

4. UPDATED NOISE ASSESSMENT



Noise Assessment

Regulation 25 Submission – Request for Further Information

**Proposed Mineral
Extraction and
Restoration,
Land off Bourbles Lane,
Preesall, Lancashire**

BAXTER GROUP LTD

**R24.12202/1/AP
Date of Report: 19 August 2024**

REPORT DETAILS

| | |
|--------------------------|---|
| Client | Greenfield Environmental |
| Report Title | Noise Assessment – Reg 25 Submission, Proposed Mineral Extraction and Restoration |
| Site Address | Land off Bourbles Lane, Preesall, Lancashire |
| Report Ref. | R24.12202/1/AP |
| Vibrocock Contact | vibrocock@vibrocock.com |

QUALITY ASSURANCE

| Issue No. | Issue Date | Author | Technical Review |
|------------------|-------------------|--|--|
| 1 | 19/08/24 |  A Pickford BSc MSc PGDip MIOA Director |  R Kennedy BEng PGDip MIOA Director |

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Vibrocock Limited

Shanakiel
Ilkeston Road, Heanor
Derbyshire, DE75 7DR
Tel: +44 (0) 1773 711211
Fax: +44 (0) 1773 711311
Email: vibrocock@vibrocock.com
Web: www.vibrocock.com

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1.0 INTRODUCTION

1.1 Overview

- 1.1.1 Vibrock Limited is commissioned to undertake a noise impact assessment in relation to a planning application for mineral extraction and restoration on land off Bourbles Lane in Preesall, Lancashire.
- 1.1.2 An assessment of the potential impact of the proposals at the identified noise-sensitive premises within the vicinity of the proposed application area has been made by comparison of predicted site noise levels with relevant policy and guidance. Where necessary suitable mitigation measures have been recommended.
- 1.1.3 This report updates and supersedes the noise impact assessment which formed Appendix 9 of the Environmental Statement submitted to Lancashire County Council in 2023 (ref. LCC/2023/0030).
- 1.1.4 Following the receipt of consultation responses on the ES and other supporting information which accompanied the planning application the Mineral Planning Authority have requested additional information under Regulation 25 of the Environmental impact Assessment Regulations. This report seeks to address these comments and provide the necessary clarifications and additional information.
- 1.1.5 Further explanation of the acoustic terminology used within this report is provided in Appendix 1.

1.2 Proposals

- 1.2.1 A plan showing the application site and proposed quarry phasing is provided in Figure 1.
- 1.2.2 It is proposed that approximately 460,000 tonnes of sand and gravel will be extracted on a “campaign basis” (likely 2 per year) and stockpiled ensuring that processing plant has access to as-raised material over a full 12-month period. Inert waste recycling is also proposed alongside mineral processing.
- 1.2.3 The proposed quarry will be worked in a phased manner across 5 phases and progressively restored via backfilling with overburden or imported inert materials. It is anticipated that each phase will be completed in around 12 – 18 months with overall mineral extraction and restoration operations likely to take around 5 to 6 years to complete.
- 1.2.4 The proposed restoration of the site, outlined in Figure 2, is to a combination of arable/pasture farmland, grassland, wild-flower meadow and areas of wetland.

1.3 Local Authority Consultation

- 1.3.1 A Screening Opinion provided by Lancashire County Council in August 2022 confirmed the proposed development is EIA Development for the purposes of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017.
- 1.3.2 A Scoping Opinion Request was submitted to the Mineral Planning Authority (Lancashire County Council) in June 2022. The response to the request provided in August 2022 highlighted the requirement for a noise impact assessment to be included within the Environmental Statement.
- 1.3.3 The planning application (ref. LCC/2023/0030) was submitted to Lancashire County Council in August 2023. Following a period of consultation a request for additional information under Regulation 25 of the EIA Regulations was made in March 2024.

2.0 NOISE POLICY AND GUIDANCE

2.1 National Planning Policy and Guidance

Noise Policy Statement for England (NPSE)

2.1.1 The NPSE sets out the Government’s policy on noise and includes the long-term vision of promoting good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development.

2.1.2 This long-term vision is supported by the following aims:

Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- avoid significant adverse impacts on health and quality of life;
- mitigate and minimise adverse impacts on health and quality of life;
and
- where possible, contribute to the improvement of health and quality of life.

2.1.3 There are two established concepts from toxicology that are currently being applied to noise impacts, for example, by the World Health Organisation. They are:

- NOEL (No Observed Effect Level) – this is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.
- LOAEL (Lowest Observed Adverse Effect Level) – this is the level above which adverse effects on health and quality of life can be detected.

2.1.4 Extending these concepts further, NPSE leads to the concept of a significant observed adverse effect level:

- SOAEL (Significant Observed Adverse Effect Level) – this is the level above which significant adverse effects on health and quality of life occur.

2.1.5 NPSE acknowledges that it is not possible to have a single objective noise-based measure that defines NOEL, LOAEL and SOAEL that is applicable to all sources of noise in all situations. It is therefore suggested that more specific advice from other applicable noise standards and guidance could be employed to determine suitable noise level criteria within the overall principles of the NPSE.

National Planning Policy Framework (NPPF)

- 2.1.6 The NPPF was first published on 27 March 2012 and last updated in December 2023. This sets out the government’s planning policies for England and how these are expected to be applied.
- 2.1.7 Where issues of noise impact are concerned the NPPF provides brief guidance in Chapter 15 ‘*Conserving and enhancing the natural environment*’ as follows:

Paragraph 180:

Planning policies and decisions should contribute to and enhance the natural and local environment by preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability.

Paragraph 191:

Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

- a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;
- b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and
- c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

Paragraph 193:

Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or ‘agent of change’) should be required to provide suitable mitigation before the development has been completed.

2.1.8 Specifically in relation to mineral sites, the NPPF provides guidance in Chapter 17 ‘Facilitating the sustainable use of minerals’ as follows:

Paragraph 215:

It is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs. Since minerals are a finite natural resource, and can only be worked where they are found, best use needs to be made of them to secure their long-term conservation.

Paragraph 216:

Planning policies should:

- a) provide for the extraction of mineral resources of local and national importance, but not identify new sites or extensions to existing sites for peat extraction;
- b) so far as practicable, take account of the contribution that substitute or secondary and recycled materials and minerals waste would make to the supply of materials, before considering extraction of primary materials, whilst aiming to source minerals supplies indigenously;
- c) safeguard mineral resources by defining Mineral Safeguarding Areas; and adopt appropriate policies so that known locations of specific minerals resources of local and national importance are not sterilised by non-mineral development where this should be avoided (whilst not creating a presumption that the resources defined will be worked);
- d) set out policies to encourage the prior extraction of minerals, where practical and environmentally feasible, if it is necessary for non-mineral development to take place;
- e) safeguard existing, planned and potential sites for: the bulk transport, handling and processing of minerals; the manufacture of concrete and concrete products; and the handling, processing and distribution of substitute, recycled and secondary aggregate material;
- f) set out criteria or requirements to ensure that permitted and proposed operations do not have unacceptable adverse impacts on the natural and historic environment or human health, taking into account the cumulative effects of multiple impacts from individual sites and/or a number of sites in a locality;
- g) when developing noise limits, recognise that some noisy short-term activities, which may otherwise be regarded as unacceptable, are unavoidable to facilitate minerals extraction; and

- h) ensure that worked land is reclaimed at the earliest opportunity, taking account of aviation safety, and that high quality restoration and aftercare of mineral sites takes place.

Paragraph 217:

When determining planning applications, great weight should be given to the benefits of mineral extraction, including to the economy. In considering proposals for mineral extraction, minerals planning authorities should:

- a) as far as is practical, provide for the maintenance of landbanks of non-energy minerals from outside National Parks, the Broads, Areas of Outstanding Natural Beauty and World Heritage Sites, scheduled monuments and conservation areas;
- b) ensure that there are no unacceptable adverse impacts on the natural and historic environment, human health or aviation safety, and take into account the cumulative effect of multiple impacts from individual sites and/or from a number of sites in a locality;
- c) ensure that any unavoidable noise, dust and particle emissions and any blasting vibrations are controlled, mitigated or removed at source, and establish appropriate noise limits for extraction in proximity to noise sensitive properties;
- d) not grant planning permission for peat extraction from new or extended sites;
- e) provide for restoration and aftercare at the earliest opportunity, to be carried out to high environmental standards, through the application of appropriate conditions. Bonds or other financial guarantees to underpin planning conditions should only be sought in exceptional circumstances;
- f) consider how to meet any demand for small-scale extraction of building stone at, or close to, relic quarries needed for the repair of heritage assets, taking account of the need to protect designated sites; and
- g) recognise the small-scale nature and impact of building and roofing stone quarries, and the need for a flexible approach to the duration of planning permissions reflecting the intermittent or low rate of working at many sites.

Planning Practice Guidance (PPG)

- 2.1.9 PPG is written in support of the NPPF and provides an increased level of specific planning guidance.
- 2.1.10 PPG-Noise states that noise needs to be considered when new development may create additional noise or would be sensitive to the prevailing acoustic environment (including any anticipated changes to that environment from activities that are permitted but not yet commenced). Where justified, noise can override other planning concerns, although it is important to look at noise in the context of the wider characteristics of a development proposal, its likely users and its surroundings, as these can have an important effect on whether noise is likely to pose a concern.
- 2.1.11 Plan-making and decision taking need to take account of the acoustic environment and in doing so consider:
- whether or not a significant adverse effect is occurring or likely to occur;
 - whether or not an adverse effect is occurring or likely to occur;
 - and
 - whether or not a good standard of amenity can be achieved.
- 2.1.12 In line with the Explanatory note of the NPSE this would include identifying whether the overall effect of the noise exposure would be above or below the significant observed adverse effect level (SOAEL) and the lowest observed adverse effect level (LOAEL) for the given situation.
- 2.1.13 When noise is not perceived to be present, there is by definition no effect. As the noise exposure increases, it will cross the 'No Observed Effect Level'. However, the noise has no adverse effect so long as the exposure does not cause any change in behaviour, attitude or other physiological responses of those affected by it.
- 2.1.14 As the exposure increases further, it crosses the LOAEL boundary above which the noise starts to cause small changes in behaviour and attitude and consideration needs to be given to mitigating and minimising those effects (taking account of the economic and social benefits being derived from the activity causing the noise).
- 2.1.15 Increasing noise exposure will at some point cause the SOAEL boundary to be crossed. Above this level the noise causes a material change in behaviour. If the exposure is predicted to be above this level the planning process should be used to avoid, but not necessarily prevent, this effect occurring, for example through use of appropriate mitigation such as by altering the design and layout.

2.1.16 The table below summarises the noise exposure hierarchy from PPG-Noise.

Table 1: Noise Exposure Hierarchy

| Response | Examples of outcomes | Increasing effect level | Action |
|---|--|-------------------------------------|----------------------------------|
| No Observed Effect Level | | | |
| Not present | No Effect | No Observed Effect | No specific measures required |
| No Observed Adverse Effect Level | | | |
| Present and not intrusive | Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life. | No Observed Adverse Effect | No specific measures required |
| Lowest Observed Adverse Effect Level | | | |
| Present and intrusive | Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life. | Observed Adverse Effect | Mitigate and reduce to a minimum |
| Significant Observed Adverse Effect Level | | | |
| Present and disruptive | The noise causes a material change in behaviour, attitude or other physiological response, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area. | Significant Observed Adverse Effect | Avoid |
| Present and very disruptive | Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory. | Unacceptable Adverse Effect | Prevent |

2.1.17 In relation to noise from mineral extraction operations, PPG-Noise makes reference to National Planning Practice Guidance for minerals which is outlined overleaf.

2.1.18 The supporting ‘Minerals’ PPG is the current Government advice applicable to the control of noise from surface mineral workings in England and recognises that planning for the supply of minerals has a number of special characteristics that are not present in other development.

2.1.19 It includes the following appropriate noise standards for ‘normal operations’;

“Mineral planning authorities should aim to establish a noise limit, through a planning condition, at the noise-sensitive property that does not exceed the background noise level ($L_{A90,1h}$) by more than 10dB(A) during normal working hours (0700-1900). Where it will be difficult not to exceed the background level by more than 10dB(A) without imposing unreasonable burdens on the mineral operator, the limit set should be as near that level as practicable. In any event, the total noise from the operations should not exceed 55dB(A) $L_{Aeq,1h}$ (free field). For operations during the evening (1900-2200) the noise limits should not exceed the background noise level ($L_{A90,1h}$) by more than 10dB(A) and should not exceed 55dB(A) $L_{Aeq,1h}$ (free field). For any operations during the period 2200 – 0700 noise limits should be set to reduce to a minimum any adverse impacts, without imposing unreasonable burdens on the mineral operator. In any event the noise limit should not exceed 42dB(A) $L_{Aeq,1h}$ (free field) at a noise sensitive property.

2.1.20 The same document includes instances where particularly noisy short-term activities may occur and the appropriate criteria for such circumstances;

“Activities such as soil-stripping, the construction and removal of baffle mounds, soil storage mounds and spoil heaps, construction of new permanent landforms and aspects of site road construction and maintenance.

Increased temporary daytime noise limits of up to 70dB(A) $L_{Aeq,1h}$ (free field) for periods of up to eight weeks in a year at specified noise-sensitive properties should be considered to facilitate essential site preparation and restoration work and construction of baffle mounds where it is clear that this will bring longer-term environmental benefits to the site or its environs.

Where work is likely to take longer than eight weeks, a lower limit over a longer period should be considered. In some wholly exceptional cases, where there is no viable alternative, a higher limit for a very limited period may be appropriate in order to attain the environmental benefits. Within this framework, the 70 dB(A) $L_{Aeq,1h}$ (free field) limit referred to above should be regarded as the normal maximum”.

2.1.21 In relation to cumulative impact PPG Minerals states that:

“Some parts of a mineral planning authority area may have been subjected to successive mineral development (such as aggregate extraction or surface coal mining) over a number of years. Mineral planning authorities should include appropriate policies in their minerals local plan, where appropriate, to ensure that the cumulative impact of a proposed mineral development on the community and the environment will be acceptable. The cumulative impact of mineral development is also capable of being a material consideration when determining individual planning applications.”

2.2 Local Planning Policy

Joint Lancashire Minerals and Waste Development Framework Core Strategy DPD

Achieving Sustainable Minerals Production - POLICY CS5

Alternatives to the bulk transportation of minerals by road will be encouraged. Existing or potential transport, storage, handling or reprocessing facilities will be safeguarded where they offer the potential for the use of rail, water or other means to transport minerals.

Criteria will be developed for the site identification process, and also for considering other proposals brought forward outside the plan-making process, to ensure that:

- (i) our natural resources including water, air, soil and biodiversity are protected from harm and opportunities are taken to enhance them;*
- (ii) features and landscapes of historic and cultural importance and their settings are protected from harm and opportunities are taken to enhance them;*
- (iii) workings will not adversely contribute to fluvial flood risks or surface water flooding;*
- (iv) proposals for mineral workings incorporate measures to conserve, enhance and protect the character of Lancashire’s landscapes;*
- (v) the amenity, health, economic well-being and safety of the population are protected by the introduction of high operating standards, sensitive working practices and environmental management systems that minimise harm and nuisance to the environment and local communities throughout the life of the development;*
- (vi) essential infrastructure and services to the public will be protected;*
- (vii) sensitive environmental restoration and aftercare of sites takes place, appropriate to the landscape character of the locality and the delivery of national and local biodiversity action plans. Where appropriate, this will include improvements to public access to the former workings to realise their amenity value.*

Concurrent mineral working will be encouraged where it will maximise the recovery of the materials worked, including secondary materials.

Waste materials will be used positively wherever appropriate and will not constitute a nuisance before a suitable use can be found.

Joint Lancashire Minerals and Waste Local Plan. Site Allocation and Development Management Policies - Part One

Policy DM2 - Development Management

Development for minerals or waste management operations will be supported where it can be demonstrated to the satisfaction of the mineral and waste planning authority, by the provision of appropriate information, that all material, social, economic or environmental impacts that would cause demonstrable harm can be eliminated or reduced to acceptable levels. In assessing proposals account will be taken of the proposal's setting, baseline environmental conditions and neighbouring land uses, together with the extent to which its impacts can be controlled in accordance with current best practice and recognised standards.

In accordance with Policy CS5 and CS9 of the Core Strategy developments will be supported for minerals or waste developments where it can be demonstrated to the satisfaction of the mineral and waste planning authority, by the provision of appropriate information, that the proposals will, where appropriate, make a positive contribution to the:

- *Local and wider economy*
- *Historic environment*
- *Biodiversity, geodiversity and landscape character*
- *Residential amenity of those living nearby*
- *Reduction of carbon emissions*
- *Reduction in the length and number of journeys made.*

This will be achieved through for example:

- *The quality of design, layout, form, scale and appearance of buildings*
- *The control of emissions from the proposal including dust, noise, light and water*
- *Restoration within agreed time limits, to a beneficial afteruse and the management of landscaping and tree planting*
- *The control of the numbers, frequency, timing and routing of transport related to the development.*

3.0 BASELINE CONDITIONS

3.1 Survey Details

3.1.1 Measurements of the existing ambient noise level in the vicinity of the site were obtained on Wednesday 13 October 2021. Additional measurements were obtained on 21 – 22 June 2024 as part of the local authority request for additional information.

3.1.2 Fully attended measurements were made at locations selected to represent noise-sensitive premises closest to the application site. Where necessary atypical events and other extraneous noise has been excluded from the measurement data.

3.1.3 The assessment locations used for the purpose of this study are shown in Figure 4.

3.2 Instrumentation

3.2.1 The following instrumentation was used during the survey:

Table 2: Noise Monitoring Equipment

| Manufacturer | Type | Serial No. |
|--------------|---|------------|
| Norsonic | Class 1 Precision Sound Analyser Nor140 | 1403165 |
| Norsonic | Class 1 Sound Calibrator Type 1251 | 34488 |

3.2.2 During the survey the microphone was protected with suitable outdoor windshield and mounted on a tripod. Measurements at all monitoring locations were ‘free field’ (no vertical reflective surfaces within 3.5 metres of the microphone) and at a height of between 1.2 – 1.5 metres above ground level.

3.2.3 The following set-up parameters were used on the sound level meter:

- Time Weighting: Fast
- Frequency Weighting: A
- Averaging-Integrating Period: 15 minutes

3.2.4 With the equipment set up in the configuration used during measurement, field calibration checks were performed on site immediately before and after the survey period using a sound calibrator. No significant drift (i.e. no greater than ± 0.5 dB) in the calibration value was observed between the initial and final checks.

3.3 Observations

3.3.1 The acoustic environment in the vicinity of the site predominantly comprises noise from distant and local road traffic, along with occasional aircraft movements and birdsong.

3.3.2 Weather conditions during the 2021 survey were dry and settled with average wind speeds of around 2 – 3 ms⁻¹ and predominantly from a west-north-westerly direction. Cloud cover varied between 7 and 8 oktas, relative humidity was in the region of 80% and the temperature was 14°C.

3.3.3 Weather conditions during the 2024 survey periods were dry and settled with average wind speeds of around 1 – 2 ms⁻¹ and predominantly from a west-south-westerly direction. Cloud cover varied between 3 and 6 oktas, relative humidity was in the region of 75 – 80% and the temperature range was 14 – 16°C.

3.4 Measurement Data

3.4.1 The raw monitoring data is provided in Tables 3 and 4.

Table 3: Baseline Noise Monitoring Data (2021)

| Location | Date and Start Time | Duration (T) | L _{Aeq, T} dB | L _{A90, T} dB |
|---|---------------------|--------------|------------------------|------------------------|
| Crossing Cottage | 13/10/2021 10:46 | 15 min | 57.2 | 37.8 |
| | 13/10/2021 13:19 | 15 min | 55.4 | 37.6 |
| | Average | | 56 | 38 |
| Bourbles Farm | 13/10/2021 11:09 | 15 min | 45.3 | 39.2 |
| | 13/10/2021 13:43 | 15 min | 47.1 | 41.3 |
| | Average | | 46 | 40 |
| Ourome | 13/10/2021 11:33 | 15 min | 39.4 | 36.4 |
| | 13/10/2021 14:06 | 15 min | 40.2 | 36.8 |
| | Average | | 40 | 37 |
| Woodlands / Red Lea / Little Tongues Lane | 13/10/2021 11:45 | 15 min | 44.0 | 40.0 |
| | 13/10/2021 14:29 | 15 min | 43.6 | 39.5 |
| | Average | | 44 | 40 |
| The Beeches | 13/10/2021 12:08 | 15 min | 54.0 | 41.8 |
| | 13/10/2021 14:51 | 15 min | 55.0 | 42.6 |
| | Average | | 55 | 42 |
| Lyndale Farm | 13/10/2021 12:32 | 15 min | 55.7 | 48.1 |
| | 13/10/2021 15:11 | 15 min | 56.7 | 46.8 |
| | Average | | 56 | 47 |
| Mytax / New England Cottage | 13/10/2021 12:51 | 15 min | 46.5 | 42.5 |
| | 13/10/2021 15:29 | 15 min | 46.8 | 42.7 |
| | Average | | 46 | 43 |

Table 4: Baseline Noise Monitoring Data (2024)

| Location | Date and Start Time | Duration (T) | L _{Aeq, T} dB | L _{A90, T} dB |
|---------------------|---------------------|--------------|------------------------|------------------------|
| Crossing Cottage | 21/06/2024 07:54 | 15 min | 54.3 | 37.6 |
| | 21/06/2024 11:40 | 15 min | 59.6 | 38.7 |
| | 21/06/2024 15:01 | 15 min | 55.5 | 39.8 |
| | Average | | 57 | 39 |
| | 22/06/2024 07:59 | 15 min | 54.0 | 36.6 |
| | 22/06/2024 11:02 | 15 min | 56.8 | 38.0 |
| | Average | | 56 | 37 |
| Bourbles Farm | 21/06/2024 08:55 | 15 min | 45.6 | 38.7 |
| | 21/06/2024 12:48 | 15 min | 46.9 | 40.1 |
| | 21/06/2024 16:00 | 15 min | 47.5 | 42.0 |
| | Average | | 47 | 40 |
| | 22/06/2024 09:06 | 15 min | 46.6 | 39.5 |
| | 22/06/2024 11:59 | 15 min | 43.5 | 37.5 |
| | Average | | 45 | 39 |
| Ourome | 21/06/2024 09:29 | 15 min | 42.9 | 38.8 |
| | 21/06/2024 13:30 | 15 min | 42.4 | 38.5 |
| | 21/06/2024 16:28 | 15 min | 39.2 | 35.7 |
| | Average | | 42 | 38 |
| | 22/06/2024 09:47 | 15 min | 43.4 | 37.7 |
| | 22/06/2024 12:28 | 15 min | 40.5 | 36.9 |
| | Average | | 42 | 37 |
| Woodlands / Red Lea | 21/06/2024 09:59 | 15 min | 47.8 | 40.5 |
| | 21/06/2024 13:58 | 15 min | 48.2 | 40.5 |
| | 21/06/2024 16:52 | 15 min | 45.1 | 41.8 |
| | Average | | 47 | 41 |
| | 22/06/2024 10:01 | 15 min | 43.5 | 38.4 |
| | 22/06/2024 12:59 | 15 min | 45.5 | 39.9 |
| | Average | | 45 | 39 |

| Location | Date and Start Time | Duration (T) | L _{Aeq, T} dB | L _{A90, T} dB |
|-----------------------------|---------------------|--------------|------------------------|------------------------|
| Little Tongues Lane | 21/06/2024 10:35 | 15 min | 50.3 | 41.9 |
| | 21/06/2024 14:17 | 15 min | 48.4 | 41.4 |
| | Average | | 50 | 42 |
| | 22/06/2024 10:21 | 15 min | 49.8 | 43.6 |
| | 22/06/2024 13:17 | 15 min | 48.1 | 42.0 |
| | Average | | 49 | 43 |
| The Beeches | 21/06/2024 11:02 | 15 min | 54.2 | 43.4 |
| | 21/06/2024 14:37 | 15 min | 53.2 | 42.8 |
| | 21/06/2024 17:15 | 15 min | 56.0 | 44.9 |
| | Average | | 55 | 44 |
| | 22/06/2024 10:41 | 15 min | 55.2 | 43.1 |
| | 22/06/2024 13:36 | 15 min | 54.0 | 42.7 |
| | Average | | 55 | 43 |
| Lyndale Farm | 21/06/2024 08:17 | 15 min | 56.7 | 47.3 |
| | 21/06/2024 12:04 | 15 min | 57.4 | 47.8 |
| | 21/06/2024 15:22 | 15 min | 55.8 | 46.7 |
| | Average | | 57 | 47 |
| | 22/06/2024 08:22 | 15 min | 58.3 | 46.2 |
| | 22/06/2024 11:23 | 15 min | 56.3 | 45.2 |
| | Average | | 57 | 46 |
| Mytax / New England Cottage | 21/06/2024 08:36 | 15 min | 48.3 | 44.1 |
| | 21/06/2024 12:27 | 15 min | 46.3 | 42.3 |
| | 21/06/2024 15:41 | 15 min | 49.8 | 44.4 |
| | Average | | 48 | 44 |
| | 22/06/2024 08:42 | 15 min | 48.2 | 42.1 |
| | 22/06/2024 11:40 | 15 min | 49.2 | 42.4 |
| | Average | | 49 | 42 |

3.5 Results

3.5.1 The background noise levels used for the purposes of this assessment are summarised in Table 5 below.

Table 5: Summary of Background Noise Levels

| Assessment Location | Background Noise Level Average L_{A90} dB | |
|--------------------------------|--|-------------|
| | Monday – Friday | Saturday AM |
| Old Nickson’s Cottage | 42 | 43 |
| Whinmore Fold | 42 | 43 |
| Woodlands | 40 | 39 |
| Red Lea | 40 | 39 |
| Bourbles Farm | 40 | 39 |
| Crossing Cottage | 38 | 37 |
| Greenacres | 47 | 46 |
| Lyndale Farm | 47 | 46 |
| Mytax / New England Cottage | 43 | 42 |
| Hillfield House / Pointer Farm | 43 | 43 |
| The Beeches | 43 | 43 |
| Ourome | 37 | 37 |

Note - The background sound level (L_{A90}) at each monitoring location was determined by arithmetically averaging the disaggregated $L_{A90,15min}$ measurement data collected during the survey.

3.5.2 At the request of the local planning authority additional information has been provided on the acoustic environment on Saturday mornings when the proposed site, in addition to weekdays and in line with most UK quarry operations, is proposing to operate.

3.5.3 This monitoring demonstrates that whilst the prevailing acoustic environment on weekday and Saturday mornings is largely similar, some assessment locations do experience slightly lower background noise level compared to during the week. On average a reduction of around 1 dB is typical with some locations remaining the same.

4.0 POTENTIAL NOISE EMISSIONS

4.1 Introduction

4.1.1 The level of sound in the local environs that arises from a site will depend on a number of factors. The more significant of which are:

- (a) the sound level output of the plant or equipment used on site;
- (b) the periods of operation of the plant on site;
- (c) the distance between the source noise and the receiving position;
- (d) the presence of screening due to barriers;
- (e) the reflection of sound;
- (f) soft ground attenuation.

4.1.2 Potential noise levels from the proposed development have been predicted at nearby noise-sensitive locations based on the following methodology and assumptions.

4.2 Prediction Methodology

4.2.1 The prediction method used is based upon that outlined within Annex F of BS 5228-1:2009+A1:2014 '*Code of practice for noise and vibration control on construction and open sites. Part 1: Noise*'. This guidance details methods to estimate noise from 'open sites' which can include quarries, waste disposal sites and long-term construction projects.

4.2.2 The most important elements of this standard used in the estimation of noise levels from the proposed development are distance attenuation, site activity on-time, screening, ground absorption and angle of view corrections.

4.2.3 In terms of screening BS 5228 states that as a working approximation, if there is a barrier or other topographic feature between the source and the receiving position, assume an approximate attenuation of 5 dB when the top of the plant is just visible to the receiver over the noise barrier, and of 10 dB when the noise screen completely hides the sources from the receiver. The standard recognises that these estimates can be conservative and that specifically designed and positioned noise barriers, such as soil bunds, could provide greater attenuation.

4.2.4 The ground absorption coefficient has been estimated according to the combination of soft and hard ground conditions present between the source and receiver position. 'Soft' ground is taken to refer to surfaces which are absorbent to sound, e.g. grassland, cultivated land or plantations as opposed to 'hard' ground surfaces which reflect sound such as paving, asphalt and surface water.

- 4.2.5 In accordance with BS 5228 methodology, the attenuation from screening and soft ground attenuation have not been combined (where applicable). Instead, either the attenuation from screening and hard ground propagation, or the attenuation provided by soft ground alone has been included in the calculation, whichever is the greater of the two.
- 4.2.6 Noise level predictions at each assessment location have been made to a height of 1.5 metres above ground level and at least 3.5 metres from any reflecting surface other than the ground. The predictions made are ‘free-field’ sound levels to allow for an appropriate comparison with the background sound level measurements which were also made in free-field conditions.
- 4.2.7 All noise level predictions have been calculated with the combinations of plant working at the closest point to the assessment location. The predictions are therefore worst-case scenarios which may be of relatively short duration, however, they indicate the potential highest $L_{Aeq,1h}$ noise level to which a particular property or group of properties may be exposed during the working of the site. This worst-case situation may occur intermittently over the lifetime of the site, but the longer-term noise levels perceived outside of the site boundary would normally be significantly less.

4.3 Noise Source Details

- 4.3.1 Information regarding the proposed working of the site has been based on discussions with the applicant.
- 4.3.2 A list of plant and activities from which the noise predictions have been made is presented in Table 5 along with a number of assumptions regarding activity ‘on-times’ and vehicle movements. The noise emission levels used within this assessment are based on measurements of plant and activities by Vibrock Ltd at similar sand and gravel quarry sites across the UK.

Table 5: Noise Source Details

| Description of Plant/Activity | Sound Power Level dB(A) | Assumptions |
|--|-------------------------|-----------------------------|
| Excavator loading Dump Truck | 104 | 75% on-time |
| Dump Truck Movements | 103 | 16 movements/hour 20 mph |
| Water Bowser | 109 | 2 movements/hour 20 mph |
| Dump Truck unloading at processing area | 107 | 10% on-time |
| Dozer (as raised stockpile management) | 106 | 10% on-time |
| Processing Plant + Loading | 105 | 100% on-time |

| Description of Plant/Activity | Sound Power Level dB(A) | Assumptions |
|---|--------------------------------|-----------------------------|
| Mobile Crusher | 108 | 50% on-time |
| Wheeled Loading Shovels | 105 | 50% on-time |
| Dewatering Pumps | 92 | 100% on-time |
| Diesel Generator | 91 | 100% on-time |
| Weighbridge | 89 | 25% on-time |
| Wheelwash | 92 | 25% on-time |
| Road Lorry | 101 | 10 movements/hour 15 mph |
| Excavator (recycling) | 102 | 25% on-time |
| Shovel (recycling) | 105 | 25% on-time |
| Tipping in Waste Transfer Area | 107 | 10% on-time |
| Loading Dump Truck in Waste Transfer Area | 104 | 25% on-time |
| Dozer | 106 | 25% on-time |
| Tipping Fill | 107 | 10% on-time |

5.0 ASSESSMENT

5.1 Introduction

5.1.1 Summaries of the predicted noise levels associated with the proposed scheme are shown in Tables 6 and 7 below, together with a comparative assessment against the noise standards contained within current planning practice guidance for mineral sites.

5.1.2 The calculations are based on the latest quarry development plans which have undergone minor amendments to those assessed as part of the previously submitted Environmental Statement. Noise level predictions are provided for each phase of the development as stated in the Regulation 25 request. Further detailed information, including an indication of timescales is also provided for Phase 1 of the development and is shown in Figure 3.

5.2 Short-Term Operations

5.2.1 PPG permits a temporary daytime noise limit of 70 dB(A) $L_{Aeq, 1h}$ (free field) for periods of up to 8 weeks in a year to facilitate short-term activities which include essential site preparation, restoration, soil-stripping, the construction and removal of baffle mounds, soil storage mounds and spoil heaps, construction of new permanent landforms and aspects of site road construction and maintenance.

5.2.2 In terms of short-term operations, it is considered that some aspect of final restoration work and initial preparation works, such as soil stripping and bund formation, are likely to have the highest noise impact due to their potential occurrence at or close to the site boundary and potentially unscreened from noise-sensitive premises in the vicinity.

5.2.3 Table 6 below presents an assessment of noise from these temporary activities associated with the proposed scheme.

Table 6: Assessment of Normal Operations

| Location | Phase | Predicted Worst Case Site Noise Level dB $L_{Aeq, 1h}$ free-field | Difference between Site Noise and 70 dB(A) Limit |
|-----------------------|-------|--|---|
| Old Nickson's Cottage | A | 46 | -24 |
| | 1 | 52 | -18 |
| | 2 | 45 | -25 |
| | 3 | 43 | -27 |
| | 4 | 45 | -25 |
| Whinmore Fold | A | 41 | -29 |
| | 1 | 57 | -13 |
| | 2 | 43 | -27 |
| | 3 | 41 | -29 |
| | 4 | 43 | -27 |

| Location | Phase | Predicted Worst Case Site Noise Level dB LAeq,1h free-field | Difference between Site Noise and 70 dB(A) Limit |
|-----------------------------|-------|--|--|
| Woodlands | A | 44 | -26 |
| | 1 | 69 | -1 |
| | 2 | 45 | -25 |
| | 3 | 44 | -26 |
| | 4 | 45 | -25 |
| Red Lea | A | 47 | -23 |
| | 1 | 69 | -1 |
| | 2 | 50 | -20 |
| | 3 | 47 | -23 |
| | 4 | 48 | -22 |
| Bourbles Farm | A | 52 | -18 |
| | 1 | 50 | -20 |
| | 2 | 62 | -8 |
| | 3 | 55 | -15 |
| | 4 | 69 | -1 |
| Crossing Cottage | A | 42 | -28 |
| | 1 | 41 | -29 |
| | 2 | 43 | -27 |
| | 3 | 50 | -20 |
| | 4 | 44 | -26 |
| Greenacres | A | 42 | -28 |
| | 1 | 38 | -32 |
| | 2 | 40 | -30 |
| | 3 | 48 | -22 |
| | 4 | 40 | -30 |
| Lyndale Farm | A | 44 | -26 |
| | 1 | 40 | -30 |
| | 2 | 42 | -28 |
| | 3 | 49 | -21 |
| | 4 | 43 | -27 |
| Mytax / New England Cottage | A | 57 | -13 |
| | 1 | 46 | -24 |
| | 2 | 47 | -23 |
| | 3 | 68 | -2 |
| | 4 | 51 | -19 |

| Location | Phase | Predicted Worst Case Site Noise Level dB LAeq,1h free-field | Difference between Site Noise and 70 dB(A) Limit |
|-----------------------------------|-------|--|--|
| Hillfield House / Pointer Farm | A | 53 | -17 |
| | 1 | 47 | -23 |
| | 2 | 47 | -23 |
| | 3 | 49 | -21 |
| | 4 | 48 | -22 |
| The Beeches | A | 52 | -18 |
| | 1 | 49 | -21 |
| | 2 | 49 | -21 |
| | 3 | 49 | -21 |
| | 4 | 49 | -21 |
| Ourome | A | 67 | -3 |
| | 1 | 49 | -21 |
| | 2 | 47 | -23 |
| | 3 | 45 | -25 |
| | 4 | 47 | -23 |

5.2.4 The table above demonstrates that potential noise levels from short-term activities are expected to remain within the temporary daytime limit of 70 dB recommended within PPG-Minerals.

5.3 Normal Operations

5.3.1 PPG recommends a noise limit at noise-sensitive property that does not exceed the background level by more than 10 dB(A). Where this poses an unreasonable burden on the mineral operator the limit should be as near the LA90 + 10 dB(A) criteria as practicable and should not exceed 55 dB(A) LAeq, 1h (free field).

5.3.2 Table 7 below presents an assessment of noise from normal operations associated with the proposed scheme. The predictions include the beneficial effects of screening bunds which were designed into the scheme at an early stage to mitigate potential noise impacts. The screening bunds will be created using soils retained for restoration purposes. The location of the proposed screening is detailed within the quarry development plans.

Table 7: Assessment of Normal Operations

| Location | Phase | Predicted Worst Case Site Noise Level dB L _{Aeq,1h} free-field | Background Noise Level | Difference between site Noise and Background Level | Difference between Site Noise and 55 dB(A) Limit |
|-----------------------|-------|---|------------------------|--|--|
| Old Nickson's Cottage | A | 39 | 42 | -3 | -16 |
| | 1 | 48 | | +6 | -7 |
| | 2 | 43 | | +1 | -12 |
| | 3 | 43 | | +1 | -12 |
| | 4 | 43 | | +1 | -12 |
| Whinmore Fold | A | 38 | 42 | -4 | -17 |
| | 1 | 46 | | +4 | -9 |
| | 2 | 40 | | -2 | -15 |
| | 3 | 41 | | -1 | -14 |
| | 4 | 41 | | -1 | -14 |
| Woodlands | A | 37 | 40 | -3 | -18 |
| | 1 | 53 | | +13 | -2 |
| | 2 | 39 | | -1 | -16 |
| | 3 | 38 | | -2 | -17 |
| | 4 | 38 | | -2 | -17 |
| Red Lea | A | 41 | 40 | +1 | -14 |
| | 1 | 52 | | +12 | -3 |
| | 2 | 48 | | +8 | -7 |
| | 3 | 44 | | +4 | -11 |
| | 4 | 46 | | +6 | -9 |
| Bourbles Farm | A | 45 | 40 | +5 | -10 |
| | 1 | 45 | | +5 | -10 |
| | 2 | 49 | | +9 | -6 |
| | 3 | 48 | | +8 | -7 |
| | 4 | 53 | | +13 | -2 |
| Crossing Cottage | A | 34 | 38 | -4 | -21 |
| | 1 | 40 | | +2 | -15 |
| | 2 | 40 | | +2 | -15 |
| | 3 | 41 | | +3 | -14 |
| | 4 | 37 | | -1 | -18 |

| Location | Phase | Predicted Worst Case Site Noise Level dB $L_{Aeq,1h}$ free-field | Background Noise Level | Difference between site Noise and Background Level | Difference between Site Noise and 55 dB(A) Limit |
|--------------------------------|-------|--|------------------------|--|--|
| Greenacres | A | 36 | 47 | -11 | -19 |
| | 1 | 38 | | -9 | -17 |
| | 2 | 38 | | -9 | -17 |
| | 3 | 45 | | -2 | -10 |
| | 4 | 38 | | -9 | -17 |
| Lyndale Farm | A | 38 | 47 | -9 | -17 |
| | 1 | 40 | | -7 | -15 |
| | 2 | 40 | | -7 | -15 |
| | 3 | 46 | | -1 | -9 |
| | 4 | 40 | | -7 | -15 |
| Mytax / New England Cottage | A | 46 | 43 | +3 | -9 |
| | 1 | 45 | | +2 | -10 |
| | 2 | 46 | | +3 | -9 |
| | 3 | 51 | | +8 | -4 |
| | 4 | 47 | | +4 | -8 |
| Hillfield House / Pointer Farm | A | 46 | 43 | +3 | -9 |
| | 1 | 47 | | +4 | -8 |
| | 2 | 47 | | +4 | -8 |
| | 3 | 47 | | +4 | -8 |
| | 4 | 47 | | +4 | -8 |
| The Beeches | A | 48 | 43 | +5 | -7 |
| | 1 | 48 | | +5 | -7 |
| | 2 | 48 | | +5 | -7 |
| | 3 | 48 | | +5 | -7 |
| | 4 | 48 | | +5 | -7 |
| Ourome | A | 44 | 37 | +7 | -11 |
| | 1 | 47 | | +10 | -8 |
| | 2 | 46 | | +9 | -9 |
| | 3 | 45 | | +8 | -10 |
| | 4 | 46 | | +9 | -9 |

- 5.3.3 The results of the assessment demonstrate that potential noise levels from normal site operations could exceed the background level by more than 10 dB at Woodlands and Red Lea during Phase 1 and at Bourbles Farm during Phase 4. However, the proposed screening bunds reduce potential noise levels at all locations to within the recommended 55 dB upper limit at all assessment locations and near to the $L_{A90} + 10$ dB(A) criteria as practicable in accordance with PPG-Minerals.
- 5.3.4 The worst-case approach to the calculation of noise levels from the proposed development should be noted and in reality site activities likely to generate noise levels that are in excess of 10 dB above the background noise levels will be infrequent and short-lived.
- 5.3.5 Furthermore, it should also be noted that extraction operations will occur on a campaign basis meaning that there will be significant periods during the life of the scheme where only very minimal operations are occurring in the wider extraction areas and the longer-term noise levels are therefore anticipated to be significantly lower than those presented in Table 7.
- 5.3.6 Based on the above assessment and with reference to the noise exposure hierarchy outlined in PPG-Noise which supports the NPPF and NPSE, it is suggested that potential impacts are considered to be at or below the ‘Lowest Observed Adverse Effect Level’ (LOAEL) at the majority of noise-sensitive premises with the potential for effects marginally above the LOAEL but significantly below the ‘Significant Observed Adverse Effect Level’ (SOAEL) at Woodlands, Red Lea and Bourbles Farm.
- 5.3.7 Taking all of the above into consideration along with the additional implementation of a range of best-practice control measures during the working of the quarry site, the overall noise impacts are unlikely to be significant.

5.4 Road Traffic Noise

- 5.4.1 Noise impacts from Mobile Plant and HGV movements on the site including haul routes and the site access road are incorporated within the assessments presented in section 5.2 and 5.3. The potential impacts associated with HGV traffic on the local road network are outlined in the Transport Statement which accompanied the Environmental Statement.
- 5.4.2 The Transport Statement presents a sound justification for the selection of the proposed site access onto Lancaster Road. Lancaster Road itself is a bus route used by several School Services and the 89 Lancaster to Knott End-on-Sea service. There are also several businesses located along its length and this route is currently, therefore, already used frequently by HGV's and PSV's.
- 5.4.3 Furthermore it should be noted that all HGV traffic to and from the proposed site would arrive and depart to the east along Lancaster Road to the nearby A588. The A588 connects to Lancaster and the M6 to the north, and to Blackpool and via the A585 Trunk Road to the M55 to the south. There would therefore be no HGV's using the section of Lancaster Road to the west of the proposed site entrance passing the residential properties and going through Preesall or Knott End-on-Sea.

- 5.4.4 It is estimated that the extractable mineral reserves at the site are in the region of 460,000 tonnes and the corresponding vehicle movements are detailed in the Transport Statement which states that in the first 5 years the combined extraction and reinstatement works would result in an average of around 37 HGV movements per day (less than 5 in / 5 out per hour) and a practical maximum of 60 HGV movements per day (7.5 in / 7.5 out per hour) with days when there would be less traffic to balance the days when there was more than the average rate. In the 6th year the final reinstatement works will result in an average of around 17 HGV movements per day (2 in / 2 out per hour).
- 5.4.5 The Transport Statement goes on to consider existing traffic flows on the A588, and the extent to which they may be influenced by the proposed development, based on the above estimated daily movements. The existing Annual Average Daily Traffic (AADT) flow of 6035 vehicles would increase to 6061 and the HGV / PSV content of the traffic would increase from 146 to 172 which would be 2.8% of the total flow.
- 5.4.6 Such changes in traffic flow and HGV composition are likely to result in noise level increases of significantly less than 1 dB, a magnitude of change that can be classified as 'negligible' and therefore not considered to be significant with no requirement for further detailed assessment.

6.0 RECOMMENDATIONS

6.1 Noise Limits

Normal Operations (e.g. Extraction, Stockpiling, Processing and Haulage)

- 6.1.1 PPG recommends that Mineral Planning Authorities should aim to establish a noise limit, through a planning condition, at the noise-sensitive property that does not exceed the background noise level ($L_{A90,1h}$) by more than 10 dB(A) during normal working hours (07:00-19:00) subject to a maximum of 55 dB(A) $L_{Aeq,1h}$ (free-field).
- 6.1.2 Based on the above guidance and the outcomes of the assessment, the following limits are recommended for each noise-sensitive premises considered within this assessment.

| Location | Site Noise Limit dB $L_{Aeq,1h}$ (free-field) |
|--------------------------------|--|
| Old Nickson's Cottage | 52 |
| Whinmore Fold | 52 |
| Woodlands | 55 |
| Red Lea | 55 |
| Bourbles Farm | 55 |
| Crossing Cottage | 48 |
| Greenacres | 55 |
| Lyndale Farm | 55 |
| Mytax / New England Cottage | 53 |
| Hillfield House / Pointer Farm | 53 |
| The Beeches | 53 |
| Ourome | 47 |

Short-Term Operations (e.g. Soil Stripping, Bund Formation/Removal and Restoration)

- 6.1.3 It is recommended that daytime noise levels during essential short-term operations should not exceed 70 dB $L_{Aeq,1h}$ (free field) at noise-sensitive properties and be limited to periods of up to 8 weeks per year in total at any one property.

Compliance Monitoring

- 6.1.4 Should the Mineral Planning Authority be minded to approve the development and secure noise limits via a condition, it is recommended that compliance with the stipulated levels should be monitored on a routine basis throughout the life of the scheme.
- 6.1.5 It is recommended that any monitoring conducted for the purposes of assessing compliance with noise control targets should be conducted in accordance with an appropriate noise monitoring scheme that has been submitted to and approved in writing by the Mineral Planning Authority.

6.2 Noise Control Measures

- 6.2.1 In addition to the proposed screening bunds which have been incorporated into the proposed scheme to provide visual and acoustic screening of site operations, the following noise control measures should be implemented during the operation of the site to demonstrate best practice and minimise the potential impact at noise-sensitive premises in the vicinity of the proposed development:
- (a) The stated operating hours of the site should be strictly adhered to. Any site working hour restrictions should be effectively communicated to all site staff and subcontractors;
 - (b) All plant and equipment should comply with the relevant statutory requirements regarding noise emissions;
 - (c) Audible reversing warning systems on mobile plant and vehicles should be of a type which, whilst ensuring that they give proper warning, have a minimum noise impact on persons outside sites;
 - (d) All machinery should be regularly maintained and where appropriate fitted with exhaust silencers. Any defective items should not be used. Regular inspections of plant should be undertaken to identify any faults or wear and tear that may be resulting in excessive noise;
 - (e) The drop heights of materials should be minimised where possible;
 - (f) Plant and vehicles should be started up sequentially rather than all together. Any period of idling required to warm up mobile plant at the start of the working day should be undertaken in locations away from residential premises;
 - (g) Unnecessary horn usage, sharp braking and revving of engines should be avoided;
 - (h) Equipment should be switched off or throttled down to a minimum when not required. Any covers, panels or enclosure doors to engines should be kept closed when the equipment is in use;

- (i) Plant from which the noise generated is known to be particularly directional should, wherever practicable, be orientated so that the noise is directed away from noise-sensitive areas;
- (j) The site access road and internal haul routes should be kept clear and well maintained. Steep gradients should be avoided where possible;
- (k) Operatives should be trained to employ appropriate techniques to keep site noise to a minimum and should be effectively supervised to ensure that best working practice in respect of noise reduction is followed.

6.2.2 Prior to the commencement of operations at the site, it is also recommended that a noise management plan, incorporating the above measures, should be prepared and submitted to the Mineral Planning Authority for approval. This could potentially incorporate a noise monitoring scheme (referred to in section 6.1.5 above) and secured via a planning condition.

7.0 SUMMARY

- 7.1 Vibrock Limited has been commissioned to undertake a noise impact assessment in relation to a proposed scheme of mineral extraction and restoration on land off Bourbles Lane, near Preesall in Lancashire.
- 7.2 This report updates and supersedes the noise impact assessment which formed Appendix 9 of the Environmental Statement submitted to Lancashire County Council in 2023 (ref. LCC/2023/0030). Following the receipt of consultation responses on the ES and other supporting information which accompanied the planning application the Mineral Planning Authority have requested additional information under Regulation 25 of the Environmental impact Assessment Regulations. This report seeks to address these comments and provide the necessary clarifications and additional information.
- 7.3 Development plans have been studied and a series of noise level predictions have been made at noise-sensitive locations within the vicinity of the proposed application site. These potential noise levels have been assessed against relevant criteria including that outlined within Planning Practice Guidance to the National Planning Policy Framework.
- 7.4 All predictions have been calculated with the combinations of plant working at the closest point to each assessment location. They are therefore worst-case scenarios which may be of relatively short duration. However, they indicate the maximum $L_{Aeq,1h}$ (free-field) noise level to which a particular property or group of properties may be exposed during the working of the site. The worst-case situation may occur intermittently over the lifetime of the site, but longer-term noise levels perceived outside of the site boundary would normally be significantly less.
- 7.5 The results of the assessment demonstrate that the proposed development can be implemented by the Operator whilst adhering to the noise standards contained within current Planning Practice Guidance for mineral sites.
- 7.6 It is therefore considered unlikely that the proposed development would result in significant or unacceptable adverse impacts at noise-sensitive premises in the vicinity of the site. A range of recommendations have been made to minimise potential noise emissions associated with the operation of the site.
- 7.7 The overall noise impact of the proposed development is therefore considered to be in line with current national and local planning policy which seeks to prevent and avoid any significant or unacceptable adverse impacts and, where necessary, mitigate and reduce to a minimum other adverse impacts.

8.0 REFERENCES

1. ANC Guidelines: *Environmental Sound Measurement Guide*. May 2021.
2. British Standard 5228-1:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites. Part 1: Noise*. British Standards Institution 2014.
3. British Standard 7445-1:2003 *Description and measurement of environmental noise – Part 1 Guide to quantities and procedures*. British Standards Institution 2003.
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5. National Planning Policy Framework – Ministry of Housing, Communities and Local Government and Department for Levelling Up, Housing and Communities. March 2012 last updated December 2023.
6. Noise Policy Statement for England. Department for Environment, Food and Rural Affairs. March 2010.
7. Planning Practice Guidance: Minerals – Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities and Local Government. October 2014.
8. Planning Practice Guidance: Noise – Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities and Local Government (2018 to 2021). March 2014 last updated July 2019.
9. *Joint Lancashire Minerals and Waste Development Framework Core Strategy DPD*. Lancashire County Council, Blackburn with Darwen Borough Council, Blackpool Council. February 2009
10. *Joint Lancashire Minerals and Waste Local Plan. Site Allocation and Development Management Policies - Part One*. Lancashire County Council, Blackburn with Darwen Borough Council, Blackpool Council. September 2013

FIGURE 1

Proposed Site

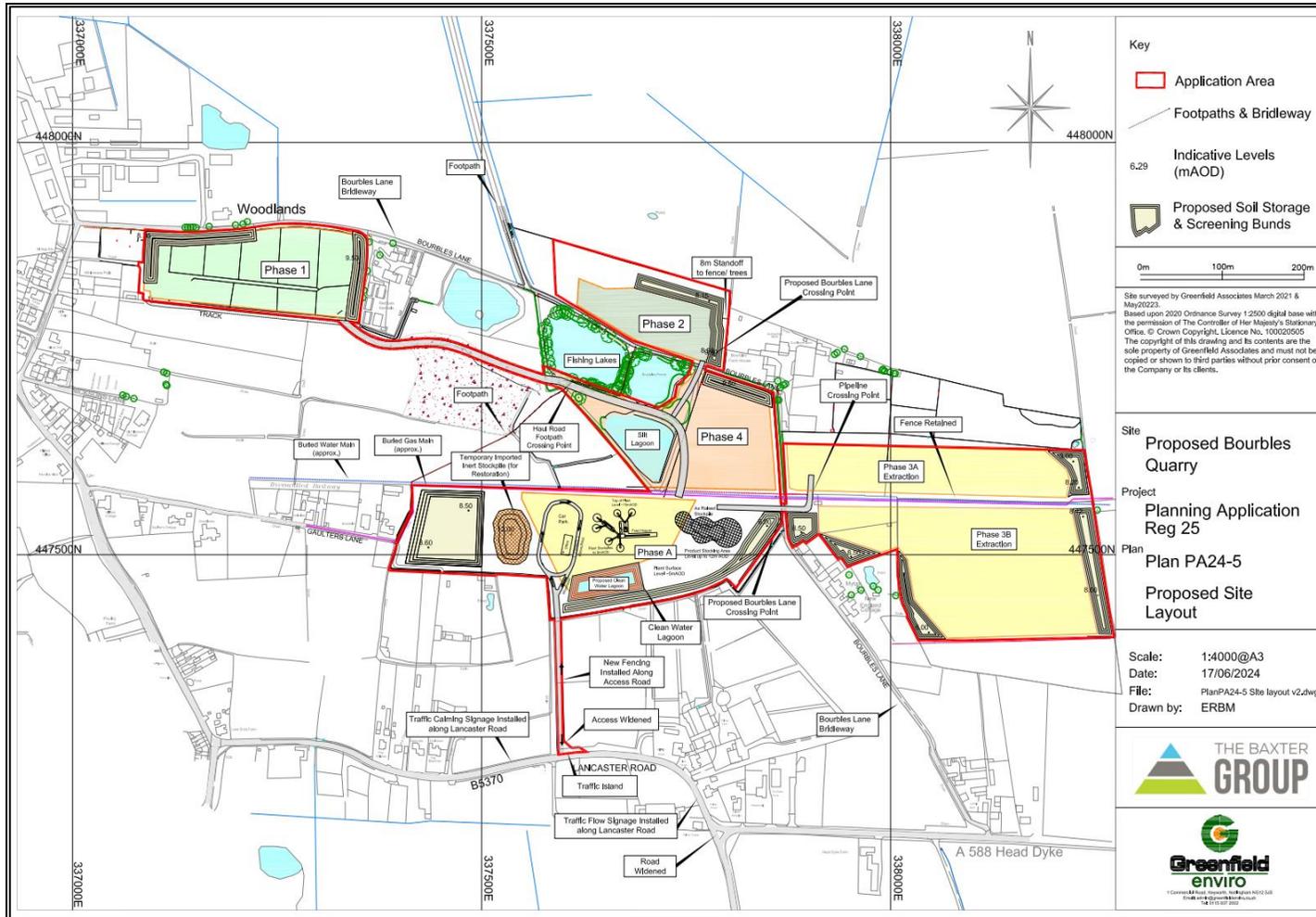


FIGURE 3

Phase 1 Development Plan

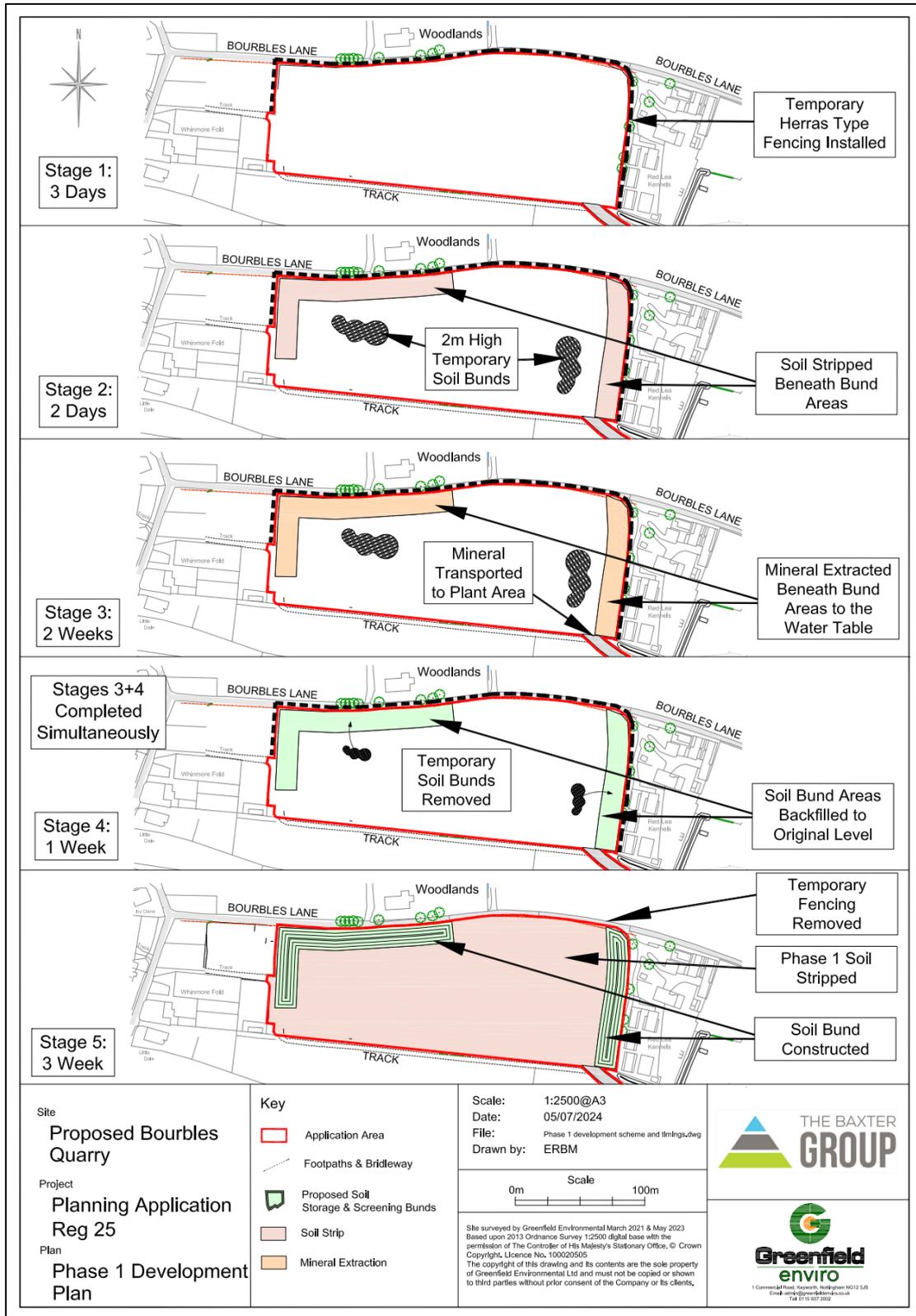
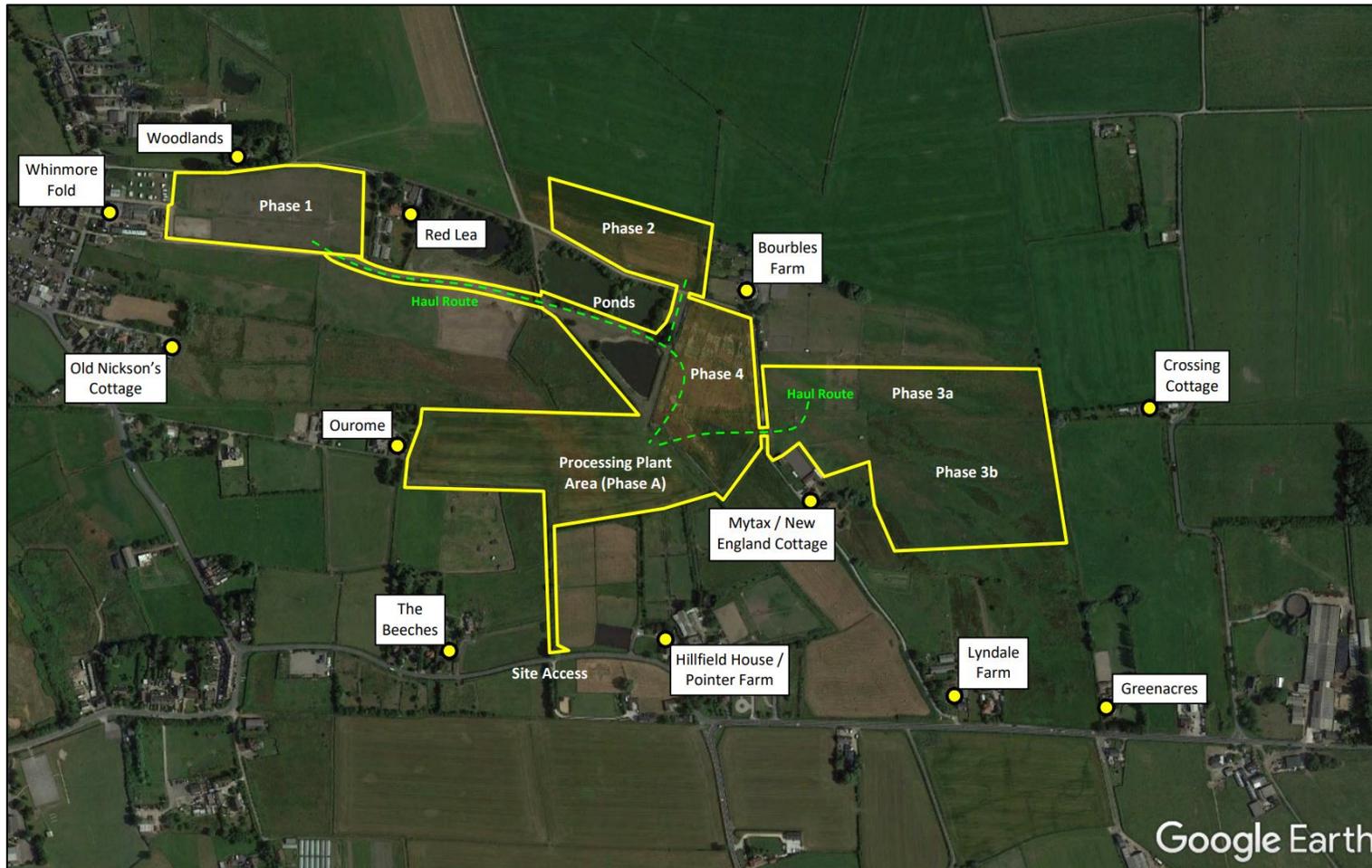


FIGURE 4

Noise-Sensitive Receptor Locations



APPENDIX 1

Acoustic Terminology and Definitions

Acoustic Environment

Sound from all sound sources as modified by the environment.

Sound Power Level (L_{WA})

The total amount of sound energy per unit of time generated by a particular sound source independent of the acoustic environment that it is in. It is a logarithmic measure of the sound power in comparison to a specified reference level.

Equivalent Continuous A-weighted Sound Pressure Level ($L_{Aeq,T}$)

Value of the A-weighted sound pressure level of a continuous, steady sound that, within a specified time interval T , has the same mean square sound pressure as a sound under consideration whose level varies with time.

A-weighting

A-weighting is used to replicate this sensitivity by modifying the electrical response of a sound level meter with frequency in approximately the same way as the sensitivity of the human hearing system. Measurements in dB(A) broadly agree with people's assessment of loudness.

Ambient Sound Level

Totally encompassing sound in a given situation at a given time, usually composed of sound from many sources near and far. Normally expressed as the equivalent continuous A-weighted sound pressure level ($L_{Aeq,T}$).

Specific Sound Level (also referred to as 'site noise')

Sound in the neighbourhood of a site that originates from the site i.e. the sound being assessed.

Background Sound Level ($L_{A90,T}$)

A-weighted sound pressure level of the residual sound at the assessment position with no operation occurring at the proposed site. Defined in terms of the $L_{A90,T}$ which is the "A weighted" noise level exceeded for 90 per cent of the specified measurement period (T).

Free-field

External sound field in which no significant sound reflections occur (apart from the ground).

NOTE Measurements made 1.2 metres to 1.5 metres above the ground and at least 3.5 metres away from other reflecting surfaces are usually regarded as free-field.

Noise-Sensitive Premises

Any occupied premises outside a site used as a dwelling (including gardens), place of worship, educational establishment, hospital or similar institution, or any other property likely to be adversely affected by an increase in noise level.