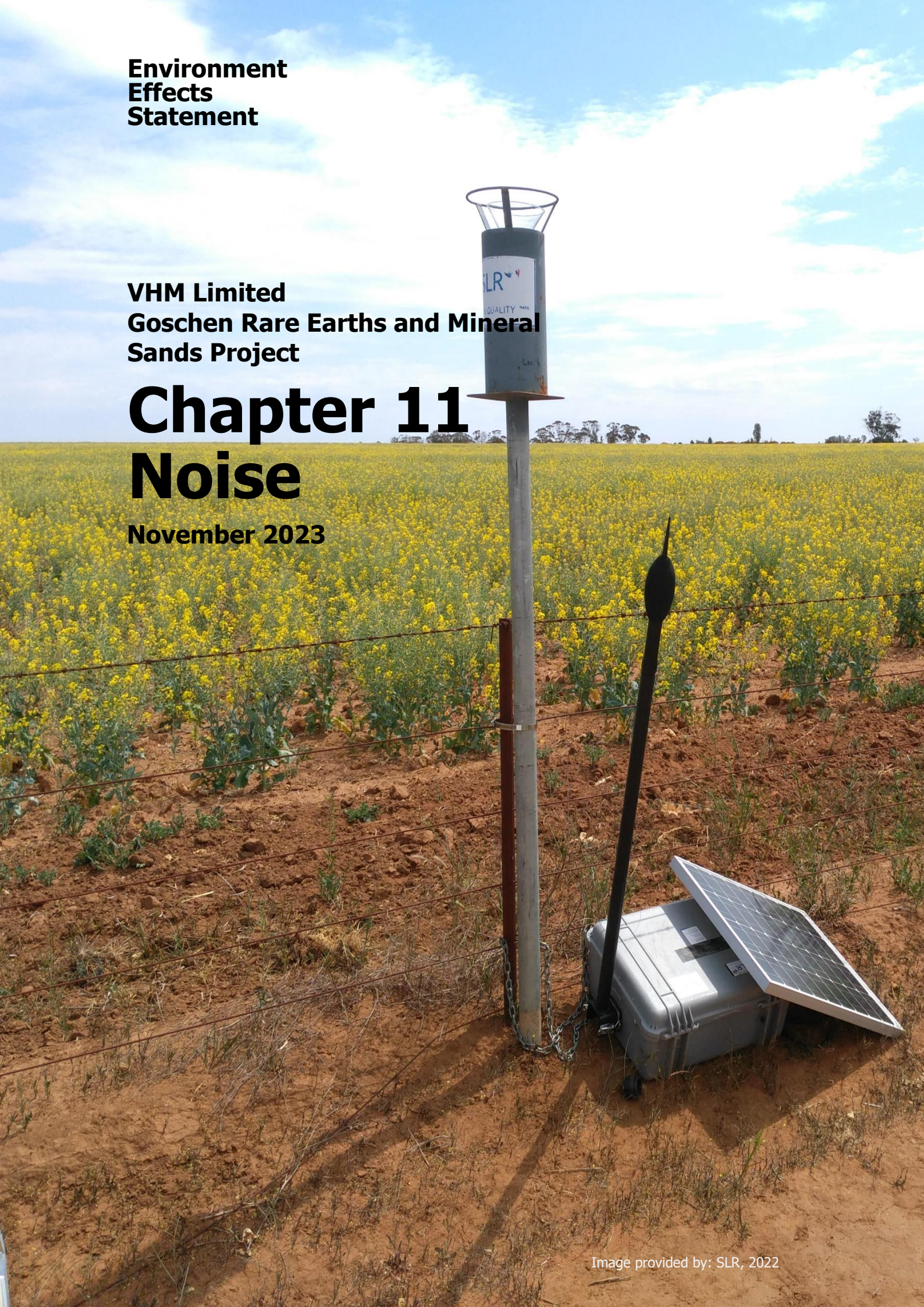
Environment
Effects
Statement

VHM Limited
Goschen Rare Earths and Mineral Sands Project

# Chapter 11 Noise

November 2023

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# 11. Noise

This chapter provides an assessment of the noise impacts associated with the construction and operation of the Goschen Rare Earths and Mineral Sands Project (the Project).

This chapter summarises the outcomes of EES Technical Report F: Noise Impact Assessment prepared in support of the Environment Effects Statement (EES). This technical report is shown in EES Technical Report F: Noise Impact Assessment. This assessment informed the development of mitigation and management measures for the Project to avoid, minimise and manage noise and vibration impacts.

### Overview

Noise produced during the construction, operation and decommissioning of large infrastructure or mining projects has the potential to impact nearby noise sensitive receptors (also referred to as noise sensitive receivers) if not adequately understood and subsequently managed in accordance with relevant legislation and guidelines.

Key findings of the noise impact assessment include the following:

- Existing conditions were evaluated through a four week noise monitoring program completed in October 2018. Ambient background noise levels were found to be generally low.
- Construction phase noise emissions comply with the requirements of the *Civil construction, building and demolition guide*, (EPA Publication 1834). Construction activities would be limited to standard EPA 'normal' day-time hours, with the provision that some unavoidable works (such as extended concrete pours if necessary) or low noise activities (such as finishing works) may occasionally occur during the evening or night periods.
- Only a single receptor (R13) is anticipated to receive construction noise at an elevated level (45 dBA), however, noise emissions are similar to ambient noise levels (Leq) and emissions are unlikely to result in adverse impact.
- Predicted noise from water pipeline construction activity is likely to be below ambient background noise levels at most receptors, with only a small number of receptors in the town of Mystic Park anticipated to receive construction noise at an elevated level. Two receptors are predicted to be potentially exposed to noise levels exceeding 75 dBA and nine receptors between 60 dBA and 75 dBA. The work is short in duration (anticipated to be only a few days in Mystic Park) and would occur during 'normal' day-time hours.
- During Area 1 mining operations (Year 1 to Year 8) an exceedance (7-10 dBA) of the day-time noise limit was predicted for a single receptor (R14). An agreement has been reached between VHM and R14 for the duration of works in Area 1. R14 won't be considered a sensitive receptor should the Project proceed as the residents would be relocated out of Receptor R14 during mine operations.
- During Area 1 mining operations (Year 1 to Year 8) a moderate exceedance (4-5 dBA) for night-time are predicted at receptor R12 and R13. To manage noise emissions, the following will be implemented:
  - Addition of specialist engineered noise suppression kits to haul fleet vehicles.
  - Higher levels of noise suppression on the processing plant building.
  - Restricting mining activities to below ground pits only during the night.
- During Area 3 mining operations the dwelling denoted as R09 would be used as a Project operations office and therefore not considered a noise sensitive receptor. Mining in the northernmost cells of Area 3 (Year 11) is closest to receptor R7 which is predicted to comply with day-time noise limits. Subsequent mining in Area 3 (Year 15) is sequenced for cells further from R7 and it is anticipated to comply with day, evening and night-time noise limits with the inclusion of modest levels of noise mitigation and management controls.
- The haul and mining mobile plant were identified as dominant noise sources for all receptors at some stage of the mine's life. A further contingency mitigation has been recommended for the mobile plant (haul trucks, excavators, scrapers, dozers, etc) to include specialist engineered noise reduction kits, where local screening is not feasible. The addition of noise suppression kits typically results in an overall reduction of approximately 5-10 dBA from the standard model. The additional cost of such engineered noise reduction kits is quite significant and hence the need for and type and extent of mitigation is best considered a contingency measure and would be evaluated in more detail once there is greater clarity of the operations.

- Noise emissions from the pumping station at Kangaroo Lake are predicted to be below the noise protocol noise limits (EPA Publication 1826) at all nearby receptors, for all time periods.

### EES evaluation objective

The scoping requirements for the Goschen Mineral Sands and Rare Earths Project Environment Effects Statement ('scoping requirements') by the Minister for Planning, set out the specific environmental matters the Project must address in order to satisfy the Victorian assessment and approval requirements.

The scoping requirements include a set of evaluation objectives for investigating and assessing the Project's environmental effects. These objectives identify the desired outcomes to be achieved in managing the potential impacts of constructing, operating and decommissioning the Project in accordance with the Ministerial guidelines for assessment of environmental effects under the *Environment Effects Act 1978*.

The following evaluation objective is relevant to the acoustic assessment:

- *To protect the health and wellbeing of residents and local communities, and minimise effects on air quality, noise and the social amenity of the area, having regard to relevant limits, targets or standards.*

A stated requirement of the Minister is for the EES is to address the effects of Project construction and operation on air quality and noise on nearby sensitive receptors (particularly residences).

The aspects from the scoping requirements relevant to the evaluation objective are shown in Table 1 of Technical Report F: Noise Impact Assessment.

## 11.1 Methodology

The approach adopted for the noise impact assessment (see Section 6.0 of Technical Report F: Noise Impact Assessment) involved the following key tasks:

- Establishment of a study area and characterisation of the existing environment.
- Review of the Project description and desktop review of relevant baseline data and reports, including typical construction noise levels for construction equipment to be used on the Project.
- Characterisation of existing conditions through baseline noise monitoring including:
  - Background noise monitoring which was completed at four locations over a four week period. No monitoring was completed in the vicinity of Kangaroo Lake as it is anticipated that background noise levels in this region would be similar to that measured at the other sites.
- An initial risk based analysis to evaluate the potential effects of proposed Project activities and their likelihood of occurring (considering initial mitigation measures) to determine the relative importance of environmental impacts associated with the Project and therefore prioritise issues for attention in the subsequent assessment of impacts. Initial mitigation measures would include measures that are common industry practice or required to meet legislation.
- Evaluation of noise impacts first considered General Environmental Duty (GED) requirements, and once all noise sources had been eliminated or reduced so far as reasonably practicable, residual noise impacts were assessed against established criteria.
- Prediction of likely noise levels for the construction, operation and decommissioning phases of the Project. Noise predictions considered:
  - Noise emission data for on-site equipment (refer to Appendix B of Technical Report F: Noise Impact Assessment).
  - The distance between the sources and receivers.
  - Terrain features that obstruct the noise path (digital terrain model based on 1 metre (m) interval elevation contours).
  - The hardness of ground between the source and receiver.
  - Operational scenarios associated with peak operational periods when staged mining activities are being undertaken at proximity to noise sensitive receivers.
- An assessment of impacts that examines the severity, extent, and duration of the potential impacts and considers the sensitivity and significance of the affected receptors.
- Evaluation of predicted outcomes against benchmarks and criteria such as those described in applicable legislation, policy and standards.

- Evaluation of the potential for cumulative impacts (where relevant) caused by impacts of the Project in combination with impacts of other existing and proposed Projects that may have an overall significant impact on the same environmental asset.
- Identification of additional mitigation measures where necessary to address potentially significant environmental impacts.
- Evaluation and reporting of the residual environmental impacts including magnitude, duration and extent, taking into account the proposed mitigation measures and their likely effectiveness.

## 11.2 Study area

An appropriate study area may be defined as the approximate geographical extent required for the propagation of noise emissions from various Project activities to result in minimal change to the existing ambient background noise environment.

For the anticipated fleet of fixed plant and mobile equipment such as those that may be expected from the Project activities, a study area of approximately 10 kilometre (km) by 10 km centred on the Project, would generally be considered sufficient to meet the definition of an appropriate study area. Due to the geographical spread of the Project Areas (Area 1 and Area 3) and the distribution of nearby noise sensitive receivers around the Project, a study area of approximately 15 km by 15 km, centred towards the south-eastern corner of Area 3 has been chosen.

In addition to the above, the following were also considered

- A separate study area of approximately 1.5 km x 1.5 km was developed for the water supply pumping station
- A study area extending approximately 3 km from the pipeline alignment
- Impacts along the ore truck transport route to the Ultima Intermodal facility.

## 11.3 Existing conditions

An existing conditions assessment was conducted to develop an understanding of the existing noise environmental and to identify where noise sensitive receivers are located relative to the proposed Project footprint, including the pumping station near Kangaroo Lake.

### 11.3.1 Local Setting

The majority of the Project would occur on farmland, with remnant native vegetation existing principally along road reserves. Rural residences are located over the Project area and surrounds. Of significance with relation to noise are:

- Areas defined as 'noise sensitive areas' in accordance with the EP Act and subordinate legislation. These areas are residences located nearby the Project in farming zoned land (FZ) and the Mystic Park township zone (TZ).
- Category IV public conservation and resources zones close to the Project are:
  - Talgitcha Bushland Reserve.
  - Lalbert Recreation Reserve.
- Category IV public conservation and resources zones close to Kangaroo Lake are:
  - Mystic Park Bushland Reserve.
  - Forest Plantation East Road.
  - Adjacent to Kangaroo Lake and Murray Valley Highway.
- Category V natural areas close to Kangaroo Lake are:
  - Koorangie Wildlife Reserve.
  - Yassom Swamp Flora and Fauna Reserve.
  - Bael Bael Grassland Nature Reserve.
  - Tutchewop Wildlife Reserve.

### 11.3.2 Noise Sensitive Receivers

Noise sensitive receptors include houses, schools, kindergartens, and places where sleep occurs. Noise sensitive receptors identified in the vicinity of the Project comprise a number of nearby rural residences. In accordance with the Noise Protocol 2021 (EPA Publication 1826.4), the potential impacts at these residences have been determined as part of this assessment. The nearest existing noise sensitive receivers to the Project site are shown in **Table 11-1** and **Figure 11-1**.

**Table 11-1 Identified nearest noise sensitive receivers within 5 km of the Project site**

| ID | Address | UTM Coordinates (Zone 54) | |
|---|---|---|---|
| | | (metres East) | (metres South) |
| R1 | 2547 Quambatook-Swan Hill Rd | 728,695 | 6,057,913 |
| R2 | 397 Bennett Rd | 724,850 | 6,053,261 |
| R3 | 618 Nadler Rd | 720,945 | 6,050,305 |
| R4 | 597 Holmes Rd | 725,900 | 6,064,002 |
| R5 | 614 Holmes Rd | 725,979 | 6,063,658 |
| R6 | 971 Mystic Park-Meatian Rd | 727,086 | 6,061,550 |
| R7 | 774 Mystic Park-Meatian Rd | 724,968 | 6,060,540 |
| R8 | 129 Mystic Park-Meatian Rd | 718,405 | 6,060,955 |
| R9 | 636 Thompson Rd | 721,880 | 6,058,420 |
| R10 | 227 Jobling Rd | 717,293 | 6,057,603 |
| R11 | 679 Pola Rd | 717,489 | 6,055,795 |
| R12 | 607 Nalder Rd | 720,623 | 6,051,214 |
| R13 | 522 Pola Rd | 718,485 | 6,054,126 |
| R14 | 695 Bennett Rd | 721,779 | 6,053,064 |
| R15 | 270 Pola Rd | 718,344 | 6,051,555 |
| R16 | 35 Nalder Rd | 715,051 | 6,051,041 |
| R17 | 3602 Lalbert-Kerang Rd | 723,762 | 6,049,984 |

Several other sensitive receivers are located in the vicinity of, but generally further away than those listed in Table 11-1. While these are not included in the assessment, due to their increased separation from the Project, these will be impacted by Project noise emissions to a lesser degree than those receivers that are included.

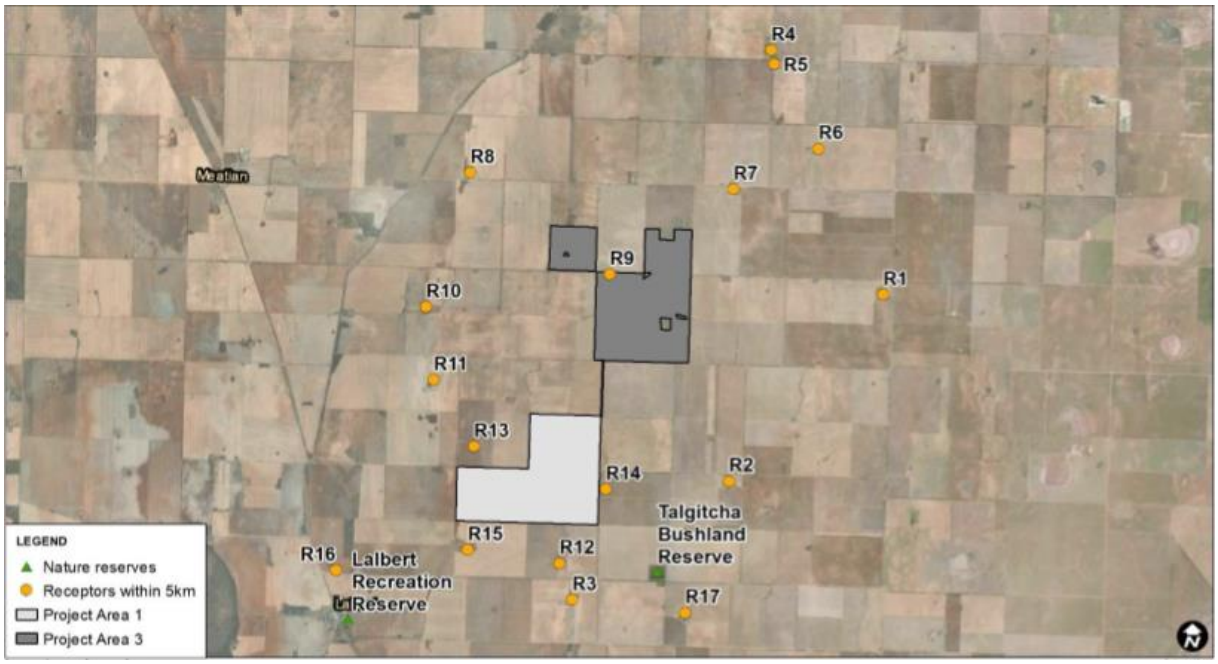


**Figure 11-1 Identified nearest noise sensitive receptors to the project site**

The nearest receptors within 800 m of the Kangaroo Lake Pump Station and the 38 km water supply pipeline between Kangaroo Lake and the Project site are identified with the 'P' prefix and are shown in **Table 11-2** and **Figure 11-2**.

**Table 11-2 Identified nearest noise sensitive receivers within 800 metres of Kangaroo Lake Water Pipeline**

| ID | Address | UTM Coordinates (Zone 54) | |
|---|---|---|---|
| | | (m East) | (m South) |
| P1 | 64 Mystic Park East Road | 6,061,956 | 750,579 |
| P2 | 68 Mystic Park East Road | 6,061,941 | 750,541 |
| P3 | 72 Mystic Park East Road | 6,061,919 | 750,504 |
| P4 | 94 Mystic Park East Road | 6,061,819 | 750,319 |
| P5 | 88 Gorton Road | 6,060,707 | 750,316 |
| P6 | 92 Gorton Road | 6,060,637 | 750,348 |
| P7 | 190 Mystic Park East Road | 6,061,915 | 749,460 |
| P8 | 432 Mystic Park East Road | 6,061,664 | 747,093 |
| P9 | 2 Wilson Street | 6,061,662 | 747,045 |
| P10 | 4 Wilson Street | 6,061,698 | 747,057 |
| P11 | 6 Wilson Street | 6,061,720 | 747,056 |
| P12 | 1-5 Wilson Street | 6,061,732 | 746,999 |
| P13 | 8 Wilson Street | 6,061,747 | 747,050 |
| P14 | 12 Wilson Street | 6,061,784 | 747,049 |
| P15 | 1 Mystic Park Road | 6,061,834 | 747,049 |
| P16 | 3 Mystic Park Road | 6,061,832 | 747,104 |
| P17 | 4 Mystic Park Road | 6,061,884 | 747,107 |
| P18 | 22 Wilson Street | 6,061,920 | 747,058 |
| P19 | 24 Wilson Street | 6,061,941 | 747,067 |
| P20 | 7 Wilson Street | 6,061,826 | 747,002 |

| ID | Address | UTM Coordinates (Zone 54) | |
|---|---|---|---|
| | | (m East) | (m South) |
| P21 | 49 Tresco-Mystic Park Road | 6,062,163 | 746,969 |
| P22 | 2237 Mystic Park-Beauchamp Road | 6,061,833 | 745,745 |
| P23 | 51 Bartel Road | 6,062,184 | 745,383 |
| P24 | 2194 Mystic Park-Beauchamp Road | 6,061,511 | 745,320 |
| P25 | 974 Mystic Park Beauchamp Road | 6,056,942 | 737,818 |
| P26 | 649 Mystic Park Beauchamp Road | 6,056,368 | 735,344 |
| P27 | 100 Steer Road | 6,059,321 | 733,930 |
| P28 | 410 Mystic Park Beauchamp Road | 6,055,669 | 732,893 |
| P29 | 240 Mystic Park-Beauchamp Road | 6,055,545 | 731,343 |

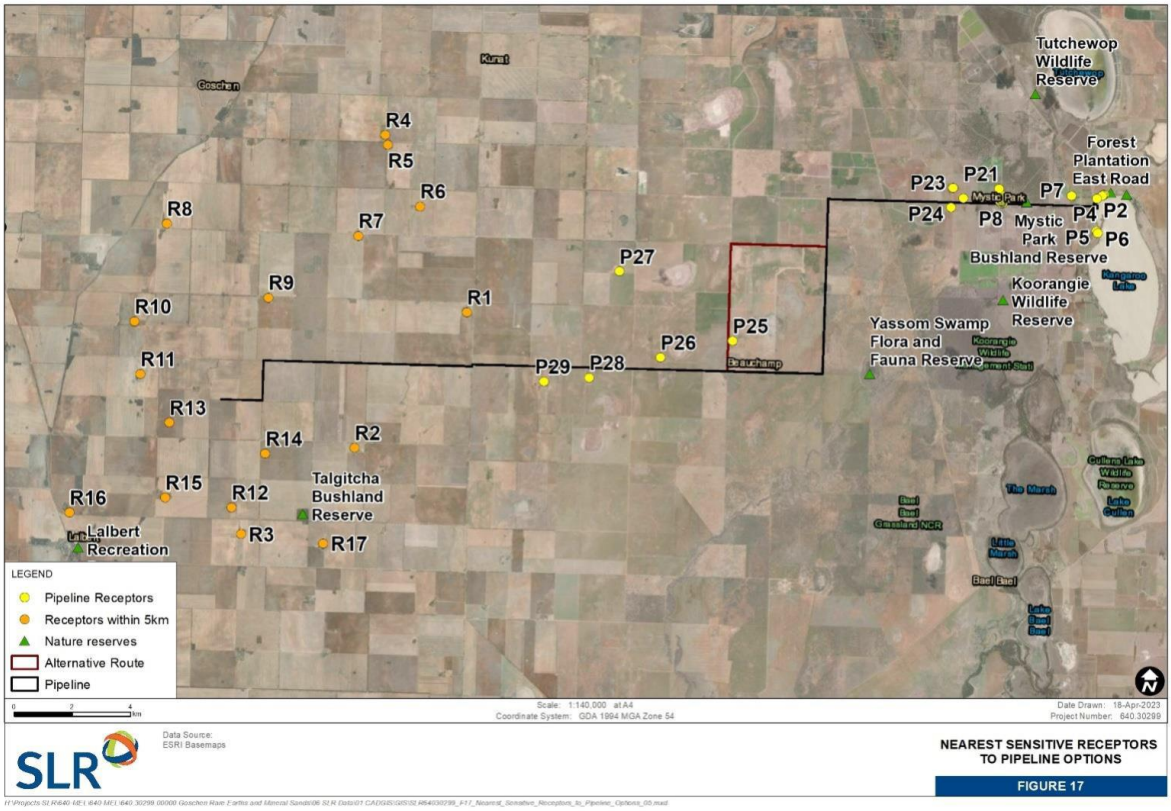


**Figure 11-2 Nearest noise sensitive receptors to the water supply pipeline**

### 11.3.3 Topography

The Project area and surrounds are generally flat with less than 50 m elevation change over 50 km from the Project in any direction.

### 11.3.4 Existing noise levels

The existing noise environment in the Project area is typical of rural farming area, with background noise levels being generally low and determined by non-anthropogenic sources such as wind and insects. However, at some locations the existing noise environment would feature noise generated by farming activity and equipment (e.g. tactors, harvesters, grain trucks etc.) for periods during the year. On the shores of Kangaroo Lake the noise environment would also feature occasional noise form recreational boating.

A background noise monitoring program was completed in the Project area at four locations over a period of approximately four weeks in October 2018. No monitoring was completed in the vicinity of Kangaroo Lake, however, it is anticipated that background noise levels in this region would be similar to that measured at the other sites. Monitoring locations and the closest sensitive receivers to that location were as follows:

- Thompsons Road – closest receiver was R9 (860 metres).
- Jobling Road – closest receiver was R10 (200 metres).
- Bennett Road – closest receiver was R14 (630 metres).
- Quambatook – Mystic Park Meatian Road – closest receiver was R6 (260 metres).

While the monitoring was undertaken in 2018, it is not anticipated that there is any significant change in background noise levels to date, noting that the statistical analysis used to quantify the background level uses the typical lowest measured noise levels that occurred over the monitoring campaign, and as such is a conservative representation of the background noise environment.

The measured day, evening and night background noise levels at the monitoring locations are shown are reported as background noise levels ($L_{A90, 1h}$) and are shown in **Table 11-3**. The levels presented include the arithmetic average of the collected 1 hour (h) L90 data over the entire monitoring period for each location, as well as the single quietest day, evening or night period background level over the entire monitoring period. This second parameter is used to determine the applicable noise limits in accordance with the Noise Protocol (as per EPA Guideline 1997). But is considered a highly conservative indicator of the typical background level at the measurement locations.

Existing background noise levels were found to be generally low. Noise limits were determined in accordance with the Noise Protocol for the earth resources premises where the noise sensitive area is in a rural area (farming zone) **Table 11-3** also shows the resulting operational noise limits ($L_{eq, 30min}$).

**Table 11-3 Measured Background Noise Levels (based on $L_{A90, 1h}$)**

| **Measured Background Noise Levels (based on $L_{A90, 1h}$)** | | | | |
|---|---|---|---|---|
| **Based Period** | **2. Thompson Rd Average/Lowest** | **3. Jobling Rd Average/Lowest** | **4. Bennett Rd Average/Lowest** | **5. Quambatook M.P.M.Rd Average/Lowest** |
| Day | 28 dBA / 23 dBA | 34 dBA / 26 dBA | 31 dBA / 25 dBA | 34 dBA / 24 dBA |
| Evening | 26 dBA / 20 dBA | 39 dBA / 28 dBA | 33 dBA / 24 dBA | 30 dBA / 20 dBA |
| Night | 23 dBA / 20 dBA | 30 dBA / 22 dBA | 26 dBA / 21 dBA | 25dBA / 18 dBA |
| **Noise Protocol Noise Limits ($L_{eq, 30 min}$)** | | | | |
| **Period** | **2. Thompson Rd** | **3. Jobling Rd** | **4. Bennett Rd** | **5. Quambatook** |
| Day | 46 dBA | 46 dBA | 46 dBA | 46 dBA |
| Evening | 41 dBA | 41 dBA | 41 dBA | 41 dBA |
| Night | 36 dBA | 36 dBA | 36 dBA | 36 dBA |

### 11.3.5 Background vibration

The ambient vibration environment in the Project site area is anticipated to be very low, below the threshold of perception, with only occasional and very localised vibration being generated by vehicular movement, farming or domestic related activity.

## 11.4 Construction impact assessment

This section discusses the potential impacts of the Project as a result of the following construction activities:

- Processing Plant.
- Water supply pipeline.

### 11.4.1 Processing Plant

Construction of the processing plant would occur in a staged approach, starting at the Wet Concentrator Plant and progressing to the Mineral Separation Plant (Dry Plant). In these areas construction would initially be typical of earthworks including site ground improvement and hardstand construction with equipment as per typical industry usage (excavators, scrapers, vibratory rollers, asphalt/concrete etc.), followed by construction of the process plant infrastructure which includes cranes and mobile lifting plant, service vehicles, welding plant, and assembly workshops. Construction work would start as soon as possible following relevant regulatory approvals, however there would be some overlap with operations as mining operations would commence prior to the completion of the processing plant. This allows for the sale of some upstream ore products whilst the downstream processes are still being commissioned. Construction noise scenarios are independent of operational noise modelling in the Noise and Vibration assessment as presented in EES Technical Report F: Noise Impact Assessment.

High impact construction activities would take place during EPA normal working hours, with the provision that some low noise activities (such as finishing works) may occur during the evening or night periods. Two construction scenarios were developed for the processing plant:

1. Earthworks: site preparation, hardstands etc. Including clearing, excavation, compaction, concreting etc.
2. Building and lifting: installation of fixed plant and erection of buildings.

Construction noise is typically not assessed under the Environment Protection Regulations 2021; therefore the Noise Protocol does not provide noise limits for construction activities. Construction noise may nevertheless be assessed as unreasonable noise under the EP Act. The civil construction building and demolition guide, EPA Publication 1834, provides recommendations for managing construction noise. Predicted construction noise from the main Project site is anticipated to be below ambient background noise levels at most receptors, with only the closest receptor to the site (Receptor R13) anticipated to receive construction noise at levels above ambient. The predicted noise level at R13, 45 dBA, however, is below the noise limits determined in accordance with the Noise Protocol (46 dBA Leq) (refer to Section 11.3.4) and is unlikely to result in adverse impact given the predicted intensity and the duration of the construction activities.

### 11.4.2 Water supply pipeline

As discussed in Chapter 3 – Project Description of the EES, the water supply pipeline would be installed by a trenching and backfilling method between Kangaroo Lake and the Project site. A trench would be dug with an excavator and the section of pipe would be lowered in and connected to the previous section before the trench is backfilled and trenching is continued on the next section. Construction work would occur during EPA normal working hours only. The water supply pipeline route is shown in **Figure 11-2**.

To assess pipeline construction noise to natural areas, predicted noise level have been considered against the Category IV and Category V indicators and objectives in the Environment Reference Standard (ERS) relating to Public Conservation and Resource Zone (PCRZ) and natural areas including wildlife reserves, nature reserves and flora and fauna reserves.

The water supply pipeline passes through the township of Mystic Park, where receivers P8 to P20 are clustered. The closest sensitive receivers were identified at the intersection of Mystic Park East Road and Wilson Street, Mystic Park. Receivers P8 and P9 are predicted to be exposed to noise levels potentially exceeding 75 dBA when the works are immediately adjacent these receivers, and may be exposed to noise levels that affect environmental values such as domestic and recreational activities and normal conversation.

Predicted noise from water supply pipeline construction activity is likely to be below ambient background noise levels at those receivers close to the mining and processing plant area (R receivers), with a small number of receivers in the town of Mystic Park and along the pipeline route (P receivers) anticipated to receive construction noise at an elevated level. However, the overall exposure to any of these receptors would not be unreasonable for day-time construction work, considering the short term nature of the construction works, and the planned prior consultation with the affected community.

During the construction of the Kangaroo Lake pumping station and the eastern-most section of the pipeline it is anticipated that the ERS objective noise level are potentially exceeded at some Category IV reserves and parks and may affect environmental values such as recreational activities. However, in considering the potential ambient noise environment of these parks (proximity to Murray Valley Highway and domestic noise sources), and the short term duration of the works, the risk of construction noise impact at these reserves during construction is considered to be low.

Lower density or sparse populations with settlements that include smaller hamlets, villages and small towns that are generally unsuited for further expansion. Land uses include primary industry and farming.

Category V natural area indicators are qualitative with the objective of preserving a long-term sound quality that is conductive to human tranquillity and enjoyment having regard to the ambient natural soundscape. This is described in the ERS as an ambient sound environment that allows for the appreciation and enjoyment of the environment for its natural condition and the restorative benefits of tranquil soundscapes in natural areas.

Construction noise at the Category V natural areas are predicted to be relatively low, due to the distance to the pipeline from these natural areas, and likely to be inaudible. The risk of noise impacts at these natural areas during construction is considered to be low.

Further information on construction noise impacts associated with the Project is presented in Section 9.0 of EES Technical Report F: Noise Impact Assessment.

Works would be conducted under a Construction Environmental Management Plan (CEMP) incorporating a Noise Management Plan. Works would occur during 'normal' working hours only and a community consultation program would be implemented to inform residents of the works and notification would be given to potentially impacted receivers prior to construction commencing (see **Section 11.8**).

## 11.5 Operation impact assessment

This section discusses the potential impacts of the Project as a result of the operation activities for the following scenarios:

- Scenario 1: Area 1, Year Quarter 1 (opening months).
- Scenario 2: Area 1, Year 6 Quarter 2.
- Scenario 3: Area 3, Year 11 Quarter 3.
- Scenario 4: Area 3, Year 15 Quarter 2.

### 11.5.1 Scenario 1 – Area1 YQY1

The projected amount of material to be mined during the first year of Area 1 is approximately half that of the highest in year 6. However, the first year of operation is deemed to have potentially the greatest noise impacts as the mine fleet is located at ground level as the topsoil and overburden must be removed and stored in onsite stockpiles before ore mining can commence.

Subsequent phases are anticipated to have a lower level of impact as; once the initial cell pits have been established, further overburden and then topsoil would be backfilled in previously mined cells, reducing onsite haulage distances.

A significant portion of the mining activities would occur in the cell pit below ground level, providing additional acoustic shielding to close receivers.

Trucks would haul the ore to the Mining Unit Plant (UP) located in the vicinity of the mine area for initial processing before being slurry pumped to the Feed Preparation Plant (FPP) and the rest of the processing circuit located in the processing plan.

Continuous operations are required initially for the establishment of the mine. Initial mine sequencing is planned to commence with mining at the eastern mid-section of Area 1 (at cells 101 and 102) and progress to the northern extent of Area 1 before returning south along the western side in a counter-clockwise direction.

Receivers R12, R13 and R14 are identified as critical receivers for Area 1 as they are the three closest receivers to the south, west and east respectively.

An agreement has been reached with receivers R14 for the duration of works in Area 1. R14 won't be considered a sensitive receptor should the Project proceed as the residents would be relocated out of Receptor R14 during mine operations.

#### Noise assessed under the Environment Protection Regulations 2021

Scenario 1 noise emissions are regulated to noise sensitive areas in accordance with the EP Act and subordinate legislation. The noise contours for the proposed initial mine operation are shown in **Figure 11-3**. The processing plant, Mining Unit Plant (MUP), mining area and stockpiles can be seen as area sources. Haulage to the stockpiles and MUP are modelled as line sources. The three noise contours have been selected to coincide with the noise limits for night (green), evening (amber) and day (red).

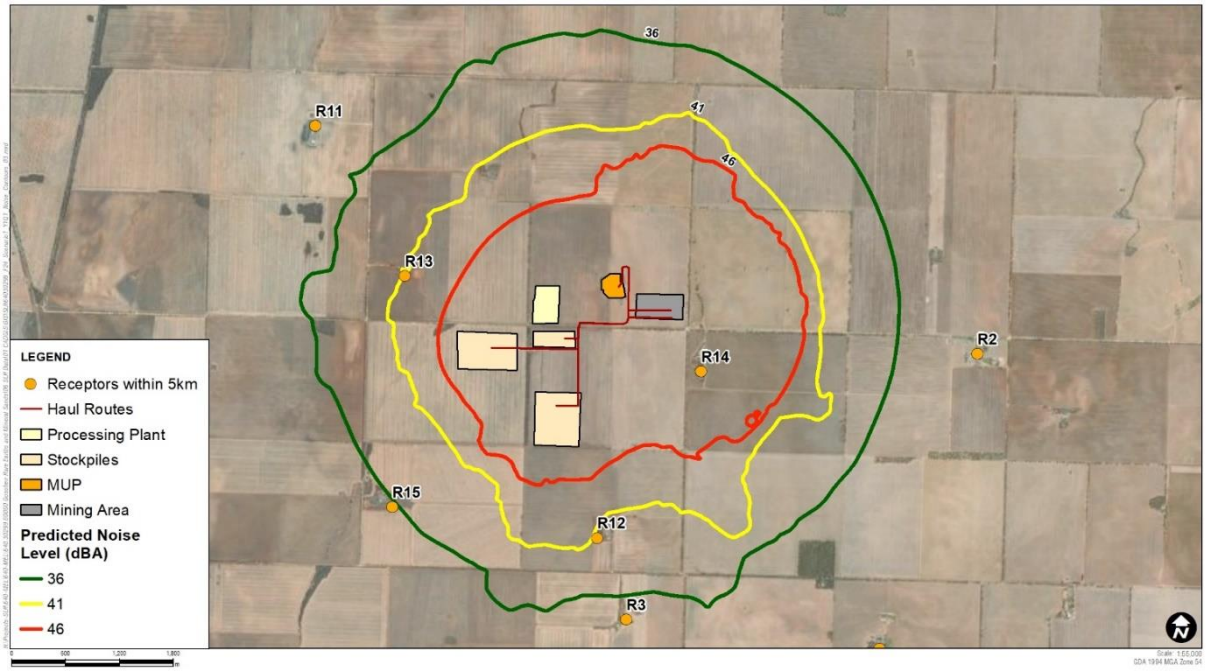


**Figure 11-3 Scenario 1: Y1Q1 Noise Map**

In this scenario R14 would exceed the day, evening and night limits, however, it is unlikely to be considered a sensitive receiver should the Project proceed as the residents would be relocated whilst mine operations impact on the property. Receivers R12 and R13 are predicted to exceed the 36 dBA night-time noise limit.

Further mitigation measures recommended in **Section 11.8** would be utilised to further mitigate these issues.

Noise modelling has considered the presence of low frequency noise levels associated with operations, noting that there are some technical limitations and uncertainties associated with modelling low frequency noise (refer to Appendix B of EES Technical Report F: Noise Impact Assessment). Disregarding receiver R14, the predictive assessment indicates that the EPA LFNG threshold levels are potentially exceeded at R3, R12, R13, and R15 by between 2 dB to 6 dB at 80 Hz at these receivers. It should be noted that EPA LFNG threshold levels are not set limits, but rather they are levels that indicate a potential risk of problematic low frequency noise.

### Noise assessed otherwise than under the Environment Protection Regulations 2021

Scenario 1 noise emissions are non-regulated in relation to human tranquillity and enjoyment outdoors in natural areas. To assess Scenario 1 impacts to natural areas, predicted noise levels have been considered against the Category IV indicators and objectives in the ERS relating to Public Conservation and Resource Zone (PCRZ) areas at Talgitcha Bushland Reserve and Lalbert Recreation Reserve.

The ERS objective levels are typical ambient sound level values and are neither noise limits nor noise design criteria. Predicted noise from the Project is not expected to exceed the ERS objective noise levels for the Category IV land use (PCRZ) zones of Lalbert Recreation Reserve and Talgitcha Bushland Reserve. Noise from the Project would likely be inaudible from Lalbert Recreation Reserve and occasionally audible from Talgitcha Bushland Reserve.

## 11.5.2 Scenario 2 – Area1 Y6Q2

Scenario 2 simulates mining operations at the southern part of Area 1, closest to receptor R12 (cells 125, 126 and 127).

The mining schedule indicates that the maximum amount of material to be mined in Area 1 would occur during year 6. During year 6, quarter 2 (Y6Q2) the distance between the mining blocks (cells 127 and 126) and the stockpiles is relatively far, increasing the potential for longer truck movements and therefore potentially greater haul truck noise emissions, however the percentage of material sent to stockpile is significantly reduced as a much material is used to backfill block 125.

### Noise assessed under the Environment Protection Regulations 2021

Scenario 2 noise emissions are regulated to noise sensitive areas in accordance with the EP Act and subordinate legislation. Scenario 2 simulates mining operations at the southern part of Area 1, closest to receptor R12 (cells 125, 126 and 127). **Figure 11-4** shows the noise contour map for this scenario.

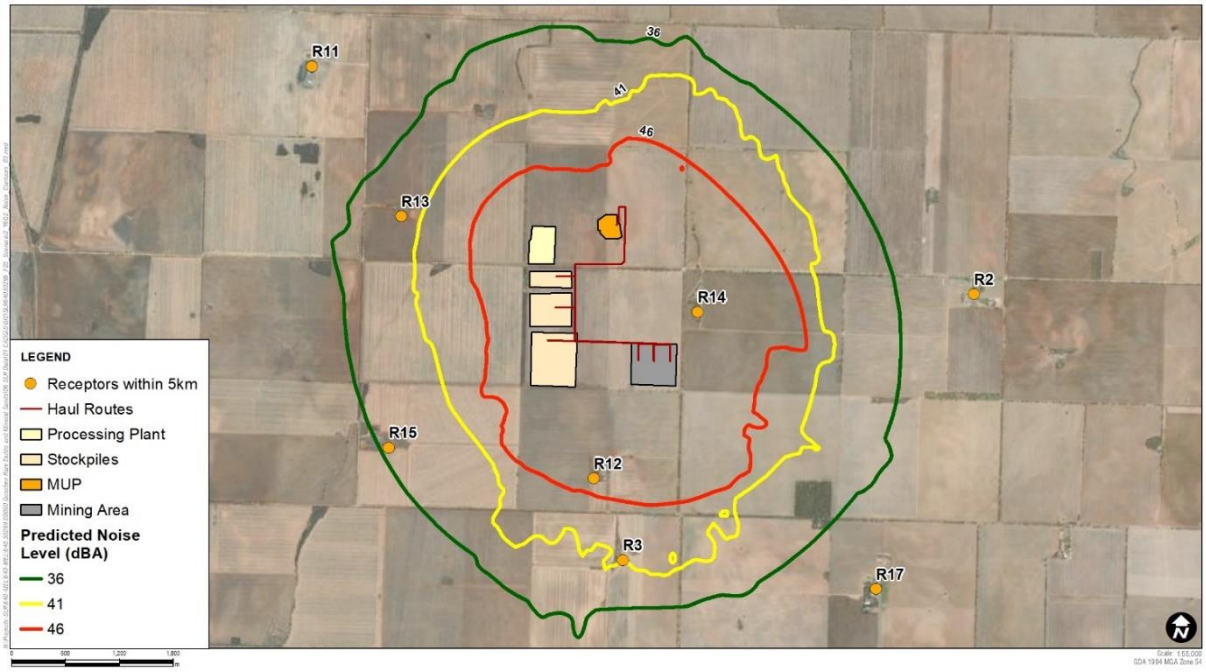


**Figure 11-4 Scenario 2: Y6Q2 Noise Map**

Operations in this area are limited to normal day-time hours only. Exceedances are predicted at receptor R14 for mining and hauling activities during day periods.

The predictive assessment indicates that the EPA LFNG threshold levels are potentially exceeded at R3, R12 and R14.

Although R3 and R12 are compliant with the Noise Protocol, potential exceedances of 3 dB and 7 dB are predicted against the EPA Low Frequency Noise Guidelines (LFNG) at 80 Hz respectively.

### Noise assessed otherwise than under the Environment Protection Regulations 2021

To assess Scenario 2 impacts to natural areas, predicted noise levels have been considered against the Category IV indicators and objectives in the ERS relating to Public Conservation and Resource Zone (PCRZ) areas at Talgitcha Bushland Reserve and Lalbert Recreation Reserve.

Predicted noise from the Project is not expected to exceed the ERS objective noise levels for the Category IV land use (PCRZ) zones of Lalbert Recreation Reserve and Talgitcha Bushland Reserve. Noise from the Project would likely be inaudible from Lalbert Recreation Reserve and occasionally audible from Talgitcha Bushland Reserve. Amenity is unlikely to be affected during operational hours at either location.

## 11.5.3 Scenario 3 – Area 3 Y11Q3

The sensitive receptors are more distant from mining in Area 3. The two critical receptors are R9 (to the west) and R7 (northeast). R9 has been acquired by VHM and would be used as an administrative office for the duration of works in Area 3.

The projected amount of material to be mined during the initial few years (year 8 – year 12) of the mining Area 3 is approximately half that of the highest in year 19. However, the distance between the mining blocks (Cell 112 and 111) and receptor R7 is anticipated to be at a minimum during year 11, quarter 3 (Y11Q3).

### Noise assessed under the Environment Protection Regulations 2021

Scenario 3 noise emissions are regulated to noise sensitive areas in accordance with the EP Act and subordinate legislation. **Figure 11-5** presents the noise contour map this scenario. Mining is undertaken during day shift only wp Predicted operational noise from the site is below the Noise Protocol limits at noise sensitive areas.

Noise levels are not predicted to be exceeded due to works resulting in a low risk of problematic low frequency noise.

Potential exceedances at R7 of by up to 4 dB are predicted at 80 Hz against the EPA Low Frequency Noise Guidelines (LFNG), resulting in a low risk of problematic low frequency noise.

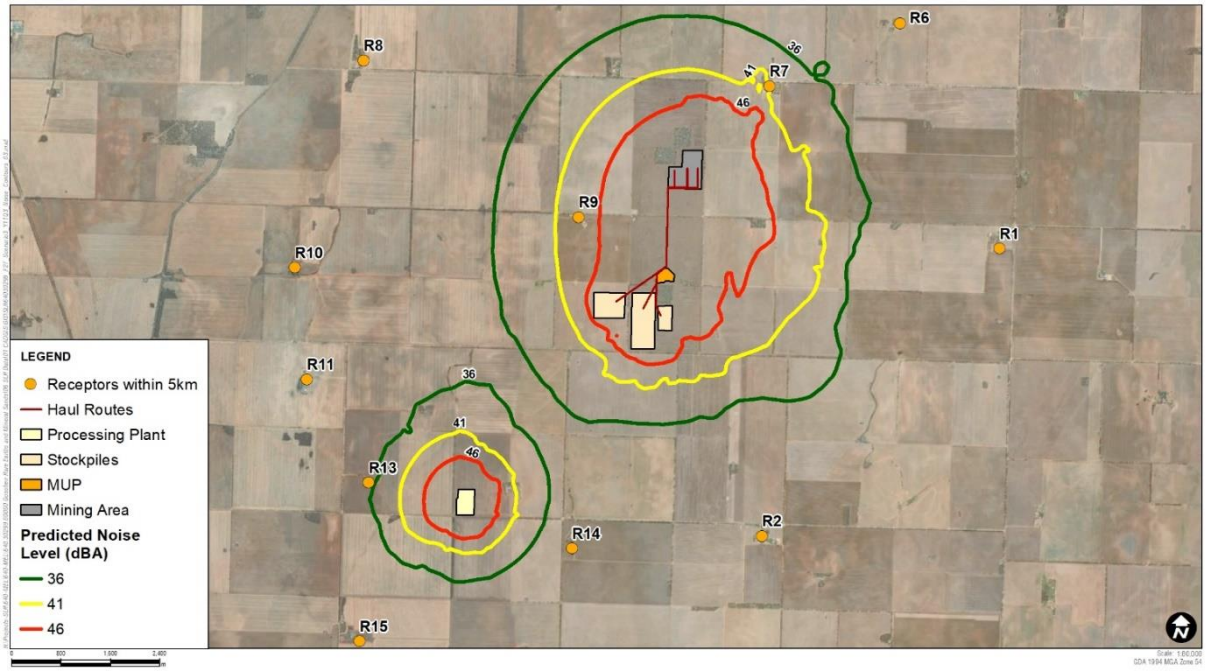


**Figure 11-5 Scenario 3: Y11Q3 Noise Map**

### Noise assessed otherwise than under the Environment Protection Regulations 2021

Scenario 3 noise emissions are non-regulated in relation to human tranquillity and enjoyment out doors in natural areas. To assess Scenario 3 impacts to natural areas, predicted noise levels have been considered against the Category IV indicators and objectives in the ERS relating to Public Conservation and Resource Zone (PCRZ) areas at Talgitcha Bushland Reserve and Lalbert Recreation Reserve.

Predicted noise from the Project is not expected to exceed the ERS objective noise levels for the Category IV land use (PCRZ) zones of Lalbert Recreation Reserve and Talgitcha Bushland Reserve. Noise from the Project would likely be inaudible from Lalbert Recreation Reserve and Talgitcha Bushland Reserve.

## 11.5.4 Scenario 4 – Area 3 Y15Q2

The amount of material to be mined during the year 15, quarter 2 (Y15Q2) is relatively high and all of it is to be transported by truck to the topsoil, clay and overburden stockpiles or to the MUP.

### Noise assessed under the Environment Protection Regulations 2021

Scenario 4 simulates mining operating at the southern part of Area 3. **Figure 11-6** shows the noise contour map. Whilst the material throughput is high for this quarter, the mined cells are further from receptors (apart from receptor R9, which has been acquired by VHM, would be used as an administrative office. A minor night time exceedance (1 dB) is predicted at R7, however, it is anticipated to comply with day, evening and night-time noise limits with the inclusion of modest levels of noise mitigation and management controls.

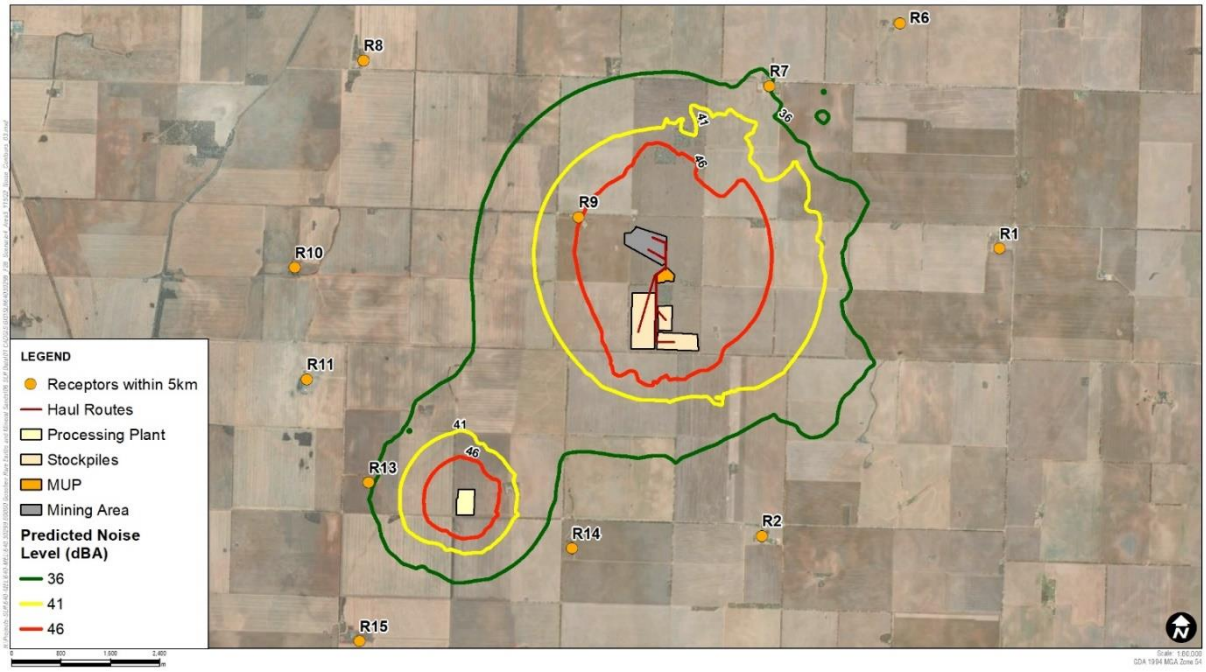


**Figure 11-6 Scenario 4: Area 3 Y15Q2 Noise Map**

### Noise assessed otherwise than under the Environment Protection Regulations 2021

Scenario 4 noise emissions are non-regulated in relation to human tranquillity and enjoyment out doors in natural areas. To assess Scenario 4 impacts to natural areas, predicted noise levels have been considered against the Category IV indicators and objectives in the ERS relating to Public Conservation and Resource Zone (PCRZ) areas at Talgitcha Bushland Reserve and Lalbert Recreation Reserve.

Predicted noise from the Project is not expected to exceed the ERS objective noise levels for the Category IV land use (PCRZ) zones of Lalbert Recreation Reserve and Talgitcha Bushland Reserve. Noise from the Project would likely be inaudible from Lalbert Recreation Reserve and Talgitcha Bushland Reserve.

## 11.5.5 Pumping Station – Kangaroo Lake

The diesel generator is anticipated to be the most dominant noise source at this site.

### Noise assessed under the Environment Protection Regulations 2021

Receptor P4, located about 300 metres north of the pump station was identified as the closest receptor based for this source. **Figure 11-7** presents the noise contour map of the pumping station at Kangaroo Lake. As shown in **Figure 11-7**, no exceedances at this location are anticipated. Notwithstanding that there are limitations associated with modelling low frequency noise impacts, the noise modelling has considered the presence of low frequency noise associated with operational activities and indicates that the EPA LFN Guidelines threshold levels are predicted to be exceeded at P4 by 3 dB at 80 Hz, resulting in a low risk of problematic low frequency noise. To mitigate this, noise from the diesel generator will be controlled via an acoustic enclosure and silencer and will be reviewed during detailed design to ensure compliance with the noise limits and the EPA LFN Guidelines. Consideration of cumulative noise impacts from existing pumping infrastructure will also be accounted for in the design.


**Figure 11-7 Kangaroo Lake Pump Station Noise Map**

### Noise assessed otherwise than under the Environment Protection Regulations 2021

To assess potential impacts, predicted noise levels have been considered against the Category IV and Category V indicators and objectives in the ERS relating to Public Conservation and Resource Zone (PCRZ) and natural areas such as wildlife reserves, nature reserves and flora and fauna reserve. Noise levels at the Category IV natural areas are predicted to be less than the objective noise level of 35 dBA. The pump station would likely be inaudible from these locations.

Category V indicators are qualitative with the objective of a sound quality that is conductive to human tranquillity and enjoyment having regard to the ambient natural soundscape. Predicted noise levels at the Category V noise sensitive areas are predicted to be less than 20 dB, due to them being located between 4 km and 9 km from the pumping station. The pump station would be inaudible from these natural areas.

## 11.5.6 Traffic Noise

When considering the anticipated road network being used by the Project the relevant land-use (Category IV) has outdoor indicators and objectives of night-time Laeq 8 hour (10 pm to 6 am) of 35 dBA and Laeq 16 h (6am to 10pm) of 40 dBA. The additional traffic on local roads due to the Project is not predicted to exceed the relevant ERS Laeq 16 h objective of 40 dBA at any receptor.

In relation to the remaining ore product transport route outside of the project area, to the Ultima intermodal facility, noise modelling indicates that the ERS objective of 40 dBA Laeq 16 h would typically be met at 50 metres (m) from the roadway. Review of receiver locations along the possible routes indicates most dwellings are set back more than 50 m. A small number of dwellings may be closer to the road and could be exposed to project noise levels slightly higher than the ERS objectives. The ore product transport movements to Ultima are anticipated to occur during the ERS day period only and therefore the environmental value of "sleep during the night" will not be compromised by project traffic.

## 11.5.7 Closure Phase of the Project

As part of the closure and rehabilitation phase of the project, the mined areas will be progressively backfilled in a staged manner, with tailings dewatered in-pit to allow overburden and topsoil placement in a profile that reinstates the background soil structure. This process of rehabilitation result in the ability for a return to the current agricultural land uses within three to five years.

Rehabilitation activities are typically quieter than operational activities due to the reduction in noise associated with the ceasing of high noise generating operational activities. It is expected that noise emissions associated with the closure phase will be equal to or less than those associated with construction. Mitigation and management measures that aim to reduce impacts to as low a level as possible are summarised in **Section 11.8**.

## 11.6 Cumulative Impacts

Two types of potential cumulative noise impacts have been considered for the project as follows:

- During any overlap periods of construction and operational stages
- From any existing industry operations in or near the Project area.

### 11.6.1 Construction and Operational Stage Cumulative Impacts

There is potential for some overlap of mining operations to occur during construction of the processing plant during early stages of the Project. While construction and operational noise are considered separately in this report, and are assessed to different legislation, further consideration of cumulative noise impacts is provided below.

A conservative cumulative assessment can be provided quantitively by 'summing' the predicted noise from the operational assessment for Area1 Y1Q1 with the predicted construction noise levels during construction of the processing plant building. A negligible noise increase is expected to occur during the potential overlap works, with a 0-2 dB increase in most instances. For instances where a 3 dB increase occurs, it is noted the predicted absolute levels (32 dBA at R10, 30 dBA at R16) are well below the noise protocol operational noise limits for the day of 46 dB, below the 40 dBA established ERS objective ambient sound environment for Category IV land use, and generally not likely to be above the ambient noise environment.

On the above basis, the cumulative noise impacts are considered to be negligible.

### 11.6.2 Cumulative Impacts with existing industry

Noise impacts from existing industry and the Project operations have the potential to cumulatively impact sensitive receivers.

Based on our site surveys and general review of the project area and surrounds, SLR did not identify any notable industry operations that could cumulatively impact sensitive receivers that will be impacted by the Project.

The only identified risk of cumulative noise impacts was from the proposed pumping station in Kangaroo Lake, which will be located near an existing pumping station. The specific noise emissions and operational details of the existing pump station are not known at this stage. The proposed new pumping station will need to be designed to account for potential cumulative noise.

## 11.7 Residual impacts

Residual impacts are those that remain once mitigation and management measures have been implemented. This section describes potential residual impacts during the operation phase of the Project once mitigation and management measures have been considered and applied.

### 11.7.1 Construction

#### Processing plant

With the implementation of the management and mitigation measures the potential noise impacts at sensitive receptors are generally below ambient noise levels and the ERS objective noise level and result in no residual noise impacts.

#### Water pipeline

As the work is short in duration (anticipated to be only a few days in Mystic Park) and would occur during 'normal' day-time hours, the level of impact is considered manageable under a CEMP provided prior community consultation and notification occur.

### 11.7.2 Operation

The following residual impacts are anticipated throughout the operation of the Project:

#### Years of mining operation

- Significant exceedance (10 dBA) exceedances are predicted for at R14 during day-time operation. The primary recommendation for management of R14 is that this dwelling is not to be used as a residential property for the duration of mining in Area 1. An agreement has been reached between VHM and R14 for the duration of works in Area 1. R14 won't be considered a sensitive receptor should the Project proceed as the residents would be relocated out of Receptor R14 whilst mine operations impact on the property.
- Moderate exceedances are also predicted for R9 during day-time operations. The primary recommendation for management of R9 is that this dwelling is not to be used as a residential property for the duration of mining in Area 3. It is understood that the property would not be used as a dwelling during the duration of mining and therefore not considered a sensitive receptor during Area 3.
- A moderate exceedance (4-5 dBA) for night-time is predicted at R12 and R13. To manage noise emissions, the following will be implemented:
  - Addition of specialist engineered noise suppression kits to haul fleet vehicles (see below).
  - Higher levels of noise suppression on the processing plant building.
  - Restricting mining activities to below ground pits only during the night.

  The viability of these solutions will be evaluated during detailed design. If further management of noise emissions is required, measures will be captured under a CEMP incorporating a Noise Management Plan.
- The haul and mining mobile plant were identified as dominant noise sources for all receptors at some stage of the mine's life. A further contingency mitigation may be considered for the mobile plant (haul trucks, excavators, scrapers, dozers, etc) and includes specialist engineered noise reduction kits, where local screening is not feasible. Typically, noise suppression kits from specialist providers such as Hushpak, Mintek include upgraded exhaust mufflers, acoustic louvred fan packages and acoustic treatment to engine compartments and air inlet plenums. The addition of noise suppression kits typically results in an overall reduction of approximately 5-10 dBA from the standard model. The additional cost of such engineered noise reduction kits is quite significant and the need for and type and extent of mitigation is best considered a contingency measure and evaluated in more detail once there is greater clarity of the operations.

#### Pumping Station – Kangaroo Lake

- Low frequency noise impacts from the Kangaroo Lake pumping station can be controlled through the design of the generator enclosure during detailed design.

## 11.8 Summary of mitigation and management measures

The mitigation and management that are proposed to avoid, mitigate or manage noise impacts associated with the Project are summarised in **Table 11-4**.

**Table 11-4 Mitigation and management relevant to noise**

| Measure ID | Mitigation Measure | Phase |
|---|---|---|
| MM-NV01 | Minimise noise emissions as much as practicable.<br>Use of mining fleet and fixed-plant that includes requirement that:<br>• Noise emissions do not exceed the SWL used in the noise model, and that the risk of high sound energy in the low frequency range be minimised so far as reasonably practicable.<br>• Noise checks on mining equipment is undertaken during commissioning and at regular intervals as part of the maintenance program to ensure it is consistent with the above. | All phases |
| MM-NV02 | Minimise noise emissions as far as practicable – Hours of Operation<br>Limiting the hours of construction to normal working hours (Mon-Fri 7 am to 6 pm, Sat 7 am to 1 pm, EPA publication 1834) with the provision that some low noise impact works (which are inherently quiet and unobtrusive, and will be consistent with EPA Publication 1834) may occur during evening or night periods provided that the necessary approvals are sought from the relevant authority. These will be specified as part of a CEMP incorporating a Noise Management Plan.<br>All works to be carried out under a Noise Management Plan. | Construction |

| Measure ID | Mitigation Measure | Phase |
|---|---|---|
| MM-NV03 | Minimise noise emissions as much as practicable<br>All staff/contractors to receive a site induction including details of the ways potentially impacting noise is generated, methods to minimise noise impacts both on-site and on public roads particularly for road trucks.<br>Inspections and/or audits as part of the noise monitoring program will ensure adherence of these methods. | All phases |
| MM-NV04 | Minimise noise emissions as much as practicable<br>Those roads VHM is responsible for maintenance: ensure in good condition to minimise noise from vehicle traffic over corrugations and potholes. | All phases |
| MM-NV05 | Minimise noise emissions as much as practicable – General Practice<br>Employ best practice across all aspects to minimise noise emissions as much as practicable, such as:<br>• Turning off plant, equipment and vehicles when not in use for an extended period.<br>• Fitting broadband reversing noise signals to all applicable mobile plant to avoid tonal noise emissions.<br>• Ensuring all plant, equipment and vehicles are fitted with appropriate noise attenuation devices as per manufacturer specification (e.g. enclosures, baffles, silences, mufflers etc,) and all equipment is maintained in good repair.<br>• Provision of suitable site access routes to allow for all third-party trucks to avoid reversing if control over their reversing alarms is limited.<br>• Restrict the use of engine brake to ensure it is used only when justified for safety reasons (long downhill slopes). | All phases |
| MM-NV06 | Minimise noise emissions as much as practicable – Mine Planning<br>Mining operations limited to day times for specified mining blocks close to sensitive receptors as identified by noise modelling and noise monitoring.<br>The placement and configuration of overburden stockpiles will be designed so as to provide additional noise screening to nearby receptors from noisier activities.<br>Noise bunds will be constructed as early as possible taking into consideration mine pit sequencing and the onset of impact(s) to receptors.<br>Before the bunds are constructed, noise works that impact on receivers that will be eventually protected by the bunds should be avoided (or their intensity reduced). | Operation |
| MM-NV07 | Minimise noise emissions as much as practicable – Power Plant<br>The Project shall incorporate the highest levels of noise control for the power station including, placing all gensets in acoustic enclosures and containing all gensets within a generator building, use of high-performance exhaust mufflers and low noise cooling radiators.<br>Risk of low frequency noise impacts from the power plant will be controlled by the highest levels of noise control including, placing all gensets in acoustic enclosures within a generator building, use of high performance mufflers and low noise cooling radiators. | Operation |
| MM-NV08 | Minimise noise emissions as far as reasonably practicable – Pumpstation (Kangaroo Lake):<br>Low frequency noise impacts from the Kangaroo Lake pumping station will be minimised by the generator performance and engineered acoustic enclosure specified during the detailed design stage. | Operation |

The monitoring and contingency measures that are proposed to assess noise impacts associated with the Project are summarised **Table 11-5**.

**Table 11-5 Monitoring and contingency measures relevant to noise**

| Description | Monitoring Measure | Phase |
|---|---|---|
| Noise Management Plan | A Noise Management Plan will be proactively developed, which formally documents all of the monitoring, managerial and engineering measures to be implemented to control noise within and from the site. The NMP will be based on an updated and validated noise model based on the results of the proposed noise monitoring surveys and commissioning measurements.<br>The Noise Management Plan will provide a framework for updating the noise model during Project operation to assess noise emissions from the Project, the effectiveness of mitigation measures and the need for further controls, where required.<br>The Noise Management Plan will ensure that the risk of harm from noise is minimised so far as reasonably practicable throughout all stages of the Project, including the detailing of inspection, maintenance and continual improvement of equipment, plant and their noise mitigation measures to prevent increased noise emissions due to defective operation, ageing, or other preventable deterioration.<br>In developing the NMP consideration shall be given to frequency spectrum as a prescribed factor and specifically the potential risk of problematic low frequency noise.<br>Commissioning noise surveys will be completed for all major fixed plant components e.g. power station, processing plant, pumping station etc. to ensure they achieve their respective noise emission requirements. If any non-conformance or unanticipated additional noise sources are identified, they will be evaluated and options for amelioration considered.<br>As the mine cells and operations will change through the duration of the Project a program of annual noise monitoring surveys will be developed and implemented. Monitoring will be completed at the nearest affected receptors as well as an appropriately located reference location. Annual noise monitoring data will inform the periodic update of the noise model to allow for continuous improvement.<br>Monitors will be used that hold NATA accredited calibration and are compliant with the relevant Australian Standards. Monitoring will be conducted by a suitably qualified person in accordance with EPA guidelines (e.g. publications 1996 and 1997).<br>The Noise Management Plan will be proactively prepared and implemented within the Work Plan. | All phases |
| Procurement of mining fleet | The Procurement of subcontracted mining fleet will include a requirement to provide equipment which does not exceed the SWL used in the noise model.<br>Noise checks on mining equipment will be conducted during commissioning and at regular intervals as part of the maintenance program to ensure it continues to be compliant. | All phases |
| Procurement of fixed plant equipment | Procurement of noise generating fixed-plant will include a noise emission requirement to ensure that all fixed plant meet or better that which has been assumed in the noise model.<br>During commissioning a programme of noise commissioning checks will be undertaken to determine if fixed plant comply with the sound power level specification and do not present an unexpected risk of tonal, impulsive or intermittent character or of excessive sound energy in the low frequency range. | All phases |
| Noise survey | Workplace OH&S noise surveys will be undertaken in noisy areas frequently accessed by personnel. It is anticipated that this will include areas such as the power station and the processing plant. | All phases |
| Mobile mining plant noise suppression | After market noise suppression options will be investigated for mining equipment to further reduce noise emissions where practicable.<br>The addition of noise suppression kits to typical mobile plant such as excavators, scrapers, haul trucks and dozers will typically result in an overall reduction of approximately 5 dBA from the standard model. | All phases |

## 11.9 Conclusion

The assessment has shown that the construction, operation and decommissioning phases of the Project can be managed such that the objective of avoiding and minimising adverse effects for community amenity and wellbeing, with regard to Project noise can be met.

The following conclusions were drawn from the construction noise assessment:

- Processing Plant – below ambient background noise levels at all receptors but the closest receptor to the site (Receptor R13). The predicted noise level at R13, however, is similar to ambient noise levels (Leq) and is unlikely to result in adverse impact.
- Water pipeline in the township of Mystic Park, only two receptors expected to marginally exceed 75 dBA. Works are short in duration and with a program of community consultation it is unlikely to result in any significant impact. The risk of noise impacts at wildlife reserves and other Category V natural areas close to Kangaroo Lake is also considered low due to distance to works.

The following conclusions were drawn from the operation noise assessment:

- During Area 1 mining operations (Year 1 to Year 8) a moderate exceedance (7-10 dBA) of the day-time noise limit was predicted for receptor R14. An agreement has been reached between VHM and R14 for the duration of works in Area 1. R14 won't be considered a sensitive receptor should the Project proceed as the residents would be relocated out of Receptor R14 whilst mine operations impact on the property.
- During Area 1 mining operations (Year 1 to Year 8) a moderate exceedance (4-5 dBA) for night-time are predicted at receptor R12 and R13. To manage noise emissions, the following will be implemented:
  - Addition of specialist engineered noise suppression kits to haul fleet vehicles.
  - Higher levels of noise suppression on the processing plant building.
  - Restricting mining activities to below ground pits only during the night.

  The viability of these solutions will be evaluated during detailed design. If further management of noise emissions is required, measures will be captured under a CEMP incorporating a Noise Management Plan.
- Noise modelling has considered the presence of low frequency noise levels. Whilst there are limitations associated with modelling low frequency noise impacts, receptors R3, R12 and R14 may be exposed to low frequency noise over the Project's life.
- During Area 3 mining operations the house denoted as R9 would not be used as a dwelling and therefore not considered a sensitive receptor. Mining in the northernmost cells of Area 3 (Year 11) is closest to receptor R7 which is predicted to comply with day-time noise limits. Subsequent mining in Area 3 (Year 15) is sequenced for cells further from R7 and it is anticipated to comply with day, evening and night-time noise limits once more detailed evaluation is completed.

Water supply pump station - Noise from the water supply pump station at Kangaroo Lake is predicted to comply with all nearest receptors for all time periods.

Traffic - There are no statutory requirements in Victoria with respect to project related traffic that is travelling on a public road. Notwithstanding the above, the relevant ERS environmental values, indicators and objectives have been referenced for informative purposes to evaluate potential for impacts and it has been determined that they are unlikely to be compromised by project traffic.

In response to the EES evaluation objective described at the beginning of this chapter, impacts of the Project on noise and vibration amenity have been assessed, and mitigation and management measures have been identified to avoid, minimise and manage adverse effects on community amenity and wellbeing.