LEVEL CROSSING REMOVAL PROJECT
FURLONG MAIN BLACKBURN HEATHERDALE

MAIN ROAD, ST ALBANS

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

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LEVEL CROSSING REMOVAL PROJECT
FURLONG - MAIN BLACKBURN - HEATHERDALE

VICTORIA State Government

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1. Definitions

Term	Meaning
DMS	Acronym for Document Management System.
FMBH LCRP	Acronym for Furlong Main Blackburn Heatherdale Level Crossing Removal Project.
FSC	Acronym for Federal Safety Commission.
Incite	Document management system used for all Project correspondence.
LCPL	Acronym for Leighton Contractors Pty Ltd.
LXRA	Acronym for Level Crossing Removal Authority.
NCR	Acronym for Non-Conformance Report.
PDM	Acronym for Project Document Management.
PTR	Acronym for Product Request.
QA	Acronym for Quality Assurance. It refers to the planned and systematic activities implemented under the Project Quality Plan so that the quality requirements under the Contract will be fulfilled.
RFI	Acronym for Request for Information.
RMP	Acronym for Records Management Plan.
SI	Acronym for Site Instruction.
Synergy	Management system used for the management of Health, Safety and Environment.
SWMS	Acronym for Safe Work Method Statement. Also referred to as a Job Safety and Environmental Analysis (JSEA) by others. It is a document used to convey detailed information about a scope for a work crew, with the sequence of work or task steps listed, with hazards expected, present or generated and associated risk controls to be implemented.
WAP	Acronym for Work Area Plan.

2. Project Overview

Over the next eight years, the Victorian State Government will deliver a coordinated program to remove 50 of the worst level crossings in Melbourne, improving safety, reducing congestion and enabling more frequent train services. Delivery of these projects is being overseen by the Level Crossing Removal Authority (LXRA).

An Alliance comprising VicRoads, Public Transport Victoria (PTV), Metro Trains Melbourne (MTM), Leighton Contractors, Aurecon and Hyder Consulting has been contracted to deliver the Furlong Main Blackburn Heatherdale Level Crossing Removal Project (the Project). This includes the removal of level crossings at Main Road and Furlong Road in St Albans, Blackburn Road in Blackburn and Heatherdale Road in Mitcham, Victoria.

To ensure the Project is a success, the following objectives are to be achieved:

Objective	
Project Benefits	The provision of an infrastructure solution at the sites which addresses the identified issues with: ▪ Safety: by removing many factors that limit the safe movement of pedestrians and vehicles. ▪ Congestion: by removing the conflicts between pedestrians, vehicles and rail movements and improving travel times and the reliability of travel times for the various modes of transport. ▪ Connectivity: by improving access to services, local amenity and opportunities for economic growth.
Cost Performance	▪ Minimisation of the long term operational and maintenance costs. ▪ Achieve positive environmental sustainability outcomes. ▪ Clear demonstration of best value of the investment delivering the Project Benefits at the lowest cost. ▪ Total Outturn Cost (TOC) within the budget allowance ▪ Delivery to the TOC or better whilst achieving other cost objectives.
Time Performance	▪ Delivery of the sites by the dates for completion ▪ All work completed in 2017 ▪ Progressive completion to enable earliest possible delivery of the Project Benefits.
Quality Outcomes	▪ The design aligns with the objectives for the local area to compliment and provide opportunities for enhancement and future economic uplift ▪ The design considers and provides for a positive user experience utilising urban design principals to deliver the required urban design objectives.

Part A: Plan Overview

3. Structure of this Plan

This Environmental Management Plan (EMP) outlines how we will achieve acceptable environmental outcomes on the Level Crossing Removal Project - Main Rd by the application of the CPB Contractors Environmental Management System (EMS).

In addition to the Project Management Plan, other Project Plans that interface with the Environmental Management Plan including but not limited to:

- Construction Management Plan
- Engineering and Design Management Plan
- Quality Management Plan
- Safety and Health Management Plan
- Completion Management Plan

The plan has the following structure:

Part A: Overview	This section clearly defines: ▪ Purpose and Scope of the EMP ▪ Environmental Contract Requirements ▪ Objectives and Targets ▪ Structure the Environmental Management System ▪ Summary of the Significant Environmental Hazards, specific client requirements, compliance requirements and project environmental performance targets
Part B: Implementation Plan	This section outlines in detail the key aspects for environmental management on the project including: ▪ Expectations ▪ How they will be met ▪ Responsibilities ▪ Associated deliverables
Part C: Environmental Sub-Plans	This section contains the Environmental Sub-Plans developed by the project to manage Significant Environmental Hazards and other potential major impacts upon the environment and community
Part D: Appendices	This section provides information supporting the EMP including: ▪ Environmental Policy ▪ Environmental Risk Register ▪ Environmental Roles and Responsibilities ▪ Site Environment Plan

4. Plan Overview

4.1. Purpose and Scope

An Alliance comprising VicRoads, Public Transport Victoria (PTV), Metro Trains Melbourne (MTM), CPB Contractors, Aurecon and Hyder Consulting has been contracted by Level Crossing Removal Authority (LXRA) to deliver the Furlong Main Blackburn Heatherdale Level Crossing Removal Project (the Project). CPB Contractors has been appointed Principle Contractor in accordance with section 19.13 of the Project Alliance Agreement.

This Plan is established in accordance with 'The Way We Operate' framework and is the key document that integrates Environmental requirements and client construction requirements.

Implementation of the EMP will:

- Identify the environmental obligations attached to the tender / project and the hazards and risks associated with the works
- Assist in the prevention of unauthorised environmental harm
- Fulfil the Client's environmental requirements as defined in the Contract, including complying with relevant permits and approvals
- Comply with all relevant environmental legislation
- Minimise negative impacts on the community that relate to the Project's environmental impacts
- Identify and implement feasible opportunities to reduce the environmental impact of the Project that are beyond contractual and compliance requirements
- Fulfil CPB Contractors' EMS requirements enabling continued certification to ISO14001 and contribution to CPB Contractors' overall Business Plans.

The Alliance Manager, with advice and input from senior construction staff, is responsible for the Plan.

4.2. Environmental Contract Requirements

The following table sets out the minimum client requirements as defined in Project Alliance Agreement and shows where each requirement has been addressed within this Plan or the wider CPB Contractors Management System.

Table 1: Contract Requirements for Environmental Management

Contract Reference	Content requirements	Where addressed	Comments
19.17 (a)	The Participants are committed to achieving the highest standard of environmental practices in performing the Works.	2.3 Objectives and Targets	Objectives of each Sub-plans in Part C
19.17 (b)	The Participants will proactively work to minimise the impact of the performance of the Works on the environment including by: 1. providing appropriate work methods and equipment; 2. providing and maintaining systems, methods and techniques of work, and Construction Plant, that have a minimal impact on the environment and do not expose the environment to any hazard that is within the Participants' control; 3. developing and complying with procedures for dealing with environmental hazards or emergencies (or potential environmental	Part C of this Document	

	hazards or emergencies) including procedures for interacting with the EPA or other relevant Government Agencies; 4. complying with the Construction and Environmental Management Plan included in the Project Management System.	
19.17 (c)	Without limiting clause 19.3(a), the Participants must comply with the EPBC Act Approval including any conditions or requirements under the EPBC Act Approval.	2. Flora & Fauna Management Plan

4.3. Objectives and Targets

The Project has set the following environmental performance targets. These include current business plan environmental targets for the Business Unit and the whole of CPB Contractors:

Table 2: Leading indicators

Key Performance Indicator	Target	Time Frame	Actions to be Taken	Accountability
SHEQ observations	Four observations conducted per member of leadership team per month	Each month	Four observations to be performed by each member of the leadership team per month	Project leadership team
Completion of inspections	100 per cent of scheduled inspections of environmental controls occur	Each month	Inspections of environmental controls to be identified, scheduled and conducted	Superintendents

Table 3: Lagging Indicators

Key Performance Indicator	Target	Time Frame	Actions to be Taken	Accountability
Level 1, 2 & HPI environmental incidents	Zero	Ongoing	Implementation of the EMP	Alliance Manager
Number of actions taken by regulators and/or client	Zero	At all times	Implementation of the EMP	Alliance Manager
Area of land cleared or disturbed without authorisation	Zero ha	At all times	Implementation of the Fauna and Fauna Sub Plan	Alliance Manager
Number of unauthorised discharges	Zero	At all times	Implementation of Soil and Water Sub Plan	Alliance Manager
Damage to heritage items or places without relevant approvals	Zero	At all times	Implementation of Heritage Sub Plan	Alliance Manager
100% of all fuel use and GHG emissions generated by the project is captured and entered into JDE (NGER reporting requirement).	All use / emissions entered into JDE System	Monthly	Implementation of Energy Sub Plan	Environment Manager
% of waste reused or recycled	80% of waste generated [note waste types excluded from calculation must be defined]	12 months	Implementation of Waste Sub Plan	Environment Manager

4.4. Key Environmental Stakeholders

Key environmental stakeholders for the Project include

Stakeholder Name	Contact Details
VicRoads	13 11 70
MTM	1800 800 007
Department of Environment, Land, Water and Planning (DELWP)	136 186
Department of Economic Development, Jobs, Transport and Resources (DEDJTR) (VIC)	(03) 9651 9999
Environment Protection Authority (EPA) (VIC)	1300 372 842
Heritage Victoria	(03) 9208 3333 (DTPLI)
Office of Aboriginal Affairs Victoria (OAAV)	1300 888 544 or http://www.dpc.vic.gov.au/index.php/aboriginal-affairs/aboriginal-affairs-overview
State Coroner's Office	(03) 8684 4444
Department of Environment (DE) (Commonwealth)	(02) 6274 1111
VicTrack	1300 8428 7225
Brimbank City Council	03 9249 4000

5. Environmental Management System

5.1. System Overview

5.1.1. Governance documentation

The Environmental Management System (EMS) is based on the requirements of the CPB Management System and has been specifically tailored to ensure compliance with the Project Alliance Agreement additional Environmental requirements. The Project Management Plan provides more detail about 'The Way We Operate' and the process adopted to deliver against the Project Alliance Agreement overall requirements.

The CPB Contractors management system is certified to conform to:

- AS/NZS ISO 14001:2004 Environmental management systems – Requirements with guidance for use.

Evidence of certification is included in Appendix A.

The CPB Management System has been developed and implemented to ensure a consistent approach to project delivery. The management system comprises the following components:

- A Policy is a statement of strategic intent and commitment and defines the minimum mandatory requirements that CPB Contractors expects all levels of the organisation to comply with.
- The Project Management Plan outlines how the Project will be managed and it is supported by a suite of functional management plans.
- Procedures and Work Instruction specify how to undertake and control specific activities. They also list accountable roles and the tools and knowledge to be used. Where appropriate and approved by the respective Business Unit functional manager, project specific procedures may be produced to reflect specific project circumstances.

Figure 1: CPB Contractors Management System

- Tools are preformatted documents such as forms and templates that are required to be completed as part of a Procedure.
- Knowledge documents are reference material to provide context, additional information or guidance to a Policy or Procedure.
- Business Applications are the software tools used to manage our business and support our operations.

5.1.2. Environmental Management Plans (EMPs)

Each project maintains an EMP (this document) that describes the actions to be taken by that project to comply with each Element and Expectation. The Project's EMP must demonstrate that:

- Contractual environmental requirements are being fulfilled
- The Project is compliant with all relevant environmental legislation
- The effect of environmental impacts on the community is minimised.

5.1.3. Procedures, Knowledge and Tools

A procedure describes the steps to be undertaken to complete an activity, the accountable roles and the tools and knowledge to be used.

Tools are preformatted documents (forms and templates) used to collect specific data or information for a particular purpose.

Knowledge documents are reference material to provide context, additional information or guidance to a Policy or Procedure.

Business Applications are the software tools used to manage and support our operations.

5.2. Improvement

In addition to specifying the day-to-day environmental management of a project, each EMP details activities to be performed to deliver continual improvement in environmental performance.

Continual improvement is achieved through constant measurement and evaluation, audit and review of the effectiveness of EMP and adjustment and improvement, project environmental outcomes, and CPB Contractors EMS.

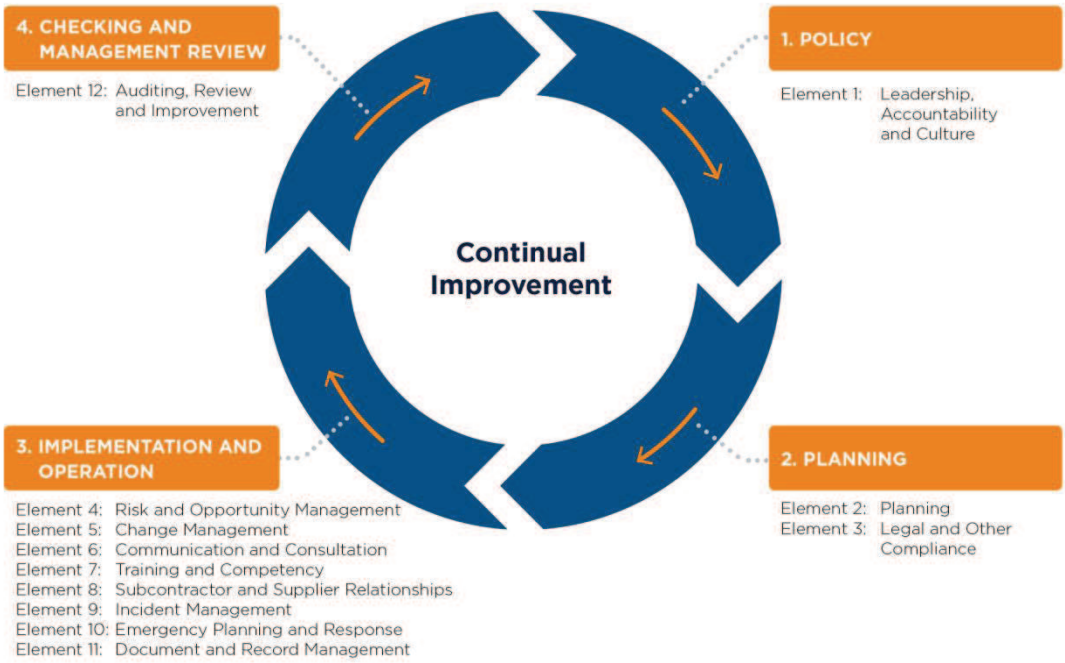


Figure 2 Continual Improvement Mechanism

5.3. Interactions with Other Management Plans

This EMP is part of an integrated set of project management plans. The table below sets out interactions of this EMP with the other management plans implemented on the **Error! No text of specified style in document.**. The specific linkages that exist between management plans are addressed thoroughly in Part B of this plan.

	PROJECT MANAGEMENT PLAN ENVIRONMENTAL MANAGEMENT PLAN						
Element of EMP	**Design**	**Construction**	**Safety**	**Risk**	**Commercial**	**HR**	**Community & Stakeholder**
Leadership, Accountability and Culture			●			✓	
Planning			●		✓	●	
Legal and Other Compliance	✓	✓	●				●
Risk Management and Controls	✓	✓	✓	✓		●	
Change Management	●	●	●	●	●	●	●
Communication, Consultation and Participation			✓			✓	✓
Training and Competency			●			✓	
Subcontractor and Supplier Relationships	●		●	●	✓		
Incident Management			✓				●
Emergency Planning and Response			✓	●	●	●	●
Document and Records Management	●	●		●	●	●	●
Auditing, Review and Improvement			✓	●			

● Element (or subject) also addressed in other management plans

✓ Other plan directly interfaces with the Environmental Management Plan

6. Significant Environmental Hazards and Environmental Sub Plans

This EMP also includes Environmental Sub Plans for Significant Environmental Hazards (SEH), and Environmental Sub Plans for Other Environmental Hazards. As with all Environmental Hazards, SEHs have been identified through the review and analysis of environmental reports, contractual documents, community and legal compliance requirements relating to the Project and professional experience. Each of the Sub Plans listed below will be regularly reviewed during construction as the project risks are reviewed.

Environmental Hazards (Aspect)	Associated Significant Environmental Impact (Risk)	Environmental Sub Plans (Part C)
Impact to heritage	Loss or damage to Heritage items/areas	Heritage Sub Plan
Impact to flora and/or fauna	Loss of or harm to flora or fauna	Flora and Fauna Management Plan
Impact to soil and water quality	Decrease in soil and water quality	Soil and Water Management Plan
Impact to community	Nuisance and detrimental health of community members	Noise Sub Plan
Impact to community	Nuisance to community and possible damage to private property	Vibration Sub Plan
Impact to soil, water, air quality	Decrease in soil, water and air quality	Contamination Sub Plan
Impact to soil, water, air quality	Decrease in soil, water and air quality	Acid Sulfate Soil Sub Plan
Impact on Natural Resources	Increase in pressure on natural resources and release of greenhouse gases	Energy Sub Plan
Impact to soil and water quality	Decrease in soil, water and air quality	Hazardous Substances Sub Plan
Impact on landfill and resources	Increased pressure on landfill operations	Waste Management Plan
Impact to air quality	Decease in air quality	Air Sub Plan

Part B: Implementation

7. Elements and Expectations

The Environmental Management Plan is structured using a common set of Elements and Expectations:

Element	Key aspects for managing this function on the Project
Expectation	The high-level outcomes achieved as part of each Element

This two-level hierarchy provides a consistent structure that is applied across all Management Plans on the Project. Those Elements are:

- Element 1: Leadership, Accountability and Culture
- Element 2: Planning
- Element 3: Legal and Other Requirements
- Element 4: Risk and Opportunity Management
- Element 5: Change Management
- Element 6: Communication and Consultation
- Element 7: Training and Competency
- Element 8: Subcontractor Relationships
- Element 9: Incident Management
- Element 10: Emergency Planning and Response
- Element 11: Document and Record Management
- Element 12: Auditing, Review and Improvement

Element 1: Leadership, Accountability and Culture

Expectations		How we will meet the Expectations **(minimum requirements)**	Responsible **Key Contributor**	Deliverables
1.1	Environmental accountabilities, roles and responsibilities for managers, staff, employees and subcontractors are clearly defined, documented and communicated	**Roles and Responsibilities** Environmental responsibilities are included in all Position Descriptions. Roles that carry specific environmental accountabilities (e.g. those that supervise or manage work with specific environmental risks) will contain more detailed environmental content. The environmental responsibilities contained in Position Descriptions are communicated to each person by their immediate supervisor upon commencing in their role.	**P&C Manager** Project Environmental Representative Line managers	Position Descriptions
1.2	Environmental leadership and commitment is demonstrated through measurable participation in environmental management	**Participation and Measurement** All personnel in leadership roles on the Project participate in environmental management activities, including observations, incident reviews and HSE committee meetings. In addition, project management will: Regularly review environmental performance against Project KPIs and raise corrective actions to maintain or improve environmental performance as necessary Address pertinent environmental matters at communication forums.	**Alliance Manager** Line managers Functional managers Supervisory staff Project Environmental Representative	Measurement system output to include: Observation records, Incident reviews, HSE Committee meeting attendance (minutes), delivering toolbox talks
1.3	Environmental expectations are clearly defined with appropriate reward and disciplinary processes in place.	**Environmental Policy** The CPB Contractors Environmental Policy will be communicated in project inductions and prominently displayed at the Project. **Project Environmental Rules** The Alliance Manager and Project Environmental Representative will assist in development of "Project Rules" during Project start-up to address key environmental matters. These rules will be documented, communicated and prominently displayed at the Project and will be reviewed at least every six months. Any person who breaches these rules will be managed in accordance with CPB Contractors requirements for counselling, discipline and, if needed, termination.	**Alliance Manager** All personnel	Environmental policy displayed and communicated in site inductions Project environmental rules KPIs defined (Part A)

	Performance Targets Environmental performance targets for the Project have been identified in Part A of this document. The associated key performance indicators (KPI) include lead and lag indicators. Measurable targets have been set for each KPI and an applicable time frame nominated. The targets are in line with CPB Contractors Corporate and Business Unit targets.	**Alliance Manager** Project Environmental Representative	Monthly reports
	Managing Personal Performance Environmental performance goals will be set and reviewed for individuals with environmental leadership roles (refer to Element 1.1 above) during the performance and development review process.	**Alliance Manager** Line Managers	Performance and development reviews

Element 2: Planning

Expectations	How we will meet the Expectations **(minimum requirements)**	Responsible **Key Contributor**	Deliverables
2.1 Adequate resources are provided to effectively implement the EMP	**Resources** The Project budget includes sufficient allowances to implement the EMP, including people, technical environmental expertise, equipment, materials, training, plant, and infrastructure. The Project Environmental Representative is consulted in setting and revising (forecasting) the Project budget. Sufficient people are appointed to the Project to implement the EMP.	**Alliance Manager** Commercial Manager Project Environmental Representative P & C Manager	Project budget Project forecasts Organisational structure Training matrix Training schedule
	Environmental Monitoring The Project Environmental Representative is accountable for developing the Environmental Monitoring Schedule(s) prior to any works commencing on the project. The Project Environmental Representative will identify all equipment, equipment maintenance (including calibration) and personnel required to implement the schedule and ensure necessary allowances in the Project budget and forecasts. All environmental monitoring on the Project is planned according to the requirements of the Knowledge document Environmental Monitoring and is defined where relevant in the Environmental Sub-Plans within Part C of this Plan.	**Project Environmental Representative**	Environmental Monitoring Schedule(s) Environmental Sub-Plans Environmental input into Project budget Project forecasts
2.2 Business systems are defined and established	**Define and set up IT Systems** Applications required to management environment on the Project are defined and established prior to works commencing. Systems to be used include: ▪ **Synergy** - Reporting and recording all environmental incidents, audit results and corrective actions ▪ **Synergy** - To schedule all inspections and environmental monitoring activities and track completion of scheduled activities ▪ **SHE Risk Register** – To manage environmental risk registers ▪ **JD Edwards** (NGER module) to capture energy use and emissions, and water and waste data ▪ **Incite** – Records and documents management and archiving ▪ **Environmental Monitoring Spreadsheet** – To capture and analyse all environmental monitoring data.	**Project Environmental Representative**	Applicable business systems

2.3	Environmental Sub-Plans are prepared and maintained for Significant Environmental Hazards	**Identify Significant Environmental Hazards (SEH)** Significant environmental hazards relating to the projects activities have been identified through the review and analysis of environmental reports, contractual documents, and community and legal compliance requirements relating to the Project and supported by professional experience of the assessor. The project SEH list in Part A is reviewed by the Project Environmental Representative at a minimum of 6 monthly intervals. The review should be supported by the current environmental risk and opportunities identification and analysis assessment and project environmental performance.	**Project Environmental Rep**	Significant Environmental Hazards and Environmental Sub-Plans listed in Part A Sub-Plans contained in Part C
		Environmental Sub-Plans Environmental Sub-Plans (Part C) are reviewed for on-going relevance and accuracy by the Project Environmental Representative. The frequency of review is triggered by incident history, changes to the project, including contract variations, and management review requirements. Reviews are documented and records retained in the project document management system.	**Project Environmental Rep**	Reviews of SEH and environmental Sub-Plans

Element 3: Legal and Other Requirements

Expectations		How we will meet the Expectations **(minimum requirements)**	Responsible **Key Contributor**	Deliverables
3.1	Relevant legal, contractual and other requirements are identified and maintained in a legal and other obligations register	**Identifying Environmental Obligations** The Project Environmental Representative has reviewed the Contract, construction methodology and program and identified all: ▪ Contractual conditions specific to environmental management. ▪ Regulatory approvals required and associated conditions. ▪ Specific requirements of local, state and federal laws that are additional to the requirements of Project approvals using CPB Contractors' online subscription to EnviroLaw. ▪ Targets and objectives in CPB Contractors Business Unit or whole of CPB Contractors Business Plans. The sources and details of, and means of compliance with the above, are captured within an Environmental Obligations Register. Documentary evidence must be available to show that all owners of obligations have been informed of their responsibility and are in a position to deliver the obligation.	**Project Environmental Representative** Alliance Manager	Environmental Obligations Register(s) Business critical environmental obligations included in Project's Rights and Obligations Summary Project Management Plan, insert reference to relevant section
3.2	All necessary environmental approvals are obtained prior to commencing relevant works and surrendered on completion	**Obtaining and Surrendering Environmental Approvals** Approvals required to deliver the project are obtained prior to the commencement of any activities relating to the scope of the approval. The timing to obtain each necessary regulatory approval is determined and included within the Project program linked to relevant activities. Details of all approvals and licences (including applications and decision notices where appropriate) are maintained in the Project's Environmental Obligations Register.. . All regulatory approvals will be surrendered according to the requirements of the approval or, where not stated, as soon as practical following the completion of the activity to which the approval relates. An Environmental Obligations Register will be updated to include conditions associated with newly received regulatory approvals.	**Project Environmental Representative** Engineers Alliance Manager	Environmental approvals in program Environmental approval documentation Approval and licence conditions entered into Project's Environmental Obligations Register Updated Environmental Obligations Register

3.3	Work is planned and executed to ensure compliance	**Planning for Compliance** The Project Environmental Representative is consulted upon commencement of development of all Construction Area Plans (CAPs) and Work Packs, and throughout their development. All controls necessary to ensure compliance are included in the CAPs and Work Packs and in the Environmental Sub-Plans (Part C of this Plan). CAP's and Work Packs should include Site Environmental Plans that clearly shows the controls to be implemented. The Project program is updated to include new approvals determined to be necessary following the review of work plans. CAPs and Work Packs are reviewed by the Project Environmental Representative prior to the commencement of works described in their scope.	**Construction Manager** Supervisors Engineers Project Environmental Representative Engineering Manager	Reviewed WAPs and Work Packs by Project Environmental Rep Update project program
3.4	Inspections, observations and monitoring are performed to ensure compliance is maintained	**Implementing Controls** Controls required to achieve compliance, as detailed in the CAPs and Work Packs, will be implemented before relevant works commence. The Environmental Obligations Register contains an explanation, or link to an Environmental Sub-Plan containing an explanation, of how compliance with each listed requirement is to be achieved and how the project will regularly demonstrate compliance with the requirement (if relevant).	**Supervisors** Engineers Project Environmental Representative	Engineered (physical) and administrative controls (e.g. procedures, forms, training) in place
		Inspections and Observations Controls are to be inspected regularly to ensure their ongoing suitability and effectiveness. Inspections and observations are planned and conducted according to the requirements of the Workplace Hazard Inspections and Observations Procedures. Inspections and observations are scheduled using Synergy and detailed in Appendix E. The outcomes of inspections are captured on the inspection checklists. Corrective actions are raised, tracked and closed out in the Synergy – Action Plan Module or through the inspection records (for actions closed out within 72 hours) for all controls found to be inadequate.	**Supervisors** Engineers Project Environmental Representative	Observation records Inspection schedules Inspection checklists Corrective actions in Synergy – Action Plan Module or inspection records

		Environmental Monitoring Environmental monitoring is carried out to confirm compliance with the conditions of environmental approvals and laws, and to provide early indication of potential adverse impacts to the environment or community. All monitoring is planned and conducted according to the requirements of the procedure Environmental Monitoring and as detailed in the Environmental Sub-Plans (Part C of this Plan). Environmental monitoring results are interpreted to identify actual and potential non-compliances and events that may result in nuisance, environmental harm, and unacceptable loss of amenity or community complaints. Corrective actions are taken immediately or are raised and managed using Synergy	**Project Environmental Representative**	Environmental Monitoring Schedule Monitoring records Calibration records Corrective actions
3.5	All non-compliances are reported as incidents	**Reporting Non-Compliances** All non-compliances are recorded and reported as incidents in the Synergy. This includes events involving an action being taken against the project by a regulator.	**Project Environmental Representative** All personnel	Incident reports
3.6	All energy and greenhouse data are collected and entered into JDE	**Greenhouse and Energy** All sources of energy use and production and greenhouse gases, including those relating to subcontractors, will be identified and recorded in the NGER data checklist. All data on energy used and produced and greenhouse gases emitted, including that which relates to subcontractor activity, will be captured and entered into JDE. Data entered into JDE for the project must be at least 95% accurate. Projects will certify that the NGER procedure is being implemented on a monthly basis via the monthly HSE Statistics Report (a function of the HSE Reporting System). All relevant records relating to the reporting of NGER data will be retained for seven years. Any NGER data to be reported to the Client will be extracted from JDE using the Business Intelligence Tool.	**Project Environmental Representative** Commercial Manager Alliance Manager	NGER subcontractor register NGER data checklist Completed NGER subcontractor records Monthly HSE Statistical reports

3.7	Personnel on the site have access to current versions of relevant legislation, standards and codes of practice	**Updates to Legislation, Standards and Codes of Practice** Access to all relevant legislation will be available to personnel via EnviroLaw or other online resources (e.g. state or Commonwealth government websites or www.austlii.edu.au). Updates to legislation, standards and codes of practice will be reviewed to determine relevance. Work practices, the Environmental Sub-Plans attached to this EMP, and Environmental Obligations Register will be altered where appropriate to ensure compliance and all affected personnel informed in a timely manner. Regulatory approvals will be obtained or amended as necessary, work practices altered to ensure compliance and all affected personnel informed in a timely manner.	**Business Unit Environmental Representative** **Project Environmental Representative**	Updates distributed

Element 4: Risk and Opportunity Management

Expectations	How we will meet the Expectations **(minimum requirements)**	Responsible **Key Contributor**	Deliverables
4.1 Systematic processes are defined and implemented for identifying environmental risks and opportunities at all stages of the Project	**Identifying Environmental Risks and Opportunities** Environmental risks and opportunities associated with activities, products and services of the project will be identified, recorded and tracked in the Project Environmental Risk and Opportunity Register. The Environmental Risk and Opportunity Register is an excel Spreadsheet contained in the Project Management System. Any environmental risks identified as critical will also be captured and monitored via the Project Risk Register contained in ARM. Environmental risks and opportunities are considered during all subsequent project risk assessments as per the Project Management Plan. This includes: ▪ The Principal Risk Assessment conducted at bid stage for major tangible risks. ▪ Safety/Environment-in-Design workshops conducted throughout the Project ▪ Construction Area Plan (CAP) risk assessments ▪ Work Pack risk assessments ▪ Project Prestart Meeting The Environment Representative is involved in the Principle Risk Assessment and Safety/Environment-in-Design workshops and has approval authorities for all other risk assessment types (except for START/Restart Cards) to ensure environmental risks and opportunities are adequately raised and addressed.	**Alliance Manager** Project Environmental Representative Engineering Manager Engineers Supervisors	Environmental Risk and Opportunity Register Work Area Plan risk assessments Project Prestart Meeting
4.2 Identified risks and opportunities are analysed and evaluated according to agreed criteria and recorded in a risk register	**Analysing Environmental Risks and Opportunities** Each environmental risk and opportunity will be evaluated and assigned a rating which is determined using the consequence and likelihood criteria in the Risk Management Procedure. The influence of existing controls is considered in determining the risk rating. For each environmental risk: ▪ An owner is assigned by the Alliance Manager, ▪ Existing controls are recorded, including the owner of that control, and ▪ The residual risk will be evaluated. Opportunities will be assessed to determine whether or not they can be implemented on the project and be based on a cost-benefit business case for the opportunity. Advice is sought from the Project Environmental Representative as necessary by the project team to ensure CAP, Work Pack and SEP risk assessments are as informed and accurate as possible.	**Alliance Manager** Risk owners Project Environmental Representative Engineers	Environmental Risk and Opportunity Register Work Area Plan risk assessments Project Prestart Meeting

4.3	Environmental controls appropriate to the level of risk are identified, documented and implemented	**Identifying Adequate Controls** If the risk rating returns a result of 'medium' or above, then additional controls sufficient to reduce the risk rating to 'low' or an alternative acceptable level using cost effective designs and engineering and/or administrative controls are to be utilised. Residual risks with a high or extreme risk rating will be considered 'significant' and must be controlled using appropriate systems of work, including Environmental Sub-Plans and project work procedure, along with available "hard controls". Approval to proceed is required prior to commencing Accountability for the implementation of each control is assigned in the respective Sub plan and SEPs and a due date set for its implementation as appropriate. Controls are selected in consultation with the Project Environmental Representative to achieve the following, in order of preference: ▪ Eliminate the risk by not performing the relevant activity ▪ Substitute by performing the relevant activity in a way that presents a lower risk ▪ Implement physical (engineered) controls (e.g. sediment basins, check dams) ▪ Implement administrative controls (e.g. procedures, training, inspections).	**Risk owners** Project Environmental Representative Alliance Manager Project Engineers	Controls agreed (engineered or administrative)
		Implementing Controls Controls are implemented by the accountable person as specified in the Sub Plan or SEP by the due date. No activity is commenced until all relevant controls are implemented.	**Risk owners**	Controls in place (engineered or administrative)
4.4	Feasible opportunities are implemented	**Implementing Opportunities** Opportunities identified and for which a business case has been developed, are submitted to the appropriate member of the project leadership team for approval. Once approved, accountability for implementation of the opportunity is assigned and the opportunity is implemented. Environmental and cost benefits are recorded and reported in monthly reporting.	**Alliance Manager** Opportunity Owner	Monthly reports Case studies
4.5	Identified environmental risks and controls are communicated to all relevant personnel	**Communications in line with Construction Planning** The environmental risks, controls and accountabilities identified are communicated to all relevant personnel. This is achieved through the preparation and communication of the construction methodology, CAPs, Work Packs, SEPs, the conduct of Safety/Environment-in-Design workshops.	**Alliance Manager** Engineers Project Environmental Representative	Toolbox talk content and attendee records Pre-start meeting content Records of communications and meetings
		HSE Communications Environmental risks, controls and accountabilities are also communicated through delivery of HSE communications, including HSE Committee meetings, toolbox talks and pre-start meetings.	**Engineers** Supervisors Project Environmental Representative Alliance Manager	Site induction content Toolbox talk content and attendee records Pre-start meeting content Records of communications and meetings

			Health and Safety Manager	
		Communication through Training Nominated administrative controls, including procedures and training, will be communicated through the delivery of training in their requirements. The planning and delivery of this training is provided according to the requirements of Human Resources Management Plan.	**Project Environmental Representative** P&C Manager	Training schedule Training matrix Training records
4.6	Regular inspections and monitoring are conducted to check effectiveness of controls	**Inspections, Observations and Monitoring** The processes for inspections, observations and monitoring are described in Expectation 3 of this EMP and detailed in Appendix F.	**Project Environmental Representative** Alliance Manager Engineers Supervisors	Observation records Inspection schedules Inspection checklists Corrective actions in Synergy
4.7	Environmental risks and controls are regularly reviewed.	**Risk Review** The relevance and adequacy of environmental risks and controls identified in this EMP, the Principal Risk Assessment, CAP and Work Pack risk assessments are reviewed and updated according to Project Management Plan.	**Alliance Manager** Project Environmental Representative Engineers	Environmental Risk Register Updated risk registers in ARM, CAPs and Work Packs

Element 5: Change Management

Expectations		How we will meet the Expectations **(minimum requirements)**	Responsible **Key Contributor**	Deliverables
5.1	Changes to planned operations that have potential environmental consequences are identified	**Identifying Change** Personnel promptly report any 'medium' or 'major' changes that could affect the environment and/or community A 'medium' or 'major' change could result from a change to design, plant (fixed and mobile), systems, personnel and work methods such that the absence of a considered review could compromise the project's ability to comply with its obligations and/or result in an inadequate range of controls which could lead to an incident or result in community nuisance. A 'medium' change is one which includes permanent changes to Work Pack methodology or work conditions. A 'major' change is one which is site-wide or requires a revision of CAP's. Personnel have received appropriate training to identify changes and apply change management processes. This includes all supervisory staff being informed of the need to have changes approved prior to commencing relevant works.	**Alliance Manager** Project Environmental Representative Engineering Manager Engineers Supervisors	Change Requests Training matrix Training records
5.2	Risks associated with identified changes are assessed and controlled before changes are implemented	**Risks Associated with Change** All proposed changes are documented, including the assessment of risks relating to the change. Key personnel affected by the change are involved in the risk assessment. All changes are requested or sponsored by a supervisor or manager, who then becomes the change owner. Input from environmental personnel is sought as necessary. The approach to risk assessment and the implementation of controls will follow the requirements of Element 4 of the EMP.	**Alliance Manager** Change owner Supervisors Project Environmental Representative	Change Requests Revised risk assessments
5.3	All changes with environmental consequences are authorised before they are implemented	**Approvals of Change** All change requests are approved by the supervisor or manager of the change owner, or as otherwise required by the project delegations, before any relevant work commences and a record is maintained. This must include any approvals associated with revised WAPs and Work Packs by the Project Environmental Representative.	**Alliance Manager** Construction Manager Engineering Manager Project Environmental Representative	Change Requests
5.4	Controls associated with change are communicated to all affected personnel	**Communication of Change** Affected personnel will be consulted and understand the effects of change before the relevant works commence. This is achieved through toolbox talks, daily pre-start meeting, HSE committees or forums arranged to specifically address changes.	**Change Owner** Supervisors	Toolbox talk material Pre-start meetings Attendance records Meeting minutes

Element 6: Communication and Consultation

Expectations		How we will meet the Expectations **(minimum requirements)**	Responsible **Key Contributor**	Deliverables
6.1	External environmental stakeholders are identified	**Identifying External Stakeholders** A comprehensive stakeholder analysis will be performed to identify external stakeholders and their interests in the environmental management of the Project. This will include community members and others who could be affected by the Project works, as well as government and environmental lobby groups. The Environment Representative will be involved in the analysis process.	**Community & Stakeholder Manager** Project Environmental Representative	Stakeholder register or database Stakeholder Analysis
6.2	Relationships with external stakeholders are effectively managed	**Managing Relationships** Activities performed to effectively manage relationships with external stakeholders include: ▪ Identifying environmental risks that relate to stakeholder interests by considering the impacts to stakeholders (documented in Environmental Risk Register) ▪ Determining suitable controls and activities to mitigate risks (general controls and activities documented in Environmental Risk Register, details in Environmental Sub-Plans, CAPs, and Work Packs). ▪ Performing inspections, audits, stakeholder engagement and monitoring activities to assess the effectiveness of controls Actively engaging stakeholders through open communication and involvement.	**Project Environmental Representative** Community & Stakeholder Manager Alliance Manager	Environmental Risk Register Risk assessments in CAPs, Work Packs, Environmental Sub-Plans and Procedures Audit reports Monitoring results Communications material Forums and opportunities for stakeholder engagement
6.3	Internal consultative forums are established with regular meetings scheduled, conducted, documented and communicated	**Consultative Forums** A schedule of communication forums will be developed which includes: ▪ Managers' meetings that are to address environmental matters at least monthly; ▪ Environmental Toolbox Talks at least monthly; ▪ Pre-start meetings prior to commencing a shift; The Alliance Manager will establish appropriate environmental interfaces with the Client and regulatory bodies. Records will be kept of all HSE communication activities (e.g. attendance records). The effectiveness of the meeting outcomes will be reviewed as required.	**Alliance Manager** Project Environmental Representative H&S Manager	Minutes of meetings Toolbox Talks Pre-Start meetings Attendance records

		Actions from Consultative Forums Actions arising from consultative forums are assigned and communicated to a responsible person and confirmed as being completed. The Project will identify, track and complete environmental related actions using Synergy – Action Plans Module.	**Community & Stakeholder Liaison** Project Environmental Representative	Synergy – Action Plans Module
		HSE Signs and Notice Boards Dedicated HSE notice boards will be prominently located and maintained with current environmental information.	**Project Environmental Representative**	Signs and notice boards installed with current environmental content
6.4	Environmental complaints and enquiries are recorded and responded to appropriately	**Responding to Complaints and Enquiries** All environmental related complaints will be classified according to the Incident Classification Matrix and recorded in Synergy. Complaints are treated as an incident and managed according to Element 9 of the EMP. Corrective actions are agreed and implemented, with accountabilities and time frames assigned. The complainant or enquirer is notified of the intended Project response once approved by the Alliance Manager.	**Community & Stakeholder Manager** Project Environmental Representative Alliance Manager	Incident records Records of communications
		Changes to Environmental Monitoring Environmental monitoring programs will be reviewed to address matters raised through valid complaints and consultations with stakeholders. Amendments to the monitoring program will be adequate to allow early identification of conditions that are likely to result in further complaints and/or exceedances. Data will be analysed to identify actual and potential impacts to the community, and corrective actions implemented.	**Project Environmental Representative** Community & Stakeholder Manager	Monitoring schedule Monitoring records Corrective actions in Synergy
		Client and Internal Notifications The Business Unit Environment Manager and Corporate Communications Manager are notified of complaints that have or are likely to generate media interest. The Client is notified according to the conditions outlined in the Contract.	**Alliance Manager**	Record of communication
6.5	The effectiveness of internal and external stakeholder engagement is evaluated and improved.	**Evaluation of Internal and External Communications** The effectiveness of internal communication and consultation activities will be formally reviewed as required. The effectiveness of external communication and consultation activities will be formally reviewed as required. The Project Environmental Representative participates in both of	**Alliance Manager** Community & Stakeholder Manager	Meeting minutes

	these reviews, which are led by the Alliance Manager and include the Community and Stakeholder Manager and Health and Safety Manager. The Project Environmental Representative will also regularly attend and review the effectiveness of forums and recommend changes to the scheduling or style of forum.	Project Environmental Representative H&S Manager	

Element 7: Training and Competency

Expectations	How we will meet the Expectations **(minimum requirements)**	Responsible **Key Contributor**	Deliverables
7.1 All personnel have completed an induction containing relevant environmental information before they are authorised to work on the Project	**Inductions** All personnel, subcontractors and visitors will undergo an induction before commencing work on-site. The induction addresses general and Project-specific environmental issues, including: ▪ CPB Contractors' environmental policy ▪ How the EMP will be implemented on-site ▪ High-risk environmental activities on the Project and their controls ▪ What to do in the event of an environmental incident. An assessment will be conducted upon completion of the induction. Induction materials are reviewed at least annually and amended to reflect changes to Project environmental risks, the status of community relations and the occurrence of incidents.	**Project Environmental Representative** P&C Manager Health and Safety Manager	Induction materials Training attendance records Completed induction assessments
7.2 A training plan is developed and documented	**Identifying Training Needs** Environmental training needs required to deliver this EMP are identified and documented within the Project's training matrix. In populating the training matrix, the environmental training requirements for each role are addressed, including competency, needs and capability. The Project Environmental Representative will contribute to the development of the training matrix. The performance and development management process provides an opportunity to identify and plan the delivery of training needs not provided in the training matrix, or that are necessary to aid in the development of the individual. Subcontractor training and competency responsibilities will be included in subcontractor agreements.	**Environment Representative** P&C Manager	Training matrix Performance and Development management plans Subcontractor agreements Subcontractor Start-Up Meeting minutes
	Scheduling Training Needs A project training schedule will be developed to plan the delivery of training needs identified in the training matrix. Refresher training intervals will also be stated where applicable.	**P&C Manager** Project Environmental Representative	Training schedule Training records
7.3 Personnel are trained and assessed according to the training plan	**Provide Training Resources** All resources to deliver the training schedule, including personnel, equipment, funding and materials, will be allowed for in the Project budget.	**Alliance Manager** Project Environmental Representative	Project budget
	Delivery of Training	**Alliance Manager**	Training records

		All training identified in the training matrix will be delivered according to the training schedule. Training and development needs identified through the performance and development process will be achieved as per time frames nominated in individual plans. Personnel delivering environmental training must be deemed competent by the Project Environmental Representative or Business Unit Environment Manager.	P&C Manager Project Environment Representative	
		Training Evaluation and Review Training assessments and evaluation forms will be used to assess the effectiveness of training. Training evaluation and feedback will be reviewed and used to improve the quality of environmental training delivered on the Project. The training matrix and schedule will be completely reviewed at least annually or prior to the commencement of major new tasks.	**P&C Manager** Project Environmental Representative	Training evaluation forms Training matrix
7.4	Training records are maintained and accessible to relevant personnel.	**Training Records** Records of all training activities, including inductions, will be maintained. Records will include the name and role of the attendee, the name of the course and, where applicable, reference to the document controlled version of the material presented, and a copy of the assessment completed.	**P&C Manager** Project Environmental Representative	Training records

Element 8: Subcontractor Relationships

Expectations		How we will meet the Expectations **(minimum requirements)**	Responsible **Key Contributor**	Deliverables
8.1	Selection processes ensure that subcontractors meet CPB Contractors' minimum environmental requirements	**Subcontractor Selection and Engagement** Subcontractors engaged on the project are required to undergo a thorough assessment prior to selection. The Project Environmental Representative will be consulted on environmental requirements of subcontracts and the adequacy of proposed conditions. Subcontractors will be made aware of CPB Contractors' environmental requirements during the tender process and Start-Up meetings.	**Commercial Manager** **Engineers** Project Environmental Representative	Subcontractor Agreements
8.2	Planning requirements of all subcontractor work scopes are completed and communicated prior to commencing work	**Identify, Complete and Communicate Planning Requirements and Documentation** The scope of work to be performed by each subcontractor is reviewed to determine whether it includes works for which project planning and environmental risk assessments have been completed. If so, the subcontractor is formally informed of all relevant risks and existing project documents, systems and procedures to be followed prior to commencing works (in addition to having been informed of these during the tendering process). These may include the contents of the construction methodology, CAPs, Work Packs, SEPs, and Environmental Sub-Plans in this EMP. If the scope of works includes activities not already addressed in Project planning and risk assessment, then an appropriate risk assessment is performed and either existing documentation is revised or new documentation produced. The Project Environmental Representative should review this new documentation to ensure it meets project requirements. In either case, the subcontractor must be formally informed of all requirements prior to commencing works.	**Engineers** Project Environmental Representative Commercial Manager	Construction Area Plans (CAPs) Work Packs SEPs Records of subcontractor notification
8.3	Compliance requirements for high risk environmental activities are identified and enforced	**Compliance requirements** For high risk environmental activities, the Project Environmental Representative will review the subcontractor's scope of works with the supervising Engineer and: ▪ Identify any new issues relevant to the subcontractor's scope of works; ▪ Identify any additional compliance requirement not captured; ▪ Identify necessary approvals not already in place and obtain those approvals prior to any works commencing; ▪ Update the relevant Environmental Sub-Plans, SEPs, and Environmental Obligations Register with details new approvals and their conditions. The Project Environmental Representative will review the CAP and Work Packs, for high risk environmental issues. The subcontractor will be informed of all relevant environmental issues/risks and controls, procedures and documents to be followed and implemented in order to	**Engineers** Project Environmental Representative Commercial Manager	Records of subcontractor notification

		achieve compliance during the tendering process. This will be reinforced during the Start-Up meeting. The subcontractor will be informed of the requirement to provide all relevant data relating to their works as per the National Greenhouse and Energy Reporting Act 2007 (Cth).		
8.4	Subcontractor documentation is submitted and reviewed to meet Project requirements	**Documentation Preparation and Review** The subcontractor will provide CPB Contractors with all required environmental documentation prior to commencing work on the Project as described in the executed agreement, including any requirement to produce an Environmental Management Plan. Any further requirements will be agreed by the Commercial Manager and the Project Environmental Representative.	**Project Environmental Representative** **Engineer** Commercial Manager	Subcontractor environmental documentation
8.5	Changes to the scope of work are managed as a Project change	**Manage Changes/Variations** Changes and variations to subcontractor scopes of work will be assessed as a change according to the requirements of Element 5 of the EMP. Documentation will be amended accordingly.	**Commercial Manager** **Engineers**	Change Requests
8.6	Subcontractors actively participate in environmental management and training on the Project	**Subcontractor Environmental Participation** Subcontractors will participate in HSE communication forums and monitoring activities, as a minimum, including: ▪ Project induction; ▪ Scheduled HSE management meetings, toolbox talks, pre-start meetings, HSE committees (as required); ▪ HSE observations, inspections and audits; ▪ Incident investigations (as required); ▪ Development or review of safe work systems SEPs (as required).	**Commercial Manager** Project Environmental Representative Subcontractors Engineers	Attendance records Monitoring records
		Subcontractor Training Subcontractors will undergo all necessary environmental training including any required by the Project. The required training will be determined by reviewing the training matrix relative to the scope of work and roles being filled or supplied by the subcontractor. The delivery and management of training will be as per Element 7 of the EMP.	**Subcontractor** Project Environmental Representative	Subcontractor training records
8.7	Subcontractors are reviewed to assess their performance and compliance with our minimum environmental requirements.	**Subcontractor Audits and Reviews** Subcontractors will be regularly inspected and observed for environmental performance as per Element 3.4 of this EMP.	**Project Environmental Representative** **Engineers** Supervisors	Audit reports Inspection and monitoring records

Element 9: Incident Management

Expectations		How we will meet the Expectations **(minimum requirements)**	Responsible **Key Contributor**	Deliverables
9.1	All incidents are followed by appropriate response and notification	**Incident Response** The immediate response to all incidents is to make the area safe and undertake measures to prevent further environmental harm. An assessment will be made in consultation with the Project Environmental Representative to ensure that responses do not result in further harm. **Initial Incident Notification** The Alliance Manager and Project Environmental Representative are to be notified immediately of the following incidents: All Level 1 and Level 2 environmental incidents, and PL1 and PL2. The Project Environmental Representative is also to be notified of any actual Class 3 environmental incident, procedural or legal breach. For Level 1 and Level 2 incidents and PL1 and PL2, the Alliance Manager will immediately notify the Business Unit General Manager and the Business Unit Environment Manager. The Alliance Manager will also notify the Business Unit General Manager of the need to activate the Project's Emergency Response Procedure and the Group Crisis Management Plan if necessary. The Client is notified of all environmental incidents as per the agreed contractual arrangements. Environmental incidents will be reported to regulators in accordance with the requirements of local, state and federal government regulations. **Preserve the Incident Scene** Scenes of environmental Level 1 and 2 incidents and PL1's are to be preserved until the incident investigation team has collected relevant data and evidence (see below).	**Alliance Manager** Project Environmental Representative Community & Stakeholder Manager Engineers Supervisors	Records of incident notifications
9.2	All incidents are entered and managed in Synergy	**Incident Classification and Reporting** Environmental incidents will be classified using the Incident Classification Matrix by the Project Environmental Representative in consultation with the Alliance Manager. All environmental incidents, including community complaints, will be reported using the Synergy within three calendar days. Root causes will be identified and recorded in Synergy for all Class 1, 2 incidents and HPIs (and optionally for Class 3 incidents). All statutory notices received from regulators, including penalty notices and fines, will be entered as Environmental Legal Issue incidents upon receipt.	**Project Environmental Representative** Alliance Manager	Incident records Root cause coding
9.3	Incident investigations are conducted	**Project Incident Investigations** All incidents will be investigated according to company procedures. The level of investigation needed will depend on the incident classification. Corrective actions,	**Alliance Manager**	Incident investigation reports

	appropriate to the type of incident	including those required to help prevent future incident occurrences, are a key outcome of incident investigations. Incident investigation reports are to be uploaded to Synergy. **Statutory Authority Investigations** Before any staff member is questioned by officers of a statutory authority they will endeavour to consult the Alliance Manager to determine whether Legal Counsel is needed. Regulatory inspectors must be given appropriate assistance during their own investigations.	Project Environmental Representative Supervisors Engineers	
9.4	All personnel conducting incident investigations are trained to competently perform the task	**Incident Investigation Teams Competent and Trained** The selection of the investigation team will be up to the Alliance Manager and will depend upon the severity of the incident, and the availability of experienced personnel. However, the investigation team does need to have a mix of both Operational and HSE Staff. The following should be considered when selecting an investigation team: ▪ Statutory requirements; ▪ CPB Contractors Corporate requirements; ▪ Technical specialists with an understanding of the work process; ▪ Administrative Support; ▪ Mix of skills and experience; ▪ Potential conflict of interest for any proposed member.	**Alliance Manager**	
9.5	Corrective and preventive actions are taken after incidents and lessons are shared with other projects	**Corrective & Preventive Actions** Following an incident, corrective and preventive actions will be identified, assigned to the appropriate person/s and closed out according to set time frames. Time frames are set to ensure damage incurred is rectified and any chance of recurrence is eliminated as soon as practicable. Synergy will be used to assign and track corrective actions. All corrective actions will include reference to the relevant incident record for ease of tracking.	**Alliance Manager** Project Environmental Representative	Corrective action records on Synergy
		HSE Alerts HSE Alerts will be submitted for all Class 1 and 2 incidents and HPIs to the Alliance Manager and Business Unit Environment Manager for distribution outside of the project team. HSE Alerts will also be raised for all other incident types at the discretion of the Project Environmental Representative, Alliance Manager or Business Unit Environment Manager.	**Project Environmental Representative** Alliance Manager	HSE Alerts
9.6	High potential and repeat incidents are regularly reviewed by	Each month the Project Environmental Representative will, as a minimum, identify trends in incidents (as a minimum, all Class 1 and 2 incidents and HPIs) and trends in root causes to suggest the nature of preventative actions which are warranted. The	**Project Environmental Representative** **Alliance Manager**	Monthly project reports Corrective actions

the project management team	Alliance Manager will approve actions to address incident occurrences and incident and root cause trends. Actions will be managed using the Synergy.

Element 10: Emergency Planning and Response

Expectations	How we will meet the Expectations **(minimum requirements)**	Responsible **Key Contributor**	Deliverables
10.1 Potential emergencies are identified using a formal risk assessment process	**Identifying Potential Emergencies** Risk assessments conducted in accordance with Element 4 of the EMP are used to identify potential emergencies on the Project. Activities found to have an environmental consequence of 4 or 5 as per the definitions for environmental consequence contained within the CPB Contractors Risk Management Protocol will be considered potential emergencies.	**Alliance Manager** Project Environmental Representative	Environmental Risk Register Principal Risk Assessment
10.2 Emergency response plans and procedures are developed and regularly reviewed	**Emergency Response Plan** An Emergency Response Plan that addresses all identified potential environmental emergencies with specific emergency procedures for each different potential emergency will be developed. The plan will address or include the following: ▪ Nominated and trained emergency coordinator and emergency wardens ▪ Explanation of communications to be performed during an emergency ▪ Explanation of what a crisis is as compared to an emergency and what to do in the event of a crisis ▪ The details of emergency services contacts ▪ Emergency assembly locations ▪ A detailed location map showing the site in relation to local public roads ▪ A detailed site layout diagram ▪ Information about personnel and facilities available to help emergency services ▪ Specific emergency procedures for each potential emergency identified that aim to protect human health and environmental values, including assessment of resources required to respond to that emergency ▪ Post-emergency actions. The Emergency Response Plan will be updated at least annually or when there are significant changes to project activities or in response to revised and new risk assessments.	**Alliance Manager** Project Environmental Representative H&S Manager	Emergency Response Plan and procedures
10.3 Adequate resources are provided to effectively implement emergency response plans and procedures	**Emergency Response Plans Adequately Resourced** Resources required to implement the Emergency Response Plan will be available on the Project and be maintained. Necessary resources include but are not limited to: ▪ An emergency coordinator and emergency wardens; ▪ Spill response kits; ▪ Firefighting equipment;	**Alliance Manager** Project Environmental Representative H&S Manager	Project resources for Emergency Response Plan and procedures

		▪ Barricading; ▪ Vehicles.		
10.4	Environmental emergency response drills are conducted	**Environmental Emergency Response Drills** Environmental emergency response drills will be conducted at least every six months. The emergency scenario of the drills will be rotated to avoid repetition and be relevant to the activities occurring at the time. Records will be kept of the results for all drills. Where testing and evaluation shows a deficiency in either emergency preparations or the Emergency Response Plan, appropriate corrective and preventive actions are taken and raised and managed using Synergy.	**Alliance Manager** Project Environmental Representative Health and Safety Manager	Emergency response drill records Corrective action records in Synergy
10.5	Employees, contractors and visitors are given appropriate emergency response training.	**Emergency Training** Emergency coordinators and wardens are trained to implement the emergency response plans. Specific training requirements will be identified and captured within the training matrix and will be delivered according to company procedures. Visitors are informed of requirements during the visitors' induction. **General Workforce Training and Awareness** All personnel and subcontractors will receive training to inform them of their roles and responsibilities in the event of an emergency. This training and awareness will be provided during Project induction.	**P&C Manager** Project Environmental Representative Health and Safety Manager	Training matrix Training schedule Training and induction records

Element 11: Document and Record Management

Expectations	How we will meet the Expectations **(minimum requirements)**	Responsibilities **Key Contributor**	Deliverables
11.1 Current versions of all relevant documents and records are available and controlled.	The Project must ensure that all documents and records referred to and required to implement the EMP, including the plan are controlled and maintained according to CPB Contractors requirements. This includes but is not limited to all: ▪ Management plans & Procedures ▪ Knowledge and Tools ▪ Templates (e.g. audit template, training matrix) ▪ All electronic records saved in electronic databases such as Synergy, ChemAlert etc. **Document Types** The types of records to be generated on the Project that are to be stored and maintained include: ▪ Environmental monitoring results - 30 years from the date of any incident or completion of the Project, whichever is later ▪ Complaints and enquiries received - 7 years from completion of the Project ▪ Notifications received by regulators - 30 years after the completion of the project ▪ Audit reports - 7 years from completion of the Project ▪ Completed inspections and observations - 30 years from the creation of the record ▪ Waste tracking certificates - 7 years from the creation of the record ▪ Training records - 7 years from the end of the employee's employment ▪ Incident reports - 30 years from the creation of the record ▪ Calibration records for monitoring equipment ▪ Monthly reports and Meeting minutes - 7 years from completion of the Project or from the date on which work was last performed on the Project ▪ Records as required under the National Greenhouse and Energy Reporting Act 2007 - 7 years from the creation of the record ▪ HSE Alerts Any editing and access restrictions to environmental documents and records and who has authority to dispose of nominated documents and records comprise: ▪ Project Environmental Representative to authorise the disposal of any environmental documents or records.	**Project Environmental Representative** Alliance Manager	Controlled and maintained documents and records

11.2	Relevant documents and records will be maintained using corporate business applications and systems	Relevant environmental documents and records generated on the Project will be stored and managed using Incite with the following exceptions: ▪ Environmental monitoring data will be managed and stored using the Project drive ▪ Whole of CPB Contractors environmental performance data will be managed and stored in JDE, including Water, Waste and Energy and Greenhouse Gases ▪ Incident reports and corrective actions will be stored and managed using Synergy ▪ Risk registers will be retained in excel spreadsheet.	**Alliance Manager**	Controlled and maintained documents and records

Element 12: Auditing, Review and Improvement

Expectations	How we will meet the Expectations **(minimum requirements)**	Responsible **Key Contributor**	Deliverables
12.1 Environmental performance trends are identified and corrective actions are implemented as required	**Performance Trends** Environmental performance will be reviewed and reported at least monthly to identify trends. Performance will be assessed against both lead and lag measures and relative to specific targets agreed as per Expectation 1.3 of the EMP, and in the sub-plans in Part C. Action plans will be developed to improve performance as required, corrective and preventative actions will be managed using the Synergy – Action Plan Module.	**Alliance Manager** Project Environmental Representative	Monthly reports Corrective & Preventative actions in Synergy – Action Plan Module
12.2 A monthly environmental report is produced and distributed	**Monthly Reporting** A monthly environment report will be prepared for the Alliance Manager for inclusion in the monthly project report. This report will include the following: ▪ Analysis of performance against project, business unit and corporate environmental targets as per Section 3 Part A of this EMP ▪ Analysis of performance against targets set in the Environmental Sub-Plans, including monitoring results ▪ Details of each environmental incident on the project for that period including actions taken and outstanding ▪ Confirmation that the EMP is compliant with the CPB Contractors EMS by referring to the number and results of inspections, audits, observations and monitoring ▪ Confirmation that the NGER procedure has been implemented during the month ▪ Any environmental innovations implemented on the project	**Project Environmental Representative**	Monthly environment report
	The Monthly HSE Statistical Report in Synergy will be completed and approved by the Alliance Manager. This includes reporting on the currency of the EMP, compliance with the EMP and issues and initiatives arising during the period	**Alliance Manager**	Monthly HSE Statistical Report
12.3 Regular management reviews are conducted to determine the continuing suitability, adequacy and effectiveness of the Environmental Management System	The Project must conduct formal management reviews to assess the adequacy of the Environmental Management System as part of its annual management system reviews. The outputs of the review will be incorporated into the EMP. That review must take into account the results of: ▪ Audits undertaken; ▪ Communication, participation and consultation; ▪ Relevant communication including complaints from external stakeholders; ▪ The perform of the Project; ▪ The extent to which the objectives and targets have been met; ▪ The outcomes of incident investigations and any corrective actions;	**Alliance Manager** Project Leadership Group **Project Environmental Representative**	Management review report Actions in Synergy

		▪ Changes to legislation; ▪ Actions from previous management reviews and recommendations for improvement.		
12.4	Audits are undertaken to ensure compliance with the requirements of the EMP	**Compliance with Environmental Management Plan** Regular audits and reviews will be conducted to confirm compliance with the EMP and associated Obligations. A schedule of audits and reviews will be developed and maintained, and may include: Project planning/Start Up reviews (conducted by Business Unit HSE Manager or delegate) ▪ Project mobilisation audits (conducted by Business Unit HSE Manager or delegate) ▪ Subcontractor audits (for subcontractors performing high risk activities) ▪ High-risk activity audits ▪ Environmental Management Plan audits (conducted by Business Unit Environment Manager or delegate) ▪ Compliance and Legislative audits (conducted by BUEM or competent 3rd party). Action plans will be developed to improve performance as required. Necessary corrective actions will be managed using Synergy.	**Alliance Manager** Business Unit Environmental Management Representative Business Unit HSE Manager	Audit reports Corrective actions in Synergy
12.5	All audits are undertaken by suitably qualified and experienced personnel	**Auditor Competency** Persons conducting audits and reviews will be suitably experienced and qualified. There are two levels of internal auditor that can be obtained, these being Auditor and Lead Auditor. A mix of general education, specific auditor training and work experience are considered in determining the level of auditor. Auditors must be approved by the Business Unit Environment Manager.	**Business Unit Environmental Management Representative**	Training records

Part C: Environmental Aspects and Impacts

1. Soil and Water Management Plan

1.1. Scope

This Plan addresses the use of water on the project and the management of impacts to water quality and/or quantity that may be caused by Project activities and that have the potential to adversely affect water availability, the environment and/or community.

Activities conducted on the project that have the potential to impact water quality and/or quantity are provided below. These have been extracted from project risk assessments:

Table 4: Activities, Hazards and Risks

Project Activity	Environmental Hazard	Environmental Risk
Clearing and grubbing	Increased sediment load in run-off waters	Impacts to water quality, aquatic fauna and flora
Excavation	Sediment runoff resulting in damage to watercourse/waterway	Impacts to water quality, aquatic fauna and flora
Concreting	Discharge of contaminated water	Impacts to water quality, aquatic fauna and flora
Storage and use of flammable and combustible liquids and solids	Spills	Impacts to water quality, aquatic fauna and flora
Dust suppression	Use of water	Unnecessary load on water resources contributing to resource availability
Excavation	Interception of groundwater due to excavation	Impact on localised or regional groundwater flows

1.2. Project Compliance Requirements

1.2.1. Contract Clauses

Specific contract clauses and references which set limits and/or govern impacts to water quality on the project include:

Table 5: Contract Clauses

Contract Document Reference	Contract Clause/Reference	Limit/Requirement
Project Alliance Agreement	*19.17 (a)*	*The Participants are committed to achieving the highest standard of environmental practices in preforming the Works.*
Project Alliance Agreement	*19.17 (b)*	*The Participants will proactively work to minimise the impact of the performance of the Works on the environment including by;* *(1) Providing appropriate work methods and equipment* *(2) Providing and maintain systems, methods and techniques of work, and Construction Plant, that have minimal impact on the environment and do not expose the environment to any hazard that is with the Participants' control* *(3) Developing and complying with procedures for dealing with environmental hazards or emergencies (or potential environmental hazards or emergencies) including procedures for*

interacting with the EPA and other relevant Government Agencies;

(4) Complying with the Construction and Environmental Management Plan included in the Project Management System.

1.2.2. Conditions of Project Environmental Approvals

Conditions of project environmental approvals that specifically address the management of soil and water quality include:

Table 6: Approvals

Environmental Approval Document Reference	Relevant Condition	Limit/Requirement
Incorporated Document	Condition 5.6	Prior to main construction works being undertaken, a Construction Management Plan (CMP) must be prepared in Consultation with Public Transport Vitoria and to the satisfaction of the responsible authority detailing how the development proponent will manage the environmental and construction issues associated with the Project. If the development is staged, development of each stage of the project mist not commence until a CMP has been prepared for that stage.
Incorporated Document	Condition 5.7	Prior to the commencement of works, an Environmental Management Plan (EMP) must be prepared to the satisfaction of the Department of Environment and Primary Industries. The EMP must have regard to the recommendations of the site contamination assessment.

1.2.3. Specific Conditions of Local, State and Commonwealth Legislation

Conditions of local, State and Commonwealth legislation that apply specific criteria to the management of water quality on the project include:

Table 7: Legislation

Document Reference	Relevant Condition	Limit/Requirement
Environment Protection Act 1970	SECT 39 (1)	A person shall not pollute any waters so that the condition of the waters is so changed as to make or be reasonably expected to make those waters— (a) noxious or poisonous; (b) harmful or potentially harmful to the health, welfare, safety or property of human beings; (c) poisonous, harmful or potentially harmful to animals, birds, wildlife, fish or other aquatic life; (d) poisonous, harmful or potentially harmful to plants or other vegetation; or (e) detrimental to any beneficial use made of those waters.
Environment Protection Act 1970	SECT 39 (2)	Without in any way limiting the generality of subsection (1) a person shall be deemed to have polluted waters in contravention of subsection (1) if—

		(a) that person causes or permits to be placed in or on any waters or in a place where it may gain access to any waters any matter whether solid, liquid or gaseous which— (i) is prohibited by or under this Act; or (ii) does not comply with any standard prescribed for that matter; or (b) that person causes or permits the temperature of receiving waters to be raised or lowered by more than the prescribed limits.
Environment Protection Act 1970	SECT 39 (3)	A person shall not cause or permit waste to be placed or left in any position whereby it could reasonably be expected to gain access to any waters in circumstances where if access was gained the waste would be likely to result in those waters being polluted.
EPA State Environment Protection Policy (Waters of Victoria) 2004	Part 56	Construction works need to be managed to minimise land disturbance, soil erosion and the discharge of sediments and other pollutants to surface waters. To enable this, construction managers need to implement effective management practices that are consistent with guidance from the Environment Protection Authority, including that provided in the Environmental Guidelines for Major Construction Sites (1996), as amended and Construction Techniques for Sediment Pollution Control (1991), as amended. Where construction activities adjoin or cross surface waters, construction managers need to monitor affected surface waters, to assess if beneficial uses are being protected.
EPA State Environment Protection Policy (Groundwaters of Victoria)	Clause 12	All practicable measures must be undertaken to prevent pollution of groundwater.
EPA State Environment Protection Policy (Groundwaters of Victoria)	Clause 13	Without limiting its other powers, the Authority may by notice under the Environment Protection Act 1970 direct the clean up of polluted groundwater as specified in the notice.

1.3. Project Objectives

Based on the requirements defined at 0

Project Compliance Requirements (above), the findings of project risk management processes and the potential impacts to the community, the following objectives have been set for managing water quality on the project. Any deviance from the targets will result in Project Management immediately implementing corrective actions:

Table 8: Objectives

Metric/Measure	Objective	Timeframe	Accountability
Number of non-compliant monitoring results at authorised discharge points and external compliance points	Zero	At all times	Alliance Manager

Metric/Measure	Objective	Timeframe	Accountability
Number of enforcement notices / penalties issued by regulators and/or client	Zero	At all times	Alliance Manager
Water efficiency initiatives identified	1 initiative	Project duration	Environment Manager
Water use monitored	100 % of water use activities metered	At all times	Environment Manager
Beneficial use of Groundwater shall not be adversely affected by construction activities	Zero	At all times	Environment Manager

1.4. Controls Used to Manage Soil and Water Quality

Controls that are adequate to minimise water use, to ensure compliance, and to reduce risk to the lowest acceptable rating achievable are implemented before any relevant works commence. Elimination of the hazard is the first preference of control, followed by engineering, then administrative controls. Controls used on this project include:

Table 9: Water quality controls

Control	Accountability
Erosion and sediment controls must be designed, developed and implemented in consultation with the construction team and project environmental representative	Construction Manager
Clean water diversions must be installed prior to the commencement of work.	Supervisor
Erosion and sediment controls must be installed prior to or immediately upon any disturbance to vegetation or soil. These controls must remain in place until revegetation, stabilisation or hard scaping has occurred. If these controls require maintenance notify your supervisor.	Supervisor
Cleared areas must be kept to a minimum and be progressively rehabilitated/revegetated as they become available.	Supervisor
All materials must be stockpiled away from water flow paths.	Supervisor
Sediment laden water (dirty water) captured onsite must be preferentially reused eg. dust control.	Supervisor
Water discharged from site is in strict accordance with the site's dewatering procedure, which is approved by the Environmental Manager.	Supervisor
No transfer/discharge will be made without a Permit To Dewater approved by the project environmental representative.	Supervisor
An adequate number of concrete washout facilities must be maintained at all times. 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 ground water	Supervisor
All hazardous substances (liquids and solids) are stored and managed according to AS1940.	Supervisor
All refuelling points, including refuelling/lube trucks, will carry hydrocarbon spill kits.	Supervisor
The quantity of water consumed on the project from each of the following sources are reported monthly: ▪ Potable water, ▪ Water obtained under an extraction licence or other regulatory authority, ▪ Recycled water sourced from outside the project. Water use will be tracked on site by the use of water tracking forms (LAH-EN-FO-0002)	Environmental Manager
A water budget appropriate to the type and scale of the project will be maintained.	Project Engineer
Opportunities to minimise the use of high quality water will be continually sought and adopted as appropriate.	Project Engineer

Where groundwater is unexpectedly encountered, a management plan shall be developed and implemented to manage the groundwater and protect beneficial uses in accordance with the requirements of the EPA and/or relevant authority.	Environmental Manager
Undertake a visual assessment of the site for groundwater daily during all excavations.	Supervisor
Stabilised access, rumble grids must be established for site entries and exits to minimise mud on public roads. Sweepers shall be used periodically to clean public roads where mud has been deposited.	Supervisor
Covering of exposed surfaces (including batters and stockpiles) that would otherwise remain bare for more than 28 days. Cover may include mulch, erosion control mat or seeding with sterile grass	Supervisor
Sedimentation basins will be utilised to manage runoff where space within the rail corridor permits their installation. Such basins will be designed to contain flows from a rainfall event having an Average Recurrence Interval of not less than two years and six hour duration when allowing for a 30% reduction in capacity as a result of sediment accumulation. The sizing and modelling of temporary sedimentation basins shall be undertaken using recognised 'best practice' modelling techniques or 'VicRoads Temporary Sedimentation Basin Design Tool'.	Environment Manager

1.4.1. Sourcing of Water

Non-potable water shall be utilised as the primary source of water for all activities unless the use of the non-potable water is not practicable and feasible.

Where non-potable water is used from an external source an Environmental Improvement Plan (EIP) shall be developed in accordance with the VicRoads Integrated Water Management Guidelines and shall include the management of all activities related to the sourcing, transport, storage and use of the non-potable water. An EIP is not required for the reuse of site collected water.

The EIP is to include measures to meet the requirements including:

- the transport, storage and use of non-potable water shall be in accordance with the Environment Improvement Plan prepared for the contract;
- the use of non-potable water shall not result in any off-site discharge, either as run-off or airborne.
- monitoring shall be undertaken in accordance with the EIP

The quantity of water used from potable supplies or water obtained under an extraction licence or other regulatory authority or agreement, including recycled water obtained from outside the project, will be captured by project water use forms and will be recorded in the project water use register (LAH-EN-REG-0002). The volume of water used on the project will be reported monthly.

1.5. Monitoring

The quantity of water used from potable supplies or water obtained under an extraction licence or other regulatory authority or agreement, including recycled water obtained from outside the project, will be captured water tracking spread sheet and reported in HSE Reporting System. Where the information is not available from an invoice, other processes will be put in place to obtain the data and the information entered manually.

Water quality monitoring is performed that complies with legal and contract requirements and which is sufficient to identify potential non-compliances before they occur.

Where monitoring determines non-compliance to be a risk or to have occurred, an incident report and corrective actions are raised in the HSE Reporting System.

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

It is the accountability of the Environmental Manager to ensure all monitoring is performed according to these requirements.

1.5.1. Water Quality Monitoring

There are no waterways or major drainage infrastructure in close proximity to the Main Road site where it is possible undertake a monitoring program. However, if water quality monitoring is required it will be conducted to the following criteria;

Table 10: Water Quality Monitoring

Location	Parameter	Methodology	Frequency
Monitoring Location to be determined	Turbidity – NTU	Measure with onsite meter	As required (No program as there is no water way)
	Electrical Conductivity (EC) – µS/cm	Measure with onsite meter	As required (No program as there is no water way)
	pH	Measure with onsite meter	As required (No program as there is no water way)
	Dissolved oxygen (DO) – mg/	Measure with onsite meter	As required (No program as there is no water way)
	Temperature - °C	Measure with onsite meter	As required (No program as there is no water way)
	Litter (definition, including solid inert waste)	Visual (prevent litter from entering waterways and drainage systems)	As required (No program as there is no water way)
	Oils and Greases	Visual (No visible free oil or greases)	As required (No program as there is no water way)

1.5.2. Meteorological Monitoring

Meteorological data adequate to allow the interpretation of monitoring data to assess compliance and identify potential non-compliances is collected. The sources of this data are:

Table 11: Meteorological Monitoring

Location	Parameter	Equipment Type	Frequency
As detailed on current Site Environmental Plan	Rainfall	DustTrak and Weather Station	Real-time Recording
	Temperature	DustTrak and Weather Station	Real-time Recording
	Wind Speed	DustTrak and Weather Station	Real-time Recording
	Wind Direction	DustTrak and Weather Station	Real-time Recording
	Humidity	DustTrak and Weather Station	Real-time Recording

1.5.3. Plan of Monitoring Locations

Refer to current Site Environmental Plan

1.6. References

Key legislation and reference documents relevant to this Sub-Plan include:

- Environment Protection Act 1970
- EPA State Environment Protection Policy (Waters of Victoria) and clause 56 (2004)
- EPA State Environment Protection Policy (Groundwaters of Victoria) (2002)
- EPA (1996) Publication 480 – Environmental Guidelines for Major Construction Sites
- EPA (2004) Publication 960 – Doing it Right on Subdivisions

2. Flora & Fauna Management Plan

2.1. Scope

This Plan addresses Flora & Fauna management on the project and the management of impacts to the environment and/or community.

Activities conducted on the project that have the potential to impact flora and fauna are provided below. These have been extracted from project risk assessments:

Table 12: Activities, Hazards and Risks

Project Activity	Environmental Hazard	Environmental Risk
Clearing & Grubbing	Flora & fauna	Avoidable harm to Flora & fauna including EPBC Act protected species.
General Earthworks	Flora & fauna	Avoidable harm to Flora & fauna including EPBC Act protected species
Truck and vehicle movements	Flora & fauna	Avoidable harm to Flora & fauna including EPBC Act protected species
Unauthorised access	Flora & fauna	Avoidable harm to Flora & fauna including EPBC Act protected species

2.2. Project Compliance Requirements

2.2.1. Contract Clauses

Specific contract clauses and references which set limits and/or govern impacts to Flora & Fauna on the project include:

Table 13: Contract Clauses

Contract Document Reference	Contract Clause/Reference	Limit/Requirement
Project Alliance Agreement	*19.17 (a)*	*The Participants are committed to achieving the highest standard of environmental practices in preforming the Works.*
Project Alliance Agreement	*19.17 (b)*	*The Participants will proactively work to minimise the impact of the performance of the Works on the environment including by;* *(5) Providing appropriate work methods and equipment* *(6) Providing and maintain systems, methods and techniques of work, and Construction Plant, that have minimal impact on the environment and do not expose the environment to any hazard that is with the Participants' control* *(7) Developing and complying with procedures for dealing with environmental hazards or emergencies (or potential environmental hazards or emergencies) including procedures for interating with the EPA and other relevant Government Agencies;* *(8) Complying with the Construction and Environmental Management Plan included in the Project Management System.*

2.2.2. Conditions of Project Environmental Approvals

Conditions of project environmental approvals that specifically address the management of Flora & Fauna include:

Table 14: Approvals

Environmental Approval Document Reference	Relevant Condition	Limit/Requirement
Incorporated Document	Condition 5.1	The removal, destruction and lopping of tree and the removal of vegetation, including native vegetation, is permitted to the minimum extent necessary for the project.
Incorporated Document	Condition 5.2	Prior to the removal, destruction or lopping of any native vegetation, an Offset Strategy must be prepared to the satisfaction of the Department of Environment and Primary Industries, have regard to the DSE-Dot(Department of Transport) Memorandum of Understanding (March 2010), and in accordance with *Permitted clearing of native vegetation – Biodiversity assessment guidelines.*
Incorporated Document	Condition 5.3	Prior to the commencement of main construction works, Vicroads must, in consultation with Brimbank City Council, prepare a recovery plan for the Button Wrinklewort to the satisfaction of the responsible authority.
Incorporated Document	Condition 5.6	Prior to main construction works being undertaken, a Construction Management Plan (CMP) must be prepared in Consultation with Public Transport Vitoria and to the satisfaction of the responsible authority detailing how the development proponent will manage the environmental and construction issues associated with the Project. If the development is staged, development of each stage of the project mist not commence until a CMP has been prepared for that stage.
Incorporated Document	Condition 5.7	Prior to the commencement of works, an Environmental Management Plan (EMP) must be prepared to the satisfaction of the Department of Environment and Primary Industries. The EMP must have regard to the recommendations of the site contamination assessment.
EPBC 2014/7203	Condition 1	Construction activities must not occur outside the project area and must be limited to existing disturbed areas
EPBC 2014/7203	Condition 3. a.	A Construction Environmental Management Plan must include; Establishing and maintaining 'No-Go Zones' around listed threatened species and communities as identified by Appendix B (of the approval) to prevent fill, equipment, materials, waste or works from entering or being stored in Biosite 3546;
EPBC 2014/7203	Condition 3. b.	Ensuring that the boundary of the 'No-Go Zone' is clearly marked with a 1.8m high chain wire fence and clearly signed for the duration of construction activities to prevent any disturbance of Biosite 3546
EPBC 2014/7203	Condition 3. c.	Ensuring that all machinery wash down, laydown and personnel rest areas are clearly defined(fenced and signed) and located in disturbed areas.
EPBC 2014/7203	Condition 3. d.	Ensuring that all on site staff and contractors involved in the construction of the proposed action attend an induction session presented by a suitably qualified ecologist prior to admittance to project area. The induction must include: i. A brief on the identification and conservation status of listed threatened species and communities and their habitat at the proposed action;

		ii. The reason for mitigation measures and practices to avoid or minimise impacts to listed threatened species and communities and their habitat; iii. A brief to inform staff and contractors on documentation and the process for notification to the person taking the action of any identification of listed threatened species and communities and their habitat at the proposed action; iv. A brief on stop work procedures if any listed threatened species and communities are identified during construction; and v. The requirements of this decision notice
EPBC 2014/7203	Condition 3. e.	Establish and implement machinery and plant hygiene protocols to minimise vegetation and soil disturbance and the spread of weeds, pest and pathogens. The protocols must include, but not be limited to: i. Defining routes for the entrance and exit of machinery to the project area and limiting these to previously disturbed areas. ii. Establishing wash down points for vehicles to prevent the transportation of seed and soil iii. Undertaking inspections of all equipment (machinery, tools, vehicles) brought on site to ensure that all equipment is free of materials (such as soils and seeds); and iv. Maintaining a record (logbook) of the activities in ii) and iii) and providing this to the Department on Request.
EPBC 2014/7203	Condition 3. f.	Ensure that any boring within Biosite 3546 must be at a depth of at least 1.5m below ground level to avoid impacts to Spiny Rice-flower tap roots.
EPBC 2014/7203	Condition 3.	This Construction Environmental Management Plan (CEMP) must be prepared in Consultation with the relevant local and state authorities prior to the commencement of construction activities. The CEMP must be finalised prior to the commencement of construction activities. The finalised CEMP must be provided to the Department prior to the commencement of construction activities and must be published on the website of the person taking the action for the duration of construction activities. The finalised CEMP must be implemented for the duration of construction activities.

2.2.3. Specific Conditions of Local, State and Commonwealth Legislation

Conditions of local, State and Commonwealth legislation that apply specific criteria to the management of Flora & Fauna on the project include:

Table 15: Legislation

Document Reference	Relevant Condition	Limit/Requirement
WILDLIFE ACT 1975 -	SECT 41	A person must not hunt, take or destroy threatened wildlife.
WILDLIFE ACT 1975 -	SECT 41	A person must not hunt, take or destroy other protected wildlife.
Wildlife Regulations 2002	Part 2 9.(1)	A person must not wilfully damage, disturb or destroy any wildlife habitat.
Flora and Fauna Guarantee Act 1988	47 (1)	A person must not take, trade in, keep, move or process protected flora without a licence or permit or unless authorised by Order of the Governor in Council published in the Government Gazette.

2.3. Project Objectives

Based on the requirements defined at Section 9.2 (above), the findings of project risk management processes and the potential impacts to the community, the following targets have been set. Any deviance from the targets will result in Project Management immediately implementing corrective actions:

Table 16: Objectives

Metric/Measure	Objective	Timeframe	Accountability
Number of native fauna injured	Zero	At all times	Alliance Manager
Area of land cleared or disturbed without authorisation	Zero	At all times	Alliance Manager
Number of actions taken by regulators and/or client	Zero	At all times	Alliance Manager
Number of Vegetation clearance activities to obtain a project permit	100%	At all times	Environment Manager

2.4. Controls Used to Manage Flora & Fauna

Controls that are adequate to manage flora & fauna risks and to reduce risk to the lowest acceptable rating achievable are implemented before any relevant works commence. Elimination of the hazard is the first preference of control, followed by engineering, then administrative controls. Controls used on this project include:

Table 17: Flora & Fauna controls

Control	Accountability
Prior to any disturbance, clearing or grubbing activities in any locations the following must be in place; ▪ A Permit to Clear Land or Vegetation must be obtained from an Environmental Representative. ▪ No-go Zones for significant flora and fauna must be established, fenced/flagged and sign posted prior to commencement of clearing at a minimum of 1 metre from the boundary of the habitat to be protected. ▪ A wildlife catcher/spotter or the Environmental Representative needs to conduct a search for any wildlife that may need to be removed and relocated.	Environment Manager
A suitably qualified ecologist or wildlife specialist with the appropriate permits/licenses shall be present on site during the removal of vegetation to: ▪ identify and examine any trees (including hollow bearing trees) and/or fallen logs affected by works under the Contract to identify, capture and relocate fauna identified within the zone to be cleared; and ▪ provide advice on alternate fauna habitat sites	Environment Manager
If a threat to an animal is evident onsite you must contact your supervisor and/or EMR Project Environmental Representative immediately. Works may need to cease if the animal is in danger or harmed until it has been relocated.	All
Identified wildlife within the project area can only be captured and released by a qualified Wildlife Specialist who holds the relevant permits for capture and release.	Environment Manager
The site speed limits must be obeyed at all times, especially areas where vehicle/fauna interactions are identified as high risk.	All
All plant should remain on haul roads as much as possible so as to minimise damage to vegetation	Supervisor
No-go zones must be obeyed at all times without a Permit to Enter No-go Zone. Any damage to no-go zone fencing or signage must be reported to your supervisor or Project Environmental Representative immediately.	Supervisor/Project Engineer
Ensure the No-Go Zone includes the full Tree Protection Zone where trees are present. Where encroachment within the Tree Protection Zone is unavoidable the contractor shall: Engage a suitably qualified arborist to assess the potential impact on the trees; ▪ the arborist assessment shall include the botanical name, diameter at a height of 1.4 metres, useful life expectancy, the tree location and whether the proposed impact on any Tree Protection Zone will significantly impact the future health of the tree(s). ▪ The assessment shall recommend whether the tree can be retained with mitigation measures or whether it should be removed.	Project Engineer

▪ Pruning of any vegetation to be retained shall be undertaken by a suitably qualified arborist (minimum Australian Qualification Framework Level 3, Certificate III Horticulture (Arboriculture).	
Cleared/removed vegetation will be beneficially used either on or off the project where possible (e.g. for habitat, chipped for mulch and reused)	Supervisor
Where possible revegetation activities will preferentially use only species that are indigenous to the area	Project Engineer
Boundaries of allowable disturbance areas on the project are clearly marked and delineated	Environment Manager
Plant, equipment, material or debris shall not be driven, dragged, placed or stored within the No Go Zones. Vegetation management activities required to protect vegetation quality may be undertaken in No Go Zones.	Supervisor
Pre-construction surveys shall be undertaken by qualified Ecologists to identify and map all areas of native vegetation. Vegetation to be protected and or remove shall be clearly marked on the Site Environmental Plan (SEP)	Environment Manager
In the event that significant flora or fauna is discovered within the construction area , cease operation and notify the Environment Manager, who will contact an ecologist to accurately identify and provide advice for the management of the discovered significant flora or fauna	Project Engineer/Supervisor
In the event that significant flora or fauna is discovered within the construction area , cease operation and notify the Environment Manager, who will contact an ecologist to accurately identify and provide advice for the management of the discovered significant flora or fauna	Supervisor
Declared weeds, pests and diseases (also referred to as pathogens) shall not be introduced to the site, spread through the site, or removed from the site (if present) as a consequence of work, Machinery that has been in contact with topsoil to be cleaned prior to arriving and leaving site.	Supervisor
Machinery brought to site must be inspected to ensure that it is clean and free of soil and seed- a logbook of inspections is to be maintained.	Supervisor and Environment Manager
Activities likely to cause fire are to be undertaken in accordance with project permits and controls to prevent fire occurring on site and spreading to adjacent No-Go Zones	Supervisor
Avoid, minimise and offset (where appropriate) the removal of native vegetation including identified indigenous native trees during design and construction.	Environment Manager
All site staff and contractors must attend an induction session presented by a suitably qualified ecologist prior to the admittance to the project area. The induction must include: ▪ a brief on the identification and conservation status of listed threatened species and communities; ▪ the reason for mitigation measures and practices to minimise impact to threatened species; ▪ stop work procedures should threatened species and communities be identified during construction ▪ details of the EPBC Act Referral 2014/7203 Approval.	Environment Manager

2.5. Monitoring

Flora & Fauna monitoring is performed weekly which complies with legal and contract requirements and which is sufficient to identify potential non-compliances before they occur.

Where monitoring determines non-compliance to be a risk or to have occurred, an incident report and corrective actions are raised in Synergy.

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

It is the accountability of the Environmental Manager to ensure all monitoring is performed according to these requirements.

2.6. References

Key legislation and reference documents relevant to this Sub-Plan include:

- Planning and Environment Act 2006
- Wildlife Act 1975
- Wildlife Regulations 2002
- Flora and Fauna Guarantee Act 1994
- Catchment and Land Protection Act 1994
- Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

A Flora and Fauna impact assessment for the project was undertaken by Brett Lane and Associates in accordance with the Biodiversity assessment guidelines (Department of Environment and Primary Industries, September 2013). Areas for removal were assessed and offsets calculated. Offsets have been obtained and approved by Department of Environment, Land, Water and Planning. Permits for the removal of the native vegetation within the EMP area, under the Victorian Flora and Fauna Guarantee Act 1988 permits have been obtained.

3. Noise Subplan

3.1. Scope

This Plan addresses noise management on the project and the management of impacts to the environment and/or community.

Activities conducted on the project that have the potential to create noise issues are provided below. These have been extracted from project risk assessments:

Table 18: Activities, Hazards and Risks

Project Activity	Environmental Hazard	Environmental Risk
Demolition	Noise	Creation of nuisance noise
General Earthworks	Noise	Creation of nuisance noise
Railway infrastructure- track	Noise	Creation of nuisance noise
Pilling	Noise	Creation of nuisance noise
Blasting	Noise	Breach of limits and generation of complaints

3.2. Project Compliance Requirements

3.2.1. Contract Clauses

Specific contract clauses and references which set limits and/or govern noise on the project include:

Table 19: Contract Clauses

Contract Document Reference	Contract Clause/Reference	Limit/Requirement
Project Alliance Agreement	*19.17 (a)*	*The Participants are committed to achieving the highest standard of environmental practices in preforming the Works.*
Project Alliance Agreement	*19.17 (b)*	*The Participants will proactively work to minimise the impact of the performance of the Works on the environment including by;* ▪ *Providing appropriate work methods and equipment* ▪ *Providing and maintain systems, methods and techniques of work, and Construction Plant, that have minimal impact on the environment and do not expose the environment to any hazard that is with the Participants' control* ▪ *Developing and complying with procedures for dealing with environmental hazards or emergencies (or potential environmental hazards or emergencies) including procedures for interating with the EPA and other relevant Government Agencies;* ▪ *Complying with the Construction and Environmental Management Plan included in the Project Management System.*

3.2.2. Conditions of Project Environmental Approvals

Conditions of project environmental approvals that specifically address the management of noise include:

Table 20: Approvals

Environmental Approval Document Reference	Relevant Condition	Limit/Requirement
Incorporated Document	Condition 5.6	Prior to main construction works being undertaken, a Construction Management Plan (CMP) must be prepared in Consultation with Public Transport Vitoria and to the satisfaction of the responsible authority detailing how the development proponent will manage the environmental and construction issues associated with the Project. If the development is staged, development of each stage of the project mist not commence until a CMP has been prepared for that stage.
Incorporated Document	Condition 5.7	Prior to the commencement of works, an Environmental Management Plan (EMP) must be prepared to the satisfaction of the Department of Environment and Primary Industries. The EMP must have regard to the recommendations of the site contamination assessment.

3.2.3. Specific Conditions of Local, State and Commonwealth Legislation

Conditions of local, State and Commonwealth legislation that apply specific criteria to the management of noise on the project include:

Table 21: Legislation

Document Reference	Relevant Condition	Limit/Requirement
Environment Protection Act 1970	SECT 46	The emission of noise shall at all times be in accordance with State environment protection policy specifying acceptable conditions for emitting noise and shall comply with any standards or limitations prescribed therefor under this Act.
State environment protection policy (Control of Noise from Commerce, Industry and Trade) No. N-1	All	Provide legislation for noise emissions for commercial and industrial or trade premises. However, this policy does not assess noise for construction or demolition activities on building sites as per Part III Clause 9.

3.3. Project Objectives

Based on the requirements defined at Section 10.2 (above), the findings of project risk management processes and the potential impacts to the community, the following targets have been set. Any deviance from the targets will result in Project Management immediately implementing corrective actions:

Table 22: Objectives

Metric/Measure	Objective	Timeframe	Accountability
Number of non-compliant monitoring results	Zero	At all times	Alliance Manager
Number of nuisance complaints	Zero	Annual	Alliance Manager
Number of incidents of damage caused by vibration	Zero	At all times	Alliance Manager

3.4. Controls Used to Manage Noise

Controls that are adequate to minimise noise and to reduce risk to the lowest acceptable rating achievable are implemented before any relevant works commence. Elimination of the hazard is the first preference of control, followed by engineering, then administrative controls. Controls used on this project include:

Table 23: Controls to Manage Noise

Control	Accountability
Undertake construction activities within the nominated hours of work to comply with contractual and legal requirements.	Project Engineer
Any works that need to occur outside these hours must be approved by the Alliance Manager and project environmental representative.	Project Engineer
All equipment must be serviced and maintained according to manufacturer's recommendations, or more frequently if required to minimise noise generated.	Supervisor
Undertake high noise generating works in accordance with project obligations	Supervisor
Where intermittent high frequency noise is a high risk, and pending safety requirements, the least noise-intrusive reversing alarms must be used.	Project Engineer
In accordance with contractual requirements early consultation must be conducted with community stakeholders on the likely impacts of activities likely to cause disruption.	Stakeholder Manager
Limiting the hours of work in response to community concerns	Construction Manager
Noise attenuation of fixed and mobile plant as required in order to achieve compliance is installed.	Environmental Manager
Construct and maintain noise barriers to shield significant noise generating activities or plant as required in order to comply.	Environmental Manager
Adjust the Project Traffic Management Plan/Plans to minimise noise impacts as required.	Project Engineer
Activities will be altered or additional controls implemented where predictive modelling indicates potential impacts that exceed compliance limits.	Project Engineer
In the event that implementation of all above-stated controls are insufficient to achieve compliance then mitigation measures (e.g. fitting air conditioners and double-glazing windows) are implemented at sensitive receptors.	Project Engineer
Noise monitoring conducted in accordance with Australian Standards and at a frequency and at locations to confirm compliance with the regulatory limits will be conducted.	Environmental Manager
Noise minimisation activities will include ■ Planning of works ■ Where possible schedule noisy activities to daytime hours or before 10pm for night-works ■ Locate noisy plant such as generators and light towers to minimise the impact of noise on residential areas ■ Select the lowest noise generating equipment ■ Where necessary construct and maintain noise barriers to shield significant noise generating activities or plant	Project Engineer

3.5. Monitoring

Noise monitoring is performed that complies with legal and contract requirements and which is sufficient to identify potential non-compliances before they occur.

Where monitoring determines non-compliance to be a risk or to have occurred, an incident report and corrective actions are raised in Synergy.

Monitoring and analysis of data will be carried out by a competent person in accordance with the projects noise monitoring procedure (LAH-EN-PRO-0008). Evidence of competence must be retained. Results of noise monitoring will be recorded in the Noise Monitoring Register (LAH-EN-REG-0011).

It is the accountability of the Environmental Manager to ensure all monitoring is performed according to these requirements.

3.5.1. Noise Monitoring

The following noise monitoring will be undertaken on the project:

Table 24: Noise Monitoring

Location	Parameter	Methodology	Frequency
Various Locations determined by Environmental Representative from the nature and location of works	LAeq dB(A) LA90 dB(A) LA10 dB(A) LAmax dB(A)	Attended Noise Monitoring	As required for Out of Hours Works and High Noise Works.

3.5.2. Meteorological Monitoring

Meteorological data adequate to allow the interpretation of monitoring data to assess compliance and identify potential non-compliances is collected. The sources of this data are:

Table 25: Meteorological Monitoring

Location	Parameter	Equipment Type	Frequency
Refer to the current Site Environmental Plan	Rainfall Temperature Wind Speed Wind Direction Humidity	Dusttrack and Weather Station	Real-time Recording

3.5.3. Plan of Monitoring Locations

Noise monitoring will be undertaken at the nearest sensitive use such as residential properties adjacent to the construction site.

Refer to current Site Environmental Plan

3.6. References

EPA (1996) Publication 480 – Environmental Guidelines for Major Construction Sites: Section 5 – Noise and Vibration

State environment protection policy (Control of Noise from Commerce, Industry and Trade) No. N-1

4. Vibration Subplan

4.1. Scope

This Plan addresses noise and vibration management on the project and the management of impacts to the environment and/or community.

Activities conducted on the project that have the potential to create vibration issues are provided below. These have been extracted from project risk assessments:

Table 26: Activities, Hazards and Risks

Project Activity	Environmental Hazard	Environmental Risk
Earthworks / Piling	Vibration	Damage to property and buildings
Railway infrastructure- Earthworks/ track works	Vibration	Creation of nuisance vibration
Demolition	Vibration	Damage to property and buildings

4.2. Project Compliance Requirements

4.2.1. Contract Clauses

Specific contract clauses and references which set limits and/or govern impacts vibration on the project include:

Table 27: Contract Clauses

Contract Document Reference	Contract Clause/Reference	Limit/Requirement
Project Alliance Agreement	*19.17 (a)*	*The Participants are committed to achieving the highest standard of environmental practices in preforming the Works.*
Project Alliance Agreement	*19.17 (b)*	*The Participants will proactively work to minimise the impact of the performance of the Works on the environment including by;* ▪ *Providing appropriate work methods and equipment* ▪ *Providing and maintain systems, methods and techniques of work, and Construction Plant, that have minimal impact on the environment and do not expose the environment to any hazard that is with the Participants' control* ▪ *Developing and complying with procedures for dealing with environmental hazards or emergencies (or potential environmental hazards or emergencies) including procedures for interacting with the EPA and other relevant Government Agencies;* ▪ *Complying with the Construction and Environmental Management Plan included in the Project Management System.*

4.2.2. Conditions of Project Environmental Approvals

Conditions of project environmental approvals that specifically address the management of vibration include:

Table 28: Approvals

Environmental Approval Document Reference	Relevant Condition	Limit/Requirement
Incorporated Document	Condition 5.6	Prior to main construction works being undertaken, a Construction Management Plan (CMP) must be prepared in Consultation with Public Transport Vitoria and to the satisfaction of the responsible

		authority detailing how the development proponent will manage the environmental and construction issues associated with the Project. If the development is staged, development of each stage of the project mist not commence until a CMP has been prepared for that stage.
Incorporated Document	Condition 5.7	Prior to the commencement of works, an Environmental Management Plan (EMP) must be prepared to the satisfaction of the Department of Environment and Primary Industries. The EMP must have regard to the recommendations of the site contamination assessment.

4.2.3. Specific Conditions of Local, State and Commonwealth Legislation

Conditions of local, State and Commonwealth legislation that apply specific criteria to the management of vibration on the project include:

Table 29: Legislation

Document Reference	Relevant Condition	Limit/Requirement
Environment Protection Act 1970	SECT 46	The emission of noise shall at all times be in accordance with State environment protection policy specifying acceptable conditions for emitting noise and shall comply with any standards or limitations prescribed therefor under this Act.

4.3. Project Objectives

Based on the requirements defined at Section 11.2 (above), the findings of project risk management processes and the potential impacts to the community, the following targets have been set. Any deviance from the targets will result in Project Management immediately implementing corrective actions:

Table 30: Objectives

Metric/Measure	Objective	Timeframe	Accountability
Number of non-compliant monitoring results	Zero	At all times	Alliance Manager
Number of nuisance complaints	Zero	Annual	Alliance Manager
Number of incidents of damage caused by vibration	Zero	At all times	Alliance Manager

4.4. Controls Used to Manage Vibration

Controls that are adequate to minimise vibration and to reduce risk to the lowest acceptable rating achievable are implemented before any relevant works commence. Elimination of the hazard is the first preference of control, followed by engineering, then administrative controls. Controls used on this project include:

Table 31: Controls Used to Manage Vibration

Control	Accountability
Undertake construction activities within nominated hours of work to comply with contractual and legal requirements. Any works that need to occur outside these hours must be approved by the Alliance Manager or project environmental representative.	Supervisor
Work practices predicted to generate non-compliant vibration must be amended prior to commencing works to the extent required to comply with applicable limits.	Project Engineer
In accordance with contractual requirements early consultation must be conducted with community stakeholders on the likely impacts of vibration in particular any high risk activities likely to cause disruption.	Stakeholder Manager
All equipment is serviced and maintained according to, as a minimum, the original equipment manufacturers recommendations, or more frequently if required to minimise noise generated. Where the OEM requirements are not available then industry best practice maintenance is applied.	Project Engineer/Supervisor
Blasting activities are designed to minimise the impacts relating to vibration	Project Engineer

Pre-construction property condition surveys will be completed for properties located within 50m of construction activities where agreed by the owner.	Stakeholder Manager
Vibration monitoring will be conducted at a frequency and locations to confirm compliance with the German Standard DIN 4150 – Part 3 – "Structural Vibration in Buildings – Effects on Structures".	Environment Manager
Blasting overpressure must not exceed 133 dBL. Vibration generated by blasting must not exceed the criteria set out in the table below:	Project Engineer

Table VR 177.H3.01 Transient Ground Vibration Criteria for Assessing Potential for Damage to Buildings

Type of Structure	Peak Vibration Velocity (mm/s)
Reinforced or framed structures Industrial and heavy commercial buildings	50
Unreinforced or light framed structure Residential or light commercial type buildings	15
Structures that because of their sensitivity to vibration do not correspond to those listed above and are of great intrinsic value (e.g. heritage listed buildings).	3

4.5. Monitoring

Vibration monitoring is performed that complies with legal and contract requirements and which is sufficient to identify potential non-compliances before they occur.

Where monitoring determines non-compliance to be a risk or to have occurred, an incident report and corrective actions are raised in Synergy.

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

It is the accountability of the Environmental Manager to ensure all monitoring is performed according to these requirements

4.5.1. Vibration Monitoring

The following vibration monitoring will be undertaken on the project:

Table 32: Vibration Monitoring

Location	Parameter	Methodology	Frequency
Closest sensitive receiver to work zone where practicable	Peak Vibration Velocity at foundation (mm/s) as described in Table 33 below.	Vibration monitor carried out by competent person	Prior and during high risk works.

Table 33: Vibration Velocity

Group	Type of Structure	Vibration Velocity, mm/s at foundation frequency of			Plane of Floor Uppermost Storey
		1 to 10HZ	10 to 50 Hz	50 to 100Hz	All frequency's
1	Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40
2	Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15
3	Structures that because of their particular sensitivity to vibration, do not correspond to those listed in Group 1 or 2 and have intrinsic value (e.g. buildings under a preservation order)	3	3 to 8	8 to 10	8

4.5.2. Plan of Monitoring Locations

Monitoring location will be dependent on the work activities and location. Monitoring will occur at the closest sensitive receivers where practicable.

4.6. References

EPA (1996) Publication 480 – Environmental Guidelines for Major Construction Sites: Section 5 – Noise and Vibration

German Standard DIN 4150 – Part 3 – "Structural Vibration in Buildings – Effects on Structures"

VicRoads 2015 - Section 177 - Environmental Management: Part H

5. Heritage Subplan

5.1. Scope

This Plan addresses Heritage management on the project and the management of impacts to the environment and/or community.

Activities conducted on the project that have the potential to impact heritage values are listed below. These have been extracted from project risk assessments:

Table 34: Activities, Hazards and Risks

Project Activity	Environmental Hazard	Environmental Risk
Clearing & Grubbing	Heritage	Damage to Aboriginal or Cultural Heritage
Earthworks	Heritage	Damage to Aboriginal or Cultural Heritage

5.2. Project Compliance Requirements

5.2.1. Contract Clauses

Specific contract clauses and references which set limits and/or govern impacts to heritage on the project include:

Table 35: Contract clauses

Contract Document Reference	*Contract Clause/Reference*	*Limit/Requirement*
Project Alliance Agreement	*19.17 (a)*	*The Participants are committed to achieving the highest standard of environmental practices in preforming the Works.*
Project Alliance Agreement	*19.17 (b)*	*The Participants will proactively work to minimise the impact of the performance of the Works on the environment including by;* ▪ *Providing appropriate work methods and equipment* ▪ *Providing and maintain systems, methods and techniques of work, and Construction Plant, that have minimal impact on the environment and do not expose the environment to any hazard that is with the Participants' control* ▪ *Developing and complying with procedures for dealing with environmental hazards or emergencies (or potential environmental hazards or emergencies) including procedures for interating with the EPA and other relevant Government Agencies;* ▪ *Complying with the Construction and Environmental Management Plan included in the Project Management System.*

5.2.2. Conditions of Project Environmental Approvals

Conditions of project environmental approvals that specifically address the management of heritage include:

Table 36: Approvals

Environmental Approval Document Reference	Relevant Condition	Limit/Requirement
Incorporated Document	5.4	All works must comply with any approved Cultural Heritage Management Plan under the Aboriginal Heritage Act 2006.
Incorporated Document	Condition 5.6	Prior to main construction works being undertaken, a Construction Management Plan (CMP) must be prepared in Consultation with Public Transport Vitoria and to the satisfaction of the responsible authority detailing how the development proponent will manage the environmental and construction issues associated with the Project. If the development is staged, development of each stage of the project mist not commence until a CMP has been prepared for that stage.
Incorporated Document	Condition 5.7	Prior to the commencement of works, an Environmental Management Plan (EMP) must be prepared to the satisfaction of the Department of Environment and Primary Industries. The EMP must have regard to the recommendations of the site contamination assessment.

5.2.3. Specific Conditions of Local, State and Commonwealth Legislation

Conditions of local, State and Commonwealth legislation that apply specific criteria to the management of heritage on the project include:

Table 37: Legislation

Document Reference	Relevant Condition	Limit/Requirement
Aboriginal Heritage Act 2006	SECT 47	The regulations may specify the circumstances in which a cultural heritage management plan is required for an activity or class of activity
Aboriginal Heritage Regulations 2007	Regulation 6	A cultural heritage management plan is required for an activity if— (a) all or part of the activity area for the activity is an area of cultural heritage sensitivity; and (b) all or part of the activity is a high impact activity.
Aboriginal Heritage Regulations 2007	Regulation 22 (2)	Subject to subregulation (3), land within 50 metres of a registered cultural heritage place is an area of cultural heritage sensitivity.
Aboriginal Heritage Regulations 2007	Regulation 23	(1) Subject to subregulation (2), a waterway or land within 200 metres of a waterway is an area of cultural heritage sensitivity. (2) If part of a waterway or part of the land within 200 metres of a waterway has been subject to significant ground disturbance, that part is not an area of cultural heritage sensitivity.
Aboriginal Heritage Regulations 2007	Regulation 43 (1) (b) iii	The proposed activity is a high impact activity as it involves the construction of a building or the construction or carrying out of works for a specified use, car park
Aboriginal Heritage Regulations 2007	Regulation 44 (1) (d)	The proposed activity is a high impact activity as it involves the construction of specific items of infrastructure, rail infrastructure
Heritage Act 1995	Section 127	Offence to damage or disturb unregistered relics and unregistered archaeological sites

5.2.4. Specific Conditions of Cultural Heritage Management Plan

A Cultural Heritage Management Plan (CHMP) was prepared by Ecology and Heritage Partners for the Level Crossing Removal, Main Road St, Albans. The document was prepared by Rick Buller as the Cultural Heritage Advisor and Terence MacManus. The CHMP has been prepared in accordance with Part 4 of the Victorian Aboriginal Heritage Act 2006 and is mandatory. The construction area is located within an area of cultural heritage sensitivity under r.22 of the Aborignial Heritage Regulations 2007 as it includes one register cultural heritage place (VAHR 7822-1979). This registered place, and the land within the activity which lies within 50m of the place's recorded location, will be impacted by the proposed activity.

Recommendations were established in the CHMP and summarized in the table below;

Table 38: CHMP Recommendations

Recommendation 1	Harm to VAHR 7822-1979 (St Albans Rail Reserve IA1) cannot be avoided by the activity, but will be minimized by surface salvage of the artefact comprising the site, as set out in Recommendation 2
Recommendation 2	The activity cannot avoid impacting upon surface deposits within the site therefore the following salvage program is recommended; A site walkover and artefact collection at the recorded location of the single artefact. After completion of salvage the Cultural Heritage Advisor shall undertake analysis of the material and provide a report of the results which shall be lodged with OAAV.
Recommendation 3	Removal, curation, custody and management of Aboriginal cultural heritage (Artefacts) from VAHR 7822-1979(St. Albans Rail Reserve IA1) must comply with the Aboriginal Heritage Act 2006 and as detailed in the CHMP
Recommendation 4	Harm to 3 artefacts comprising VAHR 7822-3754 (St. Albans Rail Reserve LDAD) cannot be avoided by the activity, but will be minimized by surface salvage of the artefact comprising the site then salvage as set out in recommendation 6.
Recommendation 5	Harm to the single artefact comprising VAHR 7822-3754 (St. Albans Rail Reserve LDAD) outside of the activity area will be avoided by the activity. To help ensure no impact on this artefact during activity temporary fencing will be erected along the boundary of the Activity area within 50 metres of the artefact during construction.
Recommendation 6	The activity cannot avoid impacting upon surface deposits within the site therefore the following salvage program is recommended Site walkover and artefact collection at the recorded locations of the two artefacts for VAHR 7822-3754 which lie within the activity area; After completion of salvage the Cultural Heritage Advisor shall undertake analysis of the material and provide a report of the results which shall be lodged with OAAV.
Recommendation 7	Removal, curation, custody and management of Aboriginal cultural heritage (Artefacts) from VAHR 7822-3754 (St. Albans Rail Reserve LDAD) must comply with the Aboriginal Heritage Act 2006 as detailed in the CHMP.
Recommendation 8	Cultural Awareness Training- it is recommended that a Cultural Heritage Induction presentation to all relevant employees and contractors working within the activity area prior to the commencement of the activity. A copy of the CHMP is to be kept on site at all times.
Recommendation 9	Provision for Aboriginal people to visit Cultural Heritage Places within the activity area- Aboriginal people are permitted to visit cultural heritage places within the activity area which are located on public land, 24 hour notification must be provided to VicRoads and all aboriginal people must comply with all on-site OH&S requirements.
Recommendation 10	If management recommendations 1-8 above cannot be implemented then alternative options must be discussed and agreed between the Sponsor and OAAV (in consultation with the Aboriginal stakeholder organisations identified in section 4 [of CHMP])before any changes to the management recommendation are implemented.

5.3. Project Objectives

Based on the requirements defined at Section 12.2 (above), the findings of project risk management processes and the potential impacts to the community, the following targets have been set. Any deviance from the targets will result in Project Management immediately implementing corrective actions:

Table 39: Objectives

Metric/Measure	Objective	Timeframe	Accountability
Incidents of damage to heritage items, places or values	Zero	Project duration	Alliance Manager
No complaints from the Regulators or traditional owners as a result of the works undertaken	Zero Complaints	Project duration	Alliance Manager
Discovered heritage items to be managed as per heritage controls listed in section 4.5.4 below	100%	Project duration	Alliance Manager

5.4. Controls Used to Manage Heritage

Controls that are adequate to manage Heritage and to reduce risk to the lowest acceptable rating achievable are implemented before any relevant works commence. Elimination of the hazard is the first preference of control, followed by engineering, then administrative controls. Controls used on this project include:

Table 40: Controls Used to Manage Heritage

Control	Accountability
All cultural heritage items and places to be preserved will be fenced/flagged and sign posted as No-go zones and shown on relevant site plans and communicate to relevant workforce. These No-go zones must be observed at all times until a Permit to Enter No-go Zone has been authorised.	Environment Manager and Supervisor
Ground disturbance must not take place until a Permit to Clear Land or Vegetation has been authorised.	Supervisor
If an object is discovered that may be a suspected heritage item, work must cease immediately and the supervisor and project environmental representative notified. No works will be allowed to continue until approval has been received from the project environmental representative. Within 24 hours notify relevant approval authorities and engage a cultural heritage advisor to evaluate the nature, extent and significance of the cultural heritage. Work greater than 50 m away from the area in which the cultural heritage was uncovered and/or identified may recommence and continue. Work in areas less than 50 m from the cultural heritage site may proceed if agreed by the relevant approval authority, and in consultation with any other relevant cultural heritage stakeholders.	Supervisor
Specific training will be provided to persons likely to impact on work in close proximity to heritage items or values.	Project Engineer
All Personnel will undertake a Site Induction which includes Aboriginal Heritage. Specific training will be provided to persons likely to impact on heritage items of values.	Environment Manager
All necessary approvals will be obtained prior to commencing any works in areas of known or potential heritage items.	Environment Manager
Formal documented engagement will be maintained with relevant heritage groups or traditional owners throughout the project.	Environment Manager
Work will cease upon the discovery of any object which may be a heritage item within the meaning of the relevant legislation, including likely human remains. No works will be allowed to continue until a permit or clearance has been received from the relevant authority.	Supervisor
A cultural Heritage Advisor is to be engaged to by the project to provide advice and guidance if a heritage item is discovered.	Environmental Manager
The following procedure will apply in the event of the discovery of suspected human remains: ■ all activity in the vicinity shall stop; ■ the remains must be left in place, and protected from harm or damage; ■ immediately notify the local office of Victoria Police or the State Coroner's Office and the Superintendent of the discovery ■ if there are reasonable grounds to believe that the remains are Aboriginal human remains, report the discovery (including the particulars of the location and nature of the human remains) to Aboriginal Affairs Victoria; and	Supervisor

- implement appropriate impact mitigation or salvage strategy as determined by the responsible authority and if relevant, in consultation with any Aboriginal person or body with an interest in the Aboriginal human remains.

5.5. Monitoring

Heritage monitoring is performed that complies with legal and contract requirements and which is sufficient to identify potential non-compliances before they occur.

Weekly site inspections will be undertaken to ensure that heritage controls are maintained. Where monitoring determines non-compliance to be a risk or to have occurred, an incident report and corrective actions are raised in the Synergy.

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

It is the accountability of the Environmental Manager to ensure all monitoring is performed according to these requirements.

5.6. References

Key legislation and reference documents relevant to this Sub-Plan include:

- Aboriginal Heritage Act 2006
- Aboriginal Heritage Regulations 2007
- Heritage Act 1995
- Cultural Heritage Management Plan for Level Crossing Removal, Main Road St, Albans prepared by Ecology and Heritage Partners

6. Contamination Subplan

6.1. Scope

This Plan addresses Contaminated Land management on the project and the management of impacts to the environment and/or community.

Activities conducted on the project that have the potential to create soil contamination are listed below. These have been extracted from project risk assessments:

Table 41: Activities, Hazards and Risks

Project Activity	Environmental Hazard	Environmental Risk
Earthworks	Contamination	Mismanagement of Contaminated Land
Earthworks	Unknown contamination	Not identifying changes in ground conditions prior to removal of spoil off site
Plant operation	Contamination	Contamination of Land via spill or leak
Storage of oil/fuel and chemicals	Contamination	Contamination of Land via spill or leak or inappropriate storage

6.2. Project Compliance Requirements

6.2.1. Contract Clauses

Specific contract clauses and references which set limits and/or govern contamination on the project include:

Table 42: Contract Clauses

Contract Document Reference	Contract Clause/Reference	Limit/Requirement
Project Alliance Agreement	*19.17 (a)*	*The Participants are committed to achieving the highest standard of environmental practices in preforming the Works.*
Project Alliance Agreement	*19.17 (b)*	*The Participants will proactively work to minimise the impact of the performance of the Works on the environment including by;* ▪ *Providing appropriate work methods and equipment* ▪ *Providing and maintain systems, methods and techniques of work, and Construction Plant, that have minimal impact on the environment and do not expose the environment to any hazard that is with the Participants' control* ▪ *Developing and complying with procedures for dealing with environmental hazards or emergencies (or potential environmental hazards or emergencies) including procedures for interacting with the EPA and other relevant Government Agencies;* ▪ *Complying with the Construction and Environmental Management Plan included in the Project Management System.*

6.2.2. Conditions of Project Environmental Approvals

Conditions of local, State and Commonwealth legislation that apply specific criteria to the management of contamination on the project include:

Table 43: Approvals

Environmental Approval Document Reference	Relevant Condition	Limit/Requirement

Incorporated Document	Condition 5.6	Prior to main construction works being undertaken, a Construction Management Plan (CMP) must be prepared in Consultation with Public Transport Vitoria and to the satisfaction of the responsible authority detailing how the development proponent will manage the environmental and construction issues associated with the Project. If the development is staged, development of each stage of the project mist not commence until a CMP has been prepared for that stage.
Incorporated Document	Condition 5.7	Prior to the commencement of works, an Environmental Management Plan (EMP) must be prepared to the satisfaction of the Department of Environment and Primary Industries. The EMP must have regard to the recommendations of the site contamination assessment.

6.2.3. Specific Conditions of Local, State and Commonwealth Legislation

Conditions of local, State and Commonwealth legislation that apply specific criteria to the management of vibration on the project include:

Table 44: Legislation

Document Reference	Relevant Condition	Limit/Requirement
Environment Protection Act 1970	SECTION 39	Outlines offences regarding pollution of water and waterways
Environment Protection Act 1970	SECTION 41	Outlines offences regarding pollution of atmosphere
Environment Protection Act 1970	SECTION 45	Outlines offences regarding pollution of land

6.3. Project Objectives

Based on the requirements defined at Section 13.2 (above), the findings of project risk management processes and the potential impacts to the community, the following targets have been set. Any deviance from the targets will result in Project Management immediately implementing corrective actions:

Table 45: Objectives

Metric/Measure	Objective	Timeframe	Accountability
All soil types to be separately stockpiled for inspection and verification of contamination	All types	Project Duration	Area Manager
Minimise contamination / degradation to the soil environment within the project area	All contaminated soil is managed and disposed in accordance with the Environment Protection Act 1970	Project Duration	Area Manager
All contaminated soils with contamination levels in excess of health investigation levels for Commercial/ Industrial Land Use criteria to be treated	All	Project Duration	Alliance Manager
All contaminated soils with contamination levels in excess of the relevant environmental investigation levels criteria to be only used for re-use in non-environmental sensitive areas	All	Project Duration	Alliance Manager
Ensure all spills are reported and cleaned up immediately	Zero un-reported spills	Project Duration	Project Environmental Manager

6.4. Controls Used to Manage Contamination

Controls that are adequate to manage Contamination and to reduce risk to the lowest acceptable rating achievable are implemented before any relevant works commence. Elimination of the hazard is the first preference of control, followed by engineering, then administrative controls. Controls used on this project include:

Table 46: Controls Used to Manage Contamination

Control	Accountability
Whenever contaminated materials are discovered or suspected, works must cease and the supervisor and project environmental representative notified immediately. Testing by a trained and competent person must be conducted and a management strategy developed.	All
Contaminated land will need to be handled, stockpiled, reused and/or disposed of as per the Projects Contaminated Land Management Strategy.	Environment Manager
The movement of materials must be tracked via the Materials Tracking Form. The Transport of contaminated soil from site must be undertaken in accordance with EPA Victoria requirements, in a permitted vehicle and accompanied by a waste transport certificate.	Supervisor
Water runoff from contaminated land and stockpiles must be contained, treated or disposed to ensure there is no pollution of land or waterways.	Supervisor
All vehicles, plant and other machinery operating in contact with contaminated soil must be decontaminated prior to leaving site.	Supervisor
Testing by a trained and competent person occurs whenever contaminated material is present or believed to be present at the project. Testing shall comply with all legislative requirements.	Environment Manager
Temporary water management works will be put in-place to capture contaminated runoff from stockpiles and contaminated areas. Water and sediment will be monitored for quality and managed in accordance with regulatory requirements.	Environment Manager
Any soil identified as Acid Sulphate Soil (ASS) or Potential Acid Sulphate Soil (PASS) will be managed in accordance to the Manage Acid Sulphate Soil Procedure.	Supervisor
A visual assessment of the site for contaminated soils and materials will be undertaken daily during the following activities, stripping of topsoil, excavations and when importing fill.	Supervisor
All work shall comply with the following requirements in relation to contaminated soil: ▪ soils or materials shall not be contaminated as a consequence of construction; ▪ soil and materials imported to the site shall be free from contamination; ▪ contaminated soil/materials shall only be reused on site following approval from VicTrack and EPA Victoria; Contaminated soil/materials to be temporary stored/reused on site as part of construction shall be temporarily stored and managed to minimise any impact on the site or surrounding environment by means of covering with plastic to prevent odour and rain infiltration and the generation of contaminated runoff;	Environment Manager

6.5. Monitoring

Contaminated Land monitoring is performed that complies with legal and contract requirements and which is sufficient to identify potential non-compliances before they occur.

Where monitoring determines non-compliance to be a risk or to have occurred, an incident report and corrective actions are raised in Synergy.

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

It is the accountability of the Environmental Manager to ensure all monitoring is performed according to these requirements.

6.6. References

EPA (1996) Publication 480 – Environmental Guidelines for Major Construction Sites

EPA (2010) Industrial Waste Resource Guidelines Publication 600.2 – Waste Categorisation

EPA (2010) Industrial Waste Resource Guidelines Publication 621 – Soil Hazard Categorisation and Management

EPA (2010) Industrial Waste Resource Guidelines Publication 665 – Acid Sulfate Soil and Rock

EPA (2010) Industrial Waste Resource Guidelines Publication 702 – Soil Sampling

VicTrack (2015) – Soil Reuse on VicTrack Land

7. Acid Sulfate Soil Subplan

7.1. Scope

This Plan addresses Acid Sulphate Soil (ASS) or Potential Acid Sulphate Soil (PASS) management on the project and the management of impacts to the environment and/or community.

Activities conducted on the project that have the potential to create acid sulphate soil issues are provided below. These have been extracted from project risk assessments:

Table 47: Activities, Hazards and Risks

Project Activity	Environmental Hazard	Environmental Risk
Earthworks	Contamination from ASS or PASS	Mismanagement of ASS or PASS

7.2. Project Compliance Requirements

7.2.1. Contract Clauses

Specific contract clauses and references which set limits and/or govern impacts to ASS on the project include:

Table 48: Contract Clauses

Contract Document Reference	Contract Clause/Reference	Limit/Requirement
No specific reference regarding ASS	Not applicable	Not applicable

7.2.2. Conditions of Project Environmental Approvals

Conditions of project environmental approvals that specifically address the management of ASS include:

Table 49: Approvals

Environmental Approval Document Reference	Relevant Condition	Limit/Requirement
Incorporated Document	Condition 5.6	Prior to main construction works being undertaken, a Construction Management Plan (CMP) must be prepared in Consultation with Public Transport Vitoria and to the satisfaction of the responsible authority detailing how the development proponent will manage the environmental and construction issues associated with the Project. If the development is staged, development of each stage of the project mist not commence until a CMP has been prepared for that stage.
Incorporated Document	Condition 5.7	Prior to the commencement of works, an Environmental Management Plan (EMP) must be prepared to the satisfaction of the Department of Environment and Primary Industries. The EMP must have regard to the recommendations of the site contamination assessment.
No specific approval condition regarding ASS	Not applicable	Not applicable

7.2.3. Specific Conditions of Local, State and Commonwealth Legislation

Conditions of local, State and Commonwealth legislation that apply specific criteria to the management of ASS on the project include:

Table 50: Legislation

Document Reference	Relevant Condition	Limit/Requirement
Environmental Protection Act 1970	SECTION 16A	For the purposes of this Act the Governor in Council may, on the recommendation of the Authority, by Order published in the Government Gazette declare the waste management policy to be observed with respect to any aspect of the management of waste in Victoria.

Industrial Waste Management Policy (Waste Acid Sulfate Soils)	Part II Clause 9	Management of waste acid sulphate soils must be in accordance with the current best practice or best practice environmental management guidelines approved by the Authority.
Industrial Waste Management Policy (Waste Acid Sulfate Soils)	Part II Clause 10	An occupier of premises- (1) is, subject to sub-clause (2), exempted from any requirement under this policy to prepare an environment management plan for on-site handling of waste acid sulphate soil sourced from the premise (2) must apply current best practice environment management for all on-site handling of waste acid sulphate soil so as to ensure prevention of adverse impact on any beneficial uses of any element of the environment on-site or off-site.
Industrial Waste Management Policy (Waste Acid Sulfate Soils)	Part II Clause 13	A person must not cause or permit the disposal or re-use of waste acid sulphate soil at any premise, except where the occupier of the premises; (1) is licensed under the Environmental Protection Act 1970 to dispose of that type of waste; or (2) has an environmental plan prepared in accordance with this Policy and approved by the Authority

7.3. Project Objectives

Based on the requirements defined at Section 14.2 (above), the findings of project risk management processes and the potential impacts to the community, the following targets have been set. Any deviance from the targets will result in Project Management immediately implementing corrective actions:

Table 51: Objectives

Metric/Measure	Objective	Timeframe	Accountability
Any soil identified as exceeding the ASS soil trigger values that is disturbed is treated in accordance with the requirements in Industrial Waste Management Policy (Waste Acid Sulfate Soils)	All disturbed ASS is controlled or treated All leachate controlled and treated	Project Duration	Environmental Manager
Develop and implement adequate measures to prevent impact to the surrounding environment resulting from the disturbance of Acid Sulphate Soil and release of acidified leachate to the atmosphere, groundwater and surface runoff	Zero leachate generated Zero harm to the surrounding environment Water Quality monitoring result are below the nominated Trigger levels	Project Duration	Environmental Manager
Number of incidents resulting in environmental harm	Zero	Project Duration	Environmental Manager

7.4. Controls Used to Manage Acid Sulfate Soil

Controls that are adequate to manage Acid Sulfate Soil and to reduce risk to the lowest acceptable rating achievable are implemented before any relevant works commence. Elimination of the hazard is the first preference of control, followed by engineering, then administrative controls. Controls used on this project include:

Table 52: Controls Used to Manage Acid Sulfate Soil

Control	Accountability
Whenever ASS/PASS material is discovered or suspected, works must cease and the site supervisor and project environmental representative notified immediately.	Supervisor

Testing by a trained and competent person must be conducted and an ASS/PASS management strategy developed.	Environmental Manager
All known or discovered areas of ASS/PASS will be communicated to those involved via the induction, toolbox talks, pre starts and Site Environmental Plans.	Supervisor
Disturbance of surface and subsurface soils in potential ASS/PASS must be minimised.	Supervisor
All persons likely to be involved with the management of ASS/PASS will be trained in their identification and management.	Supervisor
ASS/PASS will need to be handled, stockpiled, tracked, treated and reused and/or disposed of as per the Projects ASS/PASS management strategy.	Environmental Manager
The movement of ASS/PASS materials must be tracked via the Materials Tracking Form	Supervisor
Water runoff from ASS/PASS stockpiles must be contained, treated or disposed to ensure there is no pollution of land or waterways.	Supervisor
All vehicles, plant and other machinery operating in contact with ASS/PASS must be decontaminated prior to leaving site.	Supervisor
A spill of ASS/PASS material outside the ASS/PASS storage and/or treatment areas or evidence of impacts on waterways must be reported to the supervisor and Environmental Representative immediately.	All

7.5. Monitoring

Acid Sulfate Soil monitoring is performed that complies with legal and contract requirements and which is sufficient to identify potential non-compliances before they occur.

Where monitoring determines non-compliance to be a risk or to have occurred, an incident report and corrective actions are raised in Synergy.

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

It is the accountability of the Environmental Manager to ensure all monitoring is performed according to these requirements.

7.6. References

Industrial Waste Management Policy (Waste Acid Sulfate Soils) 1999

Acid Sulfate Soil and Rock Publication 655.1 July 2009

Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils, October 2010

8. Energy Subplan

8.1. Scope

This Plan addresses the potential and actual use of energy sources and the emission of greenhouse gases (GHG) by Project activities. In particular, it requires:

- The identification of sources
- Measurement and reporting of use and emissions
- Identification, assessment and implementation of opportunities to improve energy efficiency and reduce GHG emissions

Activities conducted on the project that have the potential to use significant amounts of energy or emit significant quantities of GHG are:

Table 53: Activities, Hazards and Risks

Project Activity	Environmental Hazard	Environmental Risk
Earthworks (on site)	Fuel Usage	Release of GHG
Office and administration	Electricity Usage	Use of Energy and GHG Release
Transport of materials	Fuel Usage	Release of GHG
Light Vehicle transport	Fuel Usage	Release of GHG

8.2. Project Compliance Requirements

8.2.1. Contract Clauses

Specific contract clauses and references which set limits and/or specify requirements relating to use of energy, energy efficiency requirements, or controls on GHG emissions on the project include:

Table 54: Contract clauses

Contract Document Reference	Contract Clause/Reference	Limit/Requirement
Project Alliance Agreement	*19.17 (a)*	*The Participants are committed to achieving the highest standard of environmental practices in preforming the Works.*
Project Alliance Agreement	*19.17 (b)*	*The Participants will proactively work to minimise the impact of the performance of the Works on the environment including by;* ▪ *Providing appropriate work methods and equipment* ▪ *Providing and maintain systems, methods and techniques of work, and Construction Plant, that have minimal impact on the environment and do not expose the environment to any hazard that is with the Participants' control* ▪ *Developing and complying with procedures for dealing with environmental hazards or emergencies (or potential environmental hazards or emergencies) including procedures for interacting with the EPA and other relevant Government Agencies;* ▪ *Complying with the Construction and Environmental Management Plan included in the Project Management System.*

8.2.2. Conditions of Approval

Conditions of project environmental approvals that specifically address the use of energy, energy efficiency requirements, or controls on GHG emissions include:

Table 55: Approvals

Environmental Approval Document Reference	Relevant Condition	Limit/Requirement
Incorporated Document	Condition 5.6	Prior to main construction works being undertaken, a Construction Management Plan (CMP) must be prepared in Consultation with Public Transport Vitoria and to the satisfaction of the responsible authority detailing how the development proponent will manage the environmental and construction issues associated with the Project. If the development is staged, development of each stage of the project mist not commence until a CMP has been prepared for that stage.
Incorporated Document	Condition 5.7	Prior to the commencement of works, an Environmental Management Plan (EMP) must be prepared to the satisfaction of the Department of Environment and Primary Industries. The EMP must have regard to the recommendations of the site contamination assessment.
Incorporated Document	No Specific Condition	Not applicable

8.2.3. Specific Conditions of Local, State and Commonwealth Legislation

Conditions of local, State and Commonwealth legislation that impose specific requirements relating to the use of energy, energy efficiency, or controls on GHG emissions on the project include:

Table 56: Legislation

Document Reference	Relevant Condition	Limit/Requirement
National Greenhouse and Energy Reporting Act 2007	19	Specifies the Report to be given to Greenhouse and Energy Data Officer
National Greenhouse and Energy Reporting Act 2007	22	Specifies the details of what records to be kept

8.3. Project Objectives

Based on the requirements defined at Section 15.2 (above) and CPB Contractors requirements, the following targets have been set for managing energy use and GHG emissions on the project. Any deviance from the targets will result in Project Management immediately implementing corrective actions:

Table 57: Objectives

Metric/Measure	Objective	Timeframe	Accountability
Project to identify, assess and implement energy efficiency initiative(s) every year to minimise energy use and reduce greenhouse gas emissions	Minimum of 1 initiative per year	Annually	Alliance Manager
All zero/low cost opportunities will be identified and implemented following the first assessment	No opportunities with a minimal to nil payback period in 2nd assessment	Annually	Alliance Manager
The project will set an annual quantity or intensity energy savings target.	Target set at 25% saved against BAU	Annually	Alliance Manager

8.4. Processes / Controls Used to Manage Energy

Processes adequate to ensure compliance with all requirements and to ensure energy is used efficiently and GHG emissions are minimised are implemented. Processes / Controls used on this project include:

Table 58: Controls Used to Manage Energy

Control	Accountability

Energy efficiency and GHG reduction initiatives identified in the tender Sustainability Workshop will be included in the Start-up energy efficiency opportunities assessment and/or Environment in Design Workshop.	Alliance Manager
Energy use and emissions metering identified and included in the tender will be included in the start-up works and the detailed design for implementation, as appropriate. Additional metering, or energy use and emissions capturing processes, will be identified to ensure that 100% of energy use sources at 95% accuracy are captured and reported.	Environment Manager
100% of all energy (diesel, gases, electricity, etc.) use will be recorded and entered into JDE for the project (including Subcontractors use), as required by the NGERs Reporting Procedure. Energy use is tracked monthly and assessed against activities carried out.	Environment Manager
Opportunities for improving energy efficiency are identified via GEEM Plan at the commencement of the project and reviewed regularly (six monthly as a minimum). The assessment process involves the Alliance Manager, senior site managers whose responsibility includes significant energy using activities, and representative technical and supervisory staff responsible for the energy using activities.	Environment Manager
Identified energy savings opportunities will be assessed and implemented where cost effective to do so.	Environment Manager
The workforce, including subcontractors, will be trained to minimise energy use, including switching off machines and equipment when not in use and purchasing energy efficient plant and equipment. Energy efficiency principles will be communicated through tool box talks and other site communication forums and tools.	Environment Manager
Subcontractors will be required to implement practical energy efficiency initiatives. They are required if requested to provide energy use reports and will be held to account if they are not provided.	Environment Manager
Where relevant, procurement decisions will include energy efficiency and greenhouse gas considerations of the product or service.	Procurement Manager

8.5. Monitoring

Energy use and GHG monitoring is performed that complies with legal and contract requirements and which is sufficient to identify sources of use and emissions, and opportunities for improved energy efficiency.

Energy and GHG monitoring is conducted according to the requirements of CPB Contractors procedure National Greenhouse and Energy Reporting. It is the accountability of the Alliance Manager to ensure all data is captured and reported according to these requirements. Subcontractor energy data will be collected and maintained in JDE. A register of subcontractor monthly energy reporting will be maintained (LAH-EN-REG-0015).

Monitoring and analysis of data will be carried out by a competent person.

8.6. References

National Greenhouse and Energy Reporting Technical Guidelines

9. Hazardous Substances Subplan

9.1. Scope

This Plan addresses Hazardous substances management on the project and the management of impacts to the environment and/or community.

Activities conducted on the project that have the potential to create risks associated with hazardous substances are provided below. These have been extracted from project risk assessments:

Table 59: Activities, Hazards and Risks

Project Activity	Environmental Hazard	Environmental Risk
Storage and use of flammable and combustible liquids and solids	Spills	Water and Soil quality negatively impacted
Clearing and grubbing	Spills	Water and Soil quality negatively impacted
Concreting	Spills or Chemical Run-off	Water and Soil quality negatively impacted
Asphalting	Spills or Chemical Run-off	Water and Soil quality negatively impacted

9.2. Project Compliance Requirements

9.2.1. Contract Clauses

Specific contract clauses and references which set limits and/or govern hazardous substances on the project include:

Table 60: Contract clauses

Contract Document Reference	Contract Clause/Reference	Limit/Requirement
Project Alliance Agreement	19.17 (a)	The Participants are committed to achieving the highest standard of environmental practices in preforming the Works.
Project Alliance Agreement	19.17 (b)	The Participants will proactively work to minimise the impact of the performance of the Works on the environment including by; ▪ Providing appropriate work methods and equipment ▪ Providing and maintain systems, methods and techniques of work, and Construction Plant, that have minimal impact on the environment and do not expose the environment to any hazard that is with the Participants' control ▪ Developing and complying with procedures for dealing with environmental hazards or emergencies (or potential environmental hazards or emergencies) including procedures for interacting with the EPA and other relevant Government Agencies; ▪ Complying with the Construction and Environmental Management Plan included in the Project Management System.

9.2.2. Conditions of Project Environmental Approvals

Conditions of local, State and Commonwealth legislation that apply specific criteria to the management hazardous substances on the project include:

Table 61: Approvals

Environmental Approval Document Reference	Relevant Condition	Limit/Requirement
Incorporated Document	Condition 5.6	Prior to main construction works being undertaken, a Construction Management Plan (CMP) must be prepared in Consultation with Public Transport Vitoria and to the satisfaction of the responsible authority detailing how the development proponent will manage the environmental and construction issues associated with the Project. If the development is staged, development of each stage of the project mist not commence until a CMP has been prepared for that stage.
Incorporated Document	Condition 5.7	Prior to the commencement of works, an Environmental Management Plan (EMP) must be prepared to the satisfaction of the Department of Environment and Primary Industries. The EMP must have regard to the recommendations of the site contamination assessment.

9.2.3. Specific Conditions of Local, State and Commonwealth Legislation

Conditions of local, State and Commonwealth legislation that apply specific criteria to the management of vibration on the project include:

Table 62: Legislation

Document Reference	Relevant Condition	Limit/Requirement
Environment Protection Act 1970	SECTION 39	Outlines offences regarding pollution of water and waterways
Environment Protection Act 1970	SECTION 41	Outlines offences regarding pollution of atmosphere
Environment Protection Act 1970	SECTION 45	Outlines offences regarding pollution of land
Dangerous Goods Act 1985	SECTION 45 (1)	DG Act provides that failure to comply with regulations made under the DG Act is an offence.
Dangerous Goods (Storage and Handling) Regulations 2012	Division 2	The DG (S&H) Regulations set out specific duties for the storage and handling of dangerous goods
Occupational Health and Safety (Hazardous Substances) Regulations 1999	Part 3	Provides regulations and set specifics duties which apply to employers

9.3. Project Objectives

Based on the requirements defined at Section 16.2 (above), the findings of project risk management processes and the potential impacts to the community, the following targets have been set. Any deviance from the targets will result in Project Management immediately implementing corrective actions:

Table 63: Objectives

Metric/Measure	Objective	Timeframe	Accountability
Environmental Spills reported	All	Project duration	Construction Manager
No Class 1 or 2 Incidents in relation to Hazardous Materials or Chemicals	Zero	Project duration	Alliance Manager
No noticeable impact in water quality as identified through water quality monitoring	Zero impact to water quality	Project duration	Alliance Manager
All spills are reported to the HSE Database within 3 days of occurring, and all actions closed out in a timely manner	All spills reported on HSE Database	Project duration	Construction Manager

9.4. Controls Used to Manage Hazardous Substances

Controls that are adequate to manage Hazardous substances and to reduce risk to the lowest acceptable rating achievable are implemented before any relevant works commence. Elimination of the hazard is the first preference of control, followed by engineering, then administrative controls. Controls used on this project include:

Table 64: Controls Used to Manage Hazardous Substances

Control	Accountability
Prior to bringing new chemicals to Site, the Project must be provided with the current (Safety Data Sheet) (SDS).	All
Storage and handling of hazardous substances must be in strict accordance with the applicable Standards and SDS.	Supervisor
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 greatest and comply with Dangerous Goods (Storage and Handling) Regulations 2012 and EPA Bunding Guidelines (EPA Publication 347) including the placarding of compounds and bulk storage containers	Supervisor
Spill kits must be located adjacent to all hazardous substance storage units, in refuelling and maintenance areas and at designated locations as per the Site Environment Plan (SEP).	Supervisor
Type and size of spill kits must be selected based on the type and volume of materials stored. Aquatic spill kits shall be available at worksites in close proximity to waterways.	Environment Manager
Training in the use of spill kits must be provided.	Environment Manager
Refuelling must not occur within 30m of a waterway (without appropriate controls in place) refer to Refuelling procedure (LAH-EN-PRO-0004).	Supervisor
Management of hazardous materials will be covered in the site induction. Relevant workers will undergo spill response training, as well as safe handling and storage training.	Environment Manager
Containment devices, including bunds, separators and catch trays, will be used where ever there is a risk of spillage.	Supervisor
Inspections will be carried out weekly to assess the storage and handling of hazardous materials as a part of the HSE inspection program.	Environment Manager
Undertake routine maintenance of plant and equipment for prevention of fuel leaks, visible exhaust emissions or other maintenance issues.	Supervisor
An Emergency Response Plan which incorporates a spill response procedure shall be maintained for the project	Environment Manager
All spills of fuel, oils and hazardous substances to be reported to the Environment Manager for follow up and reporting	Supervisor

9.5. Monitoring

Hazardous substances monitoring is performed that complies with legal and contract requirements and which is sufficient to identify potential non-compliances before they occur.

Where monitoring determines non-compliance to be a risk or to have occurred, an incident report and corrective actions are raised in the Synergy.

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

It is the accountability of the Environmental Manager to ensure all monitoring is performed according to these requirements.

9.6. References

EPA (1996) Publication 480 – Environmental Guidelines for Major Construction Sites

EPA (1992) Publication 347 – Bunding Guidelines

WorkSafe (2013) – Code of Practice for the Storage and Handling of Dangerous Goods

10. Waste Management Plan

10.1. Scope

This Plan addresses the management and reporting of waste streams generated on the project.

Activities conducted on the project that have the potential to generate waste are provided below. These have been extracted from the project work flow, including activities and materials used.

Table 65: Activities, Hazards and Risks

Project Activity	Environmental Hazard	Environmental Risk
Construction and operational processes	Generation of waste product	Soil and water contamination
Plant maintenance	Generation of waste oil	Soil and water contamination
Operation and maintenance of offices, crib huts and camp facilities	Generation of general wastes	Unnecessary load on landfill availability
Construction and operational processes	Generation of waste product	Unnecessary load on landfill availability

10.2. Project Compliance Requirements

10.2.1. Contract Clauses

Specific contract clauses and references which set limits and/or govern the management of waste on the project include:

Table 66: Contract Clauses

Contract Document Reference	Contract Clause/Reference	Limit/Requirement
Project Alliance Agreement	19.17 (a)	The Participants are committed to achieving the highest standard of environmental practices in preforming the Works.
Project Alliance Agreement	19.17 (b)	The Participants will proactively work to minimise the impact of the performance of the Works on the environment including by; ▪ Providing appropriate work methods and equipment ▪ Providing and maintain systems, methods and techniques of work, and Construction Plant, that have minimal impact on the environment and do not expose the environment to any hazard that is with the Participants' control ▪ Developing and complying with procedures for dealing with environmental hazards or emergencies (or potential environmental hazards or emergencies) including procedures for interacting with the EPA and other relevant Government Agencies; ▪ Complying with the Construction and Environmental Management Plan included in the Project Management System.

10.2.2. Specific Conditions of Local, State and Commonwealth Legislation

Conditions of local, State and Commonwealth legislation that apply specific criteria to the management of waste on the project include:

Table 67: Legislation

Document Reference	Relevant Condition	Limit/Requirement
Environment Protection Act 1970	SECTION 39	Outlines offences regarding pollution of water and waterways
Environment Protection Act 1970	SECTION 41	Outlines offences regarding pollution of atmosphere
Environment Protection Act 1970	SECTION 45	Outlines offences regarding pollution of land
Environment Protection (Industrial Waste Resource) Regulations 2009	Part 1 (1)	Prescribes requirements for assessing, categorizing and classifying industrial waste and prescribed industrial waste for the purposes of the Environment Protection Act 1970;
EPA (2010) Industrial Waste Resource Guidelines Publication 600.2 – Waste Categorisation		The guidelines are referred to in the Environment Protection (Industrial Waste Resource) Regulations 2009 and contain requirements that apply to the transport and disposal of waste, asbestos and the threshold values for hazard categorization and management of soil and solid industrial waste.

10.2.3. Conditions of Project Environmental Approvals

Conditions of project environmental approvals that specifically address the management of waste include:

Table 68: Approvals

Environmental Approval Document Reference	Relevant Condition	Limit/Requirement
Incorporated Document	Condition 5.6	Prior to main construction works being undertaken, a Construction Management Plan (CMP) must be prepared in Consultation with Public Transport Vitoria and to the satisfaction of the responsible authority detailing how the development proponent will manage the environmental and construction issues associated with the Project. If the development is staged, development of each stage of the project mist not commence until a CMP has been prepared for that stage.
Incorporated Document	Condition 5.7	Prior to the commencement of works, an Environmental Management Plan (EMP) must be prepared to the satisfaction of the Department of Environment and Primary Industries. The EMP must have regard to the recommendations of the site contamination assessment.

10.3. Waste Streams

The following waste streams and waste classifications have been identified on **Error! No text of specified style in document.**.

Table 69: Waste Streams

Waste Stream	Waste Classification	Management options
Asbestos	Prescribed Industrial Waste	Transported by an EPA licensed contractor and disposed in accordance with EPA regulations
Asphalt	Solid inert Waste	Recycle or reuse - not to landfill
Concrete and concrete washings	Solid inert Waste	Recycle or reuse - not to landfill
Contaminated soil	Prescribed Industrial Waste	Recycle or reuse on site if opportunity exists 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)	Inert Waste	Mulched for reuse, or used for habitat logs

Woody weed fragments capable of regeneration	Inert Waste	Burial on site (deeper than 500 mm and not in fill, pavement or other critical areas), composting, or disposal to landfill
Formwork	Inert Waste	Reuse or dispose to landfill
Plastics (Recycle Nos. 1, 2, 3, 4, 5, 6, 7)	Inert Waste	Recycling facility - not to landfill
Metal	Inert Waste	Recycle or reuse - not to landfill
Oil containers and lead acid batteries	Prescribed industrial waste where chemical residue is present.	Recycling facility - not to landfill
Packaging materials	Inert Waste	Recycle where possible or dispose to landfill
Paint tins (Empty) / used spray cans, empty chemical drums	Prescribed industrial waste where chemical residue is present	Recycling facility - not to landfill
Petroleum products from spills (absorbed in spill kit material or contaminated soil)	Prescribed industrial Waste	Transported by an EPA licensed contractor and disposed in accordance with EPA regulations
Timber (untreated)	Inert Waste	Recycle - not to landfill
Litter	Inert waste	Recycle or dispose to landfill
Office waste	Inert waste	Recycle where possible or dispose to landfill
Rock	Inert Waste	Recycle
Other waste excluding the above wastes		Recycle or reuse if opportunity exists

10.4. Project Objectives

Based on the requirements defined at 10.2 Project Compliance Requirements, the findings of project risk management processes and the potential impacts to the community, the following targets have been set for managing waste on the project. Any deviance from the targets will result in Project Management immediately implementing corrective actions:

Table 70: Objectives

Metric/Measure	Objective	Timeframe	Accountability
% of waste quantified in waste management reports	100%	At all times	Environmental Manager
% of regulated/hazardous wastes for which transfer certificates are retained	100%	At all times	Environmental Manager
Number of enforcement notices and penalties received from regulators and/or client	Zero	At all times	Environmental Manager

10.5. Controls Used to Manage Waste

Controls that are adequate to ensure compliance and to reduce risk to the lowest acceptable rating achievable are planned before any relevant works commence. Elimination of the waste is the first preference of control, followed by reuse and recycling. Controls used on this project include:

Table 71: Controls Used to Manage Waste

Control	Accountability
All wastes need to be classified, stored, tracked, transported and treated in accordance with contractual and regulatory requirements, including the use of licensed transporters and treatment facilities	Construction Manager
The relevant licences of waste facilities utilised for the disposal or handling of waste will be obtained to ensure they are legally compliant.	Environmental Manager

Storage containers (bins, skips, tanks, etc) are provided at each work area in sufficient numbers to facilitate segregation of waste at the source of generation, where ever possible. The correct bin type must be used to avoid contamination.	Construction Manager
Containers are clearly sign posted to inform all project personnel of the correct material to be placed within each bin type. Containers are emptied at a frequency that is sufficient to ensure their correct use.	Construction Manager
Burial or burning of waste is not permitted.	Supervisor
Excess concrete and concrete washout is not to be discharged to land or stormwater; a concrete washout facility must always be used.	Supervisor
Vehicles transporting waste shall be covered and appropriately licensed.	Supervisor
All waste data must be collated and tracked using Material Tracking Forms (LAH-EN-FO-0003).	Supervisor
An adequate number of fully maintained concrete washouts will be maintained on the site at all times to ensure concrete washout is not to be discharged to land or storm water and so concrete wastes can be recycled.	Supervisor
The Environmental representative will conduct a weekly inspection of site including inspection of waste facilities and instances of inappropriate waste management	Environment Manager

10.6. Monitoring

Waste data is collected on the project to allow monthly reporting of the following:

- The quantity of each type of waste sent to landfill
- The quantity of each type of waste recycled
- The quantity of each type of waste reused
- The quantity of each type of hazardous/regulated waste generated on the project and:
  - Its method of treatment and disposal
  - The location of treatment and disposal
  - Copies of records confirming the legal transport, treatment and disposal
- Measurement of any reduction in waste generation that has been achieved

The quantity of waste in each solid waste stream is measured by weight and liquid waste stream by volume, with records provided by the waste transport contractor. Alternative measures may only be used when an economical alternative is not available. Waste management records will be managed in the project waste management register (LAH-EN-REG-0014).

All relevant information is included in the project environmental monthly report. Reporting will be 1 month in arrears to allow for waste data collection, submission and collation.

10.7. References

- Environment Protection Act 1970
- EPA (1996) Publication 480 – Environmental Guidelines for Major Construction Sites
- Environment Protection (Industrial Waste Resource) Regulations 2009
- EPA (2010) Industrial Waste Resource Guidelines Publication 600.2 – Waste Categorisation
- EPA Industrial Waste Fact Sheets

11. Air Subplan

11.1. Scope

This Plan addresses air quality management on the project and the management of impacts to the environment and/or community.

Activities conducted on the project that have the potential to impact air quality are provided below. These have been extracted from the project work flow, including activities and materials used.

Table 72: Activities, Hazards and Risks

Project Activity	Environmental Hazard	Environmental Risk
General Construction/ earthworks	Dust	Production of dust
Transport of material's	Dust	Production of dust
Demolition	Dust	Production of dust
Demolition	Asbestos	Health exposure/ dust
Operation of Plant and Vehicles	Excess exhaust pollution	Air pollution

11.2. Project Compliance Requirements

11.2.1. Contract Clauses

Specific contract clauses and references which set limits and/or govern impacts to air quality on the project include:

Table 73: Contract Clauses

Contract Document Reference	Contract Clause/Reference	Limit/Requirement
Project Alliance Agreement	19.17 (a)	The Participants are committed to achieving the highest standard of environmental practices in preforming the Works.
Project Alliance Agreement	19.17 (b)	The Participants will proactively work to minimise the impact of the performance of the Works on the environment including by; ▪ Providing appropriate work methods and equipment ▪ Providing and maintain systems, methods and techniques of work, and Construction Plant, that have minimal impact on the environment and do not expose the environment to any hazard that is with the Participants' control ▪ Developing and complying with procedures for dealing with environmental hazards or emergencies (or potential environmental hazards or emergencies) including procedures for interacting with the EPA and other relevant Government Agencies; ▪ Complying with the Construction and Environmental Management Plan included in the Project Management System.

11.2.2. Conditions of Project Environmental Approvals

Conditions of project environmental approvals that specifically address the management of air quality include:

Table 74: Approvals

Environmental Approval Document Reference	Relevant Condition	Limit/Requirement
Incorporated Document	Condition 5.6	Prior to main construction works being undertaken, a Construction Management Plan (CMP) must be prepared in Consultation with Public Transport Vitoria and to the satisfaction of the responsible authority detailing how the development proponent will manage the environmental and construction issues associated with the Project. If the development is staged, development of each stage of the project mist not commence until a CMP has been prepared for that stage.
Incorporated Document	Condition 5.7	Prior to the commencement of works, an Environmental Management Plan (EMP) must be prepared to the satisfaction of the Department of Environment and Primary Industries. The EMP must have regard to the recommendations of the site contamination assessment.

11.2.3. Specific Conditions of Local, State and Commonwealth Legislation

Conditions of local, State and Commonwealth legislation that apply specific criteria to the management of air quality on the project include:

Table 75: Legislation

Document Reference	Relevant Condition	Limit/Requirement
Environment Protection Act 1970	SECTION 41	(1) A person shall not pollute the atmosphere so that the condition of the atmosphere is so changed as to make or be reasonably expected to make the atmosphere — (a) noxious or poisonous or offensive to the senses of human beings; (b) harmful or potentially harmful to the health, welfare, safety or property of human beings; (c) poisonous, harmful or potentially harmful to animals, birds or wildlife; (d) poisonous, harmful or potentially harmful to plants or other vegetation; or (e) detrimental to any beneficial use made of the atmosphere.
EPA (2001) State Environment Protection Policy (Air Quality Management)	All	SEPP (Air Quality Management) establishes the framework for managing emissions into the air environment in Victoria from all sources of air pollutants, so that the air quality objectives outlined in SEPP (Ambient Air Quality) are met and we achieve the cleanest air possible, having regard to the economic and social development of Victoria.
EPA (2001) State Environment Protection Policy (Air Quality Management)	Schedule B	Provides intervention levels for Class1, 2, 3 indicators (including PM_{10}).

11.3. Project Objectives

Based on the requirements defined at Section 18.2 (above), the findings of project risk management processes and the potential impacts to the community, the following targets have been set. Any deviance from the targets will result in Project Management immediately implementing corrective actions:

Table 76: Objectives

Metric/Measure	Objective	Timeframe	Accountability

Number of non-compliant monitoring results	Zero	At all times	Alliance Manager
Number of Actions taken by regulators	Zero	At all times	Alliance Manager

11.4. Controls Used to Manage Air Quality

Controls that are adequate to minimise air quality issues and to reduce risk to the lowest acceptable rating achievable are implemented before any relevant works commence. Elimination of the hazard is the first preference of control, followed by engineering, then administrative controls. Controls used on this project include:

Table 77: Controls Used to Manage Air Quality

Control	Accountability
Areas in which vegetation will be removed or disturbed need to will be minimised. Rehabilitation, seeding or grassing should occur as soon as they become available.	Supervisor
Disturbed areas and haul roads must be treated with dust suppressants (e.g. water trucks or chemical suppressants) especially in high risk areas and/or on during high risk days.	Supervisor
Stabilised access, rumble grids, wash bays or similar must be established for the entries site and exits to site to minimise mud on public roads. Sweepers shall be used periodically to clean public roads where mud has been deposited.	Construction Manager
Traffic speed limit(s) are determined to minimise dust generation and must be adhered to at all times.	Construction Manager
All construction plant and equipment must be maintained so they do not emit visible smoke for any period greater than: ▪ 15 consecutive seconds for plant not being registered for use on public roads; and ▪ 10 consecutive seconds for plant registered for use on public roads.	Supervisor
Burning of any materials is prohibited onsite.	Supervisor
Competently designed and constructed rumble pads shall be established for the ingress and egress of all vehicles.	Supervisor
Air quality monitoring conducted in accordance with Australian Standard and at a frequency and at locations to confirm compliance with the regulatory limits will be conducted.	Environment Manager
Emissions of odorous substances, particulates, or dust generated from construction activities shall not create a hazard or nuisance to the public, shall not disperse from the site or across roadways, nor interfere with dust-sensitive receptors. Asbestos containing materials to be assessed and removed	Construction Manager
Material that may create a hazard or nuisance dust shall be covered during transport	Supervisor

11.5. Monitoring

Air quality monitoring is performed that complies with legal and contract requirements and which is sufficient to identify potential non-compliances before they occur.

Where monitoring determines non-compliance to be a risk or to have occurred, an incident report and corrective actions are raised in Synergy.

Monitoring and analysis of data will be carried out by a competent person. Evidence of competence must be retained. Monitoring will be conducted in accordance with the project Air Quality Monitoring Procedure (LAH-EN-PRO-0002).

It is the accountability of the Environmental Manager to ensure all monitoring is performed according to these requirements.

11.5.1. Air Quality Monitoring

The following air quality monitoring will be undertaken on the project:

Table 78: Air quality monitoring

Location	Parameter	Methodology	Frequency

Site wide	Visual inspection	Observations to determine if visible dust is leaving site boundary	Daily
Refer to current Site Environmental Plan (Location not fixed)	g/m2/month % mass insoluble solid	Dust directional and deposition gauge	November – March; 14 day consecutive period April – October; 30 day consecutive period
Refer to current Site Environmental Plan (Location not fixed)	µg/m3 PM10 1 hour average	Portable DustTrak	Continuous Monitoring

11.5.2. Continuous air monitoring (DustTrak)

DustTrak II monitors will be used to monitor dust (PM10) and weather conditions at sensitive receptor locations downwind of construction activities, as detailed in the LAH-EN-PRO-0002 Air Quality Monitoring procedure and SEPs. All monitoring stations are to be located such that they are secure from vandalism and tampering at all times. Project dust limits are detailed below:

Table 79: DustTrak limits

Dust Limit	SMS Alarm	Averaging Time	Reference
PM10 dust limit of 120 ug/m^3	PM10 dust limit of 100 ug/m^3	(1 hour average time)	Vic Roads – Section 177 C (c)
PM10 dust limit of 60 ug/m^3	Not Available	(24-hour)	SEPP (AQM) Schedule 2 – Intervention levels

In the event that 100 ug/m3 (12 min average real time) alarm level is triggered, the DustTrak II air monitor will send an SMS alarm to an Environment Team member and an investigation to determine the cause and any mitigation measures (if applicable) will occur. Where an investigation determines non-compliance to be a risk or to have occurred, an incident report and corrective actions are raised, tracked and closed out in Synergy.

The DustTrak II instrument will be calibrated and maintained in accordance with manufacturer's instructions with calibration and maintenance records retained for audit and inspection purposes

11.5.3. Dust depositional and directional monitoring

Dust deposition monitoring will comply with the following

- The dust deposit gauges and directional dust gauges are to be established in accordance with the requirements of AS 3580.1.1.
- insoluble solids from any air quality monitoring station, as measured by a dust deposit gauge in accordance with the requirements of AS 3580.10.1,
- directional dust gauges that comply with the equipment requirements of AS 2724.5 will be installed alongside each dust deposition station. Directional dust gauges will be orientated so that one of the collecting cylinders is directed towards the construction activities;
- directional dust will be measured as insoluble solids in accordance with AS 3580.10.1 for each of the four collecting cylinders. Directional dust gravimetric results shall be expressed as the percentage of the total directional dust gauge catch for each cylinder;

Depositional dust limits are outlined in VicRoads Section 177 Part C (c) i.;

> *"insoluble solids from any air quality monitoring station, as measured by a dust deposit gauge in accordance with the requirements of AS 3580.10.1, shall not exceed 4 g/m²/month or 2 g/m²/month above the background measurement, whichever is the lesser;"*

Where monitoring results determine a non-compliance to have occurred, an incident report and corrective actions are raised, tracked and closed out in Synergy.

Further details of the dust investigation procedures are detailed in the LAH-EN-PRO-0002 Air Quality Monitoring procedure.

11.5.4. Monitoring Results

Dust deposition results and continuous monitoring data will be maintained and made available for audit and inspections purposes.

11.5.5. Meteorological Monitoring

Meteorological data adequate to allow the interpretation of monitoring data to assess compliance and identify potential non-compliances is collected. The sources of this data are:

Table 80: Meteorological Monitoring

Location	Parameter	Equipment Type	Frequency
Refer to Site Environmental Plan	Wind speed, wind direction, Rainfall	Vasilla WXT520 Weather Station associated with the DusttrakII	Continuous, recorded every 10 minutes

11.5.6. Plan of Monitoring Locations

Refer to current Site Environmental Plan

11.6. References

Environment Protection Act 1970

EPA (2001) State Environment Protection Policy (Air Quality Management)

EPA (1996) Publication 480 – Environmental Guidelines for Major Construction Sites

VicRoads SECTION 177 – Environmental Management (Major)

Part D: Appendices

12. Appendix A: CPB Contractors Environmental Policy

Environment Policy

Purpose

This Policy sets out the minimum mandatory requirements for the management of environmental risks and impacts from our construction activities.

Application

This Policy applies to all business entities controlled by the business, including alliances, joint ventures and consortia where the business exerts management control. It applies at all levels of the organisation including Corporate, Business Unit and Project.

Minimum Requirements

- Senior leaders must demonstrate a personal visible commitment to our SH&E Cultural Framework and ensure all workers understand the requirements of the Management System as it applies to the work they are undertaking, so that work is undertaken to minimise our environmental impact.
- Environment Management Plans (EMP) must be developed and implemented for each Project to outline how the project environmental risk will be managed and controlled.
- Environmental objectives, targets and key performance indicators must be established at all levels of the organisation, with performance against these monitored and analysed to provide a baseline for continual improvement.
- The Environment Procedures must be used to eliminate or minimise environmental risk from construction activities.
- Construction Area Plans and Work Packs must be developed and include an assessment of environmental risk and associated controls.
- Site Environment Plans must be developed for Work Packs where environmental risk dictates; these must be used to inform as content of Daily Pre Starts.
- As part of the risk management process, personnel and teams at the Project, Business Unit and Corporate level should seek to identify opportunities for improving efficiency in the use of natural resources, enhancing positive environmental impacts and driving innovation.
- All environmental incidents must be reported in accordance with the incident notification requirements. They must be thoroughly investigated and appropriate corrective action undertaken with the aim of preventing recurrence of the incident.

- Reporting of energy consumption, water use and waste generation, as well as reporting on initiatives and environmental achievements must be completed by projects and business units as requested.
- All levels of the organisation must be prepared to respond to an emergency and in the event of an emergency, plans and capabilities are in place to eliminate or minimise damage to the environment, preserve ongoing operations and our reputation.
- Effective communication, cooperation and consultation channels must be in place to consult with workers who may impact upon the environment.
- All project personnel responsible for environmental risk shall be appropriately trained and competent and understand their legal obligations with regard to environment management.

13. Appendix B: Environmental Roles and Responsibilities

Listed project-specific roles, after responsibilities in Part B have been assigned

	Alliance Manager	Project Environmental Rep.	Engineering Manager	Engineers	Construction Manager	Supervisors	Line Manager	P&C Manager	Commercial Manager	Comm & S'hold Manager	H&S Manager	Other positions
Element 1: Leadership, Accountability and Culture												
1.1. Environmental accountabilities, roles and responsibilities for managers, staff, employees and subcontractors are clearly defined, documented and communicated		C					C	R				
1.2. Environmental leadership and commitment is demonstrated through measurable participation in environmental management	R	C				C	C					
1.3. Environmental expectations are clearly defined with appropriate reward and disciplinary processes in place.	R	C					C					
Element 2: Planning												
2.1. Adequate resources are provided to effectively implement the EMP	R	C						C	C			
2.2. Business systems are defined and established		R										
2.3. Environmental Sub-Plans are prepared and maintained for Significant Environmental Hazards		R										
Element 3: Legal and Other Requirements												
3.1. Relevant legal, contractual and other requirements are identified and maintained in a legal and other obligations register	C	R										
3.2. All necessary environmental approvals are obtained prior to commencing relevant works and surrendered on completion	C	R		C								
3.3. Work is planned and executed to ensure compliance		C	C	C	R	C						
3.4. Inspections, observations and monitoring are performed to ensure compliance is maintained		C		C		R						
3.5. All non-compliances are reported as incidents		R										
3.6. All energy and greenhouse data are collected and entered into JDE	C	R							C			
3.7. Personnel on the site have access to current versions of relevant legislation, standards and codes of practice		C										R
Element 4: Risk and Opportunity Management												
4.1. Systematic processes are defined and implemented for identifying environmental risks and opportunities at all stages of the Project	R	C	C	C		C						
4.2. Identified risks and opportunities are analysed and evaluated according to agreed criteria and recorded in a risk register	R	C		C								C
4.3. Environmental controls appropriate to the level of risk are identified, documented and implemented	C	C		C								R
4.4. Feasible opportunities are implemented	R											C

4.5.	Identified environmental risks and controls are communicated to all relevant personnel	R	C		C		C		C			C		
4.6.	Regular inspections and monitoring are conducted to check effectiveness of controls	C	R		C		C							
4.7.	Environmental risks and controls are regularly reviewed.	R	C		C									
Element 5:	**Change Management**													
5.1.	Changes to planned operations that have potential environmental consequences are identified	R	C	C	C		C							
5.2.	Risks associated with identified changes are assessed and controlled before changes are implemented	R	C				C							C
5.3.	All changes with environmental consequences are authorised before they are implemented	R		C		C	C							
5.4.	Controls associated with change are communicated to all affected personnel						C							R
Element 6:	**Communication and Consultation**													
6.1.	External environmental stakeholders are identified		C								R			
6.2.	Relationships with external stakeholders are effectively managed		R								C			
6.3.	Internal consultative forums are established with regular meetings scheduled, conducted, documented and communicated	R	C								C	C		
6.4.	Environmental complaints and enquiries are recorded and responded to appropriately	C	C								R			
6.5.	The effectiveness of internal and external stakeholder engagement is evaluated and improved.	R	C								C	C		
Element 7:	**Training and Competency**													
7.1.	All personnel have completed an induction containing relevant environmental information before they are authorised to work on the Project		R						C			C		
7.2.	A training plan is developed and documented		R						C					
7.3.	Personnel are trained and assessed according to the training plan	R	C						C					
7.4.	Training records are maintained and accessible to relevant personnel.		C						R					
Element 8:	**Subcontractor Relationships**													
8.1.	Selection processes ensure that subcontractors meet CPB Contractors' minimum environmental requirements		C		C					R				
8.2.	Planning requirements of all subcontractor work scopes are completed and communicated prior to commencing work		C		R					C				
8.3.	Compliance requirements for high risk environmental activities are identified and enforced		C		R					C				
8.4.	Subcontractor documentation is submitted and reviewed to meet Project requirements		R		C					C				
8.5.	Changes to the scope of work are managed as a Project change				C					R				
8.6.	Subcontractors actively participate in environmental management and training on the Project		C		C					R				C
8.7.	Subcontractors are reviewed to assess their performance and compliance with our minimum environmental requirements.		R		C		C							
Element 9:	**Incident Management**													
9.1.	All incidents are followed by appropriate response and notification	R	C		C		C				C			
9.2.	All incidents are entered and managed in Synergy	C	R											
9.3.	Incident investigations are conducted appropriate to the type of incident	R	C		C		C							

9.4.	All personnel conducting incident investigations are trained to competently perform the task	R				
9.5.	Corrective and preventive actions are taken after incidents and lessons are shared with other projects	R	C			
9.6.	High potential and repeat incidents are regularly reviewed by the project management team	C	R			
Element 10:	**Emergency Planning and Response**					
10.1.	Potential emergencies are identified using a formal risk assessment process	R	C			
10.2.	Emergency response plans and procedures are developed and regularly reviewed	R	C		C	
10.3.	Adequate resources are provided to effectively implement emergency response plans and procedures	R	C		C	
10.4.	Environmental emergency response drills are conducted	R	C		C	
10.5.	Employees, contractors and visitors are given appropriate emergency response training.		C	R	C	
Element 11:	**Document and Record Management**					
11.1.	Current versions of all relevant documents and records are available and controlled.	C	R			
11.2.	Relevant documents and records will be maintained using corporate business applications and systems	R				
Element 12:	**Auditing, Review and Improvement**					
12.1.	Environmental performance trends are identified and corrective actions are implemented as required	R	C			
12.2.	A monthly environmental report is produced and distributed	C	R			
12.3.	Regular management reviews are conducted to determine the continuing suitability, adequacy and effectiveness of the Environmental Management System	R	C			C
12.4.	Audits are undertaken to ensure compliance with the requirements of the EMP	R	C			C
12.5.	All audits are undertaken by suitably qualified and experienced personnel					R

R = Responsible, **C** = Key Contributor

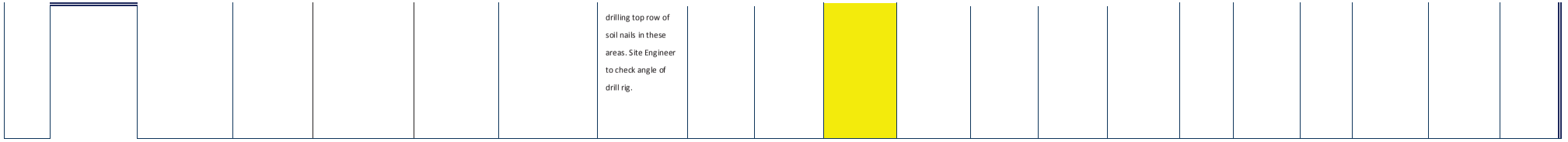
14. Appendix C: Environmental Risk Register

	Construction Area	Category	Activity	Hazard/Aspect	Cause	Consequence / Impact	Current Controls (That will be used to eliminate or manage likelihood of the hazard/aspect occuring or the severity of the consequence)	Current Assessment Risk			Additional Assessment for Safety & Health (SFAIRP) / Significant Environmental Hazards Note 1. Safety & Health risk scores of HIGH or above must complete this additional SFAIRP assessment; Note 2: Significant Environmental Hazards scored HIGH or above, must complete this additional assessment; Note 3: No activity can be undertaken where a SFAIRP risk score of: • EXTREME (23 - 25) is recorded, a safer way must be found; • VERY HIGH (17 - 22) is recorded until approval has been given by the BU General Manager; • HIGH (13 - 16) is recorded until approval has been given by the Alliance Manager; Note 4: The consequence in this assessment cannot change from the Current Assessment.				Risk Owner	Action Required	By Whom	Monitoring of Control Measures	Reference	ARM Number
36	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Clearing excess flora without required Planning Permit	Failure to follow site clearance process	Removal of excess flora	CEMP Sub plan 2 - Flora & Fauna Site Environment Plans Permit to Clear Procedure	Minor	Possible	8 (Moderate)		Minor	Possible	8 (Moderate)						
37	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Harm / death to fauna onsite	Failure to follow site clearance process	Impact to Fauna	CEMP Sub plan 2 - Flora & Fauna Site Environment Plans Permit to Clear Procedure	Minor	Possible	8 (Moderate)		Minor	Possible	8 (Moderate)						
38	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Stockpiling material resulting in sediment laden runoff	Failure to manage stockpile surface runoff	Impact to surface water	CEMP Sub plan 1 - Water, Sediment & Erosion Management Site Environment Plans	Moderate	Possible	13 (High)		Moderate	Possible	13 (High)						
39	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Stockpiling of contaminated material resulting in contaminated runoff and/or contamination of soil	Failure to manage contaminated soil	Impact to soil and/or water resources	CEMP Sub plan 6 - Contamination Site Environment Plans Contaminated soil assessments	Moderate	Possible	13 (High)		Moderate	Possible	13 (High)						
40	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Emissions generated by plant (fixed and mobile)	Failure to control plant emissions	Impact to air quality	CEMP Sub plan 7 - Energy Site Environment Plans Prestart inspections	Minor	Likely	9 (Moderate)		Minor	Likely	9 (Moderate)						

41	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Noise generation from plant (fixed and mobile)	Failure to control plant noise	Impact/nuisance to local residents	CEMP Sub plans 3 & 4- Noise & Vibration Site Environment Plans Prestart inspections	Minor	Almost Certain	10 (Moderate)		Minor	Almost Certain	10 (Moderate)					
42	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Movement of vehicles and plant on site roads resulting in dust	Failure to control dust emissions	Impact/nuisance to local residents	CEMP Sub plan 10 - Air Quality Site Environment Plans	Minor	Likely	9 (Moderate)		Minor	Likely	9 (Moderate)					
43	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Vehicles contaminated with noxious weeds resulting in spread.	Failure to control spread of noxious weeds	Impact to flora and fauna	CEMP Sub plan 2- flora & fauna Site Environment Plans	Moderate	Possible	13 (High)		Moderate	Possible	13 (High)					
44	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Plant (fixed and mobile) resulting in energy consumption and greenhouse gases	Failure to control plant energy use	Impact to greenhouse gas production	CEMP Sub plan 7- Energyite Environment Plans	Negligible	Almost Certain	5 (Low)		Negligible	Almost Certain	5 (Low)					
45	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Use of water for dust suppression, construction activities etc.	Failure to control site water use	Impact to water resources	CEMP Sub plan 1 - Water, Sediment & Erosion Site Environment Plans Dewatering Procedure Permit to discharge	Minor	Almost Certain	10 (Moderate)		Minor	Almost Certain	10 (Moderate)					
46	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Generation of wastes e.g. paper, food scraps etc.	Failure to manage office waste generation	Impact to natural resources, landfill etc.	CEMP Sub plan 9 - Waste Management Site Environment Plans	Negligible	Almost Certain	5 (Low)		Negligible	Almost Certain	5 (Low)					
47	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Site clearance resulting in exposed areas and silt laden runoff	Failure to install correct sed and erosion controls during site preparation	Impact to surface water	CEMP Sub plan 1 - Water, Sediment & Erosion Site Environment Plans	Moderate	Possible	13 (High)		Moderate	Likely	17 (Very High)					

48	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Exposed areas and plant movement generating dust	Failure to control dust	Impact/nuisance to local residents	CEMP Sub plan 10 - Air Quality Site Environment Plans	Minor	Likely	9 (Moderate)		Minor	Likely	9 (Moderate)					
49	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Site clearance and operation of plant resulting in noise	Failure to control noise during site preparation	Impact/nuisance to local residents	CEMP Sub plans 4 & 5 - Noise & Vibration Site Environment Plans	Minor	Possible	8 (Moderate)		Minor	Possible	8 (Moderate)					
50	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Works resulting in discovery of asbestos	Failure to manage asbestos during demolition and earthworks	Impact to workforce, contamination of wastes	CEMP Sub plan 9 - Contaminated Land Site Environment Plans Asbestos Management Plan	Minor	Likely	9 (Moderate)		Minor	Likely	9 (Moderate)					
51	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Use of hazardous materials and chemicals resulting in pollution	Failure to correctly store and use hazardous materials	Impact to soil and/or water resources	CEMP Sub plan 8 - Hazardous Substances Site Environment Plans	Minor	Possible	8 (Moderate)		Minor	Possible	8 (Moderate)					
52	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Burst hydraulic lines, maintenance and refuelling of plant etc.	Failure to correctly maintain plant, refuelling and/or respond to spills	Impact to soil and/or water resources	CEMP Sub plan 8- Hazardous substances Site Environment Plans	Negligible	Almost Certain	5 (Low)		Negligible	Almost Certain	5 (Low)					
53	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Vibration from plant (rock breaking / excavation)	Failure to control vibration	Impact/nuisance to local residents	CEMP Sub plan 4- Vibration Site Environment Plans	Minor	Almost Certain	10 (Moderate)		Minor	Almost Certain	10 (Moderate)					
54	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Works resulting in discovery of Aboriginal or Cultural heritage	Failure to manage Aboriginal or Cultural heritage	Impact to Aboriginal or Cultural heritage	CHMP and studies CEMP Sub plan 5- Heritage Site Environment Plans	Minor	Possible	8 (Moderate)		Minor	Possible	8 (Moderate)					

55	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Missed opportunity to reuse Category C soil onsite	Missed opportunity	Excess disposal offsite, costs	CEMP Sub plan 6- Contamination Site Environment Plans	Minor	Possible	8 (Moderate)		Minor	Possible	8 (Moderate)					
56	Project Wide	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Mismanagement of potentially contaminated groundwater	Not following site discharge procedure, trade waste agreement	Impact to surface water	CEMP Sub plan 1 - Water Management Site Environment Plans	Moderate	Rare	11 (Moderate)		Moderate	Rare	11 (Moderate)					
57	MAI	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Harm / death of Legless Lizard	Failure to follow site clearance process	Impact to flora	* change area to Area to FURLONG CEMP Sub plan 9 - Contaminated Land Site Environment Plans Approved fence to be installed prior to works	Negligible	Rare	1 (Low)		Major	Unlikely	15 (High)					
58	MAI	Environmental	General Plant/ Equipment Operation, Construction Works, Site Occupation	Secondary Risks to EPBC and FFG listed Flora/Fauna	Failure to manage flora/fauna, unaware of secondary risks (dust, water runoff)	Harm to flora/fauna	CEMP Sub plan 6 - Flora & Fauna Site Environment Plans Permit to Clear Procedure	Major	Possible	19 (Very High)	Project Induction Site Native Grasslands Induuction No-go Zone fencing	Major	Possible	19 (Very High)					
59	~~MAI~~	~~Environmental~~	~~SW Carpark~~	~~Mismanagement of contaminated groundwater at SW car park~~	~~Failure to follow discharge procedure~~	~~Impact to surface water~~	~~CEMP Sub plan 1 - Water Management Site Environment Plans~~	~~Minor~~	~~Possible~~	~~8 (Moderate)~~	-	~~Minor~~	~~Possible~~	~~8 (Moderate)~~					
60	MAI	Environmental	Habitat Zone H	Disturbance to Cultural Heritage site near Habitat Zone H	Failure to follow No-go zone procedures	Impact to Aboriginal heritage	CEMP Sub plan 8 - Cultural Heritage Site Environment Plans	Moderate	Unlikely	12 (High)		Moderate	Unlikely	12 (High)					
70	MAI Stage NOV-DEC 2015	Environmental	Stage 2 Soil nail works	Proximity to biosites - disturbing roots	Breaching no go zone(1.5m below)	EPBC Biosite permit	Desin drawings to show where soil nails are require to be steeper than standard 10 degree angle. Identify biosite areas in Work Pack. Hold Point for	Moderate	Unlikely	12 (High)									


drilling top row of
soil nails in these
areas. Site Engineer
to check angle of
drill rig.

15. Appendix D: Environmental Obligations Register

Source Document	Obligation Extent	Authority	Impact on Project	Owner	Means of Compliance	Actions Required	Due date / Review date / Complete	Evidence Reference
Planning and Environment Act 1987	Incorporated Document	DELWP	Document required in place of planning Permit. Required to undertake project works including the removal of native vegetation.	VicRoads FMBH Alliance	**Condition 5.1**-The removal, destruction and lopping of trees and the removal of vegetation, including native vegetation, is permitted to the minimum extent necessary for the Project. Project Permit to clear process, biodiversity assessments undertaken, Arborist reports, incorporated in design.	Ongoing		Project Permit to clear register (LAH-EN-REG-005)
Planning and Environment Act 1987	Incorporated Document	DELWP	Document required in place of planning Permit. Required to undertake project works including the removal of native vegetation.	VicRoads	**Condition 5.2**- Prior to the removal, destruction or lopping of any native vegetation, an Offset Strategy must be prepared to the satisfaction of the Department of Environment and Primary Industries, have regard to the DSE-DoT (Department of Transport) Memorandum of Understanding (March 2010), and in accordance with the Permitted clearing of native vegetation – Biodiversity assessment guidelines.	Approved	4 March 2015	DELWP Native Vegetation Credit Register certificate dated 4 March 2015.
Planning and Environment Act 1987	Incorporated Document	DELWP	Document required in place of planning Permit. Required to undertake project works including the removal of native vegetation.	VicRoads	**Condition 5.3-** Prior to the commencement of main construction works, VicRoads must, in consultation with Brimbank City Council, prepare a recovery plan for the Button Wrinklewort to the satisfaction of the responsible authority.	Obtained	8 September 2015	Recovery plan as part of the conservation Management plan submitted to Brimbank City Council.

Source Document	Obligation Extent	Authority	Impact on Project	Owner	Means of Compliance	Actions Required	Due date / Review date / Complete	Evidence Reference
Planning and Environment Act 1987	Incorporated Document	DELWP	Document required in place of planning Permit. Required to undertake project works including the removal of native vegetation.	FMBH Alliance	**Condition 5.4**- All works must comply with any approved Cultural Heritage Management Plan under the Aboriginal Heritage Act 2006. CHMP 13031 dated 6 October 2014 was prepared by ecology and heritage Partners and Approved by AAV on 6 November 2014. Conditions to be complied with including salvage.	CHMP Obtained. Salvage of artefacts completed.	26 March 2015.	Ecology & Heritage Partners Report "Implementation of CHMP 13031 Archaeological Salvage Program: Level Crossing Removal, Main Road, St Albans, Victoria"
Planning and Environment Act 1987	Incorporated Document	DELWP	Document required in place of planning Permit. Required to undertake project works including the removal of native vegetation.	FMBH Alliance	**Condition 5.5-** All works must comply with the Passenger Rail Infrastructure Noise Policy dated April 2013, or any updates to this policy.	In Progress		Design documentation Post construction noise assessments.
Planning and Environment Act 1987	Incorporated Document	DELWP	Document required in place of planning Permit. Required to undertake project works including the removal of native vegetation.	FMBH Alliance	**Condition 5.6-** Prior to main construction works being undertaken, a Construction Management Plan (CMP) must be prepared in consultation with Public Transport Victoria and to the satisfaction of the responsible authority detailing how the development proponent will manage the environmental and construction issues associated with the Project. If the development is staged, development of each stage of the Project must not commence until a CMP has been prepared for that stage.	Completed	5 September 2015	Plan sent to PTV.

Source Document	Obligation Extent	Authority	Impact on Project	Owner	Means of Compliance	Actions Required	Due date / Review date / Complete	Evidence Reference
Planning and Environment Act 1987	Incorporated Document	DELWP	Document required in place of planning Permit. Required to undertake project works including the removal of native vegetation.	FMBH Alliance	**Condition 5.7-** Prior to the commencement of works, an Environmental Management Plan (EMP) must be prepared to the satisfaction of the Department of Environment and Primary Industries. The EMP must have regard to the recommendations of the site contamination assessment.	In Progress		
Environmental Protection and Biodiversity Conservation Act 1999	EPBC approval (EPBC 2014/7203)	Department of Environment	To be obtained prior to commencement of construction	FMBH Alliance	**Condition 1**- Construction activities must not occur outside of the project area and must be limited to existing disturbed areas. Project boundary clearly indicated on Site Environmental Plans (SEP) and included in Work Packs. Work packs reviewed by Environment Team. Ongoing	Ongoing		Site Environmental Plans (SEP) (LAH-EN-PLN-006). Construction Work Packs for Main Rd.
Environmental Protection and Biodiversity Conservation Act 1999	EPBC approval (EPBC 2014/7203)	Department of Environment	Obtained prior to construction	VicRoads	**Conditions 2, 4, 5, 6, 7, 8, 10, 12, -** Conservation Management Plan to be provided to the minister for approval within 12 months of 5 November 2014. Plan includes - monitoring for 5/10 years. Maintaining accurate records. Publish report on website addressing compliance within 3 months of every 12 month anniversary.	In progress.		Actions to be completed by VicRoads
Environmental Protection and Biodiversity Conservation Act 1999	EPBC approval (EPBC 2014/7203)	Department of Environment	Obtained prior to construction	VicRoads FMBH Alliance	**Condition 9-** Within five (5) days after the commencement of activities, the person taking the action must advise the Department in writing of the actual date of commencement.	Complete	16 October 2015	Letter sent to Department of Environment commencement date 9th October 2015.

Source Document	Obligation Extent	Authority	Impact on Project	Owner	Means of Compliance	Actions Required	Due date / Review date / Complete	Evidence Reference
Environmental Protection and Biodiversity Conservation Act 1999	EPBC approval (EPBC 2014/7203)	Department of Environment	Obtained prior to construction	VicRoads FMBH Alliance	**Condition 11-** Within 3 months of every 12month anniversary of commencement of action; publish a report on website addressing compliance with each condition of the approval**.** Documentary evidence must be provided to the Department at the same time. Non-compliance with any conditions of this approval must be reported to the Department within 48 hours of the non-compliance occurring	Ongoing	12 month anniversary is 5 November 2015- report due 5 Feb 2016.	
Environmental Protection and Biodiversity Conservation Act 1999	EPBC approval (EPBC 2014/7203)	Department of Environment	Obtained prior to construction	VicRoads FMBH Alliance	**Condition 13-** Publish all management plans referred to in the conditions of the approval on website. Each management plan must be published on the website within 0ne (1) month of being approved.	Completed	23/09/2015	Link to VicRoads Website https://www.vicroads.vic.gov.au/planning-and-projects/environment/epbc-commitments
Environmental Protection and Biodiversity Conservation Act 1999	EPBC approval (EPBC 2014/7203)	E Department of Environment	Works cannot commence until requirement complied with.	VicRoads	**Condition 3** - Construction EMP to be prepared in consultation with local and state authorities and finalised prior to commencement of construction activities, provided to the Department	Completed	9 October 2015.	Letter dated 9 October 2015 and EMP's sent via email
Environmental Protection and Biodiversity Conservation Act 1999	EPBC approval (EPBC 2014/7203)	Department of Environment	Works cannot commence until requirement complied with.	VicRoads FMBH Alliance	**Condition 3a, 3b**- Establish and maintain Fenced no go zones with 1.8m high chain wire fence clearly signed around listed threatened species and communities as identified in appendix B of the approval for the duration of construction activities.	Completed Maintenance ongoing		Fence construction complete.

Source Document	Obligation Extent	Authority	Impact on Project	Owner	Means of Compliance	Actions Required	Due date / Review date / Complete	Evidence Reference
Environmental Protection and Biodiversity Conservation Act 1999	EPBC approval (EPBC 2014/7203)	Department of Environment	Project planning to consider this requirement when setting up site.	FMBH Alliance	**Condition 3c** - ensure that all machinery wash down, lay down and personnel rest areas are clearly defined (fenced and signed) and located in disturbed areas. Site establishment work pack to be reviewed by Environment team.	Ongoing		Site Environment Plan (SEP) Work Planning/ Work Pack
Environmental Protection and Biodiversity Conservation Act 1999	EPBC approval (EPBC 2014/7203)	Department of Environment	If not undertaken increases risk of EPBC requirements not being complied with.	FMBH Alliance	**Condition 3d**- Ensure all staff onsite and contractors involved in construction attend an induction session presented by and Ecologist, including brief on identification and conservation status, reason for mitigation measures, stop work procedure, requirements of the EPBC Approval relating to the Native Grasslands Information to be included in Project Wide Induction. Site Specific Induction for Main Rd St Albans contains further detail in regards to EPBC Requirements.	Ongoing		Project Induction Site Specific Induction
Environmental Protection and Biodiversity Conservation Act 1999	EPBC approval (EPBC 2014/7203)	Department of Environment	If not undertaken increases risk of EPBC requirements not being complied with.	FMBH Alliance	**Condition 3e**- Establish and implement machinery and plant hygiene protocols to minimise vegetation and soil disturbance and the spread of weeds. To be included in plant inspection checklist. Implement machinery and plant hygiene protocols	Ongoing		Plant inspection checklist Site Environment Plan (SEP)
Environmental Protection and Biodiversity	EPBC approval (EPBC 2014/7203)	Department of Environment	If not undertaken increases risk of EPBC requirements not being complied with.	FMBH Alliance	**Condition 3f**- Ensure that any boring within biosite 3546 must be at a depth of at least 1.5 metres below ground level to avoid impacts to spiny rice flower tap roots.	Ongoing		Bore under biosite 3546 completed as part of early works.

Source Document	Obligation Extent	Authority	Impact on Project	Owner	Means of Compliance	Actions Required	Due date / Review date / Complete	Evidence Reference
Conservation Act 1999					To be included in Work Pack- Environment Team to Review			To be checked as part of soil nail work pack to protect spiny rice flower tap roots.
Flora and Fauna Guarantee Act 1988	FFG Permit	DELWP	Removal 1 Spiny Rice Flower and 13.5m2 w. plains basalt grassland	VicRoads	Conditions of Permit No. 10007270 for the removal of 1 Spiny Rice Flower and 13.5M2 of Western Basalt Plains Grassland. EMP,SEP	Completed		No go Gone Fence established.
Aboriginal Heritage Act 2006	Cultural Heritage Management Plan CHMP 13031	AAV	Defines boundary of works and permitted activities with reference to potential impacts to items of Aboriginal cultural sensitivity	VicRoads	Artifact Salvage Salvage completed - CHIMP 13031	Obtained	26-Mar-15	Ecology Heritage Partners Salvage Report - 26/03/15
Aboriginal Heritage Act 2006	Cultural Heritage Management Plan CHMP 13031	AAV	Defines boundary of works and permitted activities with reference to potential impacts to items of Aboriginal cultural sensitivity	FMBH Alliance	Where cultural heritage items are uncovered during works stop work protocol to be followed and notify relevant authorities and appoint a heritage advisor. Discovery of new cultural heritage items- stop work procedure as identified in Heritage sub-plan 4.5 to be followed	Ongoing		

16. Appendix E: MIRRA Schedule

(Monitoring, Inspections, Reporting, Review, Audit) Schedule

Name	Detail	Frequency	By Whom	Resources
MONITORING				
Water Quality	Water quality parameters including pH, EC, temp, Turbidity	Weekly	Environment Advisor	Environmental Monitoring form
INSPECTIONS				
Site Inspection	Environmental zone inspections	Weekly	Environment Advisor	Weekly Environmental Inspection Checklist
REPORTING				
Environmental Report	Detail on Environmental achievements, monitoring results, incidents, audit outcomes	Monthly	Environment Manager	As part of Monthly Project Report
REVIEW				
EMP Review	Review of sub plans and Appendices	Quarterly	Environment Advisor	EMP
Risk Register Review	Review risks in relation to changes to work activity onsite	Monthly	Environment Advisor	Risk Register
Site Env Plan	Review site environmental controls in relation to work activity onsite to ensure reflective of site conditions	Monthly	Environment Advisor	TBC
AUDIT				
CPB Contractors Internal SHEQ Audit	Review of EMP compliance to CPB Contractors EMS/ ISO14001	As per BU SHEQ Audit schedule	SHEQ Team	TBC
VicRoads Client Audit	Review of EMP compliance to CPB Contractors EMS/ ISO14001	Annually (FMBH Quarterly)	VicRoads Representative	TBC

17. Appendix F: Site Environment Plans