

MAES Y DROLL SILICA SAND QUARRY

Scoping Report

Silica Sand Limited Mold

March 2025

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Document history

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1 INTRODUCTION

- 1.1.1 This report constitutes a request for a Scoping Opinion from Denbighshire County Council under Regulation 14 of the Town and Country Planning (EIA) (Wales) Regulations 2017.
- 1.1.2 The future applicant proposes to extract silica sand and fine clay from the Maes y Droll quarry, Llanarmon-yn-Lal, Denbighshire (the Site)(see Figure 1- Location Plan) , process it and export to customers, principally for glass manufacture and porcelain manufacture. This is, essentially, a continuation, with modern methods and machinery, of the operations that have previously taken place on the site.
- 1.1.3 Through pre-application advice and the applicants' own awareness of the site and surroundings, it is considered unnecessary to pursue a formal Screening Opinion. Whilst the site sits below the mandatory threshold expressed in Schedule 1 of the Regulations, it is of large scale and includes part of an area that has been designated as an Area of Outstanding Natural Beauty.
- 1.1.4 The application, which will be informed by the Environmental Statement (ES), is a 'consolidating' application that includes areas which are accepted as having valid planning permission, areas where the Mineral Planning Authority (MPA) consider that planning permission has lapsed and areas which have never had the benefit of planning permission. The plans which accompany this request show a red line boundary which include the applicant's ownership comprising the previously worked areas and unworked areas.
- 1.1.5 This request is supplemented with a series of topic-based scope documents that consider whether effects are both likely and significant before suggesting assessment methodology. Some topics are identified as not having likely effects or not having significant effects and these are scoped out of the proposed ES.

2 LEGISLATION

2.1 EIA Regulations

- 2.1.1 The EIA Regulations in force for this site at the present time are The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 as amended.
- 2.1.2 The project, as described in Chapter 4 below does not match a description of development that is set out in Schedule 1 to the Regulations, but it does fall within the description in Category 2a and the threshold for considering whether the project should be screened as Environmental Impact Assessment (EIA) development is exceeded.
- 2.1.3 The criteria in Schedule 3 relating to 'characteristics of the development' include both the size of the development and its' use of natural resources, including land. At 22 hectares the site is below the threshold for Schedule 1 development because it is less than 25 ha in area, but remains a substantial parcel of land.
- 2.1.4 The location of the site includes part of a landscape (Area of Outstanding Natural Beauty) that has now been designated for its historic and cultural interest. The landscape will be permanently altered, although the site does not contain a European site or other area classified or protected under national legislation. It does lie within the catchment of a European designated site and the effects on this site will need to be quantified. Previous consents related to the site have been accompanied by documents which purported to be Environmental Statements.
- 2.1.5 On this basis it is accepted that the scale and nature of the development has the potential to create significant effects and that some effects are also likely, but not necessarily significant, so that the project would constitute Schedule 2 EIA Development. Therefore, the Authorities' Opinion of the scope of the Environmental Statement is sought.
- 2.1.6 When submitted the Environmental Statement must be 'based on' the most recent Scoping Opinion that has been received (Reg 17).

3 SITE AND SURROUNDING AREA

3.1 Location

- 3.1.1 The site is located approximately 6.5km south of Mold and 12km West North West of Wrexham at Grid Ref SJ 218565 with postcode CH7 4QW. It is within the Llanarmon-yn-Ial Community Civil Parish or Community which is, itself, in Denbighshire. This makes Denbighshire the MPA for the site.
- 3.1.2 Graig Limestone Quarry, operated by Tarmac, is approximately 1km to the west.
- 3.1.3 The access to the site is at Grid Ref SJ216565 on the minor road from Graianrhyd to Eryrys. This point is 370m to the north of the junction of the minor road with the B5430 Ruthin to Minera road.
- 3.1.4 The Local Plan shows the northern area is designated as an Area of Outstanding Natural Beauty (Clwydian and Dee Valley AONB). There is a quarry buffer zone around all of the site and a sand and gravel mineral safeguarding area designated to the south of the site.
- 3.1.5 There are residential properties and businesses (some combined) to the east, south and west of the site. To the east is the Woolly Experiences therapy farm and a tree surgeon. There are also holiday cottages further to the east. The Rose and Crown public house is to the south of the site. Small farmsteads are on all sides. The majority of surrounding land is farmland or moorland with dry stone walls or overgrown, vegetated field boundaries. There are drainage ditches either side of the site and overhead 400kV power lines approximately 600m to the east.
- 3.1.6 There are footpaths outside the site boundary, being 87 to the east and 99 to the west.

3.2 Site Area

- 3.2.1 The site is partially worked and is most easily described by the areas which are, respectively, north and south of the bridleway (No. 17) that runs East-West between Eryrys Road at the west and Llynwern Road at the east.
- 3.2.2 The site lies within Zone A of the Development Advice Maps (DAM) contained within Technical Advice Note (TAN) 15: Development and Flood Risk (2004). TAN15 advises that, for development located in Zone A, the justification test is not applicable and surface water requirements apply. Similarly, the site is within the catchment of the River Dee and Bala Lake Special Area of Conservation (SAC – UK0030252).

3.3 North

- 3.3.1 Approximately 8.04 hectares in area and roughly square in shape. A small area at the southwest corner of the square is excluded from the permission area. The excluded area contains a cemetery (Mynwent Maes y Droll Cemetery) and several mature trees. The boundaries of the cemetery are low stone walls with access achieved from the minor road via a five bar wooden gate and a wrought iron pedestrian metal gate. The cemetery has open views to the east and north into the development area.



- 3.3.2 From the bridleway/public highway that bounds the south of the site the ground rises from 328m AOD to a peak of 356m before plateauing further to the north at 354m and a small spur into the site at 360m AOD. There are four distinct waterbodies at the upper level along with other depressions in the ground. These are evidence of previous mineral operations on the site and there is historic evidence that some underground operations have occurred in the northern area. A footpath (No 18) leaves the southern boundary heading north through the site and, once past the cemetery, forks into two paths continuing northwards.
- 3.3.3 Ecological interest in the north has been established, to date, as Great Crested Newt have been identified in the five ponds.

3.4 South

- 3.4.1 Approximately 13.96 hectares in area and includes;
- Worked and exhausted areas
 - Footpath around southern boundary
 - Previously worked material to be reworked with modern machinery/techniques
 - Plant site with hardstanding, access gate, man-made structures and redundant buildings
 - Tracks
 - Virgin land in agricultural use (meadow)
 - Self-set woodland
 - Bare ground and ponds
- 3.4.2 Power arrives at the site by overhead line on poles, immediately to the north of the access.
- 3.4.3 Similar to the northern area Great Crested Newt have been identified in nearly all the ponds as well as a Barn Owl nest site, a bat roost and an unspecified mammal hole.
- 3.4.4 The displaced footpath at the southern end was, formerly Footpath 15. The history of this footpath and whether it was formally diverted, is unknown but it is reasonably certain that there was no separate diversion consented outside the planning permission area. It cannot now be reinstated on its' original line

4 PROPOSED DEVELOPMENT

4.1 Access

- 4.1.1 The access into the site is a 'bellmouth' style opening with double width gates at a point where the carriageway widens to 9m over a length of 60m. The entrance surface is hard bound for a minimum distance of 30m into the site.

4.2 Transport (Output)

- 4.2.1 The operator anticipates that there will be, at full production, 60 HGV deliveries from the site on a full working day. As noted in the table below, it is proposed to request a six day working week (Monday to Saturday) to enable glass production at the end customer to be maintained without interruption although processing of mineral, without export, could occur on additional days.
- 4.2.2 Sand would be exported in 20 tonne loads. It has been recommended by the MPA that the very fine particulate matter (clay) is transported in sealed containers. This level of transport equates to an annual output of 360,000 tonnes per annum.

4.3 Site Operations

- 4.3.1 The site is intended to operate for 50 weeks of the year with two weeks of shutdown for planned maintenance. No blasting is required. The pre-application advice from the MPA indicates that 'working' and 'processing' should be undertaken inside a building to reduce the potential for dust transmission.
- 4.3.2 Water supply borehole(s) will be sunk to provide long term supply to all operations including wash plant and wheel wash etc. Mineral will be extracted by front loading shovel at the working area and then loaded onto dump trucks for transportation to the wash plant located in Phase 3 (then Phase 2). Those fines which are not retained by the filter press will be settled out in lagoons.
- 4.3.3 Haul roads will be located from extraction areas to the process plant. In Phase 1 the extraction at the east will remove the peripheral track so this will be replaced by a track of appropriate gradient down the centre of the site. Mineral from Phase 4 will cross at the existing access points between the two areas.
- 4.3.4 Application hours of working will be;

Operation	Mon to Friday	Saturday	Sunday, Bank and Public Holidays	Comment
Mineral extraction	0700 to 1900	0700 to 1400	Nil	Potentially on a 'campaign' basis
Processing	0700 to 1900	0700 to 1400	0700 to 1400	
Export/Import	0700 to 1900	0700 to 1400	Nil	

Maintenance | 0700 to 1900 | 0700 to 1900 | 0700 to 1900 |

4.3.5 The site will have wheel cleaning facilities/weighbridge/ office and welfare facilities.

4.3.6 Plant – The throughput for the Mold plant would be circa 120tph, power consumption would be 750Kw as there are a lot of large pumps required in silica production. Water consumption will be 30 cubic metres per hour and there would be a crusher used in the process.

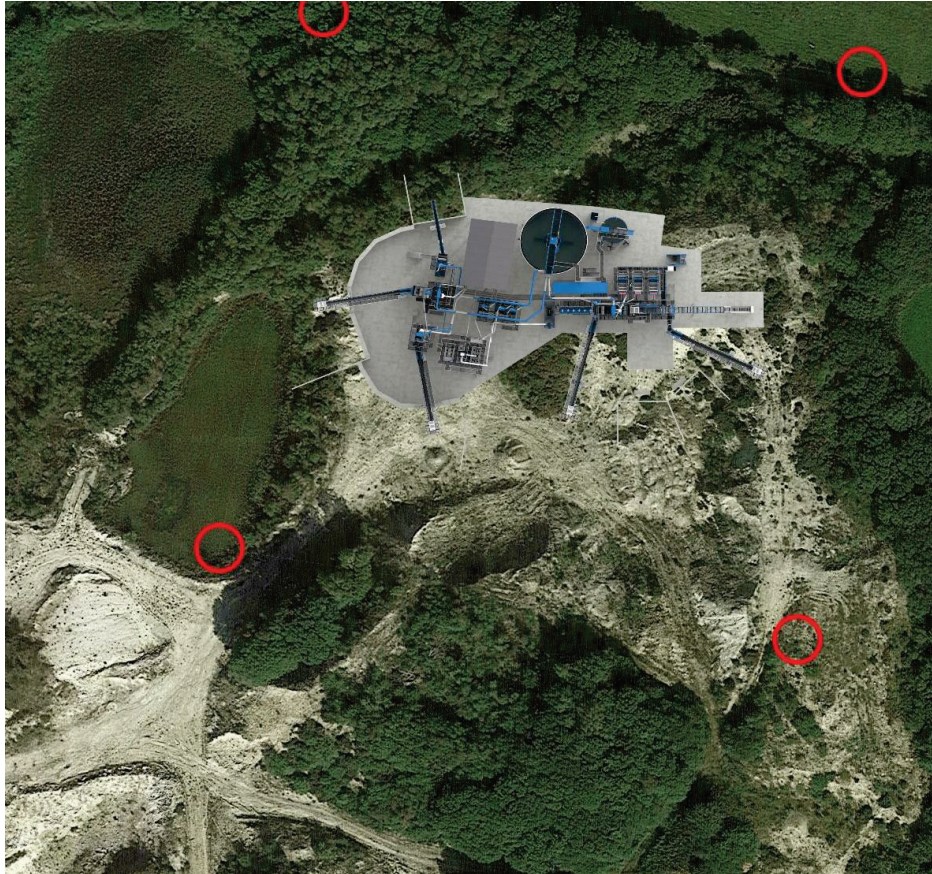


Figure 1. Composite aerial photograph and drawing showing configuration of plant as located in Phase 2 (before levels are lowered through extraction).

4.4 Phasing

4.4.1 There are four conceptual phases shown on the Phasing Plan (Appendix 2) and these will be refined following greater understanding of the geological and hydrogeological situation at the site. However, the basic concept sequence is as follows;

- BNG compensation measures are put in place at the east and south of the site
- Drainage is installed to take surface water and any encountered groundwater to the southern end of the site

- Ecological mitigation measures put in place for phase 1 area (site walkover, bird and bat relocation, GCN capture and relocation)
- Initial Plant site preparation/ demolition removal of redundant buildings
- Sinking of water supply borehole(s)
- Vegetation removal in gradual advancement
- Reworking of southern area (1A) moving northward and placement of waste material in the void to the south. Rework deposits from west to east through Phase 1B
- Processing to take place in Phase 3 area
- Reworking and deepening in Phase 2 area
- Progressive restoration from southern end of site excluding new track and operational areas.
- Upon completion of deepening in Phase 2 move process plant to Phase 2 and soil strip Phase 3.
- Move soils to restoration areas and periphery of cemetery – put screen planting in place on mounds and at northern edge of Phase 3
- Diversion of footpaths in Phase 4
- Work Phase 3 maintaining track from Phase 2 to access.
- Progressive restoration of Phase 3 – move into working of Phase 4 south to north
- Completion of Phase 4 – restoration of Phase 4
- Aftercare

4.5 Restoration

- 4.5.1 Some of the land which has been worked by previous owners has never had the benefit of planning permission. The Planning Authority have indicated that they believe that some of the southern area is no longer covered by previously granted planning permission(s). The Applicant proposes to include all land that needs restoring whether it is currently consented or not.
- 4.5.2 The restoration will be progressive, from south to north as land becomes available and will be partly informed by the soil quantities that are available. There will, inevitably, be one or more water bodies with marginal vegetation. The restoration will be required to provide an overall net gain in biodiversity.

5 POTENTIAL ENVIRONMENTAL EFFECTS AND SCOPE

5.1 Affected environments

- 5.1.1 The Development will change the landform and involve the use of heavy plant and machinery. The operation will use land and water and will disturb the ecological content of the site and its immediate surroundings.
- 5.1.2 The plant will generate noise and the operations have the potential to create dust impacts as well as affecting air quality through vehicle emissions.
- 5.1.3 Much of the southern area has been disturbed at surface level and so archaeological interest will be limited however, there is the potential for some industrial archaeology, relating to former lead mine workings to be present in the northern part of the site.

5.2 Climate Change

R (Finch) v Surrey County Council and others [2024] UKSC 20

- 5.2.1 The future applicant has considered the implications of the judgement of the Supreme Court in R (Finch) v Surrey County Council and Others [2024], and how it may relate to the proposed development.
- 5.2.2 In this regard, the above case relates to the extraction of hydrocarbons and the need to assess the “downstream” emissions that arise as a result of the combustion of those hydrocarbon products (which were considered to be a likely indirect effect on the environment as a result of the initial extraction of hydrocarbons).
- 5.2.3 The EIA regulations require that an EIA must include a description of the likely significant effects of a proposed development on the environment. The Supreme Court decision for the above confirmed that in determining if an environmental impact was likely then regard had to be given to evidence and where this is absent, then it would not be possible to determine if, (for the purposes of EIA), an impact was likely.
- 5.2.4 Whilst a proportion of mineral extracted from the application site will be used as part of glass and ceramic production, it could be used for a variety of other applications (as is the case with most construction aggregates), that cannot be accurately determined at the outset or point of extraction.
- 5.2.5 It is not, therefore, possible to identify any likely environmental effects that may occur as a result of the use of the mineral and as such, the ultimate use cannot be assessed in a meaningful way within the EIA for its extraction.
- 5.2.6 The aggregates won from the application site will not be used in a combustion process but will be used in another added value manufacturing process whereby the generation of greenhouse gas directly from the manufacturing process is inevitable. That manufacturing element will have been the subject of its’ own justification of emissions.

- 5.2.7 With this in mind, the applicant does not consider that the Supreme Court's decision in Finch has any implications on the planning application for the proposed development at the application site.

5.3 Agricultural Land and Soil Quality

- 5.3.1 The National Soil Map (see Appendix 3 -Soil Site Report) show the soils at the site belong in the Anglezarke Association (631a), i.e., well-drained, very acid, coarse (sandy) loams over sandstone.
- 5.3.2 The Welsh Government has produced a Predictive ALC Map (Version 2) online at <https://www.gov.wales/agricultural-land-classification-predictive-map> . The guidance states under Section 3 '3. When to commission a survey' that, *Where the Predictive Agricultural Land Classification Map identifies grades 1, 2 or 3a, a survey will be required to determine Grades present and in what proportion.* Therefore, if the Predictive ALC Map indicated Subgrade 3b or below, no further ALC survey is necessary. As per the extract from the Predictive ALC Map covering the site, the land is identified as predominantly Subgrade 3b and some Grade 4.
- 5.3.3 A quantitative soil survey will be undertaken in order to inform the design of the restoration proposals.
- 5.3.4 On this basis it is proposed to scope soils out of the EIA process.

5.4 Air Quality

- 5.4.1 The detailed Scope for consideration of air quality is included at Appendix 3. It identifies the residential properties around the site and provides information on the existing air quality situation from published sources.
- 5.4.2 The scope of the assessment argues for the removal of demolition and construction works and includes assessment of road traffic emissions and dust. The proposed methods of assessment are as set out in IAQM guidance. A detailed assessment of dust is proposed due to the proximity of relevant receptors.
- 5.4.3 The outcome of the air quality assessment will be reported in a Chapter of the ES and recommendations for mitigation will be included where necessary.

5.5 Noise

- 5.5.1 Noise will be produced during the preparation and operation of the site. Preparation is described in the attached noise scoping document (Appendix 4) as 'construction' and it is stated that the assessment will be undertaken in accordance with TAN 11, where applicable. The operator is not proposing evening or night-time working.
- 5.5.2 The scope in Appendix 4 lists those residential properties that have been identified as 'noise-sensitive receptors'. It is proposed to obtain background noise measurements at four locations for a duration of 7 days and to use methods outlined in BS 5228-1 for predicting noise levels from both 'construction' (including demolition) and operation of the site.

- 5.5.3 The table in the conclusions section of the Appendix scopes all vibration elements and preparation/restoration traffic noise out of the assessment. Onsite construction and operational noise and operational traffic noise are scoped in.

5.6 Heritage and Archaeology

- 5.6.1 The pre-application advice from the Planning Authority notes that the site and its surroundings lie outside the designated Areas of Historic Landscape and that 'there are no known sites of archaeological interest or importance that would be affected should mineral workings be reactivated in the "North Land"'. To the south of the bridleway there is evidence of extensive quarry workings and the proposals do not involve breaking new ground in this area, other than a small meadow in the north-western corner of the site.
- 5.6.2 The majority of the land to the north of the road is undisturbed, other than a small sand pit and some ponds in the west and north west, and a former lead mine in the south-east corner. The latter, named Llanarmon Mine on the 1872 Ordnance Survey, appears to have been short lived, being abandoned before 1900. The 1872 mapping shows at least two shafts and a handful of buildings. It is possible that the foundations of these buildings survive under later made ground.
- 5.6.3 The cultural heritage supporting information will identify both direct and indirect effects upon archaeological and heritage assets.
- 5.6.4 Designated heritage assets will be identified within a 1km radius, including Scheduled Monuments, Listed Buildings, Conservation Areas, Battlefields and Historic Parks. A variety of sources shall be consulted including the Historic Environment Record, national databases, an examination of historical works and readily available local history materials, aerial imagery, and archaeological and historic landscape assessments carried out in connection with other planning applications.
- 5.6.5 A site walkover will be carried out to identify any heritage assets within the Site.
- 5.6.6 Discussions will be held with Clwyd Powys Archaeological Trust (advisers to the MPA) to determine whether any field-based evaluation will be required prior to determination.
- 5.6.7 The assessment will consider the impacts of the proposed development on the following;
- Direct impacts on archaeological remains lying within the development footprint;
 - Indirect impacts upon offsite assets through changes to their setting during operation and after restoration
 - Cumulative and combined impacts
- 5.6.8 The assessment will be based upon professional judgement and published guidance, including Planning Policy Wales (Chapter 6), Conservation Principles For The Sustainable Management Of The Historic Environment In Wales (CADW 2011) and Setting of Historic Assets in Wales (Cadw/Welsh Government 2017). Consultations will be held with CPAT to discuss the assessment and, if appropriate, field-based evaluation and post-consent mitigation measures.

- 5.6.9 However, given the acknowledged lack of likely impacts it is proposed that heritage and archaeology are scoped out of the EIA process and the produced documentation made available as supporting information for the planning application.

5.7 Landscape and Visual

- 5.7.1 The detailed scope and accompanying explanatory Figures are attached as Appendix 5 to this document. A portion of the consented quarry is within an Area of Outstanding Natural Beauty (AONB), and given the nature of the extraction operations, this means that an impact to this designation is not only likely, but inevitable. The determination of significance will, therefore, need to be understood in order to determine the measures which can be employed. Silica sand extraction in an AONB is not an unknown event (Wrotham Quarry, Kent).
- 5.7.2 The assessment will be undertaken in accordance with The Guidelines for landscape and Visual Impact (3rd Ed), published by the Landscape Institute and IEMA.
- 5.7.3 Sources for establishing the baseline are listed and the site 'Landscape unit' specified. The assessment will cover landscape fabric and character, visual receptors the special qualities of the AONB. Eight viewpoints have been selected for approval and the embedded mitigation in the project is described.

5.8 Transport

- 5.8.1 The full scope of the Transport Assessment is set out in the accompanying Appendix 6. Roads connecting to three junctions are proposed for study. Data will be sought from official sources and flow data will be collected for a period of one month. The proposed additional traffic will be distributed onto the public highway and the effects assessed with appropriate growth forecasts.
- 5.8.2 The IEMA guidance lists seven transport related environmental impacts listed in Table 1 of Appendix 6 and these factors will be examined and reported upon. Transport considerations have been scoped in to the Assessment.

5.9 Ecology/Biodiversity

- 5.9.1 The ecological scope has been informed by the knowledge that planning permission exists for part of the site. Regard has also been given to the pre-application advice received in March 2024, particularly the response from Natural Resources Wales. The habitats on site create a mosaic formed by a range of habitats. All habitats are likely to be lost in their entirety within the current proposals.
- 5.9.2 It is likely that the majority of the Site (mature scrub and woodland excluded) will classify as Open Mosaic Habitat on Previously Developed Land, which is a Habitat of Principal Importance for the conservation of biodiversity in Wales.
- 5.9.3 The zone of influence for habitats is determined to be largely within the red line boundary where the habitats are proposed to be lost. However, areas that are functionally linked where the connectivity will be impacted due to the loss of the onsite habitat will also be considered within the scope of the EIA.

Desk based data collection

5.9.4 Desk based data will be derived from a multitude of sources;

- Aerial images – openly available online
- Denbighshire County Council: Local designated site and species data
- MAGIC Maps: statutorily designated sites
- Species specific distribution maps and survey methods – openly available online
- CIEEM: EIA methodology

Bats – Roosting (buildings)

5.9.5 Buildings are present on site which were subjected to bat building assessments in May 2024, during which Building 1 was identified as having potential to support roosting bats (grid reference: SJ 21697 56593). During this building assessment, a large quantity of bat droppings were identified within this building. These have been sent for analysis, with the results showing these dropping to be from Lesser Horseshoe bats.

5.9.6 Two Nocturnal surveys were undertaken on this building in early and late August 2024, during which roosts of Lesser Horseshoe bats and Soprano Pipistrelle bats were observed emerging from the building. Due to limitations encountered during these surveys (poor weather conditions), three further surveys are proposed to be undertaken between May and August 2025.

Figure 1: Building 1 Location

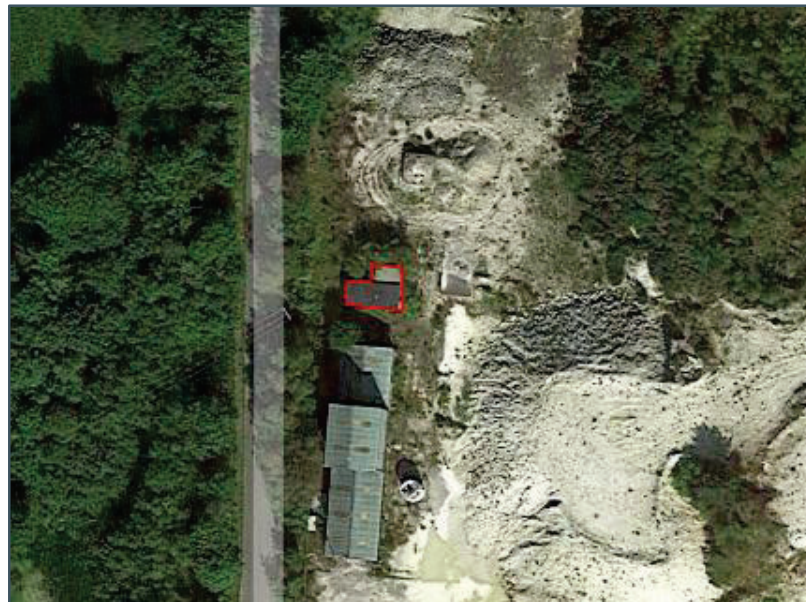


Figure 2: Bat Roosts: (left – Lesser horseshoe, right – Soprano Pipistrelle)



Bats – Roosting : Ground Level Tree Assessments

- 5.9.7 During the habitat surveys, a number of trees and areas of woodland were identified and mapped. Trees have the potential to offer potential roosting features. Although the majority of the woodland onsite was young (10-15 years old) and unlikely to be suitable for roosting bats, some of the more mature vegetation at the site boundaries may offer some scope for roosting bats. As such, a survey to assess the trees on site and within 15m of the site boundary, will be undertaken to assess their potential to support roosting bats. In the event a tree is identified as having bat roosting potential, it will be necessary to undertake further nocturnal bat emergence surveys or roped access climbing surveys in order to establish presence / likely absence of bats within the feature(s).

Bats – Activity Surveys

- 5.9.8 Three activity transects have been undertaken on Site along with seasonal static detector deployment, one in spring, summer and autumn. These surveys identified a low amount of bat activity. However, they were limited by access due to scrub and dense vegetation. As Lesser Horseshoe bats have been identified on site, and due to the proposals resulting in a total loss of the habitats present on site, this may result in the loss of commuting habitat, fragmentation of the habitats, and ultimately, could lead to roost abandonment. More detailed data will be gathered to inform the EclA. Monthly static data will be collected from April – October, which will be reviewed as the season progresses.
- 5.9.9 As such, additional statics will be deployed to collect monthly data in addition to updating the transect surveys where necessary in order to get a larger coverage of the site.

Great Crested Newts (GCN)

- 5.9.10 There are 11 ponds present on site and an additional 7 within 250m of the site boundary. The onsite ponds were subjected to eDNA surveys, where accessible, during 2024,

identifying positive results in all of the ponds that were tested, indicating that GCN are present on site.

- 5.9.11 As GCN have been confirmed present on site, further population class surveys are required in order to determine the size of the population and in turn inform the European Protected Species Licence (EPSL) and mitigation that will be required to develop the site.

Survey Methodologies

- 5.9.12 Where a building is found to support roosting bats or potential for roosting bats is identified during the survey, further nocturnal survey work may be necessary to determine presence / absence of a roost although such survey can only be undertaken from May to mid-September (with the majority of work having to be completed before the end of August). Where droppings are found during an inspection, these will be sampled and sent off for DNA Analysis. This survey can be completed at any time of year.

Ground Level Tree Assessment

- 5.9.13 Using a blend of approaches as set out in the Bat Conservation Trust's Bat Surveys for Professional Ecologists (Collins et al 2016) and the Bat Tree Habitat Key (Bat Habitat Key, 2018), all trees on site will be assessed from ground level. Potential Roosting Features (PRFs) will be sought including trunk cavities, branch splits, rot holes, and woodpecker holes etc. Where accessible from ground level, the feature will be inspected with an endoscope. This survey can be completed at any time of year.

Roped Access Tree Assessment

- 5.9.14 Trained surveyors with a CS38 tree climbing qualification and a bat licence will carry out this type of survey if necessary on any tree classified as having PRF, and that would be subject to impact. This requires surveyors to climb each tree and assess the roosting potential of the tree by investigating possible roosting features such as rot holes and splits using an endoscope.

Nocturnal Bat Roosting/Re-Entry Surveys

- 5.9.15 Where buildings, structures or trees are assessed as requiring nocturnal surveys, up to three nocturnal surveys will be carried out, depending on the roosting potential grade (low to confirmed roost) of the feature. Surveyors would be strategically deployed to view all aspects of interest and would monitor the feature for two hours from dusk or two hours before sunrise using ultrasonic bat detectors. These surveys must be completed between May and mid-September and separated by at least three weeks and can only be undertaken in optimal weather conditions. All surveys would be augmented with recording night vision aids (either infra-red or thermal imagery).

Bat Activity Static Detector Surveys

- 5.9.16 An appropriate number (approximately 8, though this would be determined following a further walkover of the Site) of static bat detectors would be deployed across the Site to sample all habitats including scrub, woodland, wetland habitat and open ground. Detectors would be

deployed monthly between April and October for a period of 5 nights per month in suitable weather conditions.

- 5.9.17 Data collected would then be analysed to determine the species assemblages across the Site, highlight 'hotspots' of bat activity and determine which species frequently use the Site and which species use the Site sporadically.

Great Crested Newts

Population Assessments

- 5.9.18 Waterbodies that have been found to support GCN as a result of the eDNA surveys would be subject to population assessments. This involves undertaking six visits to each waterbody between mid-March and mid-June, with at least three of the visits carried out in peak season (mid-April to mid-May). A range of methodologies can be used to determine presence or absence of GCN. However, usually 3 methods of survey are used per visit, with the main two consisting of nocturnal torching, using high-powered torches, and bottle trapping.
- 5.9.19 The maximum adult count per pond per night will be recorded along with the peak counts per pond overall and the total site count after all surveys are completed. This gives either a small (up to 10), medium (between 11 and 100) or large (over 100) class population.

Reptiles

- 5.9.20 Surveys will follow current standard survey methodology. Artificial refuges made of 0.5m² pieces of artificial refugia will be placed in sunny locations close to vegetation that would typically provide shelter for reptiles. Refuges are monitored during seven visits to the site during suitable weather conditions during the period April to September (optimal window for surveys is April, May and September). Any existing, naturally occurring refuge habitats within the site will also be checked during these visits where it is safe to do so. If reptiles are identified on site, then an additional 3 surveys will be undertaken in order to classify the population size.

How 'significance' of impacts will be assessed

- 5.9.21 There are many factors that individually or in combination will determine whether the development will result in a potential significant effect on the identified ecological receptors that will be reviewed, these include:
- Vulnerability and resilience: how the ecological receptor is able to adapt to change and its ability to recover from them
 - Species value: legislative protection and rarity
 - Habitat value: the rarity of the habitat and the ecosystem services it may provide to other species
 - Biodiversity: the diversity of the flora of fauna assemblages in combination with one another
 - Connectivity: evaluate the importance of the habitat for facilitating movement

- Mobility and habitat reliance: how able to species is to move away from the potential impact and if so does the surrounding landscape offer a suitable carrying capacity to support these species

5.9.22 Additionally, it will be necessary to consider the above in combination with:

- The temporal impacts: temporary impacts vs long term impacts
- Cumulative impacts: how will habitat losses impact in combination with other stressors such as light, noise, dust and other nearby developments
- Residual impacts: the potential for long term harm

Ecology ES Chapter – Proposed Structure

5.9.23 The ecology ES chapter will follow the following structure:

- Introduction: this will cover the purpose and scope of the assessment including outlining the study area and the varying zones of influence in relation to the development and the ecological receptors, as well as the background of the project
- Baseline assessment: to include site description, description of ecological receptors and the results of the surveys undertaken to assess this and the sensitivity of the receptors including their conservation status and capacity to accommodate change.
- Impact assessment: to include potential impacts during construction, operational and restoration phases, significance assessment to determine the significance of the impacts in relation to the duration, magnitude and spatial extent.
- Assessment of cumulative impacts: establish how the Scheme will impact in conjunction with other planned nearby developments, and how the impact on one ecological receptor may in turn affect a secondary receptor (i.e. the loss of invertebrates at site then in turn impacts those reliant on invertebrates as a food source.
- Mitigation measures: following the mitigation hierarchy to avoid where possible, reduce, and compensate where not possible to avoid an impact. Outline proposed mitigation plans and discuss residual and both short and long term impacts in order to demonstrate net gain.
- Conclusion: summary of findings, recommendations for further actions and monitoring adaptive management and a non- technical summary which can be useful for disseminating information
- Species specific appendices reports: detailed survey methods, results and findings for each ecological receptor.

5.10 Hydrology/Hydrogeology

5.10.1 The application will be supported by a Hydrogeological Impact Assessment. This document will provide;

- Conceptualisation of the water environment;

- Identification of neighbouring receptors based on searches for licensed abstractions, private water supplies and water-dependant designated sites;
- Prediction of groundwater dewatering rates using an appropriate analytical methodology;
- Assessment of impacts focussing on dewatering, discharge and impacts on other neighbouring receptors; and
- Mitigation and monitoring, if required.

5.10.2 Whilst a Flood Risk Assessment will be carried out in accordance with the requirements of TAN15, this will be a document that supports the planning application as a whole rather than contributing to the Environmental Statement.

6 DISCUSSION

6.1 Other projects

- 6.1.1 A search has been undertaken of the Planning Register to establish the presence or intent to carry out other developments within a 3km radius of the quarry area. No projects of major significance, that would appear to create wider environmental effects, have been noted.
- 6.1.2 Graig Quarry, operated by Lafarge Aggregates and Concrete UK, lies approximately 1 km to the west of the application area. The interaction of effects from this site with the proposals will be selectively considered or scoped out in individual topic areas.
- 6.1.3 The MPA is requested to identify other plans or projects which they consider should be assessed in terms of cumulative impacts.

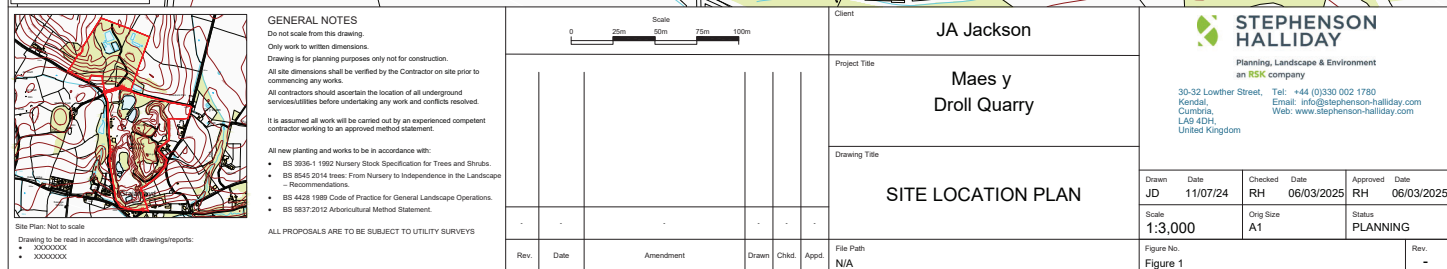
6.2 Planning Situation

- 6.2.1 Silica Sand is recognised by Planning policy Wales as having previously contributed to a diverse mineral extraction industry. The pre-application advice received in March 2024 identified the complex planning situation at length and confirms the understanding that some parts of the quarry benefit from permission while others do not. It is open to the applicants to seek modern planning conditions only on those areas where permission is acknowledged as extant, but this will leave several matters unresolved and would not result in formal restoration of large areas of formerly worked land.
- 6.2.2 It is therefore, the intention to apply for planning permission which will cover all areas of the applicants' ownership which will allow for full and coordinated restoration and, for example, the correct diversion of rights of way in the southern extent of the site. This will take the form of a consolidating application with an extension. This will allow a single planning consent to operate with a single set of planning conditions and will simplify control and enforcement.

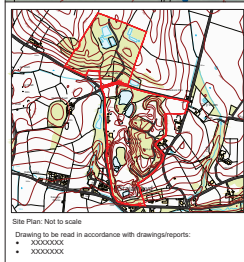
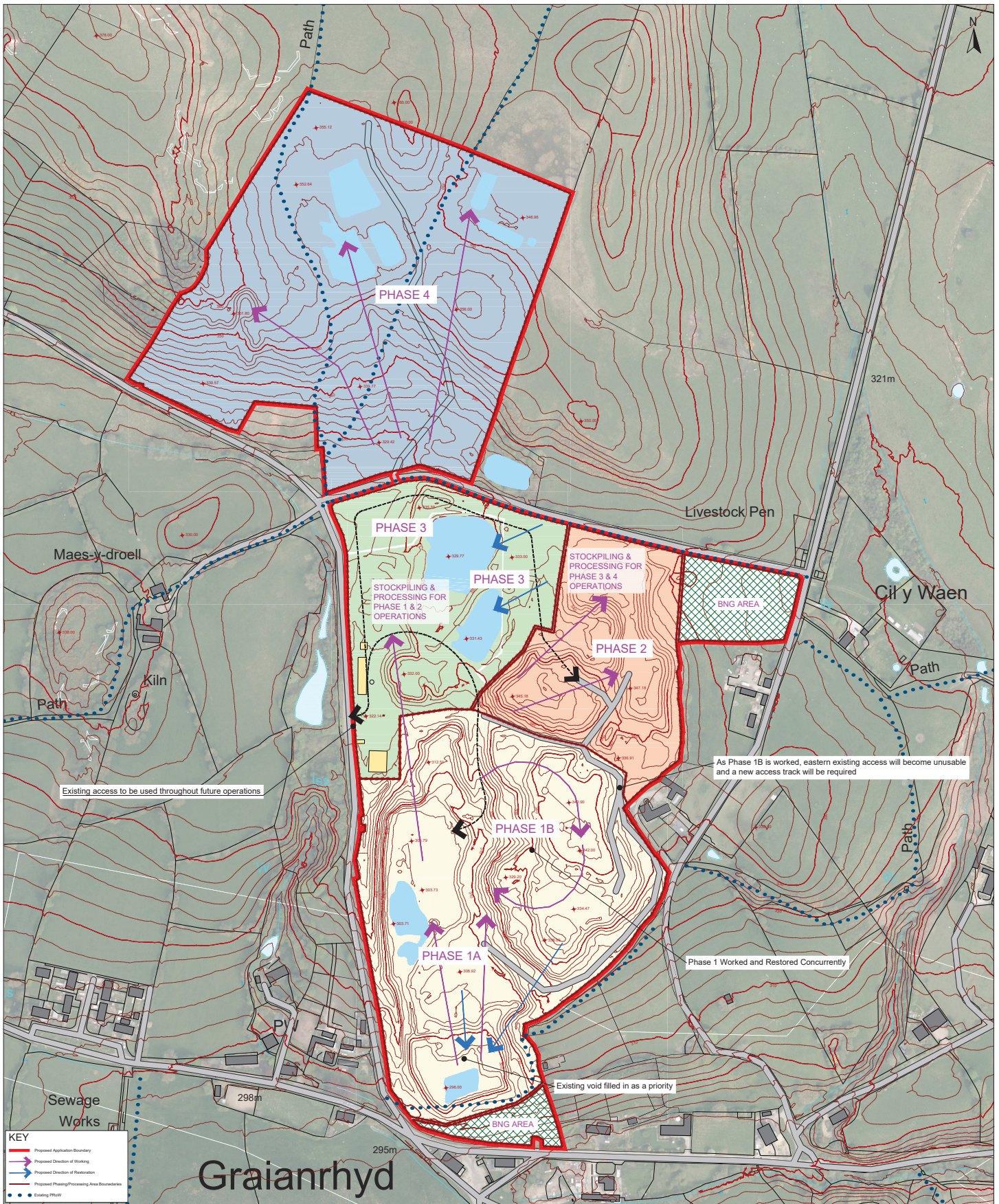
7 CONCLUSIONS

- 7.1.1 The planning history of the site is complex and open to interpretation. Given the history, it is proposed to undertake an EIA, to modern standards, that complies with the legislation and guidance but that is also proportionate. It will cover the whole area of the site, even where no operations are proposed or where biodiversity enhancement is intended to occur.
- 7.1.2 Inclusion has been given to those topic areas where effects are both likely and have the potential to be significant. Conversely, those areas where effects are either unlikely or judged to not be capable of being significant, have been scoped out.
- 7.1.3 The applicants' intent is to work the remaining, nationally significant mineral from the site using modern processes and equipment that will be more efficient, quieter and cleaner than previously.
- 7.1.4 It is considered that the scope set out above will allow full consideration of the likely significant effects of the proposal and to establish the control mechanisms that need to be put in place for the satisfactory mitigation of those effects to acceptable levels.
- 7.1.5 The Council's formal Scoping Opinion is requested.

Appendix 1. Location Plan



Appendix 2 Concept Phasing Plan



GENERAL NOTES
Do not scale from this drawing.
Only work to written dimensions.
Drawing is for planning purposes only not for construction.
All site dimensions shall be verified by the Contractor on site prior to commencing any works.
All contractors should ascertain the location of all underground services/utilities before undertaking any work and conflicts resolved.
It is assumed all work will be carried out by an experienced competent contractor working to an approved method statement.
All new planting and works to be in accordance with:
• BS 3096: 1992 Nursery Stock Specification for Trees and Shrubs.
• BS 8545: 2014 Trees From Nursery to Independence in the Landscape - Recommendations.
• BS 4428: 1989 Code of Practice for General Landscape Operations.
• BS 5837: 2012 Arboricultural Method Statement.
ALL PROPOSALS ARE TO BE SUBJECT TO UTILITY SURVEYS

Scale				
0 25m 50m 75m 100m				
Rev.	Date	Amendment	Drawn	Chkd.

Client	JA Jackson
Project Title	Maes y Droll Quarry
Drawing Title	Concept Strategic Phasing
File Path	N/A

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Drawn	Date	Checked	Date
JD	11/07/24	RH	06/03/2025
Scale	1:3,000	Orig Size	A1
Figure No.	Figure 2	Status	PLANNING
Rev.	-		

Appendix 3 Air Quality detailed scope

Report
Scoping Report

Maes Y Droell Quarry, Denbighshire

For Stephenson Halliday Ltd

14 February 2025

Document Control

Project Title:	Scoping Report
Project Number:	J10-16314A-10
Client:	Stephenson Halliday Ltd
Principal Contact:	Richard Hunt
Document Title:	Maes Y Droell Quarry, Denbighshire
Document Number:	J10-16314A-10-1
Prepared By:	Faye Wilder and Lucy Hodgins
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1 Air Quality

Introduction

- 1.1 The proposed recommencement of quarrying activities at Maes y Droell Quarry will generate additional traffic on the local road network, and has the potential to generate dust emissions due to the extraction, processing, and handling of silica sand. It is, therefore, judged that there is the potential for significant air quality and dust effects, thus it is considered that the Environmental Statement (ES) will need to include an air quality chapter.
- 1.2 The air quality chapter will consider the key air quality effects associated with the proposed recommencement of quarrying activities. It is anticipated that it will address the following:
- the impacts of emissions from operational road traffic generated by the quarry on concentrations of nitrogen dioxide, PM₁₀ and PM_{2.5} at sensitive locations along the local road network;
 - the impacts of the operation of the quarry on concentrations of dust, PM₁₀ and PM_{2.5} from the extraction operations; and
 - whether any additional mitigation measures will be required to address any significant air quality or dust effects.
- 1.3 Respirable crystalline silica will not be assessed. The Health and Safety Executive¹ state that:

"No cases of silicosis have been documented among members of the general public in Great Britain, indicating that environmental exposures to silica dust are not sufficiently high to cause this occupational disease."

Baseline Conditions

- 1.4 The quarry site is located in Graianrhyd village, and 8 km south of Mold. The site is bound by Graianrhyd Road to the south, and unnamed roads to the east and west, with a bridleway which bisects the site into two parcels. The site consists of partially worked areas of the quarry within the southern parcel, and existing grassland within the northern parcel. There are two existing residential properties directly adjacent to the eastern boundary of the site, and other properties to the south and west of the site.
- 1.5 Access to the quarry would be via the existing access point on the western boundary of the site. This road connects to Graianrhyd Road, on which there are residential properties.

Industrial sources

- 1.6 A search of the UK Pollutant Release and Transfer Register² has not identified any other significant industrial or waste management sources that are likely to affect the baseline air quality.
- 1.7 There is an existing quarry approximately 800 m west of the Maes Y Droell Quarry, known as Graig Quarry.

¹ Health and Safety Executive (2025) Silica, [Online], Available: <https://www.hse.gov.uk/quarries/silica.htm>

² Defra (2025) UK Pollutant Release and Transfer Register, [Online], Available: prtr.defra.gov.uk.

Air Quality Management Areas

- 1.8 In accordance with its responsibilities under the Local Air Quality Management regime, Denbighshire County Council (DCC) has reviewed the ambient air quality within its administrative boundary. DCC has not declared any Air Quality Management Areas (AQMA) within the borough³.

Local Air Quality Monitoring

- 1.9 DCC does not undertake automatic monitoring within its area. The Council operates 29 nitrogen dioxide monitoring sites using diffusion tubes prepared and analysed by Socotec Didcot (using the 50% TEA in acetone method). The closest monitoring locations are located over 6.5 km from the site in Mold and Ruthin. All diffusion tube monitoring within DCC were well below the objective during 2022³ (the most recent year of available monitoring data).
- 1.10 No monitoring of PM₁₀ and PM_{2.5} is undertaken in DCC.
- 1.11 A desktop review has not identified any existing dust deposition monitoring within the area.

Exceedances of Limit Value

- 1.12 There are no Automatic Urban and Rural Network (AURN)⁴ monitoring sites within 1km of the Assessment Boundary with which to identify exceedances of the annual mean NO₂ limit value. Defra's roadside annual mean NO₂ concentrations⁵, which are used to identify and report exceedances of the limit value, do not identify any exceedances within 1km of the site. As such, there is considered to be no risk of a limit value exceedance in the vicinity of the site by the time that it is operational.

Background Concentrations

- 1.13 Estimated background concentrations at the site have been determined for 2022 using Defra's 2021 background maps⁶. The background concentrations are set out in Table 1-1. The background concentrations are all well below the objectives.

Table 1-1: Estimated Annual Mean Background Pollutant Concentrations in 2023 (µg/m³)

Year	NO ₂	PM ₁₀	PM _{2.5}
2022	3.5	10.1	5.1
Objectives	40	40	20 ^a

^a The PM_{2.5} objective, which was to be met by 2020, is not in Regulations and there is no requirement for local authorities to meet it.

- 1.14 A review of baseline conditions has identified existing air quality is likely to be good with concentrations of NO₂, PM₁₀ and PM_{2.5} well below the objectives. There is an existing quarry 800m west of the site which may contribute to existing levels of dust deposition.

³ North Wales Combined Authority (2023) North Wales Authorities Collaborative Project 2023 Air Quality Progress Report, Available <https://www.denbighshire.gov.uk/en/documents/environmental-health/pollution/north-wales-combined-authority-2023-air-quality-progress-report.pdf>

⁴ Defra (2024) Defra AURN Archive, [Online], Available: <https://uk-air.defra.gov.uk/interactive-map?network=aurn>.

⁵ Defra (2024) UK Ambient Air Quality Interactive Map, [Online], Available: <https://uk-air.defra.gov.uk/data/gis-mapping>.

⁶ Defra (2025) Local Air Quality Management (LAQM) Support Website, [Online], Available: <http://laqm.defra.gov.uk/>.

Scope of Assessment

Policy Context and Assessment Criteria

- 1.15 A summary of all relevant national and local policy and guidance will be provided. Any local policies or guidance (e.g. Supplementary Planning Guidance (SPG)) relating to air quality and dust will also be considered. Relevant air quality and dust standards and assessment criteria will also be set out.

Demolition and Construction Phase

- 1.16 There is no requirement for construction on site. There will be the demolition of four metal sheds located at the western boundary of the site, north of the site access. The buildings are approximately 170 m east from the nearest sensitive receptor. As such, impacts from the demolition will be insignificant and no further assessment is required. Therefore, the impacts of demolition dust, and traffic generation can be scoped out of the assessment.

Operational Phase

Road Traffic Emissions Assessment

- 1.17 The proposed recommencement of quarrying activities will generate additional traffic on the local road network that could affect air quality conditions at existing roadside receptors, thus it is anticipated that an air quality assessment will be required, to be presented within the air quality chapter of the ES.
- 1.18 The changes in traffic flows as a result of the operation of the quarry will be considered in the context of the screening criteria (100 HDV or 500 LDV) provided in the Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) guidance document on Planning for Air Quality⁷. It is anticipated that the proposed development may generate 120 HGV movements per day which will use the existing access at the western boundary. Where necessary, roadside pollutant concentrations, and the impacts of the development-generated traffic, will be predicted using the ADMS-Roads dispersion model. Predictions will be undertaken for NO₂, PM₁₀ and PM_{2.5} concentrations as these are the principal pollutants of concern with regards to road traffic emissions. The model will be verified where possible.
- 1.19 Impacts will be predicted at a number of locations within the study area⁸. Receptors will be selected to represent worst-case exposure, these will be at the roadside façade of properties along the local road network where the development-generated traffic increases will be greatest, and at locations where concentrations are expected to be highest, such as near to junctions. Specific receptors cannot be selected at this stage as their selection will depend upon the changes in traffic flows, and the routing of traffic, which are not yet available.
- 1.20 The model will be used to predict existing baseline pollutant concentrations for the year 2023 (if monitoring data are available for 2023 at the time of assessment, otherwise 2022, which is the most recent year of data currently available) and the likely concentrations in the year of first operation of the development, both without and with the development.
- 1.21 The future year traffic data used in the dispersion model will both include vehicle trips associated with general growth from the baseline situation and also from any specific relevant Cumulative Schemes.

⁷ Moorcroft and Barrowcliffe et al (2017) Land-Use Planning & Development Control: Planning For Air Quality v1.2, IAQM, London, Available: <http://iaqm.co.uk/guidance/>.

⁸ The study area for the road traffic assessment will be defined based on comparison of operational traffic generated by the quarry with screening criteria published by the IAQM and EPUK.

The inclusion of relevant Cumulative Schemes in the traffic data utilised in the assessment will allow an inherently cumulative assessment of the quarry to be undertaken.

Dust Assessment

- 1.22 The transportation and handling of material on the site has the potential to generate dust emissions. There is no officially recommended guidance or procedure for assessing the impacts from this kind of activity, however the IAQM has issued guidance on the assessment of dust impacts from quarries and mineral workings.
- 1.23 The IAQM Guidance on the assessment of Mineral Dust Impacts for Planning⁹ details screening criteria to determine whether dust emissions have the potential for significant air quality impacts. The screening criteria are based on the distance of receptors to dust-generating activities.
- 1.24 The screening criteria are as follows:
 - if there are no relevant receptors within 1 km of the operations, then a detailed dust assessment can be screened out. In such a case, it is considered that, irrespective of the nature, size and operation of the site, the risk of an impact is likely to be "negligible" and any resulting effects are likely to be 'not significant';
 - in cases whereby receptors are located between 400 m (for hard rock quarries)/250 m (for sand and gravel quarries) and 1 km of operations, it would normally be assumed that a detailed disamenity dust impact assessment is not required. However, the decision on whether to assess should be made and justified on a site-specific basis; and
 - if there are relevant human and/or ecological receptors within 250 m or 400 m (depending on the rock type) then a disamenity dust impact assessment will almost always be required.
- 1.25 The nearest relevant receptor is located directly adjacent to the eastern boundary of the quarry, therefore, a detailed assessment will be required which will consider both disamenity dust and suspended dust (PM₁₀ and PM_{2.5}).
- 1.26 The primary potential impact from disamenity dust is annoyance due to dust deposited on surfaces. The assessment of disamenity dust will consider the baseline conditions at the site and nearby sensitive receptors. A Source-Pathway-Receptor approach will be used to determine dust impact risk. The key factors that will influence the risk of dust impact are the dust emission magnitude of the sources, the effectiveness of the pathway for transporting dust and the sensitivity of the receptor. The methodology set out in the IAQM guidance describes in detail this Source-Pathway-Receptor approach to dust risk assessment, and includes tables and matrices to assist in determining the likely risk of dust effects.
- 1.27 The dust emission magnitude will be evaluated based on the site activities, the site size, the duration and frequency of operations on the site, and any mitigation. The pathway effectiveness will be evaluated based on meteorological conditions, distances to receptors and the presence of any screening. These combine to determine the dust impact risk which is then combined with the receptor sensitivity to determine the overall dust effect at each receptor.
- 1.28 The assessment of suspended dust effects will consider the background ambient concentrations of PM₁₀, and the location of relevant receptors. The assessment of suspended particulate matter focuses on the annual mean concentration, as recommended by the IAQM guidance:

⁹ IAQM (2016) Guidance on the Assessment of Mineral Dust Impacts for Planning

"There may be a number of days per year with particularly intense operations which increase the number of days with concentrations greater than 50 µg/m³ but do not have a significant impact on annual mean concentrations (...) the IAQM recommends the focus in assessment should be on the annual mean objective."

- 1.29 The IAQM guidance also states that for quarries most of suspended dust will be in the coarse sub-fraction (PM_{2.5-10}), rather than in the fine (PM_{2.5}) fraction.

Likely Significant Effects

- 1.30 The key air quality effects of the proposed recommencement of quarry operations can be expected to be related to operational road traffic emissions and operational dust emissions.

Air Quality

- 1.31 Predicted concentrations at existing nearby sensitive receptors will be compared with the relevant air quality objectives and the significance of impacts at individual receptors will be determined following the EPUK/IAQM guidance on Planning for Air Quality⁷. The overall significance of the air quality effects will then be determined following this guidance. Where necessary, appropriate mitigation measures will be recommended to ensure that there are no significant effects.

Dust

- 1.32 In the absence of formal criteria, the significance of the impacts of suspended and disamenity dust will be judged based on professional experience of the consultants preparing the air quality and dust chapter, and taking account of the IAQM Guidance on the Assessment of Mineral Dust Impacts for Planning⁹ and is based on the dust effects at individual receptors and the number of receptors these effects represent.

2 Glossary

AADT	Annual Average Daily Traffic
ADMS-Roads	Atmospheric Dispersion Modelling System model for Roads
AQMA	Air Quality Management Area
Defra	Department for Environment, Food and Rural Affairs
ES	Environmental Statement
Exceedance	A period of time when the concentration of a pollutant is greater than the appropriate air quality objective. This applies to specified locations with relevant exposure
IAQM	Institute of Air Quality Management
LAQM	Local Air Quality Management
µg/m ³	Microgrammes per cubic metre
NO ₂	Nitrogen dioxide
Objectives	A nationally defined set of health-based concentrations for nine pollutants, seven of which are incorporated in Regulations, setting out the extent to which the standards should be achieved by a defined date. There are also vegetation-based objectives for sulphur dioxide and nitrogen oxides
PM ₁₀	Small airborne particles, more specifically particulate matter less than 10 micrometres in aerodynamic diameter
PM _{2.5}	Small airborne particles less than 2.5 micrometres in aerodynamic diameter
Standards	A nationally defined set of concentrations for nine pollutants below which health effects do not occur or are minimal



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Appendix 4 Noise detailed scope

Report

Maes-y-Droell Quarry

Noise and Vibration Scoping Input

For Stephenson Halliday Ltd

17 February 2025

Document Control

Project Title:	Maes-y-Droell Quarry
Project Number:	16314A
Client:	Stephenson Halliday Ltd
Principal Contact:	Richard Hunt (Planning Director)
Document Title:	Noise and Vibration Scoping Input
Document Number:	16314A-R01-01
Prepared By:	James Sharpe (Consultant)
Reviewed By:	Jon Sims (Associate Director)

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1 Introduction

- 1.1 This report presents the proposed scope and methodology of the environmental impact assessment for Noise and Vibration, including information on those effects proposed to be scoped out from detailed assessment, those that are proposed to be scoped in for detailed assessment and concludes by outlining the method that will be used to undertake the detailed assessment.
- 1.2 The proposed Development will generate noise during the operational phase, from both on-site activities (extraction and restoration phases) and potentially from additional road traffic generated by the proposed Development on the local road network. The proposed Development is not, however, expected to generate significant levels of vibration during the operational phase. The aspects of noise and vibration that are proposed to be scoped-in and scoped-out of the assessment are described in more detail below.

2 Baseline Conditions

Existing Baseline Conditions

- 2.1 The existing ambient noise climate across the Site and at the closest NSRs is likely to consist of mainly road traffic noise.
- 2.2 An initial desk-based exercise has been undertaken, informed by available sources of information for the Site. This includes reference to publicly available satellite imagery and available planning documentation. Reference has also been made to strategic noise maps for Wales 2022, produced for the Welsh Government and prepared by Noise Consultants Ltd, part of Logika Group (NCL). The noise maps have been used to provide an estimate of the existing ambient noise levels across the Site and at the closest noise sensitive receptors (NSRs).
- 2.3 **Figure 2-1** and **Figure 2-2** present the likely existing ambient noise levels across the Site and at the closest NSRs.

Future Baseline

- 2.4 The assessment methodology for some aspects of the Development relies upon the quantification of background (LA_{90}) sound levels. Background sound levels are not considered likely to experience a material change in the future baseline compared to existing. Current baseline noise measurements are therefore proposed to be used directly, with no adjustments, to represent future baseline levels when the proposed site would be operational.

Figure 2-1: Existing Daytime Road Traffic Noise Levels (dB LAeq,16hr)

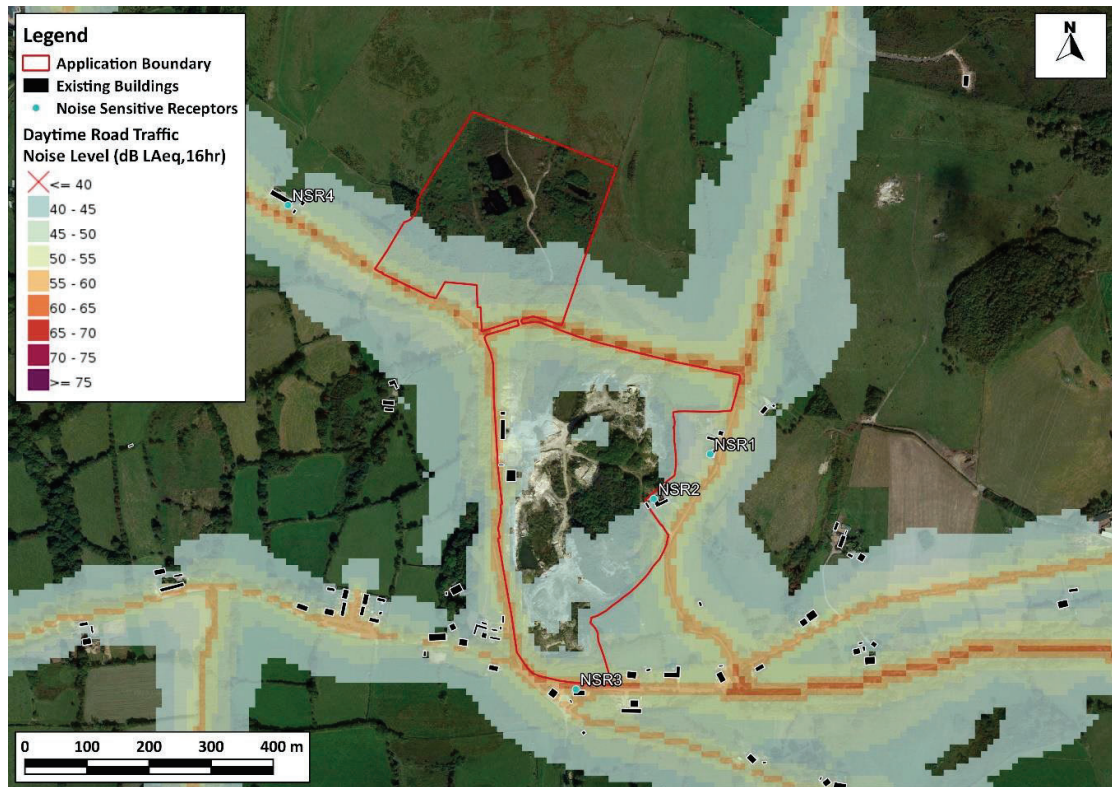
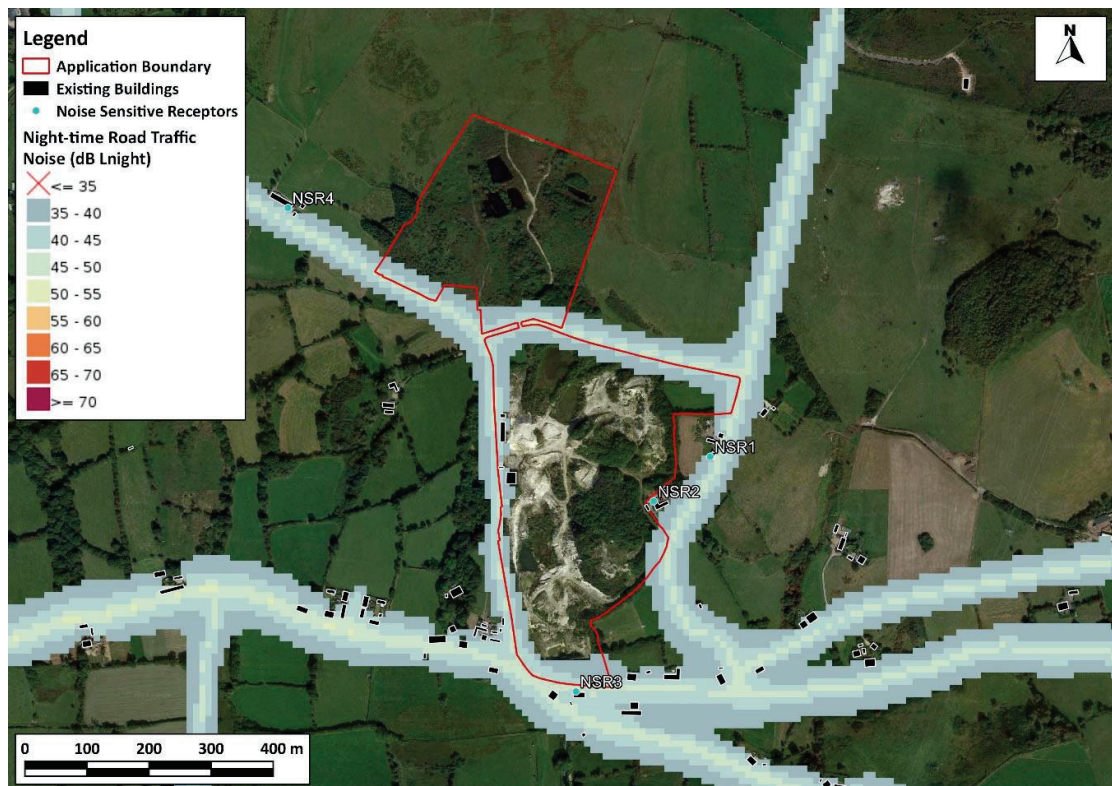


Figure 2-2: Existing Night-time Road Traffic Noise Levels (dB Lnight)



3 Assessment Scope

Potential Significant Effects

3.1 The following effects would be considered in the assessment:

Construction

- Noise effects from onsite plant and equipment that would be required during the construction of any earth bunds, where deemed necessary for mitigation purposes.

Operation

- Noise effects from onsite plant and equipment associated with Development related activities, including noise associated with the key extraction phases; and
- Noise effects from operational off-site road traffic movements generated by the Development.

Restoration

- Noise effects from any onsite plant and equipment that may be required during the restoration phase.

Cumulative Assessment

3.2 The traffic flow data that will be used for the operational Development assessment will be based on the future scenarios both with and without the Development, typically with cumulative schemes also included. On this basis, the assessment that will be presented within the ES Chapter will inherently consider the effects of cumulative schemes. As such, the residual effects of road traffic associated with any cumulative schemes and the Development will be the same as those reported for the operational Development assessment. Therefore, in this case a separate cumulative road traffic assessment will not be presented within the ES Chapter.

3.3 Potential cumulative effects from onsite activities that may interact with other, neighbouring proposed developments will be considered in the ES Chapter, where necessary.

Non-Significant Effects

Construction Traffic (Noise)

3.4 At this stage it is not known whether the construction of any earth bunds will be required as part of any mitigation measures associated with the Development. However, it is unlikely that a number of construction vehicles sufficient to result in material changes in traffic on local roads would be required for the works.

3.5 Consequently, the introduction of a small amount of temporary construction traffic is not likely to result in significant noise impacts and is proposed to be scoped out of this assessment.

Construction Traffic (Vibration)

3.6 Ground-borne vibration effects from operational road traffic on new, altered, or existing roads are unlikely, as roads are assumed to have a well-maintained surface, and consequently this aspect of vibration is proposed to be scoped out of this assessment.

Construction (Vibration)

- 3.7 The closest vibration sensitive receptor (VSR) is located approximately 10m from the Site boundary.
- 3.8 Vibratory activities associated with onsite construction activities such as the construction of any earth bunds which may be required for mitigation are not expected to require works that generate elevated levels of vibration (e.g. vibratory compaction, piling etc.). As such, onsite construction activities are unlikely to result in significant effects (exceeding 1mm/s peak particle velocity) due to the distances between VSRs and likely work areas (exceeding 50m).
- 3.9 Vibration effects during construction are therefore not likely to be significant and consequently, this aspect of vibration is proposed to be scoped out of this assessment.

Operational Traffic (Vibration)

- 3.10 Ground-borne vibration effects from operational road traffic on new, altered, or existing roads are unlikely, as roads are assumed to have a well-maintained surface, and consequently this aspect of vibration is proposed to be scoped out of this assessment.

Operation (Vibration)

- 3.11 All material extraction within the site will be carried out by mechanical means, with no blasting proposed as part of the operation of the Development. Levels of ground borne vibration from material extraction are therefore unlikely to be perceptible outside the site boundary, and operational vibration impacts are proposed to be scoped out of the assessment.

Restoration Traffic (Noise and Vibration)

- 3.12 Whilst the precise details of the activities that would be required during restoration are unlikely to be known at the time of the EIA, it is very unlikely that large volumes of traffic will be generated during this phase. As such, noise and vibration impacts associated with traffic during the restoration phase are proposed to be scoped out of the assessment.

Restoration (Vibration)

- 3.13 It is very unlikely that activities required during the restoration phase will require plant and equipment that will be perceptible outside the site boundary, and restoration vibration impacts are proposed to be scoped out of the assessment.

4 Assessment Methodology

Study Area and Spatial Scope

- 4.1 The spatial extents of the study area for the construction noise assessment are:
- 300m around the Site boundary for the assessment of noise from any construction activities.
- 4.2 The spatial extents of the study area for the operational noise assessment are:
- 300m around the Site boundary for the assessment of operational activities within the Site (for example noise from plant machinery and noise from material extraction)
 - 50m from the kerb line of any public roads likely to experience an increase in road traffic noise of 1 dB or more from operational traffic noise.

Key Receptors

4.3 The following existing NSRs are considered sensitive to potential likely significant effects arising from the Development:

- NSR1 and NSR2: Residential dwellings on Fford Cae Newydd (to the east of the Site)
- NSR3: Residential dwellings on Graianrhyd Road (to the south of the Site)
- NSR4: Residential dwellings on Eryrys Road (to the west of the Site)

Baseline Assessment

4.4 Baseline noise conditions will be established through a detailed noise measurement survey proposed to be carried out using calibrated instrumentation and undertaken in accordance with BS 7445:2003¹. The results will be used to assist in determining the existing baseline noise conditions against which noise from the Development can be assessed.

4.5 To obtain a reliable data set for use in the assessment, it is anticipated that unattended measurements will be undertaken at a minimum of four locations for a duration of 7 days including typical weekday and weekend periods. Locations are likely to include:

- LT1: within the eastern area of the Site, representative of NSR1
- LT2: along the eastern Site boundary, representative of NSR2
- LT3: along the southern Site boundary, representative of NSR3
- LT4: along the western Site boundary, representative of NSR4

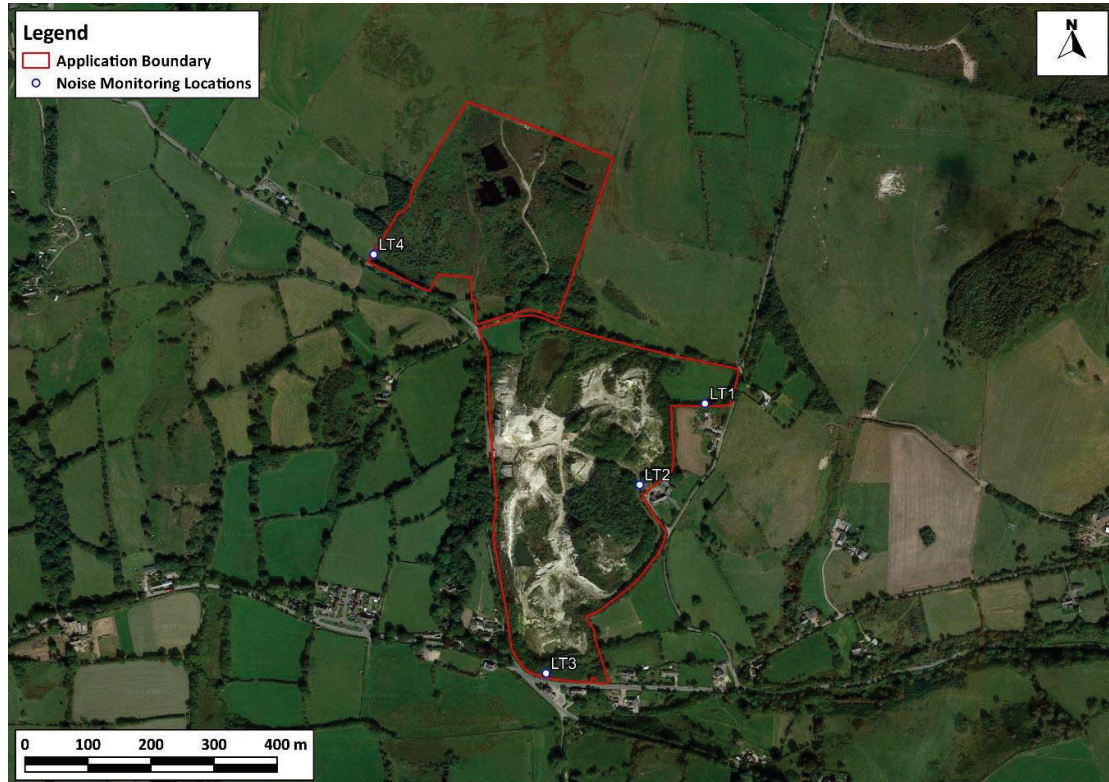
4.6 It should be noted that the proposed monitoring locations are subject to change where necessary regarding accessibility, health and safety and practicality constraints, as well as Site conditions. The Environmental Health department of Denbighshire County Council have also been consulted on the proposed baseline noise survey locations. No feedback has yet been received, however any consultation responses will be taken into account once was received.

4.7 Additional short-term attended measurements may be carried out across the Site if deemed beneficial to the assessment.

4.8 Indicative baseline noise monitoring locations are shown in **Figure 4-1**.

¹ BS 7445:2003 – Description and Measurement of Environmental Noise Part 1.

Figure 4-1: Indicative Baseline Noise Monitoring Locations



Assessment Approach

- 4.9 The assessments will be carried out with reference to the Minerals Planning Policy (Wales) Minerals Technical Advice Note (Wales) 1: Aggregates (MTAN1) along with Planning Guidance (Wales) Technical Advice Note (Wales) 11: Noise (TAN11), where applicable.
- 4.10 Where necessary / possible, mitigation measures will be proposed to ensure that adverse residual effects are not significant.

Construction

- 4.11 The prediction and assessment of significance of noise from any construction activities associated with the construction of any earth bunds will be undertaken with reference to the guidance set out in MTAN1 and the calculation methodologies set out in BS 5228-1². Source noise data will be acquired from data provided by the client and / or BS 5228-1.

Operational Assessment

- 4.12 The prediction of noise from the extraction phase associated with the operation of the quarry will be carried out via a noise modelling exercise. Commercial noise modelling software will be used to carry out the operational noise predictions, using the appropriate methodologies such as those set out in

² BS 5228-1:2009+A1:2014 'Code of construction practice for noise and vibration control on construction and open sites. Part 1: Noise'.

BS 5228-1 **Error! Bookmark not defined.** and ISO 9613-2³, which account for variances in sound propagation due to barrier and ground effects, such as those due to topography and existing buildings.

- 4.13 Noise modelling scenarios of the key extraction phases will be developed utilising source noise data from BS 5228-1 **Error! Bookmark not defined.** and/or manufacturer data, and any embedded noise mitigation such as earth bunding.
- 4.14 Predicted noise levels will be assessed against noise limits derived from the baseline noise conditions and based on the Minerals Planning Policy (Wales) Minerals Technical Advice Note (Wales) 1: Aggregates (MTAN1). Relevant guidance will also be taken from Planning Guidance (Wales) Technical Advice Note (Wales) 11: Noise (TAN11) where applicable.

Operational Road Traffic Noise Assessment

- 4.15 The significance of noise associated with changes in road traffic volume and mix on the existing road network due to operational Development traffic would be assessed following the Welsh Government's 'Design Manual for Roads and Bridges' LA111 'Noise and vibration' (2020) guidance. Where necessary, the road traffic noise assessment shall consider likely cumulative impacts, taking into consideration road traffic flows associated with existing, consented, and proposed developments.
- 4.16 Basic noise levels (BNL) will be calculated using the methodology found in the Department of Transport Welsh Office 'Calculation of Road Traffic Noise' (CRTN, 1988) for the relevant road links. A comparison of the BNLs with and without the Development traffic for the opening year provides an indication of the short-term change in road traffic noise. Where an increase in noise level exceeding 1 dB(A) is indicated, a long-term change in noise level (between opening year and baseline year), as well as a more detailed assessment of the effects at any NSRs within 50 m of the road link and consideration of context, will be undertaken to determine significance of effect at specific NSRs.

Restoration

- 4.17 The precise details of activities that will be required during restoration works are unlikely to be known in detail at the time of the EIA. As such, noise from likely activities that may be involved during restoration will be assessed qualitatively.

Cumulative Assessment

- 4.18 The cumulative noise effects of operational activities associated with the Development and any cumulative schemes will be considered by reference to the results of the noise survey and any available information in the relevant planning application documents.

³ ISO 9613-2:2024 Acoustics – Attenuation of sound during propagation outdoors, Part 2, Engineering method for the prediction of sound pressure levels outdoors

5 Summary and Conclusions

- 5.1 This report has set out the proposed noise and vibration assessment scope in relation to the development of the proposed Maes-y-Droell quarry, which will form the basis of the Noise and Vibration chapter of the Environmental Impact Assessment for the Development. This includes consideration of the various potential impacts from construction, operation and restoration phases of the development. Below summarises the noise and vibration impacts considered in this report, and whether each is proposed to be scoped in or scoped out of consideration in the EIA.

Potential Impact	Description	Scoped In / Out
Construction traffic noise	Traffic generation during the construction phase is expected to be very limited, therefore noise impacts due to construction traffic are unlikely.	Scoped out
Construction traffic vibration	Traffic generation during the construction phase is expected to be very limited and will make use of existing public roads, which are expected to be appropriately maintained and surfaced. Vibration impacts due to construction traffic are therefore unlikely.	Scoped out
Onsite construction noise	There is the potential for noise impacts due to construction plant and equipment used within the site during the construction phase (i.e. during construction of bunds).	Scoped in
Onsite construction vibration	Onsite construction activities generating high levels of vibration (i.e. vibratory compaction, piling etc.) are not likely to be required. Vibration impacts due to onsite construction plant and equipment are therefore unlikely.	Scoped out
Operational traffic noise	There is the potential for noise impacts from traffic movements to and from the site during operation.	Scoped in
Operational traffic vibration	Operational road traffic will make use of existing local roads, which are expected to be appropriately maintained and surfaced. Vibration impacts due to operational traffic are therefore unlikely.	Scoped out

Potential Impact	Description	Scoped In / Out
Onsite operational noise	There is the potential for noise impacts from onsite plant and equipment during operation.	Scoped in
Onsite operational vibration	The operation of the site will not make use of extraction methods that generate high levels of vibration (e.g. blasting). Vibration impacts due to onsite operations during operation are therefore unlikely.	Scoped out
Restoration traffic noise and vibration	It is unlikely that large volumes of traffic will be generated during the restoration phase. As such, noise and vibration impacts due to restoration traffic are unlikely.	Scoped out
Onsite restoration noise	Whilst the details of activities required during restoration are not likely to be known in detail at the EIA stage, noise from onsite restoration activities will be assessed qualitatively.	Scoped in (qualitative assessment only)



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