Subplan and CPB Vibration Subplan - Modified

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
4.2	All equipment must be serviced and maintained according to manufacturer's recommendations, or more frequently if required to minimise noise generated.	Contractor		CPB Noise Subplan and CPB Vibration Subplan - Modified
4.3	Undertake high noise generating works in accordance with project specific approvals.	Contractor		CPB Noise Subplan - Modified
4.4	Where intermittent high frequency noise is a high risk, and pending safety requirements, the least noise-intrusive reversing alarms must be used.	Contractor		CPB Noise Subplan - Modified
4.5	Locate temporary site access roads and site compounds as far away as practicable from noise sensitive receptors/premises.	Contractor		CDO Developed
4.6	The Australian Standard AS 2436-2010 shall be used to guide appropriate measures for mitigating construction and demolition noise.	Contractor		CPB Noise Subplan - Modified
4.7	Adjust the project Traffic Management Plan to minimise noise impacts as required.	Contractor		CDO Developed
4.8	Where fitted, engine covers must remain closed when machinery is in use.	Contractor		CDO Developed
4.9	Position noisy equipment away from noise sensitive areas.	Contractor		CDO Developed
4.10	Consider neighbors and minimise noise when packing up plant and equipment and/or departing from site.	All		CDO Developed
4.11	Where a dilapidation survey has been completed management and mitigation controls must be identified on the SEP.	PEMR / Contractor		CPB Vibration Subplan - Modified
4.12	Construction machinery, plant and equipment shall be switched off or throttled down to a minimum when not in use.	Contractor		CDO Developed
4.13	The type and location of environmental control equipment and devices to manage, mitigate and monitor noise and vibration impacts shall be detailed and maintained in the SEP. Additional management and mitigation measures required to address site-specific conditions, legal requirements, and risk must be included in the SEP.	PEMR / Contractor	Site Environment Plan	CDO Developed

Minimum Monitoring Requirements	Aspect	Monitoring Requirements	Frequency	Accountability
	Noise and vibration mitigation measures	Visual Inspection	Weekly	Contractor

3.5. Air Quality Management

AIR QUALITY MANAGEMENT				
	Metric/Measure	Objective	Time Frame	Accountability
Environment Objectives	Number of non-compliant monitoring results	Zero (0)	At all times	Project Manager
	Number of nuisance complaints	Zero (0)	At all times	Project Manager
	Number of enforcement notices / penalties issued by regulators and/or client	Zero (0)	At all times	Project Manager
Legislation	<ol style="list-style-type: none"> National Environment Protection (Ambient Air Quality) Measure (Cth) Environmental Management and Pollution Control Act 1994 (Tas) Environment Protection Policy (Air Quality) 2004 (Tas) National Environment Protection (National Pollutant Inventory) Measure 1998 - NPI NEPM 			
Guidelines, Standards & Other References	<ol style="list-style-type: none"> AS/NZS 1680.5:2012 Interior and workplace lighting – Part 5: Outdoor workplace lighting, Standards Australia, EPA (Victoria) Publication 480 - Environmental Guidelines for Major Construction Sites, Feb 1996 			
Knowledge, Procedures & Tools	<ol style="list-style-type: none"> Air Quality Management Procedure [0001-PRO-EN-0008] 			

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
5.1	Spray carts and/or dust suppressants should be used on dust generating areas as required.	Contractor	CDO Air Quality Management Procedure [1]	CPB Air Subplan - Modified
5.2	Site entries/exits must be equipped with suitable mitigation to minimise soil transport to and from the site to reduce the chance of dust generation. Suitable mitigation may include rumble grids, sealed areas, or wash-down bays.	Contractor	CDO Air Quality Management Procedure [1]	CPB Air Subplan - Modified
5.3	Site speed limits must be set to minimise dust generation. All vehicles to observe site speed limits.	Contractor / All		CPB Air Subplan - Modified
5.4	All construction plant and equipment must be maintained in accordance with manufactures specifications to minimise fugitive exhaust emissions.	Contractor		CPB Air Subplan - Modified

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
5.5	Burning of any materials is prohibited onsite.	All		CPB Air Subplan - Modified
5.6	Loads must be covered where practicable when hauling dust-generating material to or from site.	Contractor		CDO Developed
5.7	Where light sensitive receptors/premises have been identified light pollution shall be minimised by: <ul style="list-style-type: none"> • Changing duration of lighting – switching off when not required • Reducing trespass of lighting - shielding / directing • Changing spectrum of lighting • Changing intensity of lighting 	Contractor	CDO Air Quality Management Procedure [1]	CDO Developed
5.8	The type and location of environmental control equipment and devices to manage, mitigate and monitor air quality impacts shall be detailed and maintained in the SEP. Additional management and mitigation measures required to address site-specific conditions, legal requirements, and risk must be included in the SEP.	PEMR / Contractor	Site Environment Plan	CDO Developed

	Aspect	Monitoring Requirements	Frequency	Accountability
Minimum Monitoring Requirements	Air quality mitigation measures	Visual Inspection	Weekly	Contractor
	Dust	Visual monitoring at project site boundary	Daily	Contractor

3.6. Heritage Management

HERITAGE MANAGEMENT				
	Metric/Measure	Objective	Time Frame	Accountability
Environment Objectives	Incidents of damage to heritage items, places or values	Zero (0)	At all times	Project Manager
	Number of avoidable complaints from traditional owners as a result of the works being undertaken	Zero (0)	At all times	Project Manager
	Number of enforcement notices / penalties issued by regulators and/or client	Zero (0)	At all times	Project Manager
Legislation	<ol style="list-style-type: none"> 1. <i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)</i> 2. <i>Native Title Act 1993 (Cth)</i> 3. <i>Aboriginal Heritage Act 1975 (Tas)</i> 4. <i>Historic Cultural Heritage Act 1995 (Tas)</i> 			
Guidelines, Standards & Other References	<ol style="list-style-type: none"> 1. DPIPWE, 2017. Unanticipated Discovery Plan – Procedure for the management of unanticipated discoveries of Aboriginal relics in Tasmania. Aboriginal Heritage Tasmania Department of Primary Industries, Parks, Water and Environment version 26/07/2017. 2. Tasmanian Heritage Council, 2015. Works Guidelines for Historic Heritage Places November 2015. 3. Tasmanian Heritage Register 			
Knowledge, Procedures & Tools	<ol style="list-style-type: none"> 1. Heritage Management Procedure [0001-PRO-EN-0003] 2. Permit to Disturb Land or Vegetation [0001-FRM-EN-0009] 3. Permit to Enter Protected or ‘No-Go’ Areas [0001-FRM-EN-0008] 			

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
6.1	<p>Prior to any disturbance, clearing or grubbing activities in any locations the following must be in place:</p> <ul style="list-style-type: none"> • A CDO Permit to Disturb Land or Vegetation; • No-Go Zones for heritage sites must be established, fenced/flagged and sign posted prior to the commencement of land disturbance; • All required statutory pre-clearance surveys must be completed by a qualified and suitably experienced heritage consultant • All heritage exemptions must be acquired in accordance with the Works Guidelines for Historic Heritage Places [2]. 	Contractor	<p>CDO Heritage Management Procedure [1] Permit to Disturb Land or Vegetation [2] Site Environment Plan</p>	CPB Heritage Subplan - Modified

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
6.2	An Aboriginal and European Heritage Unanticipated Discovery Plan, as identified in the CDO Heritage Management Procedure must be followed.	Contractor	CDO Heritage Management Procedure [1]	CPB Heritage Subplan - Modified
6.3	In the event a suspected heritage artefact or area is uncovered during construction, work must cease, and the Unanticipated Discovery Plan, as identified in the CDO Heritage Management Procedure , must be adhered to.	Contractor	CDO Heritage Management Procedure [1]	CPB Heritage Subplan - Modified
6.4	Site inductions will include information on Aboriginal and Historic heritage management and mitigation. Specific training will be provided to persons likely to work in close proximity to known heritage areas. A CDO Permit to Enter Protected or 'No-Go' Areas must be obtained to anyone entering a heritage No-Go Zones.	PEMR / Contractor	CDO Permit to Enter Protected or 'No-Go' Areas [3]	CPB Heritage Subplan - Modified
6.5	The type and location of environmental control equipment and devices to manage, mitigate and monitor heritage impacts shall be detailed and maintained in the SEP. Additional management and mitigation measures required to address site-specific conditions, legal requirements, and risk must be included in the SEP.	PEMR / Contractor	Site Environment Plan	CDO Developed

Minimum Monitoring Requirements	Aspect	Monitoring Requirements	Frequency	Accountability
	Heritage mitigation measures	Visual Inspection	Weekly	Contractor

3.7. Environmentally Hazardous Materials Management

ENVIRONMENTALLYHAZARDOUS MATERIALS MANAGEMENT				
	Metric/Measure	Objective	Time Frame	Accountability
Environment Objectives	All spills are reported and cleaned up	Zero (0) spills un-reported or cleaned up	At all times	Project Manager
	Number of enforcement notices / penalties issued by regulators and/or client	Zero (0)	At all times	Project Manager
	Number of unauthorised discharges or spills to receiving environment	Zero (0)	At all times	Project Manager
Legislation	<ol style="list-style-type: none"> 1. <i>Environmental Management and Pollution Control Act 1994 (Tas)</i> 2. <i>Environmental Management and Pollution Control (Controlled Waste Tracking) Regulations 2010 (Tas)</i> 3. <i>Environmental Management and Pollution Control (Underground Petroleum Storage Systems) Regulations 2020`1</i> 4. <i>Work Health and Safety Regulations 2012 (Tas)</i> 5. <i>Agricultural and Veterinary Chemicals Code Act 1994 (Cth)</i> 6. <i>Agricultural and Veterinary Chemicals (Control of Use) Act 1995 (Tas)</i> 			
Guidelines, Standards & Other References	<ol style="list-style-type: none"> 1. National Environment Protection (Assessment of Site Contamination) Measure 1999 (the NEPM) 2. AS 4452 (1997) – The storage and handling of toxic substances 3. AS 1940:2017 – The storage and handling of flammable and combustible liquids; 4. AS 1692:2006 - Steel tanks for flammable and combustible liquids; 5. AS 3780:1994 - The storage, handling of corrosive substances; 6. AS/NZ 4452:1997 - The storage, handling of toxic substances; 7. AS/NZS 2229:2004 – Fuel dispensing equipment for explosive atmospheres 8. AS 2683:2000 - Hose and hose assemblies for distribution of petroleum and petroleum products (excepting LPG) 9. AS 1216:2006 – Class labels for dangerous goods; 10. AS 2508.2.007: 2001 – Safe storage and handling information card – Liquid petroleum gas; 11. Safe Work Australia, 2018, Code of Practice Labelling of workplace hazardous chemicals, Safe Work Australia, October 2018 [ISBN 978-0-642-33309-4 (PDF)]. 12. Safe Work Australia, 2018, Code of Practice Managing risks of hazardous chemicals in the workplace, Safe Work Australia, October 2018 [978-0-642-78335-6 (PDF)]. 13. Safe Work Australia, 2018, Code of Practice Preparation of Safety data sheets for hazardous chemicals, Safe Work Australia, May2018 [978-0-642-33311-7 (PDF)]. 			
Knowledge, Procedures & Tools	<ol style="list-style-type: none"> 1. Environmentally Hazardous Materials Management Procedure [0001-PRO-EN-0011] 2. Emergency Response Plan for project 			

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
7.1	All environmentally hazardous substances on site must be registered on a project chemical register.	Contractor	Environmentally Hazardous Materials Management Procedure [1]	CPB Hazardous Substances Subplan - Modified
7.2	Storage and handling of environmentally hazardous materials must be in strict accordance with the applicable standards and MSDS for the substance.	Contractor	Environmentally Hazardous Materials Management Procedure [1]	CPB Hazardous Substances Subplan - Modified
7.3	Environmentally hazardous substances must be stored in a bunded area with a minimum holding capacity of 110% of the largest container within the bund or 25% of the total capacity of all containers within it, whichever is the greater.	Contractor	Environmentally Hazardous Materials Management Procedure [1]	CPB Hazardous Substances Subplan - Modified
7.4	Spill kits must be located adjacent to all hazardous substance storage units, in refueling and maintenance areas and at other designated locations throughout the site; their location must be shown on the SEP.	Contractor	Site Environment Plan	CPB Hazardous Substances Subplan - Modified
7.5	The types and sizes of spill kits on site must be selected based on the types and volumes of materials stored. Aquatic spill kits shall be available at project sites near waterways.	Contractor	Environmentally Hazardous Materials Management Procedure [1]	CPB Hazardous Substances Subplan - Modified
7.6	Training in the use of spill kits must be provided to relevant personnel.	Contractor		CPB Hazardous Substances Subplan - Modified
7.7	Refueling must not occur within 30m of a waterway (without appropriate controls in place).	Contractor		CPB Hazardous Substances Subplan - Modified
7.8	Management of environmentally hazardous materials must be covered in the site induction. Relevant construction staff will undergo spill response training, as well as safe handling and storage training.	Contractor		CPB Hazardous Substances Subplan - Modified

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
7.9	Containment devices, including bunds, separators and catch trays, will be used wherever there is a risk of spillage.	Contractor		CPB Hazardous Substances Subplan - Modified
7.11	Undertake routine maintenance of plant and equipment for prevention of leaks of hazardous substances, such as fuel and hydraulic fluid.	Contractor		CPB Hazardous Substances Subplan - Modified
7.12	An CDO Emergency Response Plan which incorporates a spill response procedure shall be maintained for the project	CDO Project Manager	Emergency Response Plan [2]	CPB Hazardous Substances Subplan - Modified
7.13	The type and location of environmental control equipment and devices to manage, mitigate and monitor hazardous substance impacts shall be detailed and maintained in the SEP. Additional management and mitigation measures required to address site-specific conditions, legal requirements, and risk must be included in the SEP.	PEMR / Contractor	Site Environment Plan	CDO Developed

Minimum Monitoring Requirements	Aspect	Monitoring Requirements	Frequency	Accountability
	Environmentally hazardous materials mitigation measures	Visual Inspection	Weekly	Contractor

3.8. Bushfire Risk Management

BUSHFIRE MANAGEMENT				
Environment Objectives	Metric/Measure	Objective	Time Frame	Accountability
	Number of fire incidents within the Project limits	Zero (0)	At all times	Project Manager
Legislation	<ol style="list-style-type: none"> 1. <i>Environmental Management and Pollution Control Act 1994 (Tas)</i> 2. <i>Fire Service Act 1979 (Tas)</i> 3. <i>General Fire Regulations 2010 (Tas)</i> 4. <i>National Parks and Reserves Management Act 2002 (Tas)</i> 5. <i>National Parks and Reserved Land Regulations 2009 (Tas)</i> 			
Guidelines, Standards & Other References	<ol style="list-style-type: none"> 1. AS1596 – Storage and Handling of LP Gas 2. AS1674.1 – Safety in Welding and Allied Processes – Fire Precautions 3. AS1940:2017 – The storage and handling of flammable and combustible liquids; 			
Knowledge, Procedures & Tools	<ol style="list-style-type: none"> 1. Environmentally Hazardous Materials Management Procedure [0001-PRO-EN-0011] 2. Hot Work Procedure [0001-PRO-HS-0027] 			

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
8.1	All facilities, containers, storage sheds, vehicles and machinery will be fitted with a serviced fire extinguisher (relevant to works or area), which will be inspected and tagged as required by a suitability qualified person.	Contractor		CDO Developed
8.2	Smoking must only be permitted in designated areas. These shall be clearly marked, communicated to site personnel, and their locations shown on the Site Environment Plan (SEP).	All	Site Environment Plan	CDO Developed
8.3	Proximity of stationary plant and machinery exhaust systems to combustible materials and vegetation must be taken into account during siting of equipment.	Contractor		CDO Developed
8.4	All flammable materials will be stored in accordance with relevant Australian Standards and MSDS.	Contractor	CDO Environmentally Hazardous Materials Management Procedure [1]	CDO Developed

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
8.5	Hot works will only be performed on a Total Fire Ban day with an approved exception from Tasmanian Fire Service.	Contractor	CDO Hot Work Procedure [2]	CDO Developed
8.6	No open fires shall be permitted on the project site at any time.	All		CDO Developed
8.7	The type and location of environmental control equipment and devices to manage, mitigate and monitor bush fire risk shall be detailed and maintained in the SEP. Additional management and mitigation measures required to address site-specific conditions, legal requirements, and risk must be included in the SEP.	PEMR / Contractor	Site Environment Plan	CDO Developed

	Aspect	Monitoring Requirements	Frequency	Accountability
Minimum Monitoring Requirements	Bushfire mitigation measures	Visual Inspection	Weekly	Contractor
	Fire Danger Rating	Check Current Fire Danger Rating at http://www.fire.tas.gov.au during summer months	Weekly or daily during heat wave periods	Contractor

3.9. Waste Management

WASTE MANAGEMENT				
	Metric/Measure	Objective	Time Frame	Accountability
Environment Objectives	% of waste quantified in waste management reports	>=90%	At all times	PEMR
	% of waste generated on Project is removed for recycling	>=75%	At all times	Project Manager
	Number of waste recycling streams	>= one (1) waste stream recycled	At all times	Project Manager
	% of regulated/hazardous wastes for which transfer certificates are retained	100%	At all times	Project Manager
	Number of enforcement notices and penalties received from regulators and/or client	Zero (0)	At all times	Project Manager
Legislation	<ol style="list-style-type: none"> 1. <i>National Environment Protection (Movement of Controlled Waste between States and Territories) Measure (2004) (the Controlled Waste NEPM) (Cth)</i> 2. <i>Environmental Management and Pollution Control Act 1994 (Tas)</i> 3. <i>Environmental Management and Pollution Control (Waste Management) Regulations 2020</i> 4. <i>Litter Act 2007 (Tas)</i> 5. <i>Plumbing Regulations 2004 (Tas)</i> 6. <i>Water and Sewerage Industry Act 2008 (Tas)</i> 7. <i>Water and Sewerage Industry (General) Regulations 2009</i> 			
Guidelines, Standards & Other References	<ol style="list-style-type: none"> 1. Information Bulletin 105 Classification and Management of Contaminated Soil for Disposal, 2018. 2. CCAA, 2008. Best Practice Guidelines for Concrete By-Product Re-Use at Concrete Batching Plants Tasmania. Concrete and Aggregates Australia (CCAA) CCAA 15 Marana Avenue Rose Bay Tasmania 7015 phone. (61 3) 64912529 Mobile 0427 606 123. 3. EPA Approved Management Method for the disposal of Clean Fill Type 1 and Type 2 			
Knowledge, Procedures & Tools	<ol style="list-style-type: none"> 1. Waste Management Procedure [0001-PRO-EN-0004] 2. Permit to Dispose Fill [0001-FRM-EN-0058] 			

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
9.1	All wastes streams must be classified, stored, tracked, transported and treated in accordance with the CDO Waste Management Procedure and any contractual or regulatory requirements, including the use of licensed transport and treatment facilities	Contractor	CDO Waste Management Procedure [1]	CPB Waste Management Plan - Modified

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
9.2	The relevant licenses of waste facilities utilised for the disposal or handling of waste will be obtained to ensure legal compliance.	PEMR/Contractor		CPB Waste Management Plan - Modified
9.3	Adequate and appropriate waste storage must be present onsite at all times for all waste streams present.	Contractor		CPB Waste Management Plan - Modified
9.4	Waste storage must be clearly sign posted to inform all project personnel of the correct material to be placed within each storage type. Containers must be emptied at a frequency that is sufficient to ensure their correct use.	Contractor		CPB Waste Management Plan - Modified
9.5	Burial or burning of waste is not permitted on project sites.	All		CPB Waste Management Plan - Modified
9.6	Excess concrete and concrete washout is not to be discharged to land or stormwater; a concrete washout facility must always be used.	Contractor		CPB Waste Management Plan - Modified
9.7	All waste stream volumes must be recorded on a suitable waste register.	Contractor		CPB Waste Management Plan - Modified
9.8	Where temporary toilet facilities are used, documented periodic inspections must be undertaken and a pump out schedule implemented and maintained.	Contractor		CDO Developed
9.9	The type and location of environmental control equipment and devices to manage, mitigate and monitor waste management shall be detailed and maintained in the SEP. Additional management and mitigation measures required to address site-specific conditions, legal requirements, and risk must be included in the SEP.	PEMR / Contractor	Site Environment Plan	CDO Developed
9.10	A Permit to Dispose Fill [0001-FRM-EN-0058] must be completed prior to removing spoil/fill from site	Contractor		CDO Developed

	Aspect	Monitoring Requirements	Frequency	Accountability
Minimum Monitoring Requirements	Waste mitigation measures	Visual Inspection	Weekly	Contractor
	Waste management	Recording of waste volumes by waste stream, including receipts for any disposal.	Reported Monthly to CDO	Contractor

Waste Stream	Waste Classification and Management
Asbestos	Controlled Waste Code N220 (Asbestos) Transported by an EPA Tasmania licensed contractor and disposed in accordance with EPA Tasmania regulations
Asphalt	Recycle or reuse - not to landfill
Concrete and concrete washings	Controlled Waste Code C100 (Basic solutions or bases) Transported by an EPA licensed contractor and disposed in accordance with EPA regulations
Contaminated soil (as defined by the Controlled Waste NEPM)	Controlled Waste Code N120 (Soils contaminated with controlled waste) Recycle or reuse on site if opportunity exists, in consultation with EPA. If removed from site, transported by an EPA licensed contractor and disposed in accordance with EPA regulations.
Felled woody vegetation (except fragments of noxious or environmental weeds capable of regeneration)	Mulched for reuse, or used for habitat logs
Woody weed fragments capable of regeneration	Burial on site (deeper than 500 mm and not in fill, pavement or other critical areas), composting, or disposal to landfill
Formwork	Recycle or dispose to landfill
Plastics (Recycle Nos. 1, 2, 3, 4, 5, 6, 7)	Recycling facility – not to landfill
Metal	Recycle or reuse – not to landfill

Waste Stream	Waste Classification and Management
Oil containers and lead acid batteries	Recycling facility – not to landfill
Packaging materials	Recycle or dispose to landfill
Empty paint tins	Recycling facility – not to landfill
Petroleum products from spills (absorbed in spill kit material or contaminated soil)	Controlled Waste Code J100 (Waste mineral oils unfit for their original intended use) Recycle or reuse with rehabilitation of contaminated soils if opportunity exists Transported by an EPA licensed contractor and disposed in accordance with EPA regulations
Timber (untreated)	Recycle - not to landfill
Temporary ablution waste	Controlled Waste Code K130 (Sewage sludge, sewage residue, soil or sludge from an onsite waste water management system) Transported by an EPA licensed contractor and disposed in accordance with EPA regulations
Litter	Recycle or dispose to landfill
Office waste	Recycle or dispose to landfill
Oily water	Controlled Waste Code J120 (Waste oil/water, hydrocarbons/water mixtures or emulsions) Dispose to STP that accepts trade waste
Other waste excluding the above wastes	Recycle or reuse if opportunity exists

3.10. Traffic Management

TRAFFIC MANAGEMENT				
	Metric/Measure	Objective	Time Frame	Accountability
Environment Objectives	Number of incidents of damage to existing roads above daily wear and tear	Zero (0)	At all times	Project Manager
	Number of enforcement notices / penalties issued by regulators and/or client	Zero (0)	At all times	Project Manager
	Number of avoidable complaints from stakeholders regarding traffic and access management	Zero (0)	At all times	Project Manager
Legislation	<ol style="list-style-type: none"> <i>Traffic Act 1925 (Tas)</i> <i>Roads and Jetties Act 1935 (Tas)</i> <i>Local Government Highways Act 1982 (Tas)</i> <i>Road Rules 2009 (Tas)</i> <i>National Parks and Reserved Land Regulations 2009 (Tas)</i> 			
Guidelines, Standards & Other References	<ol style="list-style-type: none"> Department of State Growth, 2014. Traffic Control for Works on Roads Tasmanian Guide. Department of State Growth, Traffic Management Permit Application. Austrroads Guide to Temporary Traffic Management, December 2019. Safe Work Australia, 2014. Traffic Management: Guide for construction Work 978-1-74361-106-7 [PDF]. Safe Work Australia, 2014. General guide for Workplace Traffic Management 978-1-74361-691-8 [PDF]. 			
Knowledge, Procedures & Tools	N/A			

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
10.1	All traffic will adhere to designated roads and associated speed limits.	All		CDO Developed
10.2	Any damage caused by construction activities to existing roads internal and external to the project site will be repaired following completion of construction works, in accordance with any dilapidation surveys undertaken for the project.	Contractor		CDO Developed
10.3	Site vehicle access maps will be developed and shared in site inductions to inform site staff and sub-contractors.	Contractor		CDO Developed

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
10.4	Public access will be restricted during construction activities using adequate signage, fencing, gates and site security.	Contractor		CDO Developed
10.5	Any damage to livestock or fences will be reported immediately to the PEMR / Site Environmental Representative.	All		CDO Developed
10.6	Site entries/exits must be equipped with suitable management and mitigation measures to minimise soil transport to and from the site to reduce the chance of dust generation. This could include rumble grids, sealed areas, or wash-down bays.	Contractor		CDO Developed
10.7	The type and location of environmental control equipment and devices to manage, mitigate and monitor traffic shall be detailed and maintained in the SEP. Additional management and mitigation measures required to address site-specific conditions, legal requirements, and risk must be included in the SEP.	PEMR / Contractor	Site Environment Plan	CDO Developed

Minimum Monitoring Requirements	Aspect	Monitoring Requirements	Frequency	Accountability
	Traffic and Access Mitigation Measures	Visual Inspection	Weekly	Contractor

3.11. Contaminated Land Management

CONTAMINATED LAND MANAGEMENT				
	Metric/Measure	Objective	Time Frame	Accountability
Environment Objectives	All soil types to be separately stockpiled for inspection and verification of contamination	All types	At All times	Project Manager
	Minimise contamination / degradation to the soil environment within the Project area	All contaminated soil is managed and disposed in accordance with the Information Bulletin No. 105 Classification and Management of Contaminated Soil for Disposal	At All times	Project Manager
	All sites with contaminated soils with contamination levels in excess of health investigation levels for Commercial/ Industrial Land Use criteria to be remediated or managed in a way to mitigate the potential risk to site users (current and future).	All	At All times	Project Manager
	All sites with contaminated soils with contamination levels in excess of the relevant environmental investigation levels criteria to be managed in a way to mitigate the potential risk to environmental receptors (current and future).	All	At All times	Project Manager
	All spills are reported and cleaned up	Zero (0) spills un-reported or cleaned up	At All times	Project Manager
Legislation	<ol style="list-style-type: none"> 1. National Environment Protection (Assessment of Site Contamination) Measure 1999 (Cth), As amended 2013 2. National Environment Protection (Movement of Controlled Waste between States and Territories) Measure 2004 (the "Controlled Waste NEPM") (Cth) 3. Environmental Management and Pollution Control Act 1994 (Tas) 4. Environmental Management and Pollution Control (Waste Management) Regulations 2020 (Tas) 			
Guidelines, Standards & Other References	<ol style="list-style-type: none"> 1. Information Bulletin No. 105 Classification and Management of Contaminated Soil for Disposal 2. Information Bulletin No. 101 Notification of a Contaminated Site 3. Information Bulletin No. 114 Guide to Engaging an Environmental Site Assessment Consultant 4. EPA Approved Management Method for the Disposal of Clean Fill Type 1 and Type 2 			
Knowledge, Procedures & Tools	<ol style="list-style-type: none"> 1. Materials Tracking Form [0001-FRM-EN-0011] 2. Permit to Dispose Fill [0001-FRM-EN-0058] 			

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
11.1	<p>A site contamination management plan must be developed for sites with known contaminated soils and materials in accordance with <i>Information Bulletin No. 105 - Classification and Management of Contaminated Soil for Disposal</i>. The plan must:</p> <ul style="list-style-type: none"> Identify areas of contamination Identify the classification of soils in accordance with Information Bulletin No. 105 Provide procedures for the management of the soil for stockpiling, remediation, treatment, reuse or disposal (including completion of CDO Materials Tracking Form) in accordance with Information Bulletin No. 105 and other relevant guidelines and standards. Identify approval requirements for remediation, treatment, reuse or disposal. 	Contractor	CDO Materials Tracking Form [1]	CPB Contamination Subplan - Modified
11.2	<p>In the event unanticipated contaminated materials are discovered or suspected, works must cease and the PEMR notified immediately.</p> <p>Classification of potentially contaminated soils is to be undertaken by a suitably qualified and competent person and a management plan developed if required. The assessment must be suitable to classify material in accordance with <i>Information Bulletin No. 105 - Classification and Management of Contaminated Soil for Disposal</i>.</p>	All		CPB Contamination Subplan- Modified
11.3	<p>Disposal of soil classified as Level 2 'Low Level Contaminated Soil' (as defined in Information Bulletin No. 105) requires approval by the Director, EPA Tasmania.</p> <p>Soil classified as Level 3 'Contaminated Soil' and Level 4 'Contaminated Soil for Remediation' are unable to be accepted at any landfill in Tasmania and must be remediated / treated to reduce contaminant levels to allow for disposal / re-use as Level 2 material.</p>	PEMR / Contractor		CDO Developed
11.4	All vehicles, plant and other machinery operating in contact with contaminated soil must be decontaminated prior to leaving site.	Contractor		CPB Contamination Subplan- Modified
11.5	Temporary water management works will be put in-place to capture contaminated runoff from stockpiles and confirmed areas of contamination. Water and sediment will be monitored for quality and managed in accordance with regulatory requirements.	Contractor		CPB Contamination Subplan- Modified
11.6	<p>The type and location of environmental control equipment and devices to manage, mitigate and monitor contaminated land shall be detailed and maintained in the SEP.</p> <p>Additional management and mitigation measures required to address site-specific conditions, legal requirements, and risk must be included in the SEP.</p>	PEMR / Contractor	Site Environment Plan	CDO Developed

	Aspect	Monitoring Requirements	Frequency	Accountability
Minimum Monitoring Requirements	Contaminated land mitigation measures	Visual Inspection	Weekly	Contractor
	Earthworks stripping	Contaminated soils and material - Visual inspection	During stripping	Contractor
	Excavation	Contaminated soils and material - Visual inspection	During excavations	Contractor
	Importing fill material	Contaminated soils and material - Visual inspection	When importing filling material:	Contractor

3.12. Acid Sulfate Soil Management

ACID SULFATE SOIL MANAGEMENT				
	Metric/Measure	Objective	Time Frame	Accountability
Environment Objectives	Any soil identified as exceeding the ASS soil trigger values that is disturbed is treated in accordance with the requirements in the Tasmanian Acid Sulfate Soil Management Guidelines (DPIPWE 2015)	All disturbed ASS is controlled or treated	At all times	Project Manager
		All leachate controlled and treated	At all times	Project Manager
	Develop and implement adequate measures to prevent impact to the surrounding environment resulting from the disturbance of ASS and release of acidified leachate to ground or surface waters or terrestrial environment.	Zero (0) leachate generated	At all times	Project Manager
		Zero (0) harm to the surrounding environment	At all times	Project Manager
		Water quality monitoring result are below the nominated trigger levels	At all times	Project Manager
Number of enforcement notices / penalties issued by regulators and/or client	Zero (0)	At all times	Project Manager	
Legislation	<ol style="list-style-type: none"> 1. <i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> 2. <i>Environmental Management and Pollution Control Act 1994 (Tas)</i> 3. <i>Environment Protection (Sea Dumping Act) 1981</i> 4. <i>State Coastal Policy 2006 (Tas)</i> 			
Guidelines, Standards & Other References	<ol style="list-style-type: none"> 1. Tasmanian Acid Sulfate Soil Management Guidelines (DPIPWE 2015) 2. Maps identifying the predicted distribution of areas affected by ASS are available at: <ul style="list-style-type: none"> - The List - www.thelist.tas.gov.au - ASRIS website - www.asris.csiro.au/index_ie.html 3. National Acid Sulfate Soils Guidance - National acid sulfate soils sampling and identification methods manual 2018 (Commonwealth of Australia 2018) 			
Knowledge, Procedures & Tools	<ol style="list-style-type: none"> 1. Materials Tracking Form [0001-FRM-EN-0011] 			

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
12.1	An acid sulfate soils management plan must be developed for sites with known ASS/PASS soils in accordance with the <i>Tasmanian Acid Sulfate Soil Management Guidelines</i> (DPIPWE 2015). The plan must: <ul style="list-style-type: none"> • Identify areas of PASS/ASS materials within the site 	Contractor	Tasmanian Acid Sulfate Soil Management Guidelines [1]	CDO Developed

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
	<ul style="list-style-type: none"> Provide procedures for the management of ASS/PASS soils, including stockpiling, remediation, treatment (lime dosing), reuse or disposal in accordance with relevant guidelines and standards. Identify approval requirements for disposal. 			
12.2	<p>In the event unanticipated PASS materials are discovered or suspected, the following must be undertaken:</p> <ul style="list-style-type: none"> Works must cease, and the PEMR notified immediately, with works to remain ceased until the all clear to proceed has been given. Field screening tests must be conducted in accordance with the Tasmanian Acid Sulfate Soil Management Guidelines (DPIPWE 2015) by a suitably qualified person. Laboratory testing must be undertaken in the event PASS are identified from the screening test. In the event ASS soils are identified from the laboratory testing, an acid sulfate soils management plan must be developed in accordance with the <i>Tasmanian Acid Sulfate Soil Management Guidelines</i> (DPIPWE 2015). 	PEMR / Contractor	Tasmanian Acid Sulfate Soil Management Guidelines [1]	CPB Contamination Subplan- Modified
12.3	All known areas of ASS/PASS will be communicated to site personnel via site induction, toolbox talks, pre-starts and Site Environmental Plans.	Contractor		CPB Acid Sulfate Soil Subplan - Modified
12.4	The movement of ASS/PASS materials must be tracked via the CDO Materials Tracking Form .	Contractor	CDO Materials Tracking Form [1]	CPB Acid Sulfate Soil Subplan - Modified
12.5	Water runoff from ASS/PASS stockpiles must be contained, treated and suitably disposed of.	Contractor		CPB Acid Sulfate Soil Subplan - Modified
12.6	A spill of ASS/PASS material outside of the ASS/PASS storage and/or treatment areas must be reported to the PEMR immediately.	All		CPB Acid Sulfate Soil Subplan - Modified
12.7	The type and location of environmental control equipment and devices to manage, mitigate and monitor ASS/PASS shall be detailed and maintained in the SEP. Additional management and mitigation measures required to address site-specific conditions, legal requirements, and risk must be included in the SEP.	PEMR / Contractor	Site Environment Plan	CDO Developed

Minimum Monitoring Requirements	Aspect	Monitoring Requirements	Frequency	Accountability
	Acid Sulfate Soil mitigation measures	Visual Inspection	Weekly	Contractor

3.13. Energy and Greenhouse Gas (GHG) Management

ENERGY & GHG MANAGEMENT				
	Metric/Measure	Objective	Time Frame	Accountability
Environment Objectives	Project to identify, assess and implement operational and behavioral energy efficiency initiative(s) to minimise energy use and reduce greenhouse gas emissions	At least one (1) energy efficiency initiative implemented per year per Project	Annually	Project Manager
	100% of all subcontractor fuel use by the Project is captured and entered into Synergy by the 10 th of each month (NGER reporting requirement).	All subcontractor fuel use entered into Synergy	Annually	PEMR
	Project to report on energy efficiency initiatives implemented	At least one (1) energy efficiency case study reported to CDO Alliance Partner Environment Group Manager(s) per annum.	Annually	PEMR
Legislation	<ol style="list-style-type: none"> 1. <i>Climate Change Act 2010 (Cth)</i> 2. <i>National Greenhouse and Energy Reporting Act 2007 (Cth)</i> 3. <i>National Greenhouse and Energy Reporting Regulations 2008 (Cth)</i> 4. <i>National Greenhouse and Energy Reporting (Measurement) Determination 2008 (Cth)</i> 5. <i>Ozone Protection and Synthetic Greenhouse Gas Management Act 1989 (Cth)</i> 6. <i>Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995 (Cth)</i> 			
Guidelines, Standards & Other References	<ol style="list-style-type: none"> 1. National Greenhouse and Energy Reporting Technical Guidelines. Viewed online on 25 June 2019 at < http://www.environment.gov.au/climate-change/climate-science-data/greenhouse-gas-measurement/nger/technical-guidelines> 			
Knowledge, Procedures & Tools	N/A			

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
13.1	Project fuel consumption to be recorded.	Contractor		CPB Energy Subplan
13.2	Energy efficiency principles will be communicated through tool box talks and other site communication forums and tools.	Contractor		CPB Energy Subplan
13.3	Where relevant, procurement decisions will include energy efficiency and greenhouse gas considerations of the product or service.	CDO Project Manager		CPB Energy Subplan

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
13.4	Construction machinery, plant and equipment shall be switched off when not in use.	All		
13.5	Construction machinery, plant and equipment shall be modern to maximise efficient use of fuel	All		

Minimum Monitoring Requirements	Aspect	Monitoring Requirements	Frequency	Accountability
	Fuel Usage Monitoring	Record volumes and types of fuels used	Monthly reporting	Contractor

3.14. Water Management

WATER MANAGEMENT				
	Metric/Measure	Objective	Time Frame	Accountability
Environment Objectives	Number of enforcement notices / penalties issued by regulators and/or client	Zero (0)	At all times	Project Manager
	Number of recorded marine fauna injuries or fatalities resulting from in-water construction activities	Zero (0)	At all times	Project Manager
	Number of floating and submersible plant and equipment entering marine areas of the project without a documented invasive marine pest risk assessment	Zero (0)	At all times	Project Manager
	Water use monitored	>=90% of water use activities metered	At all times	Project Environmental Management Representative.
Legislation	<ol style="list-style-type: none"> 1. <i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> 2. <i>Biosecurity Act 2015 (Cth)</i> 3. <i>Environmental Management and Pollution Control Act 1994 (Tas)</i> 			
Guidelines, Standards & Other References	<ol style="list-style-type: none"> 1. Commonwealth of Australia, 2009. National Bio-fouling Management Guidelines for Non-trading Vessels. April 2009. ISBN 978-1-921575-07-5. http://www.marinepests.gov.au/marine_pests/publications/Documents/Biofouling_guidance_NTV.pdf 2. DPTI, 2012. Underwater Piling Noise Guidelines. First published November 2012, Version 1. https://www.dpti.sa.gov.au/standards/environment 3. The National System for the Prevention and Management of Marine Pest Incursions (the National System) 4. <i>National Light Pollution Guidelines for Marine Turtles, Seabirds and Migratory Shorebirds Commonwealth Government</i> 5. <i>Environment Protection (Sea Dumping) Act 1981</i> 			
Knowledge, Procedures & Tools	<ol style="list-style-type: none"> 1. Working In and Around Water Procedure [0001-PRO-EN-0012] 2. Weed, Pest and Disease Management Procedure [Doc No. 0001-PRO-EN-0005] 3. Invasive Marine Pests Risk Assessment [0001-FRM-EN-0017] 4. Plume Observation Form [0001-FRM-EN-0010] 5. Dewatering and Bypass Pumping Procedure [0001-PRO-EN-0010] 6. Permit to Dewater and Bypass Pump [Doc No. 0001-FRM-EN-0002] 			

Action	Mitigation Measure	Accountability	Reference Documents	Mitigation Source
14.1	A water management plan appropriate to the scale of the Project will be developed and maintained.	Contractor		CPB Soil & Water Management Plan - Modified
14.2	All floating and submersible plant and equipment to be used for the project must be disinfected and clean prior to use in an aquatic environment in accordance with the CDO Weed, Pest and Disease Management Procedure .	Contractor	CDO Weed, Pest and Disease Management Procedure [2]	CDO Developed
14.3	Silt curtains must be used in waterways around activities that present a risk of sediment disturbance or sedimentation. A CDO Plume Observation Form must be completed when silt curtains are in use.	Contractor	CDO Plume Observation Form [4]	CDO Developed
14.4	Aquatic spill kits must be present at activities that occur near or within waterways.	Contractor		CDO Developed
14.5	Refueling must not occur within 30m of a waterway (without appropriate controls in place).	All		CDO Developed
14.6	Sediments to be disturbed must be sampled for contamination in non-pristine environments such as ports and polluted waterways prior to disturbance.	PEMR		CDO Developed
14.7	A dredge management plan must be developed for sites requiring dredging activities in accordance with the <i>National Assessment Guidelines for Dredging 2009</i> and <i>Information Bulletin No. 105 - Classification and Management of Contaminated Soil for Disposal</i> .	PEMR		CDO Developed
14.8	Marine vessels and equipment must have all required Introduced Marine Pest (IMP) inspections completed and documentation in place, including a CDO Invasive Marine Pests Risk Assessment Form , prior to mobilisation to the project site.	Contractor	CDO Invasive Marine Pests Risk Assessment Form [3]	CDO Developed
14.9	For piling activities in the marine environment: <ul style="list-style-type: none"> Soft start techniques to minimise impacts to aquatic fauna must be employed. Marine mammal observers must be present. Piling must cease if marine mammals are observed. 	PEMR / Contractor	CDO Working in and Around Water Procedure [1]	CDO Developed
14.10	When working in or around drinking water catchments, all potential public health threats to the water supply must be reported to the PEMR immediately.	Contractor	CDO Working in and Around Water Procedure [1]	CDO Developed
14.11	The type and location of environmental control equipment and devices to manage, mitigate and monitor impacts to aquatic environments shall be detailed and maintained in the SEP. Additional management and mitigation measures required to address site-specific conditions, legal requirements, and risk must be included in the SEP.	PEMR / Contractor	Site Environment Plan	CDO Developed

Minimum Monitoring Requirements	Aspect	Monitoring Requirements	Frequency	Accountability
	In-water mitigation measures	Visual Inspection	Daily	Contractor
	In-water construction	Plume Observations	Hourly	Contractor
	In-water construction	Marine Fauna Observation	Continuous	Contractor

PART D: References and Appendices

4. References

1. CDO Environmental Policy [Doc No. 0001-POL-PM-0008]
2. Program Environmental Management Plan [Doc No. 0001-PLN-EN-0001]
3. Site Environment Plan Template [Doc No. 0001-FRM-EN-0006]
4. HSE Risk Management Procedure [Doc No. 0001-PRO-HS-0029]
5. Environmental Aspects and Impacts Procedure [Doc No. 0001-PRO-EN-0001]
6. Environmental Monitoring Procedure (0001-PRO-EN-0009)
7. Workplace Inspection, Testing and Monitoring Procedure (0001-HS-PM-0006)

5. Appendices

Appendix 1. CDO Environmental Policy



ENVIRONMENTAL POLICY

The TasWater Capital Delivery Office (CDO) implement the UGL management systems and processes. These underpin our commitment to achieving our One HSE Culture based on Risk Management, Standards, Communication and Involvement. The UGL management systems and processes support our client, TasWater to implement its Environmental Policy (TASPOL02).

We prioritise environmental risk management by

- Taking steps to prevent pollution, conserve natural resources, protect cultural heritage, minimise waste and drive energy efficiency.
- Ensuring our operations, products and services comply with applicable legal and other requirements.
- Regularly reviewing our performance, identifying and implementing corrective and preventive actions that contribute to continually improving the environmental performance of our TasWater CDO operations, products and services.

We set and reinforce high standards by

- Setting objectives and targets to reduce environmental risk and improve sustainability.
- Making continual improvements in environmental performance and protecting the environment.
- Implementing environmental systems and processes in accordance with ISO 14001 to minimise environmental impacts, comply with legal and other obligations and improve environmental outcomes.
- Monitoring and evaluating performance to ensure environmental compliance and obligations are achieved.

We promote open communication by

- Communicating with our employees, TasWater, suppliers, contractors and the communities we operate on our environmental performance.

We foster involvement by

- Providing appropriate environmental training to assist in meeting our objectives and reducing any adverse impacts on the environment.
- Promoting sustainable practices within our supply chain to reduce our broader environmental impacts.
- Requiring suppliers and subcontractors to operate in an environmentally responsible manner and adhere to applicable environmental requirements.