

## **Extractive Industry Work Authority**

### **Risk Management Plan**

**WA007541 Lang Lang Sand Resources Pty Ltd**

**RRAM Designation:- PLN-001536**



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# Table of Contents

<b>1. Risk Management Plan.....</b>	<b>3</b>
1.1..... Summary .....	3
1.2..... Description of Risk Assessment Process.....	3
1.3..... Hazards Considered.....	5
1.4..... Accountable Personnel.....	6
<b>2. Risk Treatment Plans .....</b>	<b>7</b>
2.1..... Altered Visual Amenity.....	8
2.2..... Noise .....	11
2.3..... Dust.....	14
2.4..... Surface Water Flows .....	18
2.5..... Ground Disturbance .....	21
2.6..... Ground Instability .....	27
2.7..... Erosion and Sedimentation .....	31
2.8..... Process Water and Storages .....	35
2.9..... Slimes Storage.....	38
2.10... Imported Materials.....	42
2.11... Unauthorised Site Access.....	45
2.12... Fuel, Lubricants and other Hazardous Materials .....	48
2.13... Pests, Weeds and Disease .....	51
2.14... Rubbish / General Waste.....	54
2.15... Fire .....	56
2.16... Soil Biological Activity.....	59
2.17... Vehicle Sediment Transport.....	61

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### Revision History

Document Date	Version	Description	Issued By	Reviewed By	Approved By
May 2021	V1	1 <sup>st</sup> preliminary draft of RMP	BCA Consulting	K Sargent	
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# 1. Risk Management Plan

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## 1.1. Summary

This Risk Management Plan (RMP) is submitted with the Work Plan (PLN-001536) and relates to WA007541, to be known as the Lang Lang Quarry. This Risk Management Plan supports the Work Plan for the Work Authority application for this greenfield sand extraction site. The Work Plan Description fully describes the extraction, processing and rehabilitation methodology and ancillary processes.

The operation is located at 5575 South Gippsland Highway, Lang Lang 3984 VIC, approximately 5km south-east of Lang Lang township and 7km west of Nyora, see Figure 1 Regional Plan.

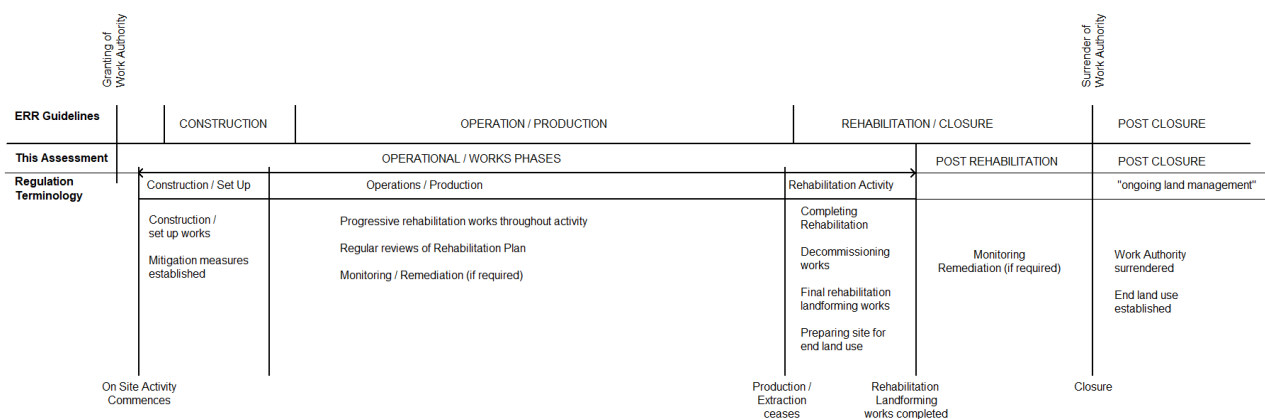
A full description of the works proposed at the site can be found in Work Plan Description document.

## 1.2. Description of Risk Assessment Process

The Risk Management Plan, including the Risk Register for this site has been developed by BCA Consulting in conjunction with the key personal of Aurora Construction Materials (ACM), and its subsidiary Lang Lang Sand Resources Pty Ltd, including GM Strategy & Development, Kelvin Sargent.

The methodology adopted in this document is to consider the hazards that may be present, and the risks they pose, in association with the extractive industry. The Risk Management Plan focusses on the hazards present during its Operational / Works phases (i.e. during major works, including construction, production and rehabilitation activities). As distinct from the Post Rehabilitation phase, as it relates to any particular part of the site, i.e. after completion of rehabilitation activities (apart from any necessary follow-up monitoring and maintenance), or after closure of the site (Post Closure), which are a focus of the Rehabilitation Plan.

The hazard identification and risk assessment process adopted for the site are in the context of the quarry life as represented by the schematic below, showing the indicative sequence of phases as it relates to any particular part of the site. Note: the term “closure” is not a term commonly used in the extractive industries, and not used in the applicable Regulations, but is used here to align with ERR guidelines and defined as the point in time, subsequent to completion of all rehabilitation works, when the Work Authority can be surrendered and the rehabilitation bond returned.



The discussion of hazards, and the assessment of the risks they pose, adopts extractive industry accepted norms that do not always “neatly” fit the requirements of the various Earth Resources Regulation guidelines, but aim instead to satisfy the Regulations. With the primary aims of satisfying the Regulations and being a functional Work Plan for the quarry operator.

As a starting point for developing this Risk Management Plan, a table of standard quarrying and rehabilitation hazards was presented to the ACM then reviewed and discussed. This review considered standard control measures and their relevance / effectiveness in meeting applicable standards and acceptance criteria, including whether they addressed the EPA’s General Environmental Duty (further detail below). Where it was considered necessary, extra proportionate control measures were implemented.

These discussions focused on:

- Identifying the hazards that may arise from all site-based activities throughout the Operational / Works phases that might result in risk events.
- Identifying sensitive receptors within the vicinity of the site, in relation to the environment, any member of the public or to land, property or infrastructure.
- Identifying individual risk events that the identified hazards may pose to the sensitive receptors.
- Reviewing the applicability of standard industry control measures.
- Reviewing the proposed control measures, including any site-specific control measures that might be required.
- The implementation of the necessary control measures and the resultant residual risk of individual risk events.

Additionally, as a basis for the Rehabilitation Plan, the discussion of hazards considered:

- Identification of any hazards that may be associated with the rehabilitated land that could potentially pose long-term risks to the environment, members of the public, or to land, property or infrastructure after closure of the site and surrender of the Work Authority (i.e. post closure).
- A review on any potential long-term risks posed by the rehabilitated land to identify those risks that may require monitoring, maintenance, treatment or other ongoing land management activities after closure. If any are identified, consideration of how these could be eliminated or managed.

The risk assessments presented in this Work Plan are qualitative risk assessments as the nature of the industry and inherent variability means that there is simply not enough information available to undertake quantitative risk assessments. The risk assessments utilise the risk matrix adopted by Earth Resource Regulation (ERR), as presented below. A full description of the likelihood and consequence ratings is contained in the ERR document *Preparation of Work Plans and Work Plan Variations, Guideline for Extractive Industry Projects*, December 2020.

Likelihood	Almost Certain	Medium	High	Very High	Very High	Very High
	Likely	Medium	Medium	High	Very High	Very High
	Possible	Low	Medium	Medium	High	Very High
	Unlikely	Low	Low	Medium	High	High
	Rare	Low	Low	Medium	Medium	High
		Insignificant	Minor	Moderate	Major	Critical
<b>Consequence</b>						

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NOTE: As at December 2020, Earth Resource Regulation have directed that the consequence ratings for risks associated with Fire must be critical.

### Environment Protection Legislation

As of July 2021, the *Environment Protection Act 2017*, as amended by the *Environment Protection Amendment Act 2018*, identifies that all businesses can cause pollution and waste and that the combined effect can have an impact on human health and the environment. The General Environmental Duty (GED) is at the centre of the amended *Environment Protection Act 2017* and focuses on prevention of

environmental impact rather than managing the impacts after they have occurred and is based on a person or business's duty to protect human health and the environment from pollution and waste.

Industry-specific guidance on the general requirements of this legislation is provided in EPA Publication 1823.1, *Mining and Quarrying – Guide to preventing harm to People and the environment*. The GED is defined within the *Environment Protection Act 2017* and it is stipulated that “a person who is engaging in an activity that may give rise to risks of harm to human health or the environment from pollution or waste must minimise those risks, so far as reasonably practicable”.

Determining what is deemed ‘reasonably practicable’ is explained within EPA Publication 1856, *Reasonably Practicable*, and relates to the implementation of control measures that are proportionate to the potential risk. This is based on the potential for harm to occur, the potential impacts on the environment, and considers what control measures are available to reduce the risk, as well as their associated costs.

It is deemed the responsibility of the operator, the ‘duty holder’, to understand and assess the risks which their operations may pose on human health or the environment, and once understood, implement proportionate control measures to mitigate or minimise the risk of harm.

The definition of harm within the *Environment Protection Act 2017* introduces the concept of what is deemed ‘unreasonable’, with numerous guidelines and protocols offering definitions or examples of what is considered unreasonable.

The risk assessments and risk management documented within the individual Risk Treatment Plans that follow, for hazards that are also subject to EPA regulation, are developed in consideration of EPA guidance and compliance standards.

### Risk Register

The Risk Register provides an overview of the assessment and management of the risks associated with each identified hazard during the quarry's Operational / Works Phases and is attached separately.

### 1.3. Hazards Considered

In developing the Risk Register and Risk Management Plan for this site, the following hazards typically associated with quarrying and rehabilitation activities (both progressive rehabilitation and final rehabilitation works), listed in the table below, were discussed and considered against the identified sensitive receptors. Where such hazards are identified in relation to the proposal, individual Risk Treatment Plans are provided below with a detailed assessment of risks posed to sensitive receptors by the hazards, along with detailed risk management. If the hazard is not present at the site, it is marked as such in the table below.

While the identified hazards may be present, the level of risk posed by these hazards to sensitive receptors and the level of risk management that is appropriate must be determined. The application and implementation of the documented control measures presented in the Risk Treatment Plans below aim to reduce as far as practicable the likelihood, and where applicable, the consequence, of the identified hazards where they pose a risk to the identified sensitive receptors. Even though this site is a greenfields site, ACM operate numerous construction materials and concrete supply sites, and have detailed knowledge of the risk management required to be in place for the operation.

The control measures to be implemented for the Operations / Production phase are considered suitable for any new works or “Construction” so are not considered separately. The Rehabilitation Activities column in the table shows the hazards associated with undertaking the rehabilitation works, however the associated risks are often being managed along with the Operations / Production risks as the activities are occurring at the same time for most of the quarry life, as part of progressive rehabilitation. The risk assessments for these hazards have identified that the control measures to mitigate the risks from Operations / Production and Rehabilitation Activities are essentially identical in most cases, with the only variable being timing.

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HAZARD	COMMENT	OPERATIONAL / WORKS PHASES		POST CLOSURE
		PRODUCTION & CONSTRUCTION	REHABILITATION ACTIVITIES	
Altered visual amenity		YES	YES	NO
Noise		YES	YES	NO
Dust		YES	YES	NO
Surface water flows		YES	YES	YES
Ground disturbance		YES	YES	NO
Ground instability		YES	YES	YES
Blasting	NOT PRESENT	NO	NO	NO
Erosion and sedimentation		YES	YES	YES
Process water and storages		YES	YES	YES
Slimes storage		YES	YES	YES
Imported materials		YES	YES	YES
Unauthorised site access		YES	YES	NO
Fuel, lubricants, other hazardous materials		YES	YES	NO
Weeds, pests and diseases		YES	YES	NO
Rubbish / general waste		YES	YES	NO
Fire		YES	YES	NO
Soil biological activity		YES	YES	NO
Vehicle sediment transport		YES	YES	NO

To provide a complete overview of the applicable hazards, the table also identifies hazards potentially associated with the rehabilitated land (post closure), where they relate to the extractive industry use, that may pose long-term risks to the environment, members of the public, or to land, property or infrastructure. These post closure hazards are discussed in detail in the Rehabilitation Plan.

While the identified post closure hazards may be present, it needs to be determined whether such hazards would actually pose any risks that require ongoing management. As detailed in the Rehabilitation Plan, it is not anticipated that there will be any relevant risks posed by the rehabilitated land post closure in respect of the above hazards that would require monitoring, maintenance, treatment or any other ongoing land management activities.

*Elimination of Risks:* In determining the residual risk it is often the case that, with the application of effective control measures, the residual risk is LOW, which is the lowest risk rating in the December 2020 ERR risk matrix. In some instances, it might be argued that the residual risk is so low that it has effectively been eliminated, however quarry managers believe they need to be conscious of all quarrying and rehabilitation hazards (and their associated risks) that exist on the site, no matter how small the risk might be. As they must consider their obligations under all relevant legislation (i.e. OH&S, Heritage, etc.) and not just the *Mineral Resources (Sustainable Development) Act 1990* (MRSDA).

#### 1.4. Accountable Personnel

The following table outlines the roles and responsibilities of the various personnel within the organisation for the successful implementation and management of the Risk Management Plan, and who are accountable for the identification and allocation of resources, as well as the implementation, management and review of this risk management plan.

Role	Responsibilities
Work Authority Holder	Identification and allocation of resources
General Manger / Business Owner	Identification and allocation of resources
Quarry Manager	Distribution of resources, co-ordination, implementation
Site Supervisor	Implementation

## 2. Risk Treatment Plans

### Risk Treatment Plan abbreviations

The following abbreviations are used throughout the Risk Treatment Plans:

- RTP Risk Treatment Plan
- C Construction / Set-up phase of the operation
- O Operations / Production phase of the operation
- R Rehabilitation Activities phase of the operation
- ALL All phases of the operation

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## 2.1. Altered Visual Amenity

### Scope

This risk treatment plan is to assess and manage the visual impacts to sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1.	Residences	Residences to the south and east	Potential to see infrastructure and site operations	Proximity to site
2.	Public Roads	Public roads including the South Gippsland Highway	Potential to see infrastructure and site operations	Proximity to site

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
1.	Plant and operations visible from residences	ALL	Likely	Minor	MEDIUM
2.	Plant and operations visible from roads	ALL	Likely	Minor	MEDIUM

### Quarrying Considerations

The WA007541 site adjoins sparsely occupied, private agricultural land, as well as other extractive industries and the neighbouring Bass Gas plant to the north-east. The topography is generally flat with a gentle slope from east to west. Site activities could be visible from a residence to the east (approximately 170m from the Work Authority boundary), residences to the south (approximately 130m and 170m from the Work Authority boundary) and from the adjacent South Gippsland Highway.

The processing and stockpiling area is set back from the Highway and located behind an existing large, raised ('turkey nest') water dam, relative to the residences to the south. A 5m high screening bund will be established along the Work Authority boundary fronting the Highway, as well as along the eastern boundary opposite the neighbouring residence (see Figure 3, Site Layout Plan for profile). The screening bund, which will be constructed early with overburden generated from the initial extraction stages, and potentially also the excavation of the northern drainage diversion, will mitigate visual impacts as well as providing noise attenuation. This bund will be constructed in segments, with initial construction opposite the nearest residences to the south and to the east of the site, and stabilised before being vegetated with shrubs at the earliest opportunity.

### Objectives

**The key objectives of this risk treatment plan is to:**

- Minimise the visibility of the site from nearby residences and public roads

### Compliance standards

**The compliance standards for this risk treatment plan is:**

- Positive engagement and feedback from nearby residence.

### Acceptance criteria

**The acceptance criteria for this risk treatment plan are:**

- No perceivable change to the local amenity when viewed from residences or public roads.

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## Control measures to address hazard

The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
1.	Construction and landscaping of screening bund and overburden mounds, with initial segments of screening bund constructed opposite the nearest residences.	Screening bund constructed as soon as practicable and landscaping maintained in neat and orderly condition
2.	Maintenance (and if necessary, re-planting) of existing or proposed vegetation screening.	Screening vegetation established and healthy
3.	Locating processing plant and stockpiles in accordance with design	Processing Plant & Stockpiling Area and Temporary Materials Storage and Handling Area located in accordance with Site Layout Plan and not visible from outside roads once screening bund is constructed
4.	Progressive rehabilitation (inclusive of earthworks and vegetation establishment) of terminal batters at the earliest opportunity	Maximum open area criteria maintained
5.	Planning of extraction sequence and bund establishment to minimise viewsheds	Site Layout Plan

## Residual Risk Assessment

#	Details of the Risk Event	Phase	Likelihood	Consequence	Residual Risk Rating
1.	Plant and operations visible from residences	ALL	Unlikely	Minor	LOW
2.	Plant and operations visible from roads	ALL	Unlikely	Minor	LOW

## Monitoring

#	Aspect to be monitored	Details of monitoring
1.	Vegetation and landscape maintenance	The maintenance of buffer plantings and vegetation on screening bund will be monitored by regular inspections. Additional and/or replanting will be done to remediate slow or failed vegetation growth.
2.	Screening bund and vegetation effectiveness	Routine inspections from outside the quarry boundary will be used to check buffer effectiveness.
3.	Amenity impact	Complaints and comments raised through community engagement will be handled through the normal engagement process.

## Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1	Vegetation and landscape maintenance  Screening Vegetation  Amenity Impact	Annual results of vegetation and landscape establishment monitoring, screening vegetation effectiveness and amenity impact (including photos as required) will be recorded by the quarry manager and reported to quarry management, to the community through community engagement activities and to Regulatory agencies as required.	To inform management of future works and any remedial actions.  To allow quarry management to assess performance and undertake remedial actions where needed,

### Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1	Nil	

### Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	Risk Management Plan	Work Plan
2.	Site Layout Plan	Work Plan
3.	WA & WP Conditions	Site Office
4.	Planning Permit Conditions	Site Office

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## 2.2. Noise

### Scope

This risk treatment plan is to assess and manage the noise impacts to sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1.	Residences	Residences within 1000m of extraction area	Potential noise impacts from site operations	Proximity to site
2.	Public Roads	Public roads including the South Gippsland Highway	Potential noise impacts from site operations	Proximity to site

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
3.	Excessive noise at any sensitive receptors from vehicle movements (Road trucks, loaders, haul truck)	ALL	Likely	Moderate	HIGH
4.	Excessive noise at any sensitive receptors from Excavating Equipment (Dozer, loader, excavator)	ALL	Likely	Moderate	HIGH
5.	Excessive noise at any sensitive receptors from processing plant (inc fix and mobile plant, screens, stackers)	ALL	Likely	Moderate	HIGH

### Quarrying Considerations

The WA007541 site adjoins sparsely occupied, private agricultural land, as well as other extractive industries and the Bass Gas plant. The South Gippsland Highway is located along the southern Work Authority boundary. The topography is generally flat with a gentle slope from east to west.

Five residences are located within 1000m of the Work Authority boundary, the closest being a residence 250m to the east of the extraction area, with three residences south of the South Gippsland Highway, two at approximately 270m from the extraction boundary and one 580m from the extraction boundary (or 410m from the site entrance). There is a potential for site generated noise emissions to impact on these residences.

A noise impact assessment has been conducted by the consulting firm Enfield Acoustics and is attached. The assessment has concluded that, subject to the construction of the screening bund as designed and operations within the proposed operating hours, compliance with EPA noise limits can be expected and the site activities will not result in adverse noise impacts. The screening bund will be constructed in segments with the initial construction opposite the nearest residences. Additionally, this assessment recommends that activities occurring closer to residences during the period 6am to 7am (within the EPA 'night period') be limited to less noisy activities. The assessment also concludes that with progressive construction of the screening bund and transition from initial surface extraction the noise impacts will reduce over time.

The noise impact assessment demonstrates that the proposed activity can comply with EPA noise limits, and with the proposed control measures, without the need for formal monitoring, as documented below, the risks associated with noise from the operation will be minimised as far as reasonably practicable. Therefore, compliance with the EPA General Environmental Duty can be expected, as also stated in the noise impact assessment.

## Objectives

### The key objectives of this risk treatment plan are to:

- Minimise offsite noise impacts on nearby sensitive receptors, including members of the public, residential land uses and other sensitive land uses and environments
- Reduce noise generation from onsite activities and material handling to the extent practicable
- Eliminate or reduce noise related complaints from residences
- Noise experienced by nearby sensitive receptors is within EPA noise limits

## Compliance standards

### The compliance standards for this risk treatment plan are:

- Environment Protection Act 2017, or as amended (ie General Environmental Duty)
- EPA Publication 1823.1, June 2021: Mining and Quarrying – Guide to preventing harm to people and the environment
- EPA Publication 1254.2, May 2021: Noise Control Guidelines
- EPA Publication 1826.4, May 2021: Noise Limit and Assessment Protocol for the Control of Noise from Commercial, Industrial and Trade Premises and Entertainment Venues.

## Acceptance criteria

### The acceptance criteria for this risk treatment plan are:

- No noise complaints are received
- Compliance with EPA noise limits at sensitive receptors.

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## Control measures to address hazard

### The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
1.	Compliance to approved operating hours	Hours in the Work Plan: Extraction, Processing and Transport (sales) 6am to 6pm Monday to Saturday No work on Sundays and Public Holidays
2.	No noisy activities (earthworks, truck loading, haulage) permitted onsite within 250m of residences from 6am to 7am	Restrictions for onsite noisy activities observed during EPA 'night period' No exceedances of noise limits at residences during EPA 'night period'
3.	Establishment of screening bund, with initial segments constructed opposite the nearest residences	Compliance to Site Layout Plan
4.	Mobile plant fitted with effective mufflers and other appropriate noise abatement devices	Mufflers and noise abatement devices fitted and maintained as per manufacture specification
5.	Extraction equipment orientation and position to take advantage of bunding, vegetation shielding and topography	Compliance to Site Layout Plan
6.	Equipment maintenance regime in accordance with manufacturer specifications.	All plant and equipment maintained as per manufacture specification
7.	Maintain access roads and site tracks in good condition	Roads and access tracks graded as required to minimise corrugations and potholes
8.	Traffic management around product stockpiles and travel routes designed to minimise reversing	Traffic management and site layout.
9.	Engineered noise abatement of grizzlies, conveyors, vibrating screens, stacking conveyors, pumps	Noise abatement devices fitted and maintained as per manufacture specification
10.	Turning off plant and equipment when not in use for extended periods	Plant and equipment not left running when not in use where that noise may be impacting nearby sensitive receptors, particularly within 250m of residences

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
11.	Broadband reversing alarms (squawkers) fitted to appropriate mobile plant	New generation broadband reverse alarm fitted and operational to all mobile equipment

### Residual Risk Assessment

#	Details of the Risk Event	Phase	Likelihood	Consequence	Residual Risk Rating
3.	Excessive noise at any sensitive receptors from vehicle movements (Road trucks, loaders, haul truck)	ALL	Possible	Moderate	MEDIUM
4.	Excessive noise at any sensitive receptors from Excavating Equipment (Dozer, loader, excavator)	ALL	Possible	Moderate	MEDIUM
5.	Excessive noise at any sensitive receptors from processing plant (inc mobile plant, screens, stackers)	ALL	Possible	Moderate	MEDIUM

### Monitoring

#	Aspect to be monitored	Details of monitoring
1	Noise at sensitive receptors	<p>No formal noise monitoring is proposed, with observations made during inspections and engagement activities. Noise monitoring may take place in direct response to a noise complaint.</p> <p>Complaints, as well as other community engagement activities, and any resulting actions will be documented. Where formal monitoring is directed by EPA or ERR, monitoring locations, methods and frequencies will be in accordance with the regulatory agencies' requirements.</p> <p>The adequacy of control measures against the GED will be assessed through general observation as part of routine site inspections and feedback through community engagement</p>

### Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1	Incidents of noise complaints	Internally/ On Event	Use data to confirm presence of any noise issues and identify and manage key noise generating activities and remedial actions
2	Reportable Event under MRSDA	ERR / On Event	Used to meet Work Authority holder's reporting obligations under the MRSDA

### Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1	CMPA Noise Management Guidelines	CMPA Code PUB0037

### Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	WP & Risk Management Plan	Work Plan
2.	Site Layout Plan	Work Plan
3.	WA and WP conditions	Site office
4.	Planning permit conditions	Site office

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## 2.3. Dust

### Scope

This risk treatment plan is to assess and manage the dust impacts to sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1.	Residences	Residences within 1000m of extraction area	Potential air quality impacts from site operations	Proximity to site
2.	Public Roads	Public roads including the South Gippsland Highway	Potential air quality impacts from site operations	Proximity to site

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
6.	Excessive dust from vehicle movements on all access roads, site roads & hardstands	ALL	Possible	Minor	MEDIUM
7.	Excessive dust from processing plant and equipment within the WA	C,O	Possible	Minor	MEDIUM
8.	Excessive dust from extraction activities	C,O	Possible	Minor	MEDIUM
9.	Excessive dust from soil and overburden dumps (construction and maintenance)	ALL	Possible	Moderate	MEDIUM
10.	Excessive dust from stockpiles leaving the WA boundary	O	Possible	Moderate	MEDIUM
11.	Excessive dust when stripping top soil leaving the WA boundary	C,O	Possible	Moderate	MEDIUM
12.	Excessive dust during rehabilitation leaving the WA boundary	O,R	Possible	Moderate	MEDIUM

### Quarrying Considerations

The in-situ resource is an alluvial deposit, consisting of unconsolidated sand, silt and minor peat. The high groundwater level means that that material is either saturated or has a high inherent moisture content which will aid in reducing dust generated during stripping and extraction operations.

Five residences are located within 1000m of the Work Authority boundary, the closest being a residence 250m to the east of the extraction area, with three residences south of the South Gippsland Highway, two at approximately 270m from the extraction boundary and one 580m from the extraction boundary. There is a potential for site generated air emissions to impact on these residences.

An Air Quality Impact Assessment has been undertaken by consulting firm WSP and is attached. The modelling was undertaken with a number of conservative assumptions (i.e. worst case conditions with no control measures, apart from staged construction of the screening bund), and demonstrates that impacts at the nearest sensitive receptors due to dust coming from the proposed quarry, for nuisance dust, PM<sub>10</sub> and PM<sub>2.5</sub>, will be low in comparison to the background levels of dust. While the modelling shows some cumulative exceedances of the EPA assessment criteria, the background dust makes up 90-96% of this modelled impact. It is noted in the assessment that there is no background data available for this region so data from Traralgon has been used, but this is likely to be over-estimating the background dust levels.

Soil and overburden stripping will be avoided on hot, windy days, or as much as possible after extended dry periods where the inherent moisture content is reduced. There will be ample water (supply and storage) on site to manage dust through traditional methods, i.e. water carts and water sprays, sprinkler systems, etc. In addition, the main site access will be sealed and a wheel-wash installed for sales trucks.

The Air Quality Impact Assessment demonstrates that the proposed activity can comply with EPA air pollution limits, and with the proposed control measures and monitoring, as documented below, the risks

associated with dust generated on site will be minimised as far as reasonably practicable. Therefore, compliance with the EPA General Environmental Duty can be expected.

#### Respirable Crystalline Silica Risk

This operation does not pose a risk to the public from any fugitive respirable crystalline silica dust leaving the site, as the sand resource is not being processed in any way that could produce respirable crystalline silica. While the sand grains making up the resource are predominantly crystalline silica, so the quarrying meets the definition of a 'crystalline silica process' under the Occupational Health and Safety Regulations 2017 (OH&S Regulations), the excavation and processing methods utilised do not involve the sand grains being 'mechanically processed' (cutting, crushing, grinding or blasting). Rather the processing involves washing the sand. Consequently, the operation does not meet the definition of 'high risk crystalline silica work' under the OH&S Regulations, because the processing of the sand does not pose an appreciable risk to the health of onsite workers from respirable crystalline silica dust. Therefore, the risk posed to the public by fugitive emissions of respirable crystalline silica dust produced by the operation, at any level, is negligible.

Additionally, the modelling in the attached Air Quality Impact Assessment demonstrates that it is virtually impossible for respirable crystalline silica dust from this operation to impact on nearby sensitive receptors. The assessment shows that even if the implausibly conservative assumption were made that 100% of the PM<sub>2.5</sub> fraction of the dust generated was respirable crystalline silica, then the modelling indicates that the fugitive respirable crystalline silica dust at the sensitive receptors would still be, at most, only 6.3% of the 3 µg/m<sup>3</sup> annual assessment criteria set by the EPA. Accurately quantifying the very low levels of any such fugitive respirable crystalline silica dust emissions at the sensitive receptors (as an annual average), if actually leaving the site, would be impracticable and unnecessary because the routine dust control measures to be implemented will ensure that any risk posed is negligible to none.

#### Objectives

**The key objectives of this risk treatment plan are to:**

- Minimise offsite dust impacts on all nearby sensitive receptors including members of the public, residential land uses, and other sensitive land uses or environments.
- Control dust at the source. Reduce or prevent dust generation from onsite activities and materials transport, to the extent practicable
- Minimise the impact to the local environment and amenity, to protect the beneficial uses of the air environment as defined EPA standards

#### Compliance standards

**The compliance standards for this risk treatment plan are:**

- Environment Protection Act 2017, or as amended (ie General Environmental Duty)
- EPA Environment Reference Standard 2021 (ERS) and National Environment Protection Measure (Ambient Air Quality) (NEPM AAQ)
- EPA Publication 1823.1, June 2021: Mining and Quarrying – Guide to preventing harm to people and the environment
- EPA Publication 1518, March 2013: Recommended Separation Distances for Industrial Residual Air Emissions
- EPA Publication 1961, February 2022: Guideline for Assessing and Minimising Air Pollution in Victoria
- EPA Publication 1894, September 2020: Managing Soil Disturbance – Guidance sheet
- EPA Publication 1895, September 2020: Managing Stockpiles – Guidance sheet
- EPA Publication 1897, Sept 2020: Managing Truck and Other Vehicle Movement – Guidance sheet

#### Acceptance criteria

**The acceptance criteria for this risk treatment plan are:**

- No nuisance dust related complaints
- Compliance with EPA dust standards at sensitive receptors

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## Control measures to address hazard

The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
1.	Minimise exposed / disturbed areas	Compliance to maximum disturbed area
2.	Water cart utilised on exposed areas, roads and hardstand areas	Water cart and ample supply of water available on forecast hot, dry days or during extended dry periods when inherent moisture content is reduced
3.	Sealing of access road and use of wheel wash for sales traffic	Installation and use
4.	Dry excavated material to be wetted in hot, dry, windy conditions or whenever dust generation requires	Quarry Manager's discretion based on visual observation or stakeholder engagement
5.	Minimise vehicle movements (restrict to designated areas) and limit vehicle speeds	Speed / Traffic management signs maintained at critical locations and on the main quarry access track
6.	Establishment of screening bund, with initial segments constructed opposite the nearest residences	Compliance to Site Layout Plan
7.	Vegetate and stabilise screening bunds, as soon as practicable, as well as topsoil / overburden stockpiles to be retained more than 6 months	Screening bunds and topsoil / overburden stockpiles vegetated within 6 months of construction. Vegetation maintained
8.	Establish initial pasture on upper terminal batters, as soon as practicable, and also interim batters left for more than 12 months between stages	Topsoiled and planted pasture on terminal batters awaiting rehabilitation within 3 months and interim batters between stages inactive for greater than 12 months. Pasture to be fully established within 12 months. Vegetation maintained
9.	Cessation of works during hot, dry or high wind conditions	Quarry Manager's discretion based on visual observation or stakeholder engagement
10.	Equipment maintenance regime in accordance with manufacturer specifications.	All plant and equipment maintained as per manufacture specification
11.	Continual visual monitoring by all staff for dust leaving the site, throughout operations, and notification to the Quarry Manager promptly for remedial action	No nuisance dust impacts to sensitive receptors
12.	Implement an air quality monitoring program for nuisance dust, PM10 and PM2.5, along with wind speed and wind direction	Data collected and utilised to inform and adapt, if necessary, the ongoing dust management, and to ensure that the EPA General Environmental Duty is met (subject to review as quarry stages develop)

## Residual Risk Assessment

#	Details of the Risk Event	Phase	Likelihood	Consequence	Residual Risk Rating
6.	Excessive dust from vehicle movements on all access roads, site roads & hardstands	ALL	Unlikely	Minor	LOW
7.	Excessive dust from processing plant and equipment within the WA	C,O	Unlikely	Minor	LOW
8.	Excessive dust from extraction activities	C,O	Unlikely	Minor	LOW
9.	Excessive dust from soil and overburden dumps (construction and maintenance)	ALL	Unlikely	Moderate	MEDIUM
10.	Excessive dust from stockpiles leaving the WA boundary	O	Unlikely	Moderate	MEDIUM
11.	Excessive dust when stripping topsoil leaving the WA boundary	C,O	Unlikely	Moderate	MEDIUM
12.	Excessive dust during rehabilitation leaving the WA boundary	O,R	Unlikely	Moderate	MEDIUM

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## Monitoring

#	Aspect to be monitored	Details of monitoring
1.	Ongoing visual monitoring of dust generated on site by all staff	Visual monitoring for dust leaving the site Hourly assessment of dust on hot, dry, windy days
2.	Air quality monitoring program: - dust deposition for nuisance dust (all stations) - continuous PM10 & PM2.5, plus wind speed & direction	Monitoring Locations (two sites): - initial locations shown on Figure 3, Site Layout Plan, with continuous monitoring station on eastern boundary - locations to be reviewed as quarry stages develop, but always adjacent to WA boundary toward potentially affected residences  Monitoring Frequency: - monthly dust deposition samples - real-time data for PM10, PM2.5, wind speed & direction - frequency and need for continuous monitoring (to demonstrate GED is met) reviewed as quarry stages develop
3.	Complaints and observations/comments from sensitive receptors	Complaints and comments recorded

## Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1.	Occurrences of dust leaving the site	Quarry Manager / On Event	Use data to confirm presence of any dust related issues and identify and manage key dust generating activities and remedial actions
2.	Results of air quality monitoring program	Quarry Manager / On Event, for real-time reporting of dust exceedances and significant changes in wind direction Monthly internal reporting for review of site dust management	Use data to confirm compliance with GED, or presence of any dust related issues along with identification and management of key dust generating activities and remedial actions
3.	Incidents of dust related complaints and comments	Quarry Manager / On Event	To identify dust related impacts to sensitive receptors and to any necessary targeted remedial actions to rectify the issue
4.	Reportable Event under MRSDA	ERR / On Event	Used to meet Work Authority holder's reporting obligations under the MRSDA

## Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1.	EPA guidance sheets (publications 1894, 1895, 1897)	<a href="https://www.epa.vic.gov.au/about-epa/publications">https://www.epa.vic.gov.au/about-epa/publications</a>
2.	CMPA Dust Management Guidelines	CMPA

## Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	WP & Risk Management Plan	Work Plan
2.	Site Layout Plan	Work Plan
3.	WA and WP conditions	Site Office
4.	Planning permit conditions	Site Office

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## 2.4. Surface Water Flows

### Scope

This risk treatment plan is to assess and manage the impacts of surface water flows (including storm events) into and through the site, or surface water flows diverted around the site, and any potential impacts on the environment or sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1.	Melbourne Water asset DR2504	Northern boundary	Potential detriment to beneficial users from turbid water discharge	Proximity to site
2.	Neighbouring Properties	Downstream landowners	Potential to be impacted by turbid water release	Proximity to site

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequences	Inherent Risk Rating
13.	Turbid (dirty) water leaving the site.	ALL	Possible	Moderate	MEDIUM
14.	Inundation from flooding	ALL	Possible	Major	HIGH

### Quarrying Considerations

The site is located within the Co-Designed Catchment Program for the Westernport and Mornington Peninsula Region, under the Melbourne Water Healthy Waterways Strategy (Melbourne Water Corporation, 2018), although it is outside the 'Stormwater priority area'. Melbourne Water asset DR2504 flows along the northern boundary of the site and will be realigned as part of the quarry development. The consultancy Spiire Australia Pty Ltd have completed a flood assessment and conceptual design of the realigned waterway, which has received in principal support from Melbourne Water. A copy of Spiire's flood assessment and waterway diversion design (Stormwater Management Plan), including correspondence with Melbourne Water, is attached. This waterway diversion will be constructed early in the quarry development and will remain in that location.

The site water management strategy includes diversion of surface water flows away from disturbed areas, collecting and distributing it around the works, and to direct and collect incident rainfall and surface water flows on disturbed ground into sediment traps and the excavation. The disturbance area will be enclosed with bunds / cut-off drains that divert clean water away from the disturbed area, returning it to the environment, and are designed in consideration of peak flows during storm events and potential flooding. There are a number of constructed internal drainage lines within the property associated with the farming activities. As the pit develops across the property these will disappear and the northern waterway diversion will transmit surface water entering the property from the east around the disturbed areas to exit into the existing drainage line near the north-western corner of the property. The diversion is designed with broad areas for floodwater storage, ensuring that the diverted flows do not increase flooding impacts downstream. The flood modelling conducted by Spiire also shows that the excavation will not be impacted by a 1%AEP event and floodwaters will not flow into the excavation, and therefore not create other consequent hazards.

An adaptive Surface Water Management Plan will be maintained, and adapted as necessary, that sets out surface water control features and locations consistent with the site water management strategy. An initial Surface Water Management Plan with Trigger Action Response Plan (TARP) is attached demonstrating water management for the first two stages of extraction. The key water management features for managing any offsite impacts of surface water flows are also shown on Figure 3, Site Layout Plan, and any of these features retained at closure are shown on Figure 4, Rehabilitation Landform.

The measures adopted when disturbing new ground are consistent with the EPA guidelines.

## Objectives

The key objectives of this risk treatment plan are to:

- Protect the beneficial uses of the local water environment as defined in the SEPP (Waters)
- Minimise the impact of any diversion of surface water flows required by the operation
- Minimise the impact to onsite infrastructure, and resulting offsite impacts, due to storm events

## Compliance standards

The compliance standards for this risk treatment plan are:

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- Water Act (1989)
- Catchment and Land Protection Act (1994).
- Environment Protection Act 2017, or as amended (i.e. General Environmental Duty)
- State Environment Protection Policy (Waters), or as replaced by EPA Environment Reference Standard 2021 (ERS).

## Acceptance criteria

The acceptance criteria for this risk treatment plan are:

- Storm water runoff is managed to meet the SEPP (Waters) / Environmental Reference Standard
- No detrimental effects to downstream environments due to diverted flows, other than as approved by Melbourne Water, and the diversion of Melbourne Water asset DR2504 does not detract from beneficial uses of surface water
- No storm water flooding / inundation of site infrastructure with subsequent offsite impacts

## Control measures to address hazard

The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
1.	Construct northern waterway diversion and fully rehabilitate early in project life, in accordance with Melbourne Water approval	Compliance with Melbourne Water approved design and approval conditions
2.	Maintain compliance to any Melbourne Water conditions regarding management of surface water diversion / works on waterway	Compliance to Work Plan Conditions and Melbourne Water authorisation
3.	Construct roads with sufficient diversion drains and culverts to ensure that clean stormwater is diverted away from roads.	Survey set out of roads and designs where necessary employ surface treatment to reduce erosion.
4.	Install a rain gauge at the Site Office, and check hourly during heavy rainfall	Record time and date, when emptied for a manual system, or download and save data logger file for automatic system
5.	Ensure that the gradient and orientation of tracks do not cause runoff to be fast flowing	Maintenance of tracks to minimise erosion.
6.	Arrange drainage of roads to be a vegetated area through erosion protection structures	Side and angled drain off collection drains protected against erosion.
7.	Ensure that drainage from an area where fuels/ lubricants/ hazardous material are stored / used is directed to a sump or an interceptor trap	Compliance to Work Plan and Site Layout Plan
8.	Install diversion drainage structures (pipes, bunds, cut off drains, swales drains etc) up-gradient of working areas to divert surface water flows over undisturbed ground and prevent clean surface water from entering the site and becoming contaminated.	Surface water diversion structures installed as per Surface Water Management Plan and effectively intercepting surface water before it reaches operating areas.
9.	Soil and overburden mounds used as diversion structures contoured and grassed and not contributing to turbid water	Diversion mounds contoured and vegetated and showing no evidence of erosion.

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
10.	Diversion drains typically 1m wide and 0.4m deep adequate to accommodate the surface water flows storm events (i.e. 5% AEP)	Diversion drains capable of handling major (5% AEP) storm event
11.	Trigger Action Response Plan (TARP – Rainfall / Storm Events) implemented for significant rainfall events and to manage freeboard on above-ground water storage (farm dam)	TARP actions in Surface Water Management Plan implemented to manage impacts of significant rainfall events and manage freeboard level in water storage (farm dam)

### Residual Risk Assessment

#	Details of the Risk Event	Phase	Likelihood	Consequences	Residual Risk Rating
13.	Turbid (dirty) water leaving the site.	ALL	Unlikely	Moderate	MEDIUM
14.	Inundation from flooding	ALL	Unlikely	Moderate	MEDIUM

### Monitoring

#	Aspect to be monitored	Details of monitoring
1.	Integrity and performance of diversion of Melbourne Water asset DR2504	Inspect to assess the potential for contaminated stormwater to exit the site
2.	Erosion control structures (ie sediment fences)	Inspect and maintain erosion control structures
3.	Effectiveness of diversion drainage structures (swale drains, bunds, etc)	Inspected and maintained as required

### Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1.	Integrity and performance of diversion of Melbourne Water asset DR2504	Internal reporting for site management after significant rainfall event or six monthly	Management Intervention
2.	Erosion control structures	Internal reporting for site management after significant rainfall event or six monthly	Management Intervention
3.	Effectiveness of diversion drainage structures (swale drains, bunds, etc)	Internal reporting for site management after significant rainfall event or six monthly	Management Intervention
4.	Reportable Event under MRSDA	ERR / On Event	Used to meet Work Authority holder's reporting obligations under the MRSDA

### Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1.	CMPA Guidance on Water Management Strategies for the Quarrying Industry	CMPA web site

### Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	Risk Management Plan	Work Plan
2.	Surface Water Management Plan and TARPs	Work Plan / Site Office
3.	Site Layout Plan	Work Plan / Site Office
4.	WA and WP conditions	Site office
5.	Planning permit conditions	Site office

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## 2.5. Ground Disturbance

### Scope

This risk treatment plan is to assess and manage the impacts resulting from ground disturbing activities generated within the site and any potential impacts on the environment or sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

However, all risks associated with the impact of ground disturbance on ground instability, surface water flows or any resulting erosion and sedimentation are addressed in separate risk treatment plans.

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1.	Aboriginal cultural heritage	Aboriginal Cultural Heritage Sensitivity (ACHS) areas located outside the WA boundary to north and south	Potential for discovered Aboriginal cultural heritage to be impacted by ground disturbing activities within the WA	Aboriginal cultural heritage could possibly be discovered during operations
2.	Historical heritage	No Listed heritage within 5000m to site	Potential for discovered historical heritage to be impacted by ground disturbing activities within the WA	Historical heritage could possibly be discovered during operations
3.	Ecological values of native vegetation	Native vegetation located around margins of the site	Potential to be impacted by ground disturbing activities within the WA	Proximity to site
4.	Groundwater	Groundwater estimated approx. 1-4m below ground surface	Potential to be impacted by ground disturbing activities intersecting groundwater	Proximity to surface Monitoring bores
5.	Surface water and pit lake	Surface water runoff from stockpiles and onsite pit	Potential to be impacted by ground disturbing activities intersecting potentially acid generating materials	Resource drilling logs
6.	AusNet powerline	Easement through southern portion of proposed disturbance	Potential for electricity supply to be interrupted by ground disturbance within the WA	Proximity to Site

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
15.	Ground disturbing works inadvertently impacting on Aboriginal cultural heritage	ALL	Possible	Critical	VERY HIGH
16.	Ground disturbing works inadvertently impacting on historical heritage	ALL	Possible	Minor	MEDIUM
17.	Ground disturbing works impacting on ecological values of retained native vegetation.	ALL	Possible	Minor	MEDIUM
18.	Ground disturbing works impacting on groundwater beneficial uses	ALL	Possible	Major	HIGH
19.	Ground disturbing works impacting acidity of runoff and water in pit lake	O,R	Likely	Major	VERY HIGH
20.	Ground disturbing works impacting AusNet power poles and/or powerline	ALL	Likely	Moderate	HIGH

### Quarrying Considerations

The proposed Work Authority Area does not contain any mapped Aboriginal cultural heritage sensitivity areas, the closest being several sites identified on the allotment to the north as part of the approvals

process for the Bass Gas Plant. The Work Authority boundary has been aligned to avoid this area. A Cultural Heritage Management Plan declaration and self-assessment is attached.

There is no heritage overlay on the site and no European Heritage listed assets in the vicinity. The closest Heritage Inventory site is the Peacock Road Artefact Scatter (H8021-0046 ID119018) approximately 5 kms south of the site near the Gurdies.

An ecological assessment (Norris and Schoeffel report attached) has been conducted of the site, and no areas of assessable native vegetation were identified within the proposed disturbance area. A single large tree was identified close to the eastern Work Authority boundary and the disturbance area was modified to avoid this with a 20m exclusion zone to be established around the tree. There is sparse relict native vegetation along some boundary fences (outside the property) that largely exists as narrow strips of low-value vegetation along the Highway roadside to the south. This vegetation includes introduced species (pines, etc.) and weeds. A significant proportion of the vegetation seen along other boundaries in the aerial photo, e.g. along the north-south boundary segment near groundwater monitoring bore MW02, consists of planted trees, so are not required to be assessed under DELWP regulations. Further, this is all in the setting of a largely cleared and drained agricultural landscape. Therefore, the ecological value of this relict native vegetation just outside the Work Authority is considered low.

The ecological assessment noted that the existing site farm dam is a DELWP mapped wetland. Advice from DELWP agreeing that this area of 'mapped wetland' can be excluded from assessment is attached. Additionally, the assessment identified a few larger trees just outside of the Work Authority boundary whose Tree Protection Zones (TPZs) intruded within the Work Authority. These TPZs were potentially impacted by the shallow drainage diversion and screening bund, which are necessarily close to the boundaries, but it was found that none were impacted by the proposed disturbance.

Hydrogeological assessment of the site has been undertaken by Nolan Consulting Pty Ltd (see attached). On the basis of onsite extraction bores and monitoring bores, it was found that groundwater is at 1-4m below the surface and that the final, stabilised level within the pit would be at approximately RL 19.3m. The property has had a groundwater Take & Use licence for 257 ML/yr for agricultural purposes (dairy and irrigation) since 1987. This is being replaced with a groundwater take and use licence from Southern Rural Water (attached) that is already in place for an annual allocation of 261.9ML, from both existing licensed bores and from the pit. The hydrogeological assessment found that the proposed groundwater extraction for the quarry would not have adverse impacts on nearby groundwater users or groundwater dependent ecosystems, as it effectively does not change the current approved level of groundwater extraction. Extraction will initially be 'dry' utilising excavators and truck, before changing to 'wet' extraction techniques below the groundwater level. Groundwater will not be discharged from site. It is expected that as the extraction area opens up the groundwater level in the east of the site will reduce.

An adaptive Groundwater Management Plan will be maintained that sets out the management of groundwater interception and the pit water level. The initial Groundwater Management Plan with monitoring, triggers and response measures is included as Appendix F of the attached Hydrogeological Assessment.

A mapped surface drainage line, Melbourne Water asset DR2504, flows across the northern area of the site from the eastern boundary to the northern boundary and is impacted by the proposed extraction area. The consulting firm Spiire Australia Pty Ltd, following engagement with Melbourne Water, have undertaken a flood assessment and waterway diversion design (see attached).

Some of the organic coated sands and peaty materials may have the potential to generate acid if they are exposed to the atmosphere for a prolonged period. As far as practicable, the exposure of these materials will be minimised and they will generally be retained below water within the pit to avoid acidification. When such materials are extracted from the pit for processing they will be stockpiled within the Processing and Stockpiling area or a Temporary Materials Storage and Handling area (Figure 3), where runoff is collected and directed via a sediment / interceptor trap back to the in pit water storage. Any acidified runoff can be treated, if necessary, either at the interceptor trap or when drawing water from the in pit water storage. The treatment utilised will be careful, measured application of neutralising agents, which is

necessary to the operation of the quarry, apart from maintaining water quality, to ensure that the water supply does not impact the effectiveness of the flocculants used in the processing plant.

Additionally, the sediment-laden water coming from the wash plant to the thickener will be treated, if necessary, by an automated dosing system to ensure that any acidity does not impact the effectiveness of the flocculants used in the thickener. The acidity of the water supply coming into the plant and water leaving the plant will also be monitored and treated if necessary to maintain, as far as practicable, approximately neutral conditions in the water storages.

Figure 3, Site Layout Plan, shows the location of the AusNet powerline that passes through the southern parts of the disturbance area and also the proposed relocation of the powerline to the southern boundary of the property. Attached is advice from AusNet Services, as a chain of emails in July 2022, covering a range of considerations for relocating the powerline. It is not necessary to relocate the powerline for some years but will be carried out before commencement of Stages 2 or 3 in the southern portion of the site. The staged construction of the screening bund in the south will maintain required separation distances from the powerline, before and after relocation. Once relocated, in accordance with AusNet Services approval, the power poles and powerline will be well away from any extraction areas and no further ground disturbance risk will be posed.

### Objectives

The key objectives of this risk treatment plan are to:

- Minimise potential for ground disturbing works to impact on heritage values, ecological values, groundwater and infrastructure, or to lead to acidic runoff/pit water due to exposed materials.

### Compliance standards

The compliance standards for this risk treatment plan are:

- Aboriginal Heritage Act
- Heritage Act
- Guidelines for the removal, destruction or lopping of native vegetation (DELWP 2017)
- Catchment and Land Protection Act (1994)
- State Environment Protection Policy (Waters), or as replaced by EPA Environment Reference Standard 2021 (ERS).
- EPA Publication 655.1, July 2009: Acid sulfate soil and rock

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### Acceptance criteria

The acceptance criteria for this risk treatment plan are:

- The discovery of any Aboriginal artefacts is managed in accordance with the Aboriginal Heritage Act.
- The discovery of any European heritage is managed in accordance with the Heritage Act
- No unauthorised impacts on native vegetation
- Groundwater interception and use managed in accordance with all relevant licences and to meet the SEPP (Waters) / Environmental Reference Standard
- No acidification of runoff and water within pit lake, as a result of ground disturbing works.
- No disruption to electricity supply as a result of ground disturbing works impacting infrastructure.

### Control measures to address hazard

The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
1.	Quarry Manager aware of requirements of Aboriginal Heritage Act 2006 and contingency measures for the discovery of any artefacts.	Monitoring for heritage artefacts during all soil and subsoil removal activities Compliance to Work Authority and Work Plan conditions

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
2.	Quarry Manager aware of requirements of Heritage Act 2017 and the contingency measures for the discovery of any artefacts.	Monitoring for heritage artefacts during all soil and subsoil removal activities Compliance to Work Authority and Work Plan conditions
3.	Operator training, operating procedures and supervision regarding discovery of Aboriginal or historic artefacts.	Standard Operating Procedures
4.	Fencing and signage of no-go areas, i.e. Tree Protection Zone at east end of site.	Site Layout Plan
5.	Maintaining agreed buffer zones.	Site Layout Plan
6.	Maintain planted vegetation to ensure continued viability.	Site Layout Plan
7.	Monitor and manage groundwater in accordance with Groundwater Management Plan and included TARPs	Groundwater Management Plan and TARPs implemented in accordance with Nolan Consulting hydrogeological assessment
8.	Maintain compliance to any conditions of Rural Water Authority and/or EPA regarding management of groundwater impacts	Compliance to Work Plan Conditions and any EPA permission
9.	Identify any potential acid generating materials that are excavated and, if not to be processed, return to pit (below water) as soon as practicable.	Acid generation from excavated materials is minimised. Note: in-situ overburden and topsoil materials above groundwater level do not have any potential for acid generation.
10.	Stockpiles that could potentially generate acid (product, excavated material for processing, overburden / interburden, or consolidated slimes) placed within designated areas with all runoff directed to the in pit water storage via an interceptor trap.	Any acid runoff generated from stockpiles is directed to the in pit water storage via an interceptor trap, where (if necessary) it can be treated with neutralising agents. Neutralising agents applied by appropriately trained staff / contractors and used in accordance with manufacturer's recommendations.
11.	Acidity of runoff through interceptor trap and water sourced from onsite bores monitored and treated, if necessary, to maintain pH at near neutral.	Runoff directed to the in pit water storage via an interceptor trap and water sourced from onsite bores treated (if necessary) with neutralising agents – maintaining near neutral pH. Neutralising agents applied by appropriately trained staff / contractors and used in accordance with manufacturer's recommendations.
12.	Appropriate signage and alerts near power lines and power poles	Standard Operating Procedures (SOPs)
13.	Relocation of powerlines through formal application to AusNet Services prior to commencing Stages 2 or 3	Powerline and easement relocated in accordance with AusNet Services requirements, before any extraction within Stages 2 or 3 (as per approved Site Layout Plan)
14.	Staged construction of screening bund (including vegetation) will maintain 5m separation from powerline, before and after relocation	Powerline, before and after relocation, remains at least 5m from screening bund and associated vegetation. Note: AusNet Services advises that relocated powerline can utilise much taller power poles where powerline needs to cross over the crest of the screening bund.

## Residual Risk Assessment

#	Details of the Risk Event	Phase	Likelihood	Consequence	Residual Risk Rating
15.	Ground disturbing works inadvertently impacting on Aboriginal cultural heritage	ALL	Rare	Moderate	MEDIUM
16.	Ground disturbing works inadvertently impacting on historical heritage	ALL	Unlikely	Minor	LOW
17.	Ground disturbing works impacting on ecological values of retained native vegetation.	ALL	Unlikely	Minor	LOW



#	Details of the Risk Event	Phase	Likelihood	Consequence	Residual Risk Rating
18.	Ground disturbing works impacting on groundwater beneficial uses	ALL	Unlikely	Moderate	MEDIUM
19.	Ground disturbing works impacting on acidity of runoff and water in pit lake	O,R	Unlikely	Moderate	MEDIUM
20.	Ground disturbing works impacting AusNet power poles and/or powerline	ALL	Rare	Moderate	MEDIUM

## Monitoring

#	Aspect to be monitored	Details of monitoring
1.	Aboriginal and Historical heritage	Monitoring for heritage artefacts during all soil and subsoil removal activities, with contingency management measures in place.
2.	Unauthorised impacts on retained native vegetation	Fencing and buffer zone security and maintenance will be monitored through regular inspections. All inspections, and any subsequent actions will be documented in the site record book.
3.	Condition of planted vegetation	Monitor for continued viability and maintain as necessary
4.	Groundwater impacts – onsite	Groundwater monitoring bores and dewatering activities in accordance with Groundwater Management Plan (GMP) and the SRW extraction licences.
5.	Groundwater impacts – offsite: engagement with owners of the nearest supply bores to confirm that their bore levels have not been adversely impacted	Annual engagement, from end of Stage 2, or as necessary, in accordance with Groundwater Management Plan (GMP).
6.	Performance of measures to capture and treat acidic runoff from the Processing and Stockpiling area and the Temporary Materials Storage and Handling areas	Monthly inspections of all control structures in accordance with the site Surface Water Management Plan will be conducted, as well as following significant rainfall events (in accordance with TARP), remedial works as required. Inspections, and any required monitoring and remedial actions, documented in site record book.
7.	Acidity of collected runoff and water supply	Routine weekly monitoring of acidity in return water from processing plant, water collected in interceptor traps and water supply from bores and in pit water storage. Required to maintain effectiveness of flocculants as well as water quality.
8.	Separation distance to powerline	Ensure that staged construction of screening bund and planted vegetation maintains a 5m separation to powerline.
9.	Trigger for relocation of powerline	Ensure that AusNet application process for relocation of powerline occurs in a timely manner, before commencing extraction in Stages 2 or 3 (as per approved Site Layout Plan).

## Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1.	Aboriginal heritage	AV Heritage self-assessment and CHMP declaration have also been completed & attached to Work Plan.	Legislative compliance
2.	Heritage impacts	Reporting as required under contingency measures and the Aboriginal Heritage Act and Heritage Act to all relevant authorities and other indigenous stakeholders.	Legislative compliance
3.	Groundwater	The results of required monitoring under GMP and licensing will be reported to management, SRW, ERR, and to other	Licence compliance / Management intervention

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
		stakeholders through the community engagement process.	
4.	Acidity of collected runoff and water supply, and performance of control structures	The results of any required monitoring will be reported to ERR / EPA. Internal reporting on performance of control structures, after significant rainfall event or six monthly.	Water quality monitored to ensure it is in line with SEPP / EPA Requirements. Management intervention and implement required remedial actions
5.	Trigger to relocate powerline	Management to engage with AusNet Services and submit formal application to relocate powerline	Management intervention to ensure powerline is relocated in a timely manner
6.	Reportable Event under MRSDA	ERR / On Event	Used to meet Work Authority holder's reporting obligations under the MRSDA

### Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1.	Guidelines for the Management of Water in Mines and Quarries (Earth Resources Regulation)	<a href="https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/guidelines-management-of-water-in-mines-and-quarries">https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/guidelines-management-of-water-in-mines-and-quarries</a>
2.	Guidelines for the Removal, Destruction or Lopping of Native Vegetation (DELWP)	<a href="https://www.environment.vic.gov.au/native-vegetation/native-vegetation">https://www.environment.vic.gov.au/native-vegetation/native-vegetation</a>

### Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	Risk Management Plan	Work Plan
2.	Site Layout Plan	Work Plan
3.	Surface Water Management Plan and TARPs	Work Plan
4.	Groundwater Management Plan	Site Office
5.	Groundwater Licences	Site Office
6.	WA and WP conditions	Site Office
7.	Planning permit conditions	Site Office

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## 2.6. Ground Instability

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### Scope

This risk treatment plan is to assess and manage the hazard of ground instability within the site and any potential impacts on the environment or sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1.	Private Property	Adjoining Private land	Potential to be impacted by ground instability within the WA	Proximity to Site
2.	Crown land	South Gippsland Highway Road and road reserve	Potential to be impacted by ground instability within the WA	Proximity to Site
3.	Melbourne Water asset DR2504	Located on the site	Potential to be impacted by ground instability within the WA	Proximity to Site
5.	Bass Gas Pipeline	Easement adjacent to 200m length of northern boundary	Potential to be impacted by construction of waterway diversion	Proximity to Site

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
21.	Slope / embankment failure impacting beyond WA boundary	ALL	Possible	Major	HIGH
22.	Localised (single bench) failure	C,O	Possible	Minor	MEDIUM
23.	Construction of waterway diversion impacts on stability of adjacent Bass Gas Pipeline easement or adjacent land	C,O	Unlikely	Moderate	MEDIUM

### Quarrying Considerations

The WA007541 site adjoins sparsely occupied, private agricultural land, as well as other extractive industries and the Bass Gas plant. The South Gippsland Highway is located along the southern Work Authority boundary, while the realigned Melbourne Water asset DR2504 (waterway diversion) will be located on the northern boundary. Operating and final slope instability has the potential to have impacts on assets within the site and beyond the Work Authority boundary.

The quarrying will involve dry extraction down to approximately 4m depth and then extraction below groundwater down to a maximum depth of 30m (refer to Figure 3 Site Layout Plan). Extraction below the groundwater level will be undertaken by dredge, grab crane or dragline. Terminal batters will be developed to profiles of 1V:3H (approx. 18 deg) above groundwater level and 1V:2H (approx. 26 deg) below groundwater level. The upper batters will be rehabilitated with a 1V:5H beaching bench established at the standing groundwater level. The upper 1V:3H batters will be revegetated as soon as practicable after reaching the terminal face.

GHD have undertaken a Geotechnical Assessment of the proposed pit, based on design batter profiles and extraction methods, including an assessment of the risk to nearby assets and receptors. A copy of GHD's geotechnical assessment is attached. Also attached is a site Ground Control Management Plan produced by GHD. The assessment concluded that Design Acceptance Criteria were satisfied and the residual risk to receptors was Low provided batter design and offsets were in place. The assessment found that a minimum offset distance of 35.5m was required for the final rehabilitated batters. The pit design includes a minimum setback distance of 40m from the extraction limit to the property boundaries and the shallow channel for the northern waterway diversion (not including any surficial disturbance at its margins).

All slopes/batters including excavations, roadways, stockpiles and dumps will be constructed and maintained to ensure stability. If there is a significant slope failure event, operations will cease in that area and the relevant authority notified, and the appropriate steps taken to rectify the incident.

The shallow waterway diversion along the northern boundary of the Work Authority (for asset DR2504) has been designed by Spiire Australia Pty Ltd with in principal support from Melbourne Water (see attached flood assessment and waterway diversion design). Beach Energy has advised that the proposed setback distance for the waterway diversion, as well as 30m for any proposed groundwater monitoring bores, from the adjacent Bass Gas pipeline easement is satisfactory and this will not affect the pipeline. Refer to attached advice from Beach Energy, dated 4 August 2022.

### Objectives

The key objectives of this risk treatment plan are to:

- Minimise potential for ground slips/failures to impacting beyond the extraction limit

### Compliance standards

The compliance standards for this risk treatment plan are:

- Geotechnical Guideline for Terminal and Rehabilitated Slopes – Extractive Industry Projects (ERR)
- CMPA Working Safely with Geotechnical Risk in Quarries

### Acceptance criteria

The acceptance criteria for this risk treatment plan are:

- No ground slips/failure impacting beyond Extraction Boundary.

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### Control measures to address hazard

The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
1.	Marking out Extraction Boundary	Extraction Boundary marked with Yellow Posts
2.	Fencing and signage to indicate “No Go” areas, buffer areas, infrastructure areas	Suitable Fencing and signage in place and effective
3.	Maintain agreed buffer zones	Compliance to Work Plan and Site Layout Plan
4.	Divert surface water away from batters / embankments with culverts, swale drains and bunds.	Compliance to Work Plan and Site Layout Plan Water management as per Surface Water Management Plan
5.	Compliance to design of all quarry faces, embankments and mounds.	Compliance to Work Plan / Site Layout Plan / Ground Control Management Plan
6.	Initial stability assessment, as triggered by Ground Control Management Plan to confirm material parameters and slope design.	Review triggered and undertaken once a suitable depth of material is exposed, in accordance with Ground Control Management Plan, and performed by a suitably qualified and experienced person
7.	Minimum five-yearly stability reviews after initial stability assessment.	Reviews undertaken in accordance with Ground Control Management Plan and performed by a suitably qualified and experienced person
8.	Dewatering of exposed batters and berms, with surface drainage controls in place.	Compliance to Work Plan / Site Layout Plan / Ground Control Management Plan
9.	Site inspections at least monthly and before (if possible) forecast and immediately after significant rain fall events.	Compliance to Work Plan / Site Layout Plan / Ground Control Management Plan Compliance to Rehabilitation Plan (Monitoring schedule)
10.	Investigation of any localised bench failures.	Compliance to Work Plan / Site Layout Plan / Ground Control Management Plan Compliance to Rehabilitation Plan (Monitoring schedule)
11.	Construction of shallow waterway diversion to Melbourne Water requirements and disturbed areas fully revegetated as soon as practicable	Waterway diversion constructed in accordance with Melbourne Water approval and detailed design parameters, including prompt establishment of vegetation to prevent erosion.

## Residual Risk Assessment

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
21.	Slope / embankment failure impacting beyond WA boundary	ALL	Rare	Major	MEDIUM
22.	Localised (single bench) failure	ALL	Unlikely	Minor	LOW
23.	Construction of waterway diversion impacts on stability of adjacent Bass Gas Pipeline easement or adjacent land	C,O	Rare	Minor	LOW

## Monitoring

#	Aspect to be monitored	Details of monitoring
1.	Slope stability	Inspections will be conducted of extraction area faces (both operating and rehabilitated), extraction pit perimeter and site surface water management structures in accordance with Ground Control Management Plan. Standard operating procedures require all operators to report changes in ground conditions. Inspections, reports and any remedial actions will be documented in site record book. Results of site inspection and any remediation works recorded in the Site Manager's Record book.
2.	Surface water management	Minimum monthly inspections and after rain events, in accordance with Surface Water Management Plan, will be conducted and include all surface water management structures. Inspections, and any required monitoring and remedial actions documented in site record book.
3.	Landform stability of constructed waterway diversion (Melbourne Water asset DR2504)	Minimum monthly inspections, and after rain events, for landform stability and establishment of vegetation on disturbed ground, until full stabilisation of constructed waterway diversion. Annual inspections, and after significant rain events, thereafter.

## Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1.	Slope stability	Any localised face failures, excessive surface cracking or other signs of geotechnical instability will be investigated. The results of any required investigations will be documented and reported to ERR and any potentially impacted stakeholders.	Management intervention and or redesign of terminal batters in accordance with Ground Control Management Plan
2.	Surface water management	Internal reporting on performance of surface water management structures, for site management, after significant rainfall event or three monthly.	Licence compliance / Management Intervention Implement required remedial actions
3.	Landform stability of constructed waterway diversion	Any required reporting and results of monitoring under Melbourne Water approval will be reported to Melbourne Water	To ensure long-term function and stability of waterway diversion and ensure there is no stability threat to adjacent gas pipeline easement or adjacent land
4.	Reportable Event under MRSDA	ERR / On Event	Used to meet Work Authority holder's reporting obligations under the MRSDA

## Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1.	Geotechnical Guideline for Terminal and Rehabilitated Slopes – Extractive Industry Projects (Earth Resources Regulation)	<a href="https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice">https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice</a>

#	Document	Source (e.g. URL, appendix number)
2.	Guidelines for the Assessment of Geotechnical Risks in Open Pit Mines and Quarries (Earth Resources Regulation)	<a href="https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/guidelines-assessment-of-geotechnical-risks-in-open-pit-mines">https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/guidelines-assessment-of-geotechnical-risks-in-open-pit-mines</a>
3.	CMPA Working Safely with Geotechnical Risk in Quarries	CMPA website

### Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	Risk Management Plan	Site Office
2.	Site Layout Plan	Site Office
3.	Ground Control Management Plan	Site Office
4.	Surface Water Management Plan and TARPs	Site Office
5.	WA and WP conditions	Site Office
6.	Planning permit conditions	Site Office

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## 2.7. Erosion and Sedimentation

### Scope

This risk treatment plan is to assess and manage the impacts of erosion and carriage of sediment from disturbed areas that can potentially impact the environment or sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1.	Surface waterways	Melbourne Water asset DR2504 on northern boundary of site	Potential to be impacted by sediment-laden surface waters	Proximity to Site
2.	Neighbouring Properties and environment	Adjacent landowners	Potential to be impacted by sediment-laden surface waters	Proximity to site Downstream

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
24.	Erosion from roads and disturbed areas resulting in silt laden run-off	ALL	Likely	Moderate	HIGH
25.	Erosion from bunds	ALL	Likely	Moderate	HIGH
26.	Erosion from stockpiles (product and other) and hardstand areas	O, R	Likely	Moderate	HIGH

### Quarrying Considerations

The site is located within the Co-Designed Catchment Program for the Westernport and Mornington Peninsula Region, under the Melbourne Water Healthy Waterways Strategy (Melbourne Water Corporation, 2018), although it is outside the 'Stormwater priority area'. Melbourne Water asset DR2504 flows along the northern boundary of the site and will be realigned with a waterway diversion as part of the quarry development.

Uncontrolled surface water flows may cause erosion to take place from extraction areas, stockpiles, constructed embankments, natural slopes and rehabilitated landforms. Sediment deposition may affect the drain lines on the Work Authority area or neighbouring lands.

The site water management strategy includes diversion of surface water flows away from disturbed areas, collecting and distributing it around the works, and to direct and collect incident rainfall and surface water flows on disturbed ground into sediment traps and the excavation. The northern waterway diversion will be established early in the site development and will be required, subject to Melbourne Water approval, to be revegetated and fully rehabilitated as soon as practicable to minimise erosion and sedimentation. The upper terminal batters, above the final water level, will be revegetated as soon as practicable after reaching the terminal face.

An adaptive Surface Water Management Plan will be maintained, and adapted as necessary, that sets out surface water control features and locations consistent with the site water management strategy. An initial Surface Water Management Plan with Trigger Action Response Plan (TARP) is attached demonstrating water management for the first two stages of extraction. The key water management features for managing any offsite impacts of erosion and sedimentation are also shown on Figure 3, Site Layout Plan, and any of these features retained at closure are shown on Figure 4, Rehabilitation Landform.

The measures adopted when disturbing new ground will be consistent with EPA guidelines. Acceptance criteria are provided below to define the upper limit for erosion from earthworks on rehabilitated terminal batters that have not yet been stabilised to control erosion. Obtaining a quantitative measure of erosion is difficult, therefore the stated acceptance criteria for erosion are based on a qualitative (visual) assessment. Refer to Section 4.1 of the Rehabilitation Plan for discussion of suitable erosion criteria.

## Objectives

**The key objectives of this risk treatment plan are to:**

- Prevent erosion and sediment runoff from onsite activities
- Minimise offsite impacts of erosion and sediment run-off on the surrounding environments
- Protect the beneficial uses of the local water environment as defined in the SEPP (Waters)
- Minimise the risk of failure of on-site infrastructure or rehabilitated areas due to erosion

## Compliance standards

**The compliance standards for this risk treatment plan are:**

- Catchment and Land Protection Act (1994).
- Environment Protection Act 2017, or as amended (i.e. General Environmental Duty)
- State Environment Protection Policy (Waters), or as replaced by EPA Environment Reference Standard 2021 (ERS)
- EPA Publication 1823.1, June 2021: Mining and Quarrying – Guide to preventing harm to people and the environment
- EPA Publication 1894, September 2020: Managing Soil Disturbance – Guidance sheet
- EPA Publication 1895, September 2020: Managing Stockpiles – Guidance sheet

## Acceptance criteria

**The acceptance criteria for this risk treatment plan are:**

- Site runoff is managed to meet the SEPP (Waters) / Environmental Reference Standard
- No delivery of sediment to land or waterways outside the Work Authority area as a result of ground disturbing works, other than as approved by Melbourne Water
- No unmanaged areas of active soil erosion within the Work Authority area or adjacent areas due to site discharges
- Erosion: on rehabilitated terminal batters that have not yet been stabilised, including interim batters between stages, no erosion channels greater than 200mm deep and/or wide
- Erosion: on rehabilitated terminal batters that have not yet been stabilised, including interim batters between stages, no more than 5 erosion channels greater than 150mm deep and/or wide within a 20m wide area

## Control measures to address hazard

**The controls for this risk treatment plan are:**

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
1.	Sediment traps, diversion drains, bunds, sediment fences, vegetation windrows, temporary and long-term mounds and any other necessary controls, adapted as required, around all ground disturbing activities	Erosion and sediment control structures as per Surface Water Management Plan Construction of erosion and sediment control features consistent with EPA guidelines
2.	Maintain compliance to any conditions of Melbourne Water and/or EPA regarding management of any potential offsite discharge	Compliance to Work Plan Conditions and any EPA permission
3.	Design of all quarry pit crests, to incorporate swale drains and/or diversion bunds as required.	All works in accordance with design
4.	Divert surface water away from disturbed area with swale drains and bunds.	Minimal surface flows over disturbed areas
5.	Control structures on all internal roads and tracks.	Control structures in place
6.	Strategic location of any sedimentation traps.	Sediment traps located as per Surface Water Management Plan
7.	Any sand extracted with a grab crane or drag line will be allowed to dewater before delivery to the processing plant	Sediment-laden water draining from material extracted by grab crane or drag line (temporarily stockpiled) flows directly back into the excavation.



#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
8.	Runoff from designated areas for processing and stockpiles (product, excavated material for processing, overburden / interburden, or consolidated slimes) directed to the in pit water storage via a sediment / interceptor trap.	Runoff from all processing and stockpiling areas is directed to the in pit water storage via a sediment / interceptor trap.
9.	Overburden / interburden stockpiles, if not on drained hardstands, have a contour drain at the base to intercept / direct runoff into the site sediment controls.	Sediment-laden water draining from overburden / interburden stockpiles prevented from discharging from disturbance areas.
10.	Contour, vegetate and stabilise topsoil and overburden stockpiles to be retained more than 6 months.	Topsoil and overburden stockpiles stabilised when retained more than 6 months from construction. Vegetation maintained
11.	Establish initial pasture on upper terminal batters, as soon as practicable, and also interim batters left for more than 12 months between stages	Topsoiled and planted pasture on upper terminal batters awaiting rehabilitation within 3 months and interim batters between stages inactive for greater than 12 months. Pasture to be fully established within 12 months.  Any erosion on rehabilitated upper terminal batters that are not yet stabilised is within erosion acceptance criteria (above). Vegetation maintained and remedial action taken if erosion criteria exceeded.
12.	Trigger Action Response Plan (TARP – Rainfall / Storm Events) implemented for significant rainfall events	TARP actions in Surface Water Management Plan implemented to manage impacts of significant rainfall events

## Residual Risk Assessment

#	Details of the Risk Event	Phase	Likelihood	Consequence	Residual Risk Rating
24.	Erosion from roads and disturbed areas resulting in silt laden run-off	ALL	Possible	Moderate	MEDIUM
25.	Erosion from bunds	ALL	Possible	Moderate	MEDIUM
26.	Erosion from stockpiles (product and other) and hardstand areas	O,R	Possible	Moderate	MEDIUM

## Monitoring

#	Aspect to be monitored	Details of monitoring
1.	Water management structures (drains, bunds, sediment traps, etc) evaluated for performance	Inspection of all water management structures after each significant rainfall event, in accordance with TARP in Surface Water Management Plan, remedial works as required.
2.	Evidence of erosion, and subsequent sediment-laden runoff	Monthly inspections will be conducted of the site, as well as following significant rainfall events (in accordance with TARP), which will include waste dumps, topsoil stockpiles, surface water management structures and potential receiving drainage lines. Inspections, and any required monitoring and remedial actions documented in site record book.
3.	Surface water quality	Specific surface water quality monitoring is not proposed but may be undertaken if directed by the ERR.

## Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1.	Surface water management structure performance in	Internally after monthly inspections	Implement required remedial actions

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
	preventing offsite turbid discharge		
2.	Surface water quality	The results of any required monitoring will be reported to ERR / EPA, and to other stakeholders through the community engagement process.	Water quality monitored to ensure it is in line with SEPP / EPA Requirements. Commitment is made to apply for all / any relevant Licence as directed
3.	Reportable Event under MRSDA	ERR / On Event	Used to meet Work Authority holder's reporting obligations under the MRSDA

### Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1.	EPA guidance sheets (publications 1894, 1895)	<a href="https://www.epa.vic.gov.au/about-epa/publications">https://www.epa.vic.gov.au/about-epa/publications</a>
2.	Guidelines for the Management of Water in Mines and Quarries (Earth Resources Regulation)	<a href="https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/guidelines-management-of-water-in-mines-and-quarries">https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/guidelines-management-of-water-in-mines-and-quarries</a>
3.	CMPA Water Management Guidelines (draft)	CMPA website

### Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	Risk Management Plans	Work Plan
2.	Site Layout Plan	Work Plan
3.	Surface Water Management Plan and TARPs	Site office
4.	WA and WP conditions	Site Office
5.	Planning permit conditions	Site Office

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## 2.8. Process Water and Storages

### Scope

This risk treatment plan is to assess and manage the hazard associated with process waters and storages on the site and any potential impacts on the environment or sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1.	Surface waterways	Melbourne Water asset DR2504 on northern boundary of site	Potential to be impacted by uncontrolled release / overtopping of water storages	Proximity to Site
2.	Neighbouring properties and environment	Adjacent landowners	Potential to be impacted by uncontrolled release / overtopping of water storages	Proximity to Site Downstream

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
27.	Discharge from overtopping of water storage dams to surface waterways and the environment.	ALL	Possible	Minor	MEDIUM
28.	Failure of a water storage resulting in discharge to surface waterways and the environment.	ALL	Possible	Minor	MEDIUM

### Quarrying Considerations

The WA007541 site adjoins sparsely occupied, private agricultural land, as well as other extractive industries and the Bas Gas plant. The current site use is intensive dairy farming, with a large 'turkey nest' dam located on the south side of the property adjacent to the South Gippsland Highway. The existing farm dam, which is maintained (fed) from licensed groundwater bores (Southern Rural Water), will continue to be used for general farming activities as well as dust suppression and processing requirements.

As part of processing plant construction and initial extraction, an in pit plant water storage dam will be excavated below natural surface immediately adjacent to the plant site. Return water from the processing plant, along with runoff from processing and stockpiling areas via a sediment / interceptor trap, will be managed through the in pit water storage. This in pit water storage will be separated from adjacent extraction stages, with walls formed of retained insitu material.

An adaptive Surface Water Management Plan will be maintained, and adapted as necessary, with a Trigger Action Response Plan (TARP) that sets out the management of freeboard levels in water storages. An initial Surface Water Management Plan is attached demonstrating water management for the first two stages of extraction.

### Objectives

The key objectives of this risk treatment plan are to:

- Minimise the risk of water discharging from water storages and impacting the environment and surface waterways
- Protect the beneficial uses of the local water environment as defined in the SEPP (Waters)

### Compliance standards

The compliance standards for this risk treatment plan are:

- Water Act (1989)
- Catchment and Land Protection Act (1994)
- Environment Protection Act 2017, or as amended (i.e. General Environmental Duty)

- State Environment Protection Policy (Waters), or as replaced by EPA Environment Reference Standard 2021 (ERS)
- EPA Publication 1823.1, June 2021: Mining and Quarrying – Guide to preventing harm to people and the environment
- Southern Rural Water licences

### Acceptance criteria

The acceptance criteria for this risk treatment plan are:

- On-going integrity of water storages
- No discharge of water into the environment and surface waterways

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### Control measures to address hazard

The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
1.	Control structures on hard stand areas and all internal roads and tracks.	Control structures in place and functional
2.	Regular inspection of above-ground water storage (farm dam) wall integrity	Checklists completed and remedial action documented
3.	Maintenance of appropriate freeboard on above ground water storage (farm dam) to ensure storage integrity	Integrity of water storage dam maintained through management of freeboard levels
4.	Trigger Action Response Plan (TARP – Water Storages) implemented to manage freeboard on water storage (farm dam)	TARP actions in Surface Water Management Plan implemented to manage freeboard levels
5.	Excess water in water storage (farm dam) will be irrigated to rehabilitated areas or surrounding pasture.	No water stored at more than maximum freeboard level in water storage (farm dam)

### Residual Risk Assessment

#	Details of the Risk Event	Phase	Likelihood	Consequence	Residual Risk Rating
27.	Discharge from overtopping of water storage dams to surface waterways and the environment.	ALL	Unlikely	Minor	LOW
28.	Failure of a water storage resulting in discharge to surface waterways and the environment.	ALL	Unlikely	Minor	LOW

### Monitoring

No water quality monitoring is proposed

#	Aspect to be monitored	Details of monitoring
1.	Dam Wall integrity	Monthly inspections
2.	Storage capacity / freeboard in water storage (farm dam)	Rainfall events and storage freeboard (see TARP in Surface Water Management Plan for details)

### Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1.	Dam Wall Integrity	Internally after monthly Inspections	Implement required remedial actions
2.	Storage capacity / freeboard in water storage (farm dam)	Internal reporting for site management after significant rainfall event or three monthly	Implement required remedial actions, in accordance with TARP
3.	Reportable Event under MRSDA	ERR / On Event	Used to meet Work Authority holder's reporting obligations under the MRSDA

### Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1.	CMPA Water Management Guidelines	CMPA website
2.	CMPA Working Safely with Geotechnical Risk in Quarries	CMPA website
3.	Your Dam: Your Responsibility – A Guide to Managing the Safety of Small Dams (DELWP)	<a href="https://www.water.vic.gov.au/managing-dams-and-water-emergencies/dams/guidance-notes">https://www.water.vic.gov.au/managing-dams-and-water-emergencies/dams/guidance-notes</a>

### Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	Risk Management Plans	Work Plan
2.	Surface Water Management Plan and TARPs	Site Office
3.	WA and WP conditions	Site Office
4.	Planning permit conditions	Site Office

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## 2.9. Slimes Storage

### Scope

This risk treatment plan is to assess and manage the hazard associated with wet slimes storage facilities (slimes dams) on the site and any potential impacts on the environment or sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1	Surface water	Melbourne Water asset DR2504	Slimes release may impact surface water quality and downstream users	Proximity to site
2.	Environment	Adjacent to site	Slimes release may impact environment	Proximity to site

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
29.	Slimes discharging to surface waterways as a result of flooding / overtopping	O,R	Unlikely	Moderate	MEDIUM

### Quarrying Considerations

The processing of sand will necessarily include the treatment of the slimes produced. The slimes will be passed through a thickener and mechanical dewatering and pressing equipment, which will recover a significant proportion of the process water for reuse and eliminates most of the need for wet slimes storage. This will result in a dewatered and consolidated fines/slimes product of 'spadable' consistency (typically 50-55%w/w) that is capable of being stacked and stored on a hardstand area, without the need for liquid or slurry containment. It is not intended that any significant volume of wet slimes will be produced, nor that slimes dams will need to be constructed. After stockpiling of the consolidated slimes, where it can further drain, the consolidated fines/slimes will be co-mingled with overburden and interburden, and other plant oversize/waste, and used in partial backfilling of the completed extraction areas, and some may be used, where suitable, in rehabilitation of upper terminal batters and/or rehabilitation of the surfaces of the constructed screening bund. The backfill material deposited at the bottom of the water body will be distributed by conveyor so that it remains at least 3m below the seasonal fluctuations (0.25m above and below) in the final, stabilised water's surface, which has been determined by the attached hydrogeological assessment.

The stockpiling of dewatered and consolidated slimes will occur within either the Processing and Stockpiling area or the Temporary Materials Storage and Handling area, which is relocated as the quarry develops. The length of time required for stockpiling will be highly variable depending on the availability of space within the pit for backfilling, the availability of overburden and plant oversize / waste, which in turn are dependent on the staging of quarry development and the variable level of oversize / waste produced from the resource. Therefore, the need for stockpiling of dewatered and consolidated slimes could vary from none (immediate use) up to a maximum of approximately 12 months, as overburden stripping usually occurs in the summer months (assuming space is available within the pit at that time for backfill).

As a contingency, in the event that mechanical dewatering and pressing equipment are inoperable, slimes will be placed into the in pit water storage, developed in the initial extraction area adjacent to the processing plant. The walls of this in pit water storage will be formed of insitu material, retained to separate the storage from adjacent extraction stages, mainly for the purpose of managing the process water. This low volume depositing of wet slimes will have an immediate detrimental impact on reclaimed process water quality and will only be continued until the slimes management system is reinstated. Additionally, there will be limited wet slimes storage required within the in pit water storage during the initial commissioning and evaluation trials to design the most appropriate slimes processing equipment.

Any such deposition into the in pit water storage will be by pumping material and placement below the standing groundwater level.

Any limited wet slimes placed in the in pit water storage will settle and remain at the base of the storage well below the surface of the water with the water above it continuing to be utilised to supply the Wash Plant. The slimes collected in this storage can be pumped back later to the plant for consolidation if necessary.

Ultimately, the walls of insitu material around the in pit water storage will be largely removed during the final phase of the quarry extraction. Any limited volume of slimes at its base will mix with the much greater volume of surrounding backfill material (i.e. overburden with blended consolidated slimes), which will have been deposited at the bottom of the water body throughout the operation. The surrounding backfill material will be moved into the space of the in pit water storage during this final removal of the walls.

The slimes deposited at the bottom of the water body below the water's surface, largely as consolidated slimes blended with overburden / interburden and plant oversize / waste, has no potential to be released into the environment or pose a risk to members of the public. The flood modelling conducted by Spiire (refer to attached flood assessment and waterway diversion design) demonstrates that, with the waterway diversion in place, uncontrolled floodwaters will not enter the extraction area and so cannot displace any contained slimes.

### Objectives

The key objectives of this risk treatment plan are to:

- Manage and store wet slimes in a safe and stable environment
- Eliminate the risk of slimes discharging and impacting the environment and surface waterways

### Compliance standards

The compliance standards for this risk treatment plan are:

- Water Act (1989)
- Catchment and Land Protection Act (1994)
- Environment Protection Act 2017, or as amended (i.e. General Environmental Duty)
- State Environment Protection Policy (Waters), or as replaced by EPA Environment Reference Standard 2021 (ERS)
- EPA Publication 1823.1, June 2021: Mining and Quarrying – Guide to preventing harm to people and the environment

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### Acceptance criteria

The acceptance criteria for this risk treatment plan are:

- Limited wet slimes storage to be below natural ground level and below water level
- No discharge of slimes into the environment and surface waterways
- No long term or permanent slimes storage dams.

### Control measures to address hazard

The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented – if not implicit in the control)
1.	Minimise wet slimes production by operation of thickeners and mechanical dewatering / pressing process	Construction and operation of suitable slimes thickener and dewatering / pressing equipment. Reliability of slimes processing plant to produce 'spadeable' consistency waste stream for blending with overburden, interburden or plant oversize/waste, and used in partial backfill of excavation areas and site rehabilitation, where suitable.
2.	Surface drainage controls to direct sediment-laden return water from the processing plant and hardstand to the in pit water storage.	Surface water management structures in place, maintained and adequate to capture sediment-laden return water from processing plant, as per Surface Water Management Plan.

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented – if not implicit in the control)
3.	Stockpiles of consolidated slimes placed within designated areas, with all runoff directed to the in pit water storage via an sediment / interceptor trap.	Any sediment-laden runoff generated from stockpiles is directed to the in pit water storage via a sediment / interceptor trap.
4.	Ensure any wet slimes placed into the in pit process water storage is deposited below standing groundwater level.	Deposition below water.
5.	Accumulated wet slimes within the in pit process water storage that exceeds 3m depth will be pumped to processing plant for consolidation.	Depth of wet slimes, over the quarry life, is prevented from accumulating in the in pit process water storage and posing a hazard for site rehabilitation.
6.	Construct northern waterway diversion early in project life to prevent flooding of pit	Compliance with Melbourne Water approved design and approval conditions

## Residual Risk Assessment

#	Details of the Risk Event	Phase	Unlikely	Consequence	Residual Risk Rating
29.	Slimes discharging to surface waterways as a result of flooding / overtopping	O,R	Rare	Minor	LOW

## Monitoring

#	Aspect to be monitored	Details of monitoring
1.	Performance of slimes thickener and dewatering equipment	Monthly inspections, documented in site record book and any required monitoring and remedial actions.
2.	Performance of surface water management for processing plant and hardstand area, as well as designated stockpile areas	Monthly inspections, documented in site record book and any required monitoring and remedial actions
3.	Water quality within in pit process water storage, and the depth of any deposited wet slimes material.	Routine weekly inspection of the in pit process water storage. Required to maintain effectiveness of wash plant as well as water quality.

## Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1.	Performance of slimes thickener and dewatering equipment	Internally after monthly inspections	Management intervention and implement required remedial actions
2.	Performance of surface water management structures for processing plant and hardstand area, as well as designated stockpile areas	Internally after monthly inspections	Implement required remedial actions
3.	Water quality within in pit process water storage, and the depth of any deposited wet slimes material	The results of any required monitoring will be reported to ERR/EPA.	Management intervention and implement required remedial actions
4.	Reportable Event under MRSDA	ERR / On Event	Used to meet Work Authority holder's reporting obligations under the MRSDA

## Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1.	Environmental Guidelines for the Management of Small Tailings Storage Facilities: Management of Water in Mines and Quarries (Earth Resources Regulation)	<a href="https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/environmental-guidelines-for-the-management-of-small-tailings-storage-facilities">https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice/environmental-guidelines-for-the-management-of-small-tailings-storage-facilities</a>
2.	Design and Management of Tailings Storage Facilities (Earth Resources Regulation)	<a href="https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice">https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice</a>



#	Document	Source (e.g. URL, appendix number)
4.	CMPA Slimes Management Guidelines	CMPA website
5	CMPA Water Management Guidelines	CMPA website

**Operator's reference documents**

#	Document	Location (e.g. work plan appendix number)
1.	WA Work Plan & Risk Treatment Plan	Site office
2.	Surface Water Management Plan	Site Office
3.	Work Plan Conditions / Planning Permit Conditions	Site office

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## 2.10. Imported Materials

### Scope

This risk treatment plan is to assess and manage the hazard associated with the importation of materials from external sites (ie other than WA007541), in particular 'clean fill' and blending sands, for processing, product blending or use in site rehabilitation, and any potential impacts on the environment or sensitive receptors this may have during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1.	Surface Water	Melbourne Water asset DR2504	Potential to be impacted by contaminated soil / material imported to the site	Proximity to site
2.	Groundwater	Groundwater will be exposed within the excavation	Potential to be impacted by contaminated soil / material imported to the site	Proximity to excavation
3.	Environment	Adjacent land uses and immediate neighbours	Potential for the land to be impacted by contaminated soil / material imported to the site	Proximity to site

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
30.	Impacts on the natural environment, including on surface and groundwater, from imported materials containing weeds or other contaminants	ALL	Possible	Minor	MEDIUM
31.	Impacts on the natural environment, including surface and groundwater, from hazardous waste/materials being imported to site	ALL	Possible	Minor	MEDIUM
32.	Impacts on the natural environment, including surface and groundwater, from introducing soil-borne diseases to site	ALL	Possible	Minor	MEDIUM

### Quarrying Considerations

There are enough quantities of overburden on site to undertake the designed rehabilitation works. The importation of 'clean fill' (uncontaminated soil, including gravel and rock), or other materials (such as blending sands, etc) may be necessary at various stages throughout the quarry life.

Imported materials that may pose a hazard that requires management will typically be construction materials ('clean fill' or recycled aggregates) for hardstand areas, roadways and other works and potentially some 'clean fill' or mulch to supplement site rehabilitation in aiding the establishment of vegetation. Additionally, other processed or extracted raw sands will be brought to the site for blending with sand extracted onsite to achieve product specifications, however such imported sand is not classified as 'waste' under EPA legislation. Any material imported as part of the Work Authority's operations will be handled in accordance with the Imported Materials Management Plan. There is no intention to dispose of any imported waste materials within the backfill deposited in the pit.

### Objectives

The key objectives of this risk treatment plan are to:

- Prevent contamination of the site by importing hazardous materials or soils carrying seeds of declared weeds or infested with soil-borne plant diseases

- Prevent unlicensed importation and storage of domestic or industrial wastes and hazardous materials

### Compliance standards

#### The compliance standards for this risk treatment plan are:

- Environment Protection Act 2017, or as amended (ie General Environmental Duty)
- EPA Publication 1823.1, June 2021: Mining and Quarrying – Guide to preventing harm to people and the environment
- EPA Publication 1968.1, August 2021: Guide to classifying industrial waste
- EPA Publication 1828.2, July 2021: Waste disposal categories – characteristics and thresholds
- EPA Publication 1624: Industrial Waste Fact Sheet
- EPA Publication No. 655.1: Acid Sulphate Soil and Rock
- Catchment and Land Protection Act (1994)
- Planning and Environment Act (1987)

### Acceptance criteria

#### The acceptance criteria for this risk treatment plan are:

- The management of imported materials does not detract from beneficial uses of soil, surface water or groundwater within or near the Work Authority area
- Importation and management of imported materials fully complies with applicable legislative and regulatory requirements.

### Control measures to address hazard

#### The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
1.	Any imported material handled in accordance with Imported Materials Management Plan	Imported Materials Management Plan in place before the importation of any material, consistent with relevant guidelines and EPA legislation.
2.	Source/supplier of imported material vetted for reputability.	Imported Materials Management Plan in place and all records / checklists up to date.
3.	All deliveries of imported materials accompanied by a 'Delivery Driver Checklist', or similar docket.	Imported Materials Management Plan in place and all records / checklists up to date.
4.	Confirm the EPA waste classification of the imported materials and confirm that the site is authorised to receive that material, and the importation meets all other EPA / ERR requirements	Imported Materials Management Plan in place and all records / checklists up to date.
5.	Visual inspection of all inbound materials prior to accepting on site, and again on stockpile at point of dumping - rejected loads immediately removed from site.	Imported Materials Management Plan in place and all records / checklists up to date.
6.	Incidental waste that may later be discovered in imported materials are separated, sorted and removed from site.	Imported materials managed in accordance with the Imported Materials Management Plan.
7.	No imported material stockpiled outside of approved disturbance area	No stockpiles of imported material outside of approved disturbance area.
8.	Monitor imported material volumes	Imported material volumes monitored to ensure allowed limits are not exceeded

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## Residual Risk Assessment

#	Details of the Risk Event	Phase	Likelihood	Consequence	Residual Risk Rating
30.	Impacts on the natural environment, including on surface and groundwater, from imported materials containing weeds or other contaminants	ALL	Unlikely	Minor	LOW
31.	Impacts on the natural environment, including surface and groundwater, from hazardous waste being imported to site	ALL	Unlikely	Minor	LOW
32.	Impacts on the natural environment, including surface and groundwater, from introducing soil-borne diseases to site	ALL	Unlikely	Minor	LOW

## Monitoring

#	Aspect to be monitored	Details of monitoring
1	Source and characteristics of any imported material	The Imported Materials Management Plan requires documentation and records of material type, EPA waste classification, tonnages, source/suppliers, inspections and any subsequent remedial action or rejection.

## Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1.	Operation and adequacy of Imported Materials Management Plan	Internally after monthly inspections	Implement required remedial actions
2.	Importation of non-conforming materials	Report to Quarry Manager on detection/event	Removal/disposal of non-conforming materials.
3.	Reportable Event under MRSDA	ERR / On event	Used to meet Work Authority holder's reporting obligations under the MRSDA

## Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1.	Imported Materials Management Guidelines for Mine and Quarry Operations (Earth Resources Regulations)	<a href="https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice">https://earthresources.vic.gov.au/legislation-and-regulations/guidelines-and-codes-of-practice</a>

## Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	Risk Management Plans	Work Plan
2.	Imported Materials Management Plan	Site office
3.	WA and WP conditions	Site Office
4.	Planning permit conditions	Site Office

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## 2.11. Unauthorised Site Access

### Scope

This risk treatment plan is to assess and manage the impacts from unauthorised access to the site and potential resulting impacts on the environment or sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1.	Public safety	Site may be accessible from public roads or adjoining property	Potential for unsupervised visitors to harm themselves	Proximity to site

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
33.	Unauthorised access to quarry faces/water bodies could result in personal injury	ALL	Unlikely	Critical	HIGH
34.	Unauthorised access to operating equipment or plant could result in personal injury	ALL	Possible	Critical	VERY HIGH

### Quarrying Considerations

The operation adjoins sparsely occupied, private agricultural land, as well as other extractive industries and the Bass Gas plant. Primary site access is limited to the frontage to the South Gippsland Highway which will be signed and gated. Fencing, which will incorporate appropriate signage at intervals, is a combination of security fencing and farm fencing based on the adjacent land use. Additionally, a large screening bund will be constructed at an early stage along the entire frontage to the South Gippsland Highway, restricting access to the managed site entrance.

The likelihood of fatality for a member of the public is extremely remote. The quarry does not involve any falling hazard as there will be no steep faces exposed, and any drowning risk to members of the public is the same as applies wherever a water body exists, except that the public will not easily gain access to the pit lake on the site. The more likely hazard to any member of the public entering the site would be from operating equipment or plant.

### Objectives

The key objectives of this risk treatment plan are to:

- Provide for the safety of members of the public when accessing a Work Authority area
- Prevent unauthorised access to the Work Authority area by members of the public

### Compliance standards

The compliance standards for this risk treatment plan are:

- Safety on Public Land Act (2004)
- Work Authority Schedule of Conditions

### Acceptance criteria

The acceptance criteria for this risk treatment plan are:

- Boundary of Work Authority area is appropriately marked and secured to minimise chances of unauthorised entry
- Safety signage is clearly visible around the boundary fence and at all access points

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## Control measures to address hazard.

The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
1.	Gates and fences of suitable design and standard. Access gates to be locked when site unattended	Fencing and gates in place and secured
2.	Signage on fencing warning of operations and high faces	Signage installed
2.	Equipment locked and secured when not in use.	Equipment locked when not in use
3.	Design and construct onsite roads to safely accommodate the size and type of vehicles accessing and travelling within the site. Separate any general traffic from any internal haul routes.	Traffic management implemented
4.	Visitor supervision	Visitor parking at WA entrance and Visitors record book maintained

## Residual Risk Assessment

#	Details of the Risk Event	Phase	Likelihood	Consequence	Residual Risk Rating
33.	Unauthorised access to quarry faces/water bodies could result in personal injury	ALL	Rare	Critical	HIGH
34.	Unauthorised access to operating equipment or plant could result in personal injury	ALL	Unlikely	Critical	HIGH

## Monitoring

#	Aspect to be monitored	Details of monitoring
1.	Boundary and site fencing integrity	Annual inspection of all site boundary fencing and gates.
2.	Site visitors	Visitors record book entries completed
3.	Unauthorised entries	Records kept of unauthorised entries

## Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1.	Boundary and site fence integrity	Annual inspection, outcomes reported internally	To initiate remedial actions which will be documented in site record book.
2.	Visitor entries	Internal reporting to quarry management	Ensure all visitors have exited site prior to end of operating hours.
3.	Unauthorised entries (Site security breaches)	Internally reported to site management on event and regulatory authority as required	To improve site security to limit unauthorised site access.
4.	Reportable Event under MRSDA	ERR / On event	Used to meet Work Authority holder's reporting obligations under the MRSDA

## Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1	CMPA Traffic Management Guidelines	CMPA website

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### Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	Risk Management Plans	Work Plan
2.	WA and WP conditions	Site Office
3.	Planning permit conditions	Site Office

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## 2.12. Fuel, Lubricants and other Hazardous Materials

### Scope

This risk treatment plan is to assess and manage the impacts from use and handling of fuel, lubricants and hazardous materials on and across the site and any potential impacts on the environment or sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1.	Surface waters	Melbourne Water asset DR2504	Hydrocarbon and/or chemical release to environment	Proximity to site
2.	Groundwater	Groundwater will be exposed within the excavation area	Hydrocarbon and/or chemical release to environment	Proximity to groundwater
3.	Environment	Adjacent land uses and immediate neighbours	Hydrocarbon and/or chemical release to environment	Proximity to site

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
35.	Fuel / oil leakage from equipment (mechanical failure, accident) resulting in impacts on the environment	ALL	Possible	Moderate	MEDIUM
36.	Spills / discharges whilst refuelling resulting in impacts on the environment	ALL	Possible	Moderate	MEDIUM
37.	Spills / damage to other chemical (eg flocculant) stores resulting in impacts on the environment	ALL	Possible	Moderate	MEDIUM

### Quarrying Considerations

This risk treatment plan is for hydrocarbons, dust suppressants, flocculant, neutralising agents and other chemical storage. Other than hydrocarbons, there will only be limited use of hazardous chemicals at the site if or when conditions require (such as neutralising agents, herbicides, pesticides or copper sulphate). Flocculants used to settle and consolidate the slimes and dust suppressants are industry proven and accepted environmentally safe products. MSDS sheets for flocculants, dust suppressants, neutralising agents and any other chemicals used or stored on site will be maintained in the site office. All fuels will be stored or transported in commercially produced, fully compliant containments or tanks.

All hydrocarbon and chemical storage will be compliant to Australian Standards and Earth Resources Regulation requirements, and in accordance with EPA guidance.

The flocculants utilised in the slimes treatment will be included in the blended mix of overburden and consolidated slimes that will be deposited back into the water filled pit, where they will stay permanently.

Neutralising agents may be used, if necessary, in managing the pH of the sediment-laden water coming from the wash plant to the thickener by an automated dosing system to ensure that any acidity does not impact the effectiveness of the flocculants used in the thickener. The acidity of the water supply coming into the plant and water leaving the plant will also be monitored and treated if necessary to maintain, as far as practicable, approximately neutral conditions in the water storages. The water draining from stockpiles of consolidated slimes in the Processing and Stockpiling area or a Temporary Materials Storage and Handling area (Figure 3) will pass through a sediment / interceptor trap prior to returning to the in-pit water storage. Any need to apply neutralising agents, if there were acidic runoff, will be applied in a careful, measured manner at the sediment / interceptor trap.



## Objectives

The key objectives of this risk treatment plan are to:

- Minimise the risk of industrial gasses, fuels and lubricants being released into the environment through leaks and spills

## Compliance standards

The compliance standards for this risk treatment plan are:

- AS1940 – Storage and Handling of Flammable and Combustible Liquids
- Environment Protection Act 2017, or as amended (ie General Environmental Duty)
- EPA Publication 1823.1, June 2021: Mining and Quarrying – Guide to preventing harm to people and the environment
- EPA Publication 1698, June 2018: Liquid Storage and Handling Guidelines

## Acceptance criteria

The acceptance criteria for this risk treatment plan are:

- Fuels and lubricants are stored appropriately and are not leaking or discharging
- Industrial gasses are stored appropriately and are not leaking or discharging

## Control measures to address hazard

The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
1.	Hydrocarbon storage in accordance with AS 1940 (The Storage and Handling of Flammable and Combustible Liquids) and the Dangerous Goods (Storage and Handling) Regulations 2022	Storage in accordance with the standards
2.	A contaminants spill kit available at all times when any minor servicing and/or simple maintenance tasks are undertaken on site.	Spill kits available
3.	Major servicing / repairs conducted at workshop in appropriately bunded area.	Workshop fitted with triple interceptor trap and water management structures
4.	Any areas where refuelling / minor servicing activities or flocculant use are being undertaken are drained to ensure no water leaves the site without first going through an interceptor trap	Surface drainage and other water management controls, directing to an interceptor trap, in place and effective.
5.	MSDS sheets readily available for all dust suppressants, flocculants, neutralising agents, herbicides, pesticides, copper sulphate and any other chemicals used or stored on site.	MSDS sheets for all chemicals used or stored on site maintained in the site office
6.	All chemicals stored in accordance with the EPA Liquid Storage and Handling Guidelines and relevant Australian Standards	Chemical storage in accordance with the guidelines, MSDS sheets and relevant standards

## Residual Risk Assessment

#	Details of the Risk Event	Phase	Likelihood	Consequence	Residual Risk Rating
35.	Fuel / oil leakage from equipment (mechanical failure, accident) resulting in impacts on the environment	ALL	Unlikely	Moderate	MEDIUM
36.	Spills / discharges whilst refuelling resulting in impacts on the environment	ALL	Unlikely	Moderate	MEDIUM
37.	Spills / damage to other chemical (flocculant) stores resulting in impacts on the environment	O, R	Unlikely	Moderate	MEDIUM

## Monitoring

#	Aspect to be monitored	Details of monitoring
1.	Integrity of fuel and chemical storages	Monthly site inspections
2.	Pollution controls and surface drainage effective and maintained.	Monthly site inspections

## Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1.	Performance of fuel and chemical storages and surface drainage	Internally reported following monthly inspections	To initiate remedial actions which will be documented in site record book.
2.	Reportable Event under MRSDA	ERR / On event	Used to meet Work Authority holder's reporting obligations under the MRSDA

## Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1.	AS1940 – Storage and Handling of Flammable and Combustible Liquids	
2.	MSDS sheets for chemicals used or stored on site	

## Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	Risk Management Plans	Work Plan
2.	Site Layout Plan	Work Plan
3.	WA and WP conditions	Site Office
4.	Planning permit conditions	Site Office

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## 2.13. Pests, Weeds and Disease

### Scope

This risk treatment plan is to assess and manage the impacts of weeds, pest animals and/or soil-borne disease on and across the site and any potential impacts on the environment or sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1.	Environment	WA and surrounding area	Weeds/pest species introduced or allowed to spread	Proximity to site
2.	Adjoining / neighbouring properties	Immediate adjoining land users	Weeds/pest species introduced or allowed to spread	Proximity to site
3.	Surface water / pit lake	Onsite pit	Potential to be impacted by algal blooms	Hydrogeological assessment

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
38.	Allowing weeds to spread from the site to neighbouring properties	ALL	Possible	Moderate	MEDIUM
39.	Harbouring pest animals	ALL	Possible	Moderate	MEDIUM
40.	Unsanitised plant / equipment introducing weeds / diseases	ALL	Possible	Moderate	MEDIUM
41.	Pit lake water becoming affected by blue-green algal blooms	O,R	Unlikely	Minor	LOW

### Quarrying Considerations

This Risk Treatment Plan does not address weeds/pathogens contained in soils imported onto the site: all risks associated with imported material are discussed in the risk Imported Materials. This RTP addresses pest species and noxious weeds that may be present on the site or introduced to the site by environmental factors or unsanitised plant/equipment.

The primary objective is to ensure that weed problems do not develop and spread into adjoining land. Weed and pest animal control will be carried out in accordance with guidelines and standards. Any herbicide or pesticide use will be in accordance with the manufacturer's recommendations, including the most appropriate time to ensure effective control. The revegetation of progressively rehabilitated areas will also be regularly monitored for weeds and pest animals, ensuring that the rehabilitation objectives are achieved in accordance with the Rehabilitation Plan.

The site, which is located on a site of past farming activities, is actively managed to identify and mitigate the presence of weeds and pest animals.

There is some potential for blue-green algae to develop in the pit water body, however this is uncommon for such quarries and dependent on temperature and nutrient inputs, being more likely in summer. The impact would mainly be aesthetic, particularly at site closure, but if it occurs it is easily treated with copper sulphate dosing.

### Objectives

The key objectives of this risk treatment plan are to:

- Protect biodiversity values associated with the Work Authority area
- Prevent site activities contributing to the proliferation of noxious weeds, plant diseases or pest animals, on or off the Work Authority area

## Compliance standards

The compliance standards for this risk treatment plan are:

- Catchment and Land Protection Act (1994)
- Planning and Environment Act (1987)

## Acceptance criteria

The acceptance criteria for this risk treatment plan are:

- Site operator complies with legislative requirements relating to the control and management of declared noxious weeds and pest animals
- The extractives operation does not contribute to the spread and proliferation of weeds, pest animals or soil-borne plant diseases
- No algal blooms within pit lake.

## Control measures to address hazard

The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
1.	Eradicate or manage any declared noxious weeds or established pest animals, including habitats, present on the Work Authority area.	Infestations of declared noxious weeds and established pest animals are eradicated or controlled. Any herbicide use will be in accordance with manufacturer's recommendations, including the most appropriate time to ensure effective control.
2.	Identify pest species habitats within the work authority boundary and remove refuge areas (burrows, hollow logs) where practicable and consistent with native vegetation protection requirements	Pest animal habitats are removed or destroyed
3.	Disinfect equipment moved from areas known or suspected to contain <i>Phytophthora cinnamomi</i> .	Hygiene procedures are in place and followed in areas with known or suspected <i>Phytophthora cinnamomi</i> presence.
4.	Limit vegetation clearing and surface disturbance activities to the minimum required operationally.	In accordance with Work Plan and Site Layout Plan
5.	Pit water body monitored for blue-green algal blooms and dosed with copper sulphate, if necessary	Any blue-green algal blooms detected and treated, in accordance with relevant guidance, to ensure that final rehabilitated pit lake remains free of blue-green algae
6.	Engage appropriately licenced personnel to conduct any required herbicide, pesticide or copper sulphate application to control weeds and/or pest animals.	Only licensed personnel are permitted to apply herbicides, pesticides or copper sulphate (for any necessary blue-green algae control)

## Residual Risk Assessment

#	Details of the Risk Event	Phase	Likelihood	Consequence	Residual Risk Rating
38.	Allowing weeds to spread from the site to neighbouring properties	ALL	Unlikely	Moderate	MEDIUM
39.	Harbouring pest animals	ALL	Unlikely	Moderate	MEDIUM
40.	Unsanitised plant / equipment introducing weeds / diseases	ALL	Unlikely	Moderate	MEDIUM
41.	Pit lake water becoming affected by blue-green algal blooms	O,R	Rare	Insignificant	LOW

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### Monitoring

#	Aspect to be monitored	Details of monitoring
1.	Site flora and fauna for weeds and pests.	6 Monthly site inspections (Spring & Autumn)
2.	Presence of blue-green algal blooms within pit water body	Annual inspection (Summer) for blue-green algal blooms within pit water body, in accordance with Groundwater Management Plan.

### Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1.	Site flora and fauna for any weeds and pests.	6 Monthly inspections reported to quarry management.	To review and revise adequacy of control measures and trigger further actions.
2.	Blue-green algal blooms	Internal reporting	Management intervention

### Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1.	CMPA Noxious Weeds and Pest Animals Control Plan, Guideline and Template	CMPA website

### Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	WP & Risk Management Plan	Work Plan
2.	Site Layout Plan	Work Plan
3.	WA and WP conditions	Site office
4.	Planning permit conditions	Site office

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## 2.14. Rubbish / General Waste

### Scope

This risk treatment plan is to assess and manage the hazards associated with generated domestic rubbish and/or general waste on and across the site and any potential impacts on the environment or sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1.	Surface water	Melbourne Water asset DR2504	Potential for pollution of adjacent waterway	Proximity to site
2.	Adjacent land uses	Adjacent land and immediate neighbours	Potential for amenity loss or pollution to impact the adjacent land uses	Proximity to site

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
42.	Uncontrolled handling of domestic rubbish and general waste resulting in pollution of waterway and/or adjacent land	ALL	Possible	Minor	MEDIUM
43.	Loss of amenity through the poor handling of redundant plant and equipment	ALL	Possible	Minor	MEDIUM

### Quarrying Considerations

The site will generate a small amount of domestic rubbish and general waste. Domestic rubbish includes toilet waste, office waste and food and paper waste from the office and amenities. General waste includes redundant / discarded plant and equipment, discarded conveyor belting, discarded screen decks, discarded tyres, discarded grease cartridges, discarded oil drums and oily rags. These materials will all be collected and periodically removed by contractors authorised to receive the wastes.

### Objectives

The key objectives of this risk treatment plan are to:

- Prevent domestic rubbish and general waste generated by site activities from adversely affecting soil, water or other aspects of the environment
- Protect the beneficial uses of water and soil environment as defined in relevant State Environment Protection Policies (SEPPs)

### Compliance standards

The compliance standards for this risk treatment plan are:

- Environment Protection Act 2017, or as amended (ie General Environmental Duty)
- EPA Publication 1741.1, October 2020: Industry guidance: supporting you to comply with the general environmental duty.

### Acceptance criteria

The acceptance criteria for this risk treatment plan are:

- Soil, water and air within and near the Work Authority area are not detrimentally affected by the storage and/or management of domestic rubbish or general waste.

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## Control measures to address hazard

The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
1.	Protect waste storage areas from rainfall and stormwater and locate away from areas of protected habitat	Covered waste storage areas and/or bins
2.	Redundant / discarded oil, grease rags etc stored in sealed drums until removed	“Full” waste oil / grease, etc drums will not be stockpiled on site. Drums removed by contractors authorised to receive the waste
3.	No on-site disposal (or burning) of domestic rubbish and/or general wastes generated from site activities. Use of off-site services / facilities authorised to receive the generated wastes, for recycling or disposal	No domestic rubbish or general wastes disposed on-site
4.	Redundant Tyres / conveyor belting	Redundant / damaged/ discarded tyres and conveyor belting will be removed by the supplier as required
5.	Limit the volume and permitted timeframe for wastes to be stored onsite.	Waste materials not held on-site for more than 6 months.
6.	Provide covered bins for temporary on-site storage of domestic rubbish and/or general wastes	Sealed bins provided
7.	Toilet/Amenities fitted with chemical system or council approved septic system	Septic systems maintained as required and emptied by licensed contractor as required
8.	Redundant plant and equipment located where it cannot be seen from outside the site	Redundant plant & equipment not visible from public roads and removed from site if unattended for greater than 12 months

## Residual Risk Assessment

#	Details of the Risk Event	Phase	Likelihood	Consequence	Residual Risk Rating
42.	Uncontrolled handling of domestic rubbish and general waste resulting in pollution of waterway and/or adjacent land	ALL	Unlikely	Minor	LOW
43.	Loss of amenity through the poor handling of redundant plant and equipment	ALL	Unlikely	Minor	LOW

## Monitoring

#	Aspect to be monitored	Details of monitoring
1.	Amount of waste stored on site	Quantities, types and location of wastes stored on site as part of monthly site inspection and review
2.	Disposal of wastes to sites authorised to receive that waste	Register of contractors with appropriate authorisation

## Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1.	All waste stored on site	12 Monthly internal reporting and safety compliance audit.	To improve waste management and ensure appropriate collection cycles
2.	Reportable Event under MRSDA	ERR / On Event	Used to meet Work Authority holder's reporting obligations under the MRSDA

## Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	WP & Risk Management Plan	Work Plan
2.	Site Layout Plan	Work Plan
3.	WA and WP conditions	Site office
4.	Planning permit conditions	Site office

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## 2.15. Fire

### Scope

This risk treatment plan is to assess and manage the impacts from bushfires burning onto the site and from fires igniting on-site and escaping the site and any potential impacts on the environment or sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1.	Biodiversity	Adjacent Properties	Damage/destruction to surrounding land and amenity	Historical exposure to wildfire
2.	Public safety	Site visitors and neighbouring residences	Serious injury / death	ERR directive
3.	Private property	Adjacent Properties	Damage/destruction to infrastructure or pastures	Historical exposure to wildfire
4.	Infrastructure	Bas Gas Plant	Damage/destruction to infrastructure	Proximity to site

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
44.	Uncontrolled fire could either enter or leave the site causing injury or damage	ALL	Possible	Critical	VERY HIGH
45.	Plant / machine / hot works igniting a wildfire	ALL	Possible	Critical	VERY HIGH

### Quarrying Considerations

WA007541 consists entirely of cleared grazing land, bounded by further areas of cleared agricultural land and other extractive industries with light vegetation along boundary fence lines. The heavily vegetated Adams Creek Nature Conservation Reserve is located several kilometres to the north east, while the Bass Gas Refining Plant is immediately north east of the site. Potential exists for fire to enter or leave the site.

A site Fire Response and Readiness Plan (FR&RP) will be developed and will be reviewed and revised as part of standard operating practices.

### Objectives

The key objectives of this risk treatment plan are to:

- Control potential sources of fire ignition and activities that could lead to fire ignition and escape on days of elevated fire danger
- Minimise environmental and human safety risks associated with fires burning onto a Work Authority area

### Compliance standards

The compliance standards for this risk treatment plan are:

- Country Fire Authority Act and Regulations
- Planning and Environment Act (1987)
- EPA Publication 1667.3, June 2021: Management and storage of combustible recyclable and waste materials – guideline

### Acceptance criteria

The acceptance criteria for this risk treatment plan are:

- Any fire initiating within the Work Authority area is contained within the site
- Grass bushfires burning onto the Work Authority area result in minimal environmental harm



## Control measures to address hazard

The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measurements (specifying how the control is being implemented –if not implicit in the control)
1.	All vehicles well maintained and fitted with spark arrestors and fire extinguishers	Vehicles suitably equipped with fire extinguishers / knapsack spray packs as appropriate.
2.	No “hot works” undertaken on days of Total Fire Ban	No ignition sources (welding, oxy cutting) on Total Fire Ban Days
3.	Refuelling and servicing to be conducted in cleared hard stand areas within the extraction area.	All refuelling and vehicle servicing in accordance with procedures
4.	Monitor VicEmergency App / website, or similar, on days of extreme or catastrophic fire danger rating, or total fire ban days.	Record of engagement with agencies
5.	Liaising with CFA in times of extreme or catastrophic fire danger rating.	Record of engagement with agencies
6.	Fire Response and Readiness Plan in place.	Plan in place, documented and actioned
7.	Flammable and combustible wastes are removed from the site as soon as practicable	No flammable waste is stockpiled onsite

## Residual Risk Assessment

#	Details of the Risk Event	Phase	Likelihood	Consequence	Residual Risk Rating
44.	Uncontrolled fire could either enter or leave the site causing injury or damage	ALL	Unlikely	Critical	HIGH
45.	Plant / machine / hot works igniting a wildfire	ALL	Unlikely	Critical	HIGH

## Monitoring

#	Aspect to be monitored	Details of monitoring
1.	Site fire preparedness	Annual inspections will include an assessment of the site's preparedness for fire and be recorded in the Manager's Report Book
2.	Weather/fire warnings	Liaising with CFA in times of extreme or catastrophic fire danger rating.
3.	Total Fire Ban days	Quarry Manager and/or Site Supervisor monitors Radio / CFA warnings (via VicEmergency app / website, or similar)

## Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1.	Site fire preparedness	Internally following annual inspections	Implement any remedial actions
2.	Ignition/fire	The CFA will be informed of any uncontrolled fire	Implement any remedial actions
3.	Reportable Event under MRSDA	ERR / On Event	Used to meet Work Authority holder's reporting obligations under the MRSDA

### Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1	CMPA Bushfire Response and Readiness Plan Template	CMPA website

### Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	Fire Response and Readiness Plan	Site office
2.	WP & Risk Management Plan	Work Plan
3.	Site Layout Plan	Work Plan
4.	WA and WP conditions	Site office
5.	Planning permit conditions	Site office

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## 2.16. Soil Biological Activity

### Scope

This risk treatment plan is to assess and manage the impacts from soil stockpiles to maintain the biological activity and any potential impacts on the environment or sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1	On-site soils stockpiled for rehabilitation	On site soil stockpiles	Soil may become unfertile	DEWLP recommendation

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
46.	Unsuccessful rehabilitation due to poor soil biological activity	ALL	Likely	Minor	MEDIUM

### Quarrying Considerations

The top 200mm (at least) will be stripped and stored separately as topsoil for rehabilitation. Topsoil is removed in planned campaigns and in suitable weather conditions to minimise adverse impacts before direct use in rehabilitation or being stored in low windrows or stockpiles. Initially some soil will be used in constructing the perimeter screening bund.

Soil stockpiles will be limited in height to not greater than 2m and will be located around the site within the disturbance area at sites close to extraction crests, close to where they will be used in rehabilitation. Soil stockpiles retained for more than 6 months will be contoured and stabilised to manage erosion. Topsoil in excess of rehabilitation requirements may be sold.

### Objectives

The key objectives of this risk treatment plan are to:

- Protect existing soil structure, nutrient levels and biological activity in onsite soils
- Facilitate the rehabilitation of the quarry site by maintaining biological activity in stockpiled soils.

### Compliance standards

The compliance standards for this risk treatment plan are:

- Catchment and Land Protection Act (1994).

### Acceptance criteria

The acceptance criteria for this risk treatment plan are:

- The health of biologically active soil is maintained while it is stockpiled and reused in rehabilitation.

### Control measures to address hazard

The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented – if not implicit in the control)
1.	No soil stripping/removal when it is very dry.	Condition of soil maintained.
2.	Soil stockpiles height.	Stockpiles ≤ 2 m height.

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#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented – if not implicit in the control)
3.	Stabilise soil and overburden stockpiles (e.g. seeded / roughened / mulched) if they will not be disturbed for an extended period.	Soil and overburden stockpiles are stabilised within 6 months if not used in progressive rehabilitation.
4.	Soil layers, including any surface organic matter and any woody debris segregated and stockpiled separately	Topsoil and woody debris stockpile separately
5.	Imported soil checked/verified (via Imported Materials Management Plan) for pathogens and any disease.	Imported soils verified as pathogen and disease free

### Residual Risk Assessment

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
46.	Unsuccessful rehabilitation due to poor soil biological activity	ALL	Unlikely	Minor	LOW

### Monitoring

#	Aspect to be monitored	Details of monitoring
1.	Maintenance of site soil stockpiles.	6 Monthly site inspections will be conducted and will include topsoil stockpiles. Inspections, and any required monitoring and remedial actions documented in site record book.

### Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1	Maintenance of site soil stockpiles.	Internally after 6 monthly inspections	Implement required remedial actions

### Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1	Rehabilitation Plans & Other Environmental Aspects of Work Plans	<a href="http://earthresources.vic.gov.au/earth-resources-regulation/licensing-and-approvals/minerals/guidelines-and-codes-of-practice/rehabilitation-and-environmental-aspects-of-mining-and-extractive-work-plans">http://earthresources.vic.gov.au/earth-resources-regulation/licensing-and-approvals/minerals/guidelines-and-codes-of-practice/rehabilitation-and-environmental-aspects-of-mining-and-extractive-work-plans</a>

### Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	WP & Risk Management Plan	Site Office
2.	Site Layout Plan	Site Office
3.	WA and WP conditions	Site Office
4.	Planning permit conditions	Site Office

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## 2.17. Vehicle Sediment Transport

### Scope

This risk treatment plan is to assess and manage the impacts associated with the carriage and deposition of dust, clay (mud) and sand by vehicles leaving the site, and subsequent deposition onto public roads, and any potential impacts on members of the public or sensitive receptors during quarry operations (ie set up / construction, operations/production and rehabilitation activities).

### Key sensitive receptors

The key sensitive receptors associated with this hazard include:

#	Details of the Sensitive Receptor	Location and proximity to site	How hazard may harm or damage Sensitive Receptor	Evidence to support assessment
1	South Gippsland Highway	Adjacent to the WA and the point of access and egress from the site.	Dust, mud or sand deposited on road	Proximity to site

### Risk Events

#	Details of the Risk Event	Phase	Likelihood	Consequence	Inherent Risk Rating
47.	Dust, mud or sand carried onto public roads	ALL	Likely	Minor	MEDIUM

### Quarrying Considerations

This site is accessed directly from the South Gippsland Highway. Some internal sealed roads and a wheel wash will be in place to address the potential for the deposition of extraneous material onto public roadways.

The adoption of standard quarrying controls such as no-go areas, vehicle movement and speed controls will also be implemented.

### Objectives

The key objectives of this risk treatment plan are to:

- Avoid carriage of dust, clay (mud) or sand by vehicles leaving the Work Authority area.
- Prevent road safety issues from hazards associated with the deposition of dust and clay (mud) or sand onto external roads by traffic from the Work Authority area.

### Compliance standards

The compliance standards for this risk treatment plan are:

- Planning and Environment Act 1979
- EPA Publication 1897, Sept 2020: Managing Truck and Other Vehicle Movement – Guidance sheet
- Planning Permit conditions

### Acceptance criteria

The acceptance criteria for this risk treatment plan are:

- No complaints from local road users regarding road conditions
- Minimal dust and clay (mud) and sand carried by vehicles beyond the boundary of the Work Authority.

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## Control measures to address hazard

The controls for this risk treatment plan are:

#	Details of controls being used	Performance standards/measures (specifying how the control is being implemented –if not implicit in the control)
1.	Sealed access road	Sales vehicles use sealed road access and egress
2.	Water cart used on access road	Employ water cart on high temperature / windy days, or in response to complaints
3.	Internal traffic management (speed, no-go areas, etc)	Driver instruction and training
4.	Wheel wash	All departing sales trucks use wheel wash
5.	Clearing of loose dust / sediment from side rails, tailgates and drawbars of sales trucks before departing the site	All departing sales trucks cleared of loose dust / sediment that may be deposited on roads before departing the site
6.	Road truck loads properly covered / secured before leaving site and/or not over-filled, to prevent spillage	Driver instruction and training
7.	Management of sediment transport to public roads consistent with EPA guidance	Sediment transport offsite consistent with EPA guidance

## Residual Risk Assessment

#	Details of the Risk Event	Phase	Unlikely	Consequence	Residual Risk Rating
47.	Dust, mud or sand carried onto on public roads	ALL	Possible	Minor	MEDIUM

## Monitoring

#	Aspect to be monitored	Details of monitoring
1.	Dust, mud and sand deposition on surrounding roads	Daily observation
2.	Community complaints / concerns regarding spillage or dust	Publication 1823.1 June 2021 Mining and quarrying: <i>Guide to preventing harm to people and the environment</i> Complaints management/Community Engagement Plan

## Reporting

#	Aspect being reported	Who will the information be reported to and at what frequency?	How will it be used?
1.	Dust, mud or sand deposition on surrounding roads	Internal reports as required	To assess improvement or maintenance required
2.	Reportable Event under MRSDA	ERR / On Event	Used to meet Work Authority holder's reporting obligations under the MRSDA

## Relevant industry publications

#	Document	Source (e.g. URL, appendix number)
1.	CMPA Traffic Management Guidelines	CMPA website

## Operator's reference documents

#	Document	Location (e.g. work plan appendix number)
1.	WA Work Plan & Risk Treatment Plan	Site office
2.	Work Plan Conditions / Planning Permit Conditions	Site office

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