

Attachment-7-1-3-2-Noise Emission Compliance Report

1. Sensitive Receptors

One-off housing in the locality is situated south-east, south, west and north-west of the subject site. Agricultural land surrounds the subject site on all sides except on the north-east where the proposed site is bordered by the existing site. Four Noise Sensitive Locations have been considered as part of this assessment. These NSL's are shown in Figure 1 in combination with the application site boundary.



Figure 1: Map showing application site boundary

2. Noise Monitoring Locations

In determining the potential noise impacts of the proposed development on the surrounding environment it was necessary to identify NSL's. Four NSL were identified during a desktop survey of the site. NSL's were selected based on their proximity to the proposed development and their positions at various cardinal points north-west, south-east, south and west of the proposed development. Details on NSL's are shown in Table 2.

Table 2: NSL Details

| Noise Monitoring Location | Description | Coordinates | Nature of intervening ground |
|---------------------------|---|-----------------------------|------------------------------|
| NSL1 | Residential property north-west of the site | 52°24'58.9"N 6°23'53.3"W | Soft ground |
| NSL2 | Residential property south-east of site | 52°24'29.9"N 6°23'21.1"W | Soft ground |
| NSL3 | Residential property south of Site | 52°24'20.4"N 6°23'49.4"W | Soft ground |
| NSL4 | Residential property west of the site | 52°24'44.4"N 6°24'24.0"W | Soft ground |

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Table 1: Noise Prediction Results

| Quarry Development Phase | NSL | Plant operating | Description | Development noise level at NSL (dB) | Background noise (dB) | Development noise level + Background (dB) |
|--------------------------|-----|-----------------|-------------------|-------------------------------------|-----------------------|---|
| 1 | 1 | All | Residential House | 50.4 | 40.5 | 50.8 |
| | 2 | All | Residential house | 50.3 | 40.5 | 50.7 |
| | 3 | All | Residential house | 45.7 | 40.5 | 46.8 |
| | 4 | All | Residential house | 45.3 | 40.5 | 46.5 |
| 2 | 1 | All | Residential House | 49.4 | 40.5 | 49.9 |
| | 2 | All | Residential house | 51.7 | 40.5 | 52.0 |
| | 3 | All | Residential house | 47.2 | 40.5 | 48.0 |
| | 4 | All | Residential house | 45.4 | 40.5 | 46.6 |
| 3 | 1 | All | Residential House | 47.5 | 40.5 | 48.3 |
| | 2 | All | Residential house | 53.9 | 40.5 | 54.1 |
| | 3 | All | Residential house | 47.4 | 40.5 | 48.2 |
| | 4 | All | Residential house | 45.1 | 40.5 | 46.4 |

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3. Discussion of Results

Predicted overall ambient noise levels (operational phase Development Noise and Background Noise) are in all instances compliant with the EPA day-time noise limit value of 55 dB. These noise results are representative of worst-case scenario results as it is assumed all processes associated with the operational phase are running at the same time and that all noise sources are situated at along the site boundary closest to each NSL, relevant to each phase of the development

The increase in overall ambient noise levels when combining operational phase Development Noise with Background Noise is considered to be insignificant. In no instance, with reference to Table 4 below, is there a 'noticeable' increase in noise levels of (i.e. >3 dB).

Table 2: Difference in Decibel Noise Levels

| Decibel change | Energy difference | Human Perception |
|----------------|-----------------------|---------------------|
| -3dB | Half the energy | Clearly noticeable |
| +1dB | 1.25 times the energy | Barely noticeable |
| +3dB | Twice the energy | Noticeable |
| +5dB | Triple the energy | Easily noticeable |
| +10dB | Ten times the energy | Twice as loud |
| +20dB | 100 times | Four times as loud |
| +30dB | 1000 times | Eight times as loud |

As such the impact of Development Noise, associated with operational phase noise sources, on overall ambient noise is considered to be negligible. Additional mitigation measures are therefore considered unnecessary.

Details of the baseline dust assessment, receiving environment and dust emissions impact assessment are provided within Attachment-7-3-1-3 Noise Emissions Impact Assessment.