L.B. Silica Sands Limited

Reach Lane Quarry Landfill

Noise Management Plan

Document Ref: 213461/NMP

December 2024

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Report for:	**Reach Lane Quarry Landfill** **Reach Lane Quarry** **Bryants Lane,** **Bedfordshire** **LU7 0AL**
L.B. Silica Sands Limited 27 St. Cuthberts Street Bedford, England MK40 3JG	
Issue Date	**Document Reference**
December 2024	213461/NMP

Table of Revisions

Issue	Description of status

Contents

DRAWINGS

APPENDICES

1.0 INTRODUCTION

Overview

1.1 This Noise Management Plan (NMP) has been produced by L.B. Silica Sands (the Operator) for the material recycling operations at the Reach Lane Quarry site.

1.2 The Site is located east of Heath and Reach village, and approximately 3 km north of Leighton Buzzard in Bedfordshire. The site location is shown in drawing 213461/D/001.

1.3 The activity involves the wet processing of both non-hazardous soils and inert material to recover aggregate.

1.4 The Operator has provided a noise management plan to outline management and control measures for the activities on site.

1.5 Management and control measures will be in accordance with H3 Horizontal Guidance for Noise – Part 2 Noise Assessment and Control. The control measures and the requirement for a specific noise management plan have been instructed based on the assumption that an assessment would conclude a management plan and certain control measures would be required.

1.6 A BS4142 noise assessment has been carried out by RMP Napier in November 2024. The report is presented in Appendix B.

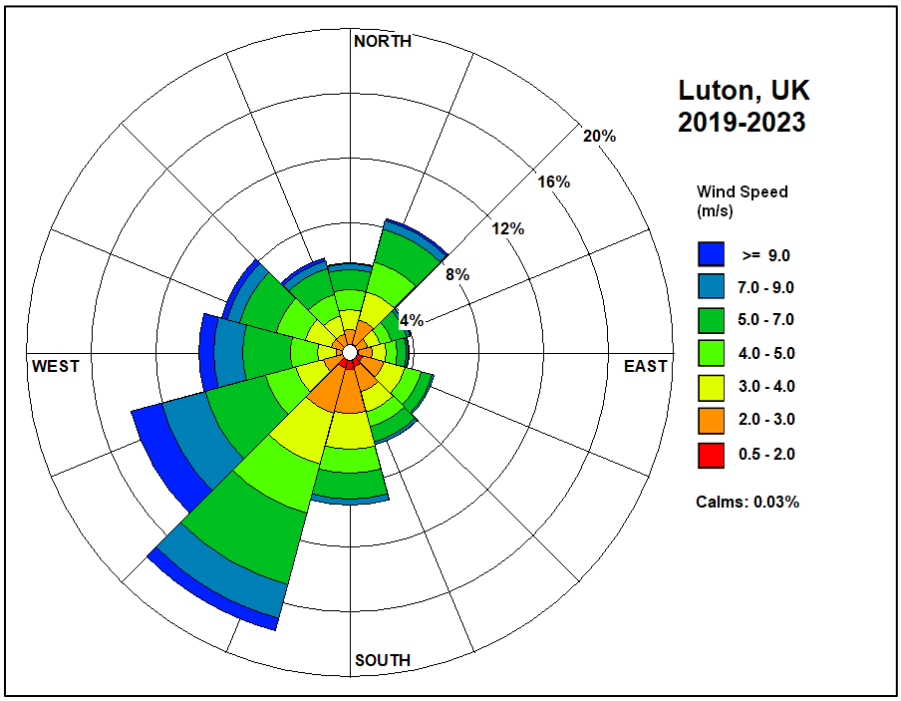
1.7 This report establishes the sensitive receptors surrounding the site, identifies any potential risks associated with the activities and outlines required controls.

2.0 SENSITIVE RECEPTORS

2.1 The site is located within a mixed land use area. The soil wash plant is located within the quarry void, below the surrounding ground level. The immediate land use to all directions (140 m north, 220 m west, 390 m south and 400 m west) is land either under sandstone quarry activities or landfill activities subject to their own site specific DEMP to prevent, monitor and control dust and vehicle emissions.

2.2 The nearest sensitive receptors downgradient of the predominant wind direction are the residential receptors off Gig Lane to the south, Overend Green Lane to the west and the village of Heath and Reach to the west. The nearest is at Overend Green Lane circa 280 m from the site boundary where there is also the public right of way, agricultural land use and the public highway. These are considered the most sensitive receptors as a result of the predominant wind direction from the west and south west.

2.3 The frequency of exposure and likelihood of any fugitive emissions on sensitive land uses is determined by the magnitude of release, proximity of receptors and prevailing meteorological conditions. Meteorological wind data for five years, has been acquired. The wind data has been taken from the Met Office Station in Luton. This data is considered representative of the site. The prevailing wind direction is from the west / south west.



2.4 The BS 4142 noise assessment undertaken by RMP concluded that the installation of a new soil wash plant is likely to have a low to negligible impact on nearby sensitive receptors. The noise assessment report is provided in Appendix B.

3.0 MANAGEMENT AND MITIGATION

3.1 The noise levels generated by the site operations are expected to have the potential to cause a notable impact, due to the nature of the works and the distance of the site from nearby residential properties. The site operations therefore require the Operator to implement control measures to minimise noise emissions.

3.2 The works involves movement and tipping of Heavy Goods Vehicles (HGVs) and storage and processing of waste by mechanical operations. The plant includes 1 excavator, 2 front loader, and the soil washing plant.

3.3 Waste is imported, stored and processed. The site layout is presented in drawing 213461/D/004B.

3.4 The site will operate between the hours set out below:

Days	Hours
Monday to Friday	07:00 – 17:00 hrs
Saturday	07:00 – 13:00 hrs
Sunday and Public Holidays	No vehicle movements or operation

3.5 Site design and management controls include:

- Waste recycling activities are located within the quarry void which substantially reduces noise emanating from the site;
- Adherence to the working hours;
- All plant and vehicles will meet current guidance and will be maintained in line with manufacturer's requirements.Ensuring regular and effective maintenance of plant;
- The location of the works are as far as possible from most sensitive receptors as practically possible;
- The working area is designed by the Operator to use the feedstock and recovered aggregate stockpiles as noise screens to the south and west;
- A noise screen bund is in place to the west and south west of the site to reduce the noise impact to sensitive residential receptors; and
- Induction briefing to all employees regarding the need to keep noise to a minimum and the health hazards associated with exposure to excessive noise. This includes training on the proper use and maintenance of plan and equipment, positioning of machinery to reduce noise emissions to surrounding receptors and site personnel, avoidance of unnecessary noise and the protection of persons against noise.

3.6 Site operational controls include:

- Reducing drop heights to waste storage area and/or working plant;
- When the activity is near the most sensitive receptors, the main noise source plant adopts a 'quiet hours' working scenario. This involves two hours on, two hours off, or working within an area away from the nearest receptors to provide additional respite to local receptors;
- Vehicle haul routes are maintained to be kept smooth and free of debris;
- Regular checks on all plant and machinery;
- The Operator implements white noise reversing alarms or equivalent to all site based mobile plant;
- All vehicles must obey the internal speed limit of 10 mph; and
- All machines in intermittent use shall be shut down in the intervening period between work and throttled down to a minimum (anti idling policy).

4.0 MONITORING AND RECORDS

4.1 Qualitative noise monitoring is undertaken on a daily basis. This is in the form of a visual and noise check along the boundary. The indicative locations are shown in drawing 213461/D/005.

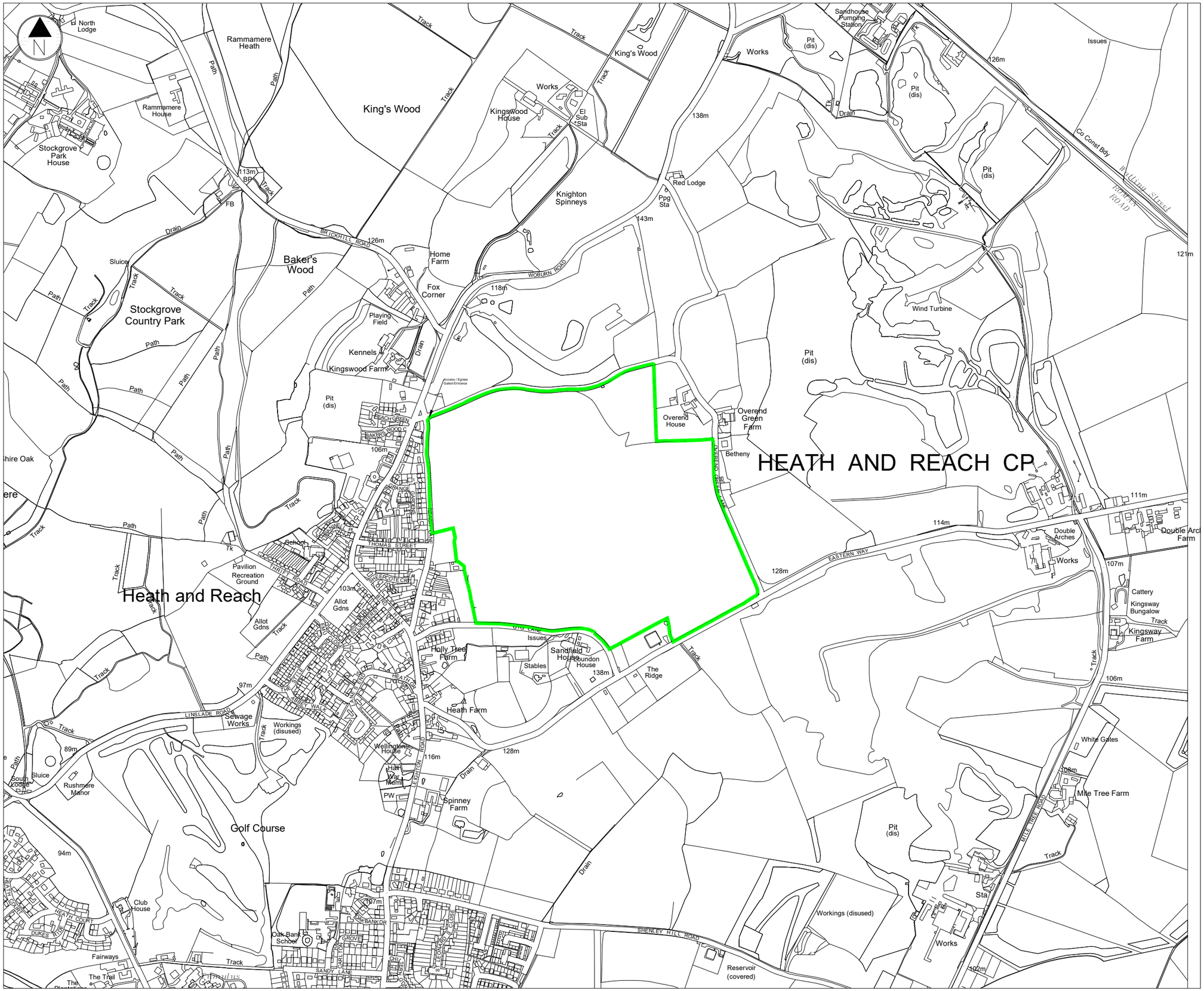
4.2 The noise checks are undertaken daily during processing operations and will be recorded in the daily Site Diary. In the event a complaint is lodged, the complaints procedure is implemented. The procedure forms part of the overall EMS and is attached in Appendix C. The corrective and preventative actions are as follows:

- If a substantiated noise compliant is made, the Site Manager will review the site operations and surrounding operations;
- Temporary cessation of works will be enforced to review controls; and
- Im`plement additional controls (e.g. permanent noise barriers, restriction of operational hours etc. (to note, this is dependent on the operations)).

4.3 In addition to this, the inspection of noise levels generated by the operation is on a continuous basis by the site staff and it will be their responsibility to identify and control any excessive noise that occurs. Furthermore, quantitative monitoring can be undertaken if it is identified that problems are being caused or substantiated complaint. The Operator endeavours to close out the complaint within 1 week.

4.4 In the event of sustained noise issues or substantiated complaints, this NMP is reviewed and updated. The NMP can be issued to the Environment Agency for approval and operations will cease within 100 m of the impacted receptor(s).

DRAWINGS



KEY

Permit Boundary (EPR/HP3094SQ)

Rev.	Details	Drawn / Chkd.	Date

Project

213461
Reach Lane Quarry Landfill
Reach Lane Quarry, Bryants Lane
Bedfordshire, LU7 0AL

Title

Site Location Plan

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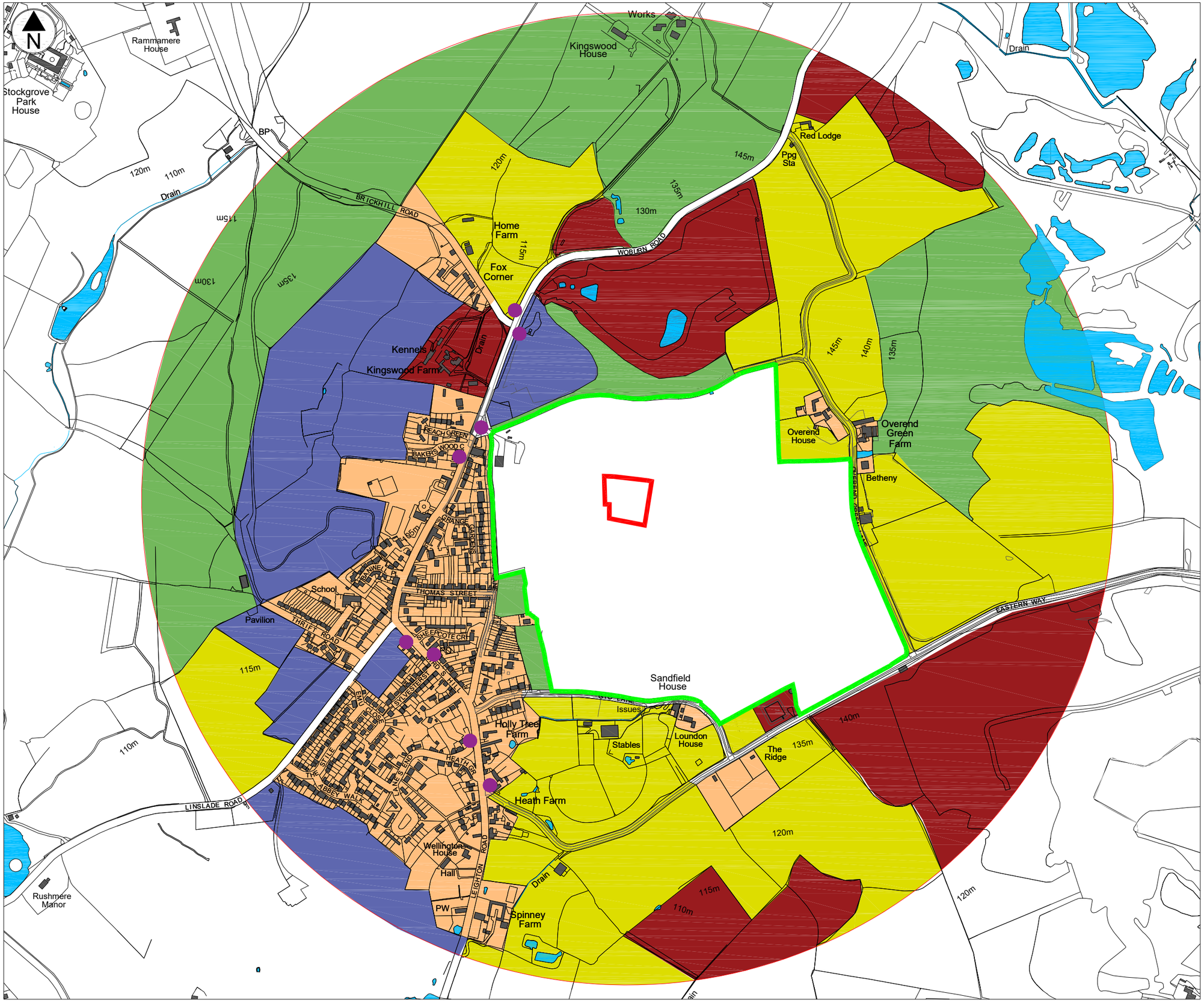
Environmental Consultants

Scale	Date	Drg. No.	Rev.
1:10,000@A3	Sept'24	213461/D/001	
	Drawn: SM / Chkd.: EB		



Key

- Residential receptors
- Environmental receptors
- Agricultural receptors
- Industrial/commercial receptors
- Recreational receptors
- Surface waters
- Bus stop
- Permit boundary
- Soil wash plant activity
- 1 km radius around soil wash plant activity

Rev.	Details	Drawn / Chkd.	Date

Project

213461
Reach Lane Quarry Landfill
Reach Lane Quarry, Bryants Lane
Bedfordshire, LU7 0AL

Title

Environmental Receptors Plan

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Environmental Consultants

Scale	Date	Drawn	Chkd.	Drg. No.	Rev.
1:8,000@A3	Oct'24	VM	SM	213461/D/003A	

Field
Kennels
swood Farm
Drain
REACH GREEN
BAKER'S WOOD C
BHA
BHQ6
GRANGE GARDENS
105m
THOMAS STREET
REACH LANE
BHQ5
SHEEPCOTE CRL
PO
BIRD'S HILL
SYLVESTERST
Heath and Reach
BHQ9
GIG LANE
Issues
Holly Tree Farm
Stables
Loundon House
BHQ10
BHQ11
BHQ12
The Ridge
135m
Track
140m
HEATH GR
ANE S END
145m
140m
135m
Pit (dis)
Overend House
Overend Green Farm
Betheny
OVEREND GREEN LANE

Key

- Site boundary
- Existing groundwater monitoring borehole
- Visual Dust Monitoring Points

Notes

Borehole coordinates (X, Y):

BHA: 492562.74, 228645.93
BHQ5: 492641.26, 228330.68
BHQ6: 492583.45, 228536.14
BHQ9: 492838.36, 228182.53
BHQ10: 493014.33, 228162.96
BHQ11: 493186.33, 228200.53
BHQ12: 493395.57, 228242.69

Rev.	De:ails	Drawn / Chkd.	Date

Project

213461
Reach Lane Quarry Landfill
Bedfordshire, LU7 0AL
Reach Lane Quarry, Bryants Lane

Title

Monitoring Plan

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Scale	Date	Drg. No.	Rev.
1:4000@A3	Aug'24	213461/D/005	
	Drawn: VM / Chkd.: EB		

APPENDIX A
Noise Assessment Monitoring Proforma

Attended Noise Survey								Job No.	1932237 - Salford Port
Monitoring Date									
Dynamic Range:									
Station	Start Time (hr:min)	Construction Activity/Equipment used	Measurement Duration (T, mins)	$L_{Aeq,T}$ (dB)	$L_{AMax,T}$ (dB)	$L_{A10,T}$ (dB)	$L_{A90,T}$ (dB)	Monitoring Comments	
Signed (Surveyor):									

APPENDIX B
BS4142 Noise Impact Assessment (RMP Napier, 2024)

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acoustics energy vibration

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BRIEF FOR CONSULTANCY:

To conduct an industrial noise impact assessment for the proposed plant replacement.

Noise Impact Assessment
L.B. Silica Sands Ltd Bryants Lane, Heath and Reach, Bedfordshire LU7 0AL

Report No. R-10087-CL1-RRM
28th November 2024

PREPARED FOR:

AA Environmental Ltd
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For the attention of Ed Brown

Edinburgh Napier UNIVERSITY

Contents

1.0 Introduction

1.1 RMP was instructed by AA Environmental Ltd (AAe) to undertake a noise impact assessment on the nearest existing noise-sensitive receptors, as part of a planning application for the proposed replacement of an existing mineral processing plant with a new CDE (brand name) wash plant, at the existing L.B. Silica Sands Ltd site on Bryants Lane, Heath and Reach, Bedfordshire, LU7 0AL.

1.2 A plan showing the noise survey locations from AAe is provided as Appendix A. It shows existing site boundaries and neighbouring context.

1.3 The existing site is a quarry that supplies high grade silica sand, with operating hours 6am to 5pm Monday to Friday (no weekend activity). The existing wash plant subject to replacement operating hours are between 7am and 5pm on the same days.

1.4 We understand that the proposed site and wash plant operating hours are to remain the same and that the wash plant replacement bears no impact on any other processes on site.

1.5 Given the above, the assessment considers the weekday daytime only and essentially the impact the plant replacement on the neighbouring NSRs relative to the existing acoustic environment on site, which includes current site operations.

2.0 Planning and Guidance

2.1 Policy and Planning

2.1.1. References can be made to the following list of planning policies relevant to noise and this type of operation and application:

- National Planning Policy Framework (NPPF), latest version dated 19th December 2023
- Noise Policy Statement for England (NPSE), 2010
- Planning Practice Guidance (PPG) Noise, latest version dated 5th September 2023

2.1.2. Both the Planners and the Environment Agency permit requirements involve undertaking a noise impact assessment to support any proposal.

2.2 Environment Agency – Noise Impact Assessments involving calculations and modelling

2.2.1. The EA's guidance on Noise Impact Assessments involving calculations or modelling was published on 23 October 2018 and was updated on 18th August 2022. Guidance is provided on the information to be presented as part of a noise impact assessment. Within the EA guidance, reference is made to the use of British Standard 4142: 2014+A1 2019 '*Methods for Rating and assessing industrial and commercial sound*'.

2.2.2. Additional guidance on noise and vibration is included in the joint EA/SEPA document (Guidance - Noise and vibration management: environmental permits) dated July 2021.

2.2.3. The new guidance document states:

2.2.4. *"The environment agencies will treat noise in the same way as any other polluting emission. If noise is audible at any of the following types of locations, they will regard it as 'possibly causing and impact': residential properties,*

schools, hospitals, offices, public recreation areas, other NSRs, or noise sensitive habitats. Where noise is possibly causing an impact, the operator must carry out an assessment to determine the level of impact, and how much work needs to be done to prevent or minimise noise pollution. Operators must prevent significant pollution and also comply with the requirements to use 'appropriate measures' or 'best available techniques' (BAT) to prevent, or minimise, noise pollution."

2.2.5. The site's PPC permit requirements state the following with regard to noise and vibration;

"3.1 Noise and Vibration

3.1.1 Subject to Condition 3.1.2, at least every four years, the Operator shall carry out a systematic assessment of noise and vibration emissions associated with the Permitted Activities, the purpose of which shall be to identify methods of reducing noise and vibration emissions. Each assessment shall be recorded and reported to SEPA."

2.2.6. The EA/SEPA guidance promotes the use of BS 4142 as the base for assessing noise impact. The most up to date version of which is BS 4142:2014+A1:2019; *'Methods for rating and assessing industrial and commercial sound'*, and we understand the intention would be to utilise this where appropriate, although not in isolation.

2.2.7. Conducting an assessment in accordance with BS 4142 involves measuring the existing background noise level at a position representative of the nearest noise-sensitive receptors during the normal times of operation of the industrial premises. This value is then compared with the rating level; which is the specific noise level generated by the source, corrected if appropriate to allow for the character of the noise. The difference between the two is calculated to give an assessment level, which is used to indicate the likelihood of adverse impact, depending on the context.

2.2.8. BS 4142 suggests that, in general, a difference of around + 5 dB is likely to be an indication of an adverse impact, depending on the context. A difference of around + 10 dB or more is likely to be an indication of a significant adverse impact, depending on the context. The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

2.2.9. The EA/SEPA Guidance equates these outcomes as shown in Figure 2.1.

Table 1 – levels of noise

Level of noise impact	Closest corresponding BS 4142 descriptor
Unacceptable level of audible or detectable noise. This level of noise means that significant pollution is being, or is likely to be, caused (regardless of whether you are taking appropriate measures). You must take further action, or you may have to reduce or stop operations. The environment agencies will not issue a permit if you are likely to be operating at this level.	**Significant adverse impact** (following consideration of context)
Audible or detectable noise. This level of noise means that noise pollution is being, or is likely to be, caused at a receptor. **Your duty** is to use appropriate measures to prevent or, where that is not practicable, minimise noise. **You are not in breach** if you are using appropriate measures. But you will need to rigorously demonstrate that you are using appropriate measures.	**Adverse impact** (following consideration of context)
No noise or barely audible / detectable noise. This level of noise means that no action is needed beyond basic appropriate measures / BAT.	**Low impact* / no impact** (following consideration of context)

*Note: Low impact does not mean there is "no pollution". However, if you have correctly assessed it as low impact under BS 4142, the environment agencies may decide that taking action to minimise noise is a low priority. Caveat: BS 4142 is unlikely to be the appropriate methodology on its own to assess low frequency noise.

Figure 2.1 - Table 1 BS4142 equated outcomes within EA/SEPA 'Guidance – Noise and vibration management environmental permits" (July 2021).

2.2.10. The assessment outcomes in Figure 2.1 can be considered more onerous than the outcome in a standard BS 4142: 2014 noise impact assessment.

2.2.11. The EA/SEPA guidance additionally states that *'It is unlikely you could adjust the assessment outcome beyond the neighbouring band (for example, modifying a BS 4142 outcome of more than 10dB to be less than an 'adverse' impact)'*. Furthermore, an assessment outcome of 'Adverse Impact' can still require significant action on behalf of the permit holder.

2.2.12. The assessment outcomes should be weighted according to the wider context and the guidance makes no limitation on what factors are included as "context". Considerations should be given to contextual elements such as the following:

- The absolute level of sound, with consideration to background level, rating level and the residual sound level in the acoustic environment;
- The character and level of the residual sound compared to the character and level of the specific sound;
- The sensitivity of the receptor and whether dwellings will already incorporate design measures that provide good internal and/or outdoor acoustic conditions, such as façade insulation, ventilation and/or cooling that will reduce the need to have windows open for rapid ventilation, and acoustic screening.

2.2.13. Furthermore, a wholistic definition of context is provided within BS 12913 – 1 (2014): *Acoustics – Soundscape*, which provides a framework for considering context (see Figure 2.2 overleaf). Factors include;

- Sensation; meteorological conditions, hearing impairments.
- Interpretation; attitudes to source and producer, experience and expectations, visual and odour.
- Responses to environment; time of day, lighting, weather; emotional state, ability to deal with the situation and exposure.

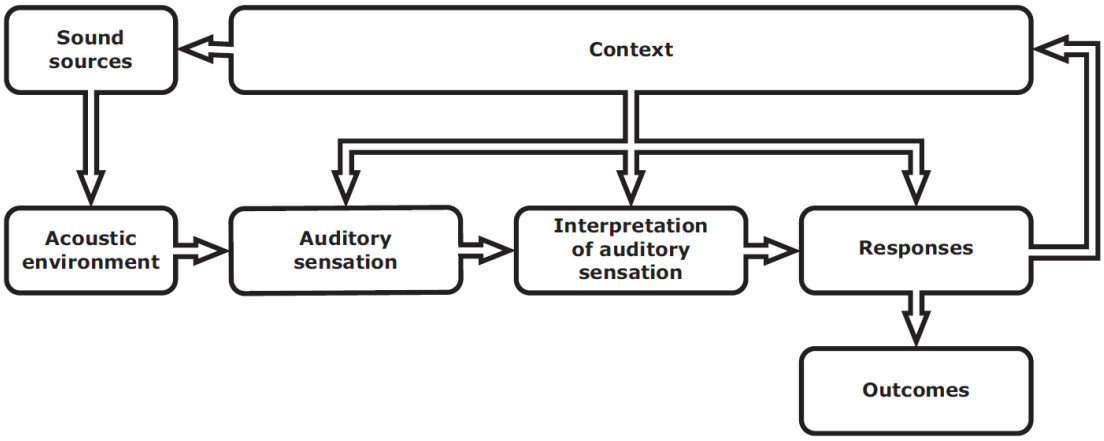


Figure 2.2 - BS12913-1 *"Elements in the perceptual construct of soundscape"*

2.2.14. In accordance with EA requirements and their associated July 2021 guidance document, the author of this document, Clement Luciani has an MSc degree in architectural acoustics from university Pierre and Marie Curie Paris VII (France), has over 18 years' experience in building and environmental acoustic consultancy work and is a full member of the Institute of Acoustics (MIOA).

2.2.15. Clement is therefore recognised as a Suitably Qualified Acoustician (SQA). Please refer to the RMP website www.rmp.biz for any further information which may be required.

2.3 Noise Control using Best Available Techniques (BAT)

2.3.1. The Pollution Prevention and Control (PPC) (Scotland) Regulations 2000 provides the following advice regarding the definition of BAT (Best Available Techniques):

2.3.2. *The term "best available techniques" means the latest stage of development (state of the art) of processes, of facilities or of methods of operation which indicate the practical suitability of a particular measure for limiting discharges, emissions and waste. In determining whether a set of processes, facilities and methods of operation constitute the best available techniques in general or individual cases, special consideration shall be given to:*

a) comparable processes, facilities or methods of operation which have recently been successfully tried out;

b) technological advances and changes in scientific knowledge and understanding;

c) the economic feasibility of such techniques;

d) time limits for installation in both new and existing plants;

e) the nature and volume of the discharges and emissions concerned.

2.3.3. *It therefore follows that what is "best available techniques" for a particular process will change with time in the light of technological advances, economic and social factors, as well as changes in scientific knowledge and understanding.*

2.3.4. *"Techniques" include both the technology used and the way in which the installation is designed, built, maintained, operated and dismantled.*

2.3.5. BAT for noise is further detailed within The Environment Agency document *"Horizontal Guidance for Noise Part 2 – Noise Assessment and Control"* (V3 June 2004).

2.3.6. *In deciding what level of control constitutes BAT for a given installation, a number of factors need to be considered and balanced. These include;*

- *costs and benefits*
- *the technical characteristics of the installation concerned*
- *geographical location*
- *local environmental conditions.*

2.3.7. The new guidance document, "Guidance – Noise and vibration management environmental permits", advises that a Noise Management Plan should be developed for Noise Control using BAT.

2.4 General

2.4.1. The noise assessment is produced in accordance with BS 7445-2: 1991 *'Description and measurement of environmental noise. Part 2. Guide to the acquisition of data pertinent to land use'*.

3.0 Baseline Noise Measurements

3.1 Measurement set-up

3.1.1. In order to inform the BS 4142:2014 assessment, AAe undertook attended unmanned long-term (LT) and manned short-term (ST) measurements of the existing background noise in one and two locations respectively, deemed representative of the most exposed NSRs. The measurement locations and separating distances to the most exposed NSRs are shown in Appendix A.

3.1.2. The measurements were undertaken by Kristian Wood, MSc, BSc (Hons) on 10/09/24 and 17/09/24 for Locations ST1 & ST2 at set up and collection of the week-long LT1 measurement location between these dates.

3.1.3. Subjectively, background noise levels at NSRs to the east (Overend house and adjacent) are lower than at NSRs to the west given they are further away from road traffic and activity within and around Heath and Reach. However, site topography results in NSRs to the east having no direct line of site to the quarry operations, unlike NSRs to the east and south. Site topography is therefore expected to provide 10 dB noise attenuation to NSRs to the east but none to NSRs to the west and south, while source (proposed new CDE wash plant) to receiver separating distances are similar for NSRs to east and the west.

3.1.4. Given it is unlikely that background noise levels at NSRs to the east would be 10 dB lower than at NSRs to the west, it was deemed that NSRs to the west and south were the most exposed to noise from the proposed new CDE wash plant. Consequently, the assessment and associated measurement locations have focused on NSRs to the west and south.

3.1.5. The measurements' set up are shown in Figure 3.1 (LT1), 3.2 (ST1) and 3.3 (ST2).

Figure 3.1 - Location LT1, quarry view (top) and NSR view (bottom)

Figure 3.2 - Location ST1, quarry view

Figure 3.3 - Location ST2, quarry view

3.1.6. All measurement locations were free-field, with microphone mounted on a tripod with a windshield and situated approximately 1.5 m above local ground level.

3.1.7. The measurements were carried out as far as practicable in accordance with BS 7445-1:2003 *Description and measurement of environmental noise, Part 1: Guide to quantities and procedures*.

3.1.8. The sound level meters were calibrated before and after the measurements and no deviation from the applicable calibration levels were recorded.

3.1.9. The meteorological conditions during the site measurements are understood to have been within acceptable parameters based on weather records: mostly

dry, average wind speeds generally below 5 m/s and temperatures ranging between 8-19 °C.

3.1.10. The equipment used for the noise measurements are listed in Table 3.1.

Table 3.1 - Measurement equipment			
LT1			
Equipment	Serial number	Date of calibration expiration	Certificate number
RION Sound Level Meter Type NL52 Modular Precision Sound Analyzer running Rion's programs NX-42EX Version 2	00164419	14/10/2026	UCRT22/2232
RION Pre-amplifier Type NH-25	54552	14/10/2026	UCRT22/2232
RION Condenser Microphone Type UC-59	09198	14/10/2026	UCRT22/2232
RION Calibrator Type NC-74	34536109	14/10/2026	UCRT22/2232
ST1 & ST2			
Equipment	Serial number	Date of calibration expiration	Certificate number
Norsonic Sound Level Meter Type 131 Modular Precision Sound Analyzer	1312759	28/06/2026	41332
Norsonic Pre-amplifier Type 1207	12185	28/06/2026	41332
Norsonic Condenser Microphone Type 1228	00120	28/06/2026	41332
Norsonic Calibrator Type 1251	33765	28/06/2026	U45157

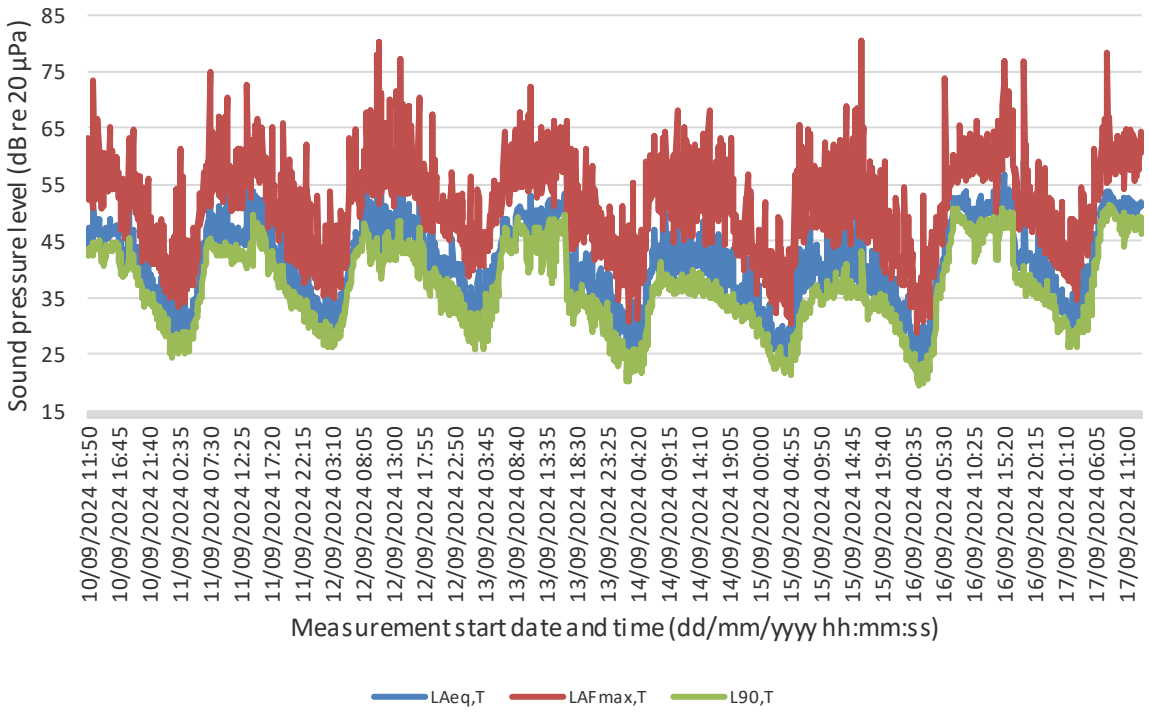
3.2 Noise monitoring results

3.2.1. Site notes from ST1 & ST2 baseline monitoring locations are provided in Appendix B. They highlight that the ambient environment was dominated by existing quarry operations during the daytime and are expected to be dominated by road traffic in and around Heath and Reach during the night.

3.2.2. Wind speeds were high for measurements undertaken on 10/09/24 but given measurement results on 10/09/24 levels are not uniformly higher then on 17/09/24, we conclude wind noise had limited impact on the measured levels.

3.2.3. Kristian Wood confirmed that the acoustic environment at Location LT1 was similar to that in Location ST1 described in Appendix B. He also confirmed that the existing wash plant was switched off over the full baseline measurement period. Figure 3.4 shows a time trace of the whole measurement period with contiguous 5 min logging period T for ambient $L_{Aeq,T}$, maximum $L_{AFmax,T}$ and background $L_{A90,T}$ levels.

Figure 3.4 - Time trace of measurement parameters at long term measurment location LT1 - 5min contiguous logging



3.2.4. Table 4.2 summarises the range of levels measured across the week-long measurement period during the proposed CDE wash plant operating hours.

Table 4.2 - Noise measurement results – Location LT1 (dB re $2x10^{-5}$ Pa)

Measurement Period	$L_{Aeq,T}$	$L_{A90,T}$[1]	$L_{AFmax,T}$
Daytime (Mon to Fri 07:00 – 17:00)	48-51	44-48	72-80

[1] Calculated by arithmetic average of 5 min figures

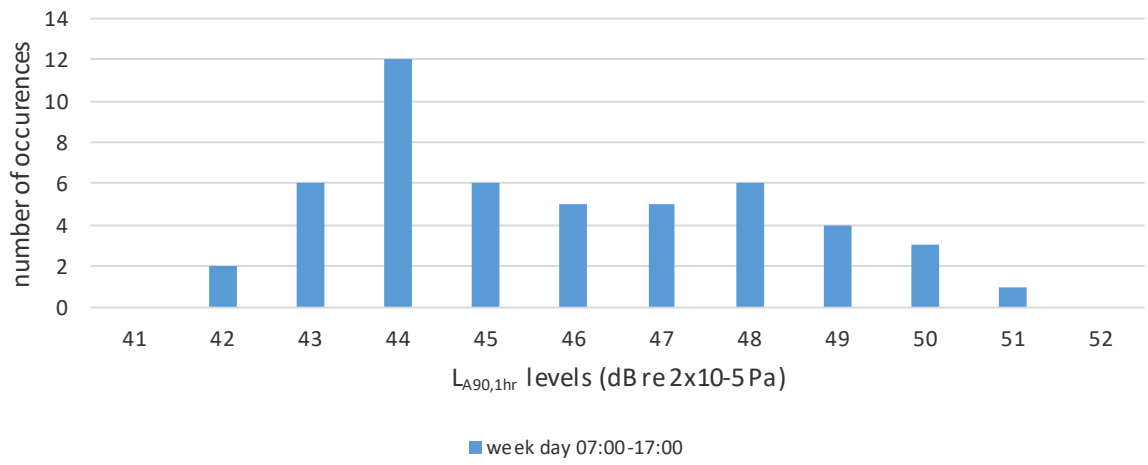
3.2.5. At Locations ST1, measured $L_{Aeq,15min}$ and $L_{A90,15min}$ noise levels were on average (across 10/09/24 and 17/09/24) 2 dB higher than that measured simultaneously at Location LT1. This is coherent given the dominant noise source in both locations was quarry operations and ST1 was slightly closer to the quarry than LT1.

3.2.6. At Locations ST2, measured $L_{Aeq,15min}$ and $L_{A90,15min}$ noise levels were on average on 10/09/24 10 dB and 8 dB higher respectively than that measured simultaneously at Location LT1. On 17/09/24, the difference was reduced to 2 dB higher for both $L_{Aeq,15min}$ and $L_{A90,15min}$. The variation was due to quarry operations undertaken nearer Location ST2 on 10/09/24 compared to on 17/09/24.

3.3 Background sound levels for BS 4142 assessment

3.3.1. Figure 3.5 shows the statistical distribution of monitored hourly background sound levels $L_{A90,1hr}$ at Location LT1 over the proposed CDE wash plant operating hours (07:00-17:00 weekdays only). Please note that the hourly $L_{A90,1hr}$ have been calculated by arithmetically averaging the corresponding $L_{A90,5min}$, which is deemed a reasonably accurate estimate.

Figure 3.5 - Weekday 07:00 - 17:00 background sound $L_{A90,1hr}$ distribution - Measurement Location LT1



3.3.2. Figure 3.5 suggests $L_{A90,1hr}$ 44 dB to be most representative between 7am and 5pm on weekdays in Location LT1.

3.3.3. Given the differences in $L_{A90,15min}$ levels measured simultaneously at Locations LT1 & ST1 and LT1 & ST2 was 2 dB and 2-8 dB respectively, we have considered in the assessment that background levels at NSRs representative of Locations ST1 and ST2 were 2 dB higher than that measured at Location LT1, i.e. $L_{A90,1hr}$ 46 dB.

4.0 CDE wash plant Source Noise Measurements

4.1 Figures 4.1 shows the existing wash plant layout taken from a Google map satellite view, while Figure 4.2 overleaf shows the proposed CDE wash plant layout superimposed on the existing wash plant layout.

Figure 4.1 – existing wash plant layout

4.2 Source noise measurement for the same CDE wash plant as that proposed have been undertaken by AAe on a different site and the details of the measurements are provided in Appendix C.

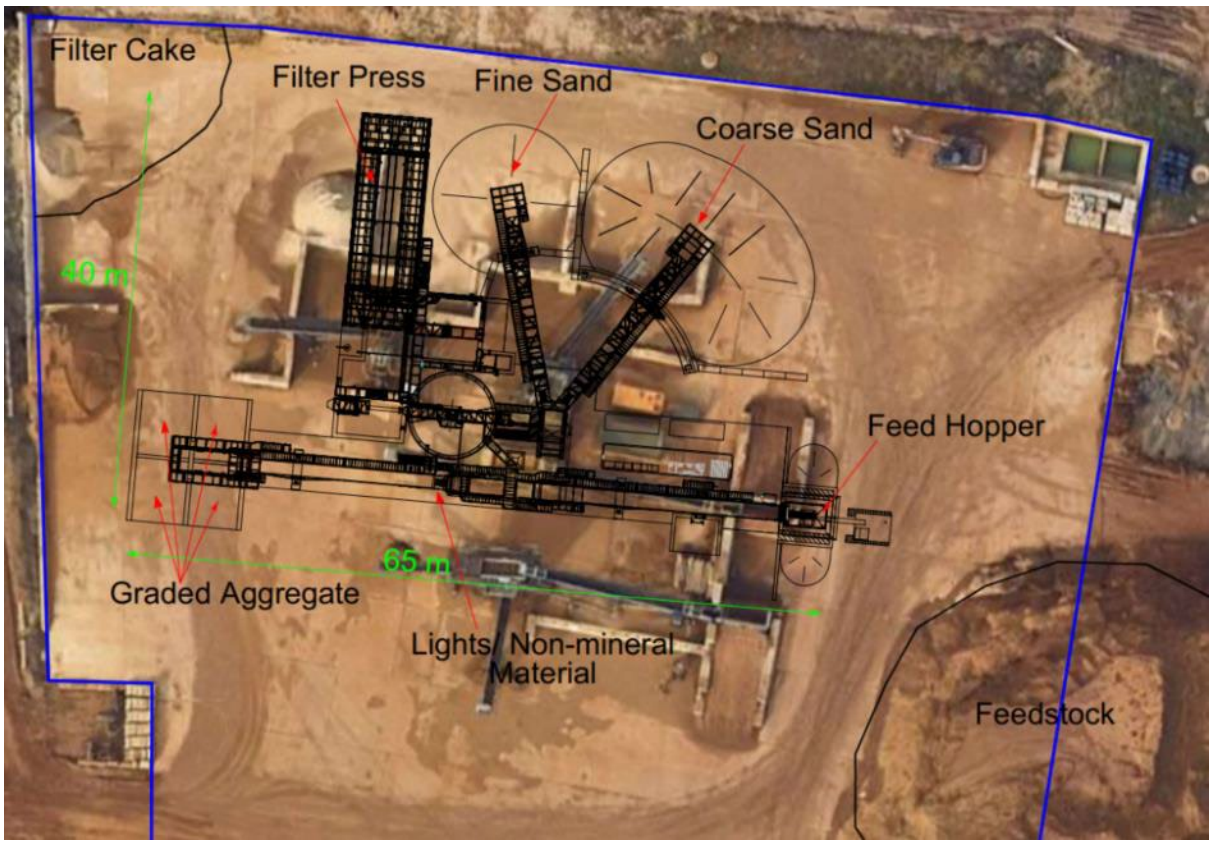


Figure 4.2 – proposed CDE wash plant superimposed on existing plant layout

4.3 Given the proposed orientation of the new CDE wash plant on site, the most representative measurement locations from Appendix C to consider for the present assessment are Location S1, S5 and S4, which are summarised below:

- S1 (NSR west): $L_{Aeq,30min}$ 65.4 dB at 38 m from clay press primary noise source;
- S5 (NSR west & south): $L_{Aeq,15min}$ 67.9 dB at 24 m from 10mm screen primary noise source;
- S4 (NSR south): $L_{Aeq,30min}$ 70.8 dB at 14 m from primary noise source: excavator on the feedstock loading the hopper.

4.4 On the basis that the measured levels above include noise from vehicular operations on site as well as CDE wash plant, they are expected to be conservative.

4.5 As indicated in the introduction chapter, the existing wash plant (and associated vehicular operations) was not operational during the baseline measurements undertaken by AAe for the assessment.

5.0 Assessment methodology

5.1 A number of corrections need to be applied to source noise measurement data in order to derive the rating level ($L_{Ar,Tr}$) for the purpose of the assessment.

5.2 BS 4142:2014+A1:2019 On-Time Correction

5.2.1. Daytime noise emissions from industrial premises are assessed over a 1 hour time interval and night-time over a 15 min period. If a source operates for a limited time within that interval, an on-time correction is applied to account for the inactive time within the relevant reference averaging interval. For example, if a source operates for only 30 minutes in an hour, a -3 dB logarithmic correction should be applied to the specific sound source for the daytime assessment although no correction would apply for night-time.

5.2.2. Equation 1 below is used to calculate the on-time correction:

$$\text{On-time correction} = -10 \log_{10} (T_0/T_r) \quad (1)$$

Where T_0 = reference time interval (1hour daytime and 15min night-time)

T_r = Time interval source active within T_0

5.2.3. AAe indicated that the typical hourly wash plant on-time is 85 %. On that basis, an on-time correction of -1 dB has been applied to the measured source noise levels.

5.3 BS 4142:2014+A1:2019 Character correction

5.3.1. The characteristics of a specific sound at the receiver location can make it more distinguishable and therefore more likely to attract attention.

5.3.2. The BS4142:2014+A1:2019 methodology accounts for this by applying a character correction to the specific sound source being assessed, relevant sections of which are copied below:

Tonality

For sound ranging from not tonal to prominently tonal the Joint Nordic Method gives a correction of between 0 dB and +6 dB for tonality. Subjectively, this can be converted to a penalty of 2 dB for a tone which is just perceptible at the noise receptor, 4 dB where it is clearly perceptible, and 6 dB where it is highly perceptible.

Impulsivity

A correction of up to +9 dB can be applied for sound that is highly impulsive, considering both the rapidity of the change in sound level and the overall change in sound level. Subjectively, this can be converted to a penalty of 3 dB for impulsivity which is just perceptible at the noise receptor, 6 dB where it is clearly perceptible, and 9 dB where it is highly perceptible.

Intermittency

When the specific sound has identifiable on/off conditions, the specific sound level should be representative of the time period of length equal to the reference time interval which contains the greatest total amount of on time. This can necessitate measuring the specific sound over a number of shorter sampling periods that are in combination less than the reference time interval in total, and then calculating the specific sound level for the reference time interval allowing for time when the specific sound is not present. If the intermittency is readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied.

Other sound characteristics

Where the specific sound features characteristics that are neither tonal nor impulsive, nor intermittent, though otherwise are readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied.

5.3.3. We understand from AAe, who have undertaken noise measurements of the proposed CDE wash plant on a different site, that there are no tonal, impulsive or intermittent characteristics associated with the plant which are dissimilar to standard quarry activities. The noise components of the plant are the sound of the conveyors which vibrate a little as the material is washed and then falls into bays below. When close to the plant, the main audible noise is the aggregate dropping through the chutes into the bays, as well as the standard noise from a screener, quite a few of which are operated on site.

5.3.4. Given the above, no character correction has been has been applied to the operating plant sound levels as it is not expected that the proposed CDE wash plant will have distinctive characteristics audible at the NSRs standing out from existing quarry operations.

5.4 Source-receiver distance attenuation

5.4.1. Where NSRs are located further away from the assessed noise sources than the source measurement locations, a distance correction needs to be applied to account for the noise attenuation through distance.

5.4.2. When sound source dimensions are small relative to the separating source-receiver separating distances (largest dimension of source less than a third of the source-receiver separating distance), which is the case for the proposed development, distance attenuation is calculated using point source attenuation Equation 2:

$$\text{Attenuation} = 20 \times \log (d_1/d_2) \quad (2)$$

, where d_1 and d_2 are the source-to-measurement position and source-to-receiver separating distances respectively.

5.4.3. Source-NSR separating distances between the nearest boundary of the proposed CDE plant and the nearest NSRs in the vicinity of the measurement locations have been provided by AAe as follows and used for the assessment: 267 m (NSRs by LT1), 313 m (NSRs by ST1) and 448 m (NSRs by ST2).

5.5 Barrier attenuation

5.5.1. 5 dB attenuation is typically considered for partial screening of the noise source relative to the receiver and 10 dB when the line of sight between the two is completely cut.

5.5.2. We understand that NSRs to the south-west and south will have direct line of sight to the proposed CDE wash plant (albeit only from 1st floor windows for NSRs to the south-west). Consequently no barrier attenuation has been applied in the assessment for these two NSR areas.

5.5.3. An earth bund is proposed to the west of the site, shown in blue colour on Appendix A, to shield residential properties to the west from site operations. The top of the bund is proposed at 116 m altitude compared to 113 m for the 1st floor windows of residential properties to the west. Consequently, we understand that the proposed earth bund will completely cut the line of sight to the upper floor of residential properties to the west. Considering the earth bund is far away from the source and given noise screening is most effective when closer to the source, a reduced partial screening 5 dB attenuation has been considered in the assessment.

5.6 Number of identical sound sources correction

5.6.1. An amplification factor of 10log(n) is considered to account for all proposed identical sources emitting sound simultaneously, where n is the number of sources proposed.

5.6.2. However, in the present assessment there is no correction applicable given source noise data relates to a single item of plant from which all parts were operating simultaneously.

6.0 Assessment

6.1 Assessment calculation tables are provided in Appendix D based on the corrections detailed in Section 5.0. The prevalent (i.e. worst -case loudest source level) source measurement location from that listed in Section 4.3 has been considered for each NSR location based on relative orientation.

6.2 The predicted rating noise levels from Tables D1 to D3 are assessed in terms of BS4142:2014 for likelihood of adverse impact and shown in Table 6.1.

Table 6.1 - Predicted proposed CDE wash plant operational BS 4142 assessment (dB re 2 x 10^{-5} Pa)

	NSRs to the west (by LT1)	NSRs to the south-west (by ST1)	NSRs to the south (by ST2)
Predicted external rating noise level at NSR $L_{Ar,Tr}$	42	46	42
Background level, $L_{A90,T}$	42	44	44
Assessment difference	0	2	-2
BS 4142:2014 Assessment	Low impact, depending on context	Low impact, depending on context	Low impact, depending on context

6.3 Table 6.1 shows that the BS 4142 assessment results in an expected 'Low impact' for all NSRs, depending on context.

6.4 However, the following context needs to be accounted for:

- Source noise levels are expected to be conservative given they also included site vehicular operations as opposed to CDE wash plant alone. Vehicle movement will not change and are part of the existing background noise climate, and therefore should technically be removed from these source measurements;
- The existing wash plant (and associated vehicular operations) was not operating while background noise levels were undertaken and therefore

may underestimate the existing background inclusive of existing wash plant operation. We understand from the calculation sheets (09/09/20) from the noise impact assessment undertaken when the existing wash plant (Duo AS165) was installed, that its noise emission levels are 74 dBA at 10 m for the plant alone (no contributions from other site activities). The noise levels presented in section 4.3 for the proposed CDE wash plant, when brought back to 10m from the primary noise source assuming a point source attenuation, correspond to 77 dBA (S1), 75 dBA (S5) and 74 dBA (S4), which are 1-3 dB above the aforementioned 74 dBA. Given they also include site machinery contributions, it is expected that the proposed CDE wash plant noise levels do not exceed that of the existing wash plant. It is generally found that newer plant is quieter than older plant for similar processes.

- The industrial quarry and existing wash bay has been operational for many years and is therefore a well-established component of the acoustic environment at the neighbouring NSRs;

- We understand that neighbouring residents are not all sympathetic to the quarry operations but that no noise complaints have been made in relation to existing fixed plant;

- The proposed wash plant operating hours are daytime only, while typically the majority of resident concerns with regards to noise relate to night-time sleep disturbance.

6.5 When including context, which is overall deemed favourable, the expected low impact from the quantitative findings of the BS 4142 assessment is further confirmed.

7.0 Uncertainty

7.1 In undertaking the assessment, RMP/AAe have considered the following uncertainty as follows:

- Class 1 sound level meters calibrated in accordance with the manufacturers' guidelines were used to minimise uncertainty of measured sound level;
- Background, ambient, and residual measurements were undertaken over an extended period rather than short term measurements to take into account variation of the noise environment and resulting uncertainty;
- The assessment has not considered ground absorption, recent research has begun to conclude that this can provide significant improvements (circa -5 dB per 100 m of soft ground) on the noise propagation and therefore potential/further positive effects on the noise impacts for the NSRs.

8.0 Conclusions

8.1 RMP was instructed by AA Environmental Ltd to undertake a noise impact assessment on the nearest existing noise-sensitive receptors, as part of a planning application for the proposed replacement of an existing mineral processing plant with a new CDE (brand name) wash plant, at the existing L.B. Silica Sands Ltd site on Bryants Lane, Heath and Reach, Bedfordshire, LU7 0AL.

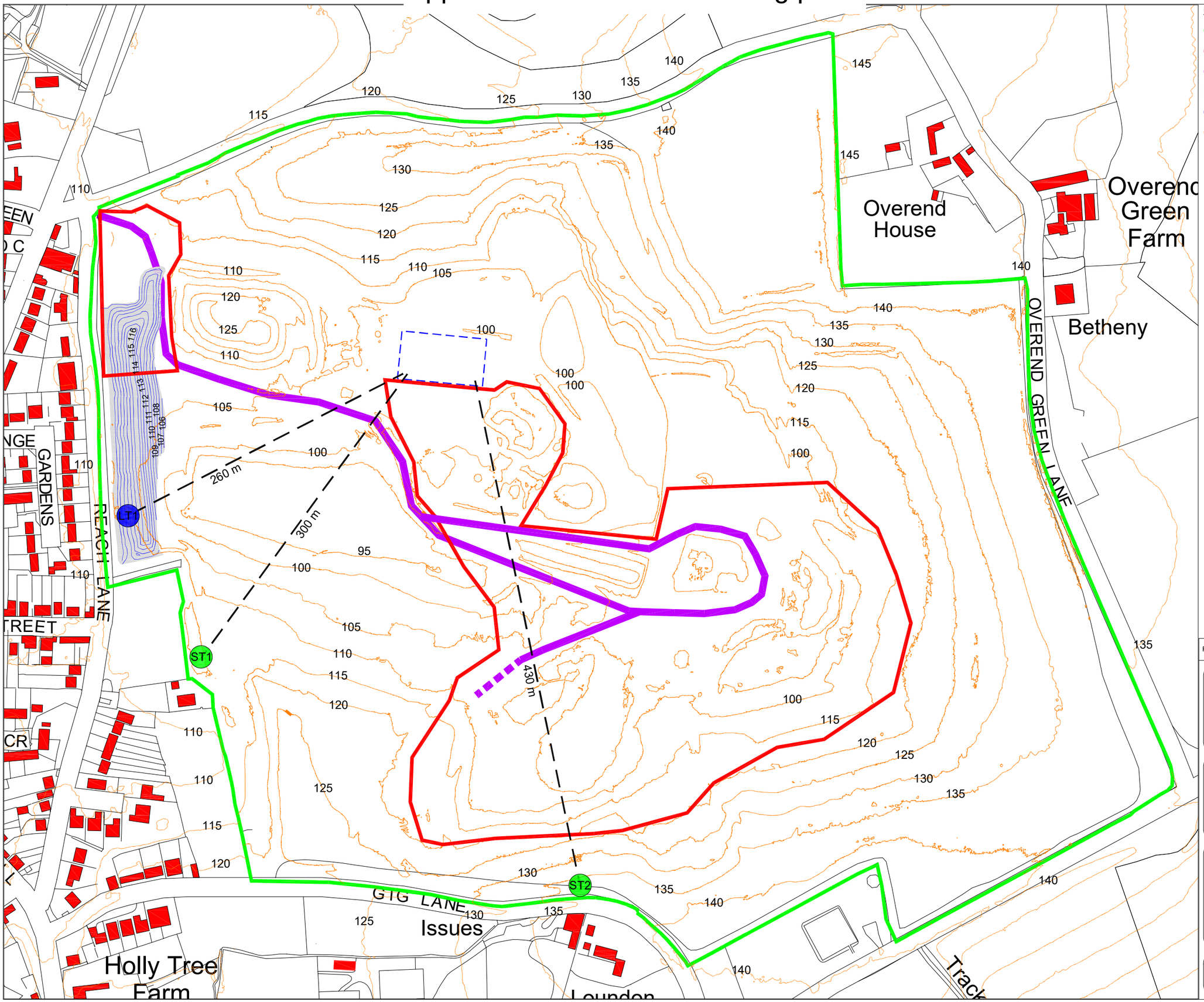
8.2 A week-long survey of the existing background daytime noise environment at the most exposed noise sensitive receptors (NSRs) has been conducted.

8.3 The operational noise impact associated with the proposed wash plant replacement has been assessed according to the applicable BS 4142 methodology.

8.4 The findings of the BS4142 assessments are that 'low impact' can be expected for all exposed NSRs, depending on context. The context is overall deemed favourable, which further confirms the expected low impact from the quantitative findings of the BS 4142 assessment.

Prepared by:	Approved by:
Clement Luciani BEng (Hons), MSc, MIOA	Russell Macdonald BSc (Hons), MPhil, MIOA

Appendix A – Noise monitoring plan



Key:

- Permit Boundary
- Operational Area
- Haul Route
- Noise Sensitive Receptor
- Proposed Wash Plant Location
- Existing Contours (m AOD)
- Short-Term Sound Level Measurement Location
- Long-Term Sound Level Measurement Location
- 116 Noise Screening Bund (Under Construction)

Rev.	Details	Drawn / Chkd.	Date

Project

213461
Reach Lane Quarry Landfill
Reach Lane Quarry, Bryants Lane
Bedfordshire, LU7 0AL

Title

Noise Monitoring Plan

AA Environmental Ltd
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Cholswell Court
Shippon Abingdon
Oxon OX13 6HX

T:(01235) 536042
F:(01235) 523849
info@aae-ltd.co.uk
www.aae-ltd.co.uk

Environmental Consultants

Scale	Date	Drawn	Chkd.	Drg. No.	Rev.
1:3,000@A3	Nov'24	KW	EB	213461/NM/D/001	

Appendix B – Site notes from baseline noise monitoring

AAe Environmental Consultants				**Attended Noise Survey**	**Job No.**	213461 – L.B. Silica Sand - Heath and Reach				
					Weather: Overcast with a moderate breeze humidity ~70%.		**Temp:** 17 °C	**Wind speed**:	18 mph west-southwesterly	
				10/09/2024	**Sound Level Meter:**	Norsonic 131 Sound Level Meter (1312759) - last calibrated: 28/06/2024.		**Mic height**:	1.5 m	
								Calibration Reading (dB)		
Dynamic Range:				30-120 dB	**Calibrator Type:**	Nor Sound Calibrator Type 1251 (33765) - last calibrated: 28/06/2024.		**Before:**	113.8 (Norsonic)	**After:** 113.8 (Norsonic)

Station	Distance to Proposed Wash Plant	Start Time (hr:min)	Date	Construction Activity/Equipment used	Measurement Duration (T, mins)	LAeq, T (dB)	LAMax, T (dB)	LA10, T (dB)	LA90,T (dB)	Monitoring Comments
ST1	300 m south west	12:28	10/09/2024	Audible: **CAT 962M Frontloader** & **McCloskey S190 Screene**r ~270 m northeast. Active on site plant listed in comments section below.	15	49	59.2	51.2	45.5	Dominant noise source from site activities, in particular front loader and screener in the centre of the site (~270 m northeast). Other plant in quarry (from ~450 m east) almost inaudible (blending into background), likely due to being downwind from monitoring point. Road noise from Reach lane (west) faintly audible. Dog barking, children playing, an estimated 150 m upwind (southwest). Trees audibly rustling, but not in immediate vicinity to sound level meter. Occasional wind gusts increase sound pressure level (SPL) by 3-5 dB. Mid-level flying plane for circa 60 s, pumping the SPL to 57 dB twice momentarily.
ST2	430 m south	12:57	10/09/2024	Audible: **CAT D6T LGP Bulldozer (tracked)** & **Bomag BW 216 Roller & 8-wheeler tippers** ~80 m west. **CAT 962M Frontloader** & **McCloskey S190 Screener** ~300 m north. Active on site plant listed in comments section below.	15	56.2	75.5	58.6	52	Dominant noise source from site activities, in particular bulldozer and roller operation, with intermittent load delivery from 8-wheeler tipper trucks circa 80 - 100 m west. Frontloader and screener audible circa 300 m north. Other plant in quarry (from 250 m north east) almost inaudible (blending into background), likely due to being downwind from monitoring point. Reversing alarm circa 100 m west for 2 minutes. Mid-level flying plane for circa 45 s. Occasional wind gusts increase sound pressure level (SPL) by 3-5 dB.
ST1	300 m south west	13:26	10/09/2024	Audible: **CAT 962M Frontloader** & **McCloskey S190 Screener** ~270 m northeast. Active on site plant listed in comments section below.	15	50.9	71.4	53.6	46.4	Dominant noise source from site activities, in particular front loader and screener in the centre of the site (~270 m northeast). Other plant in quarry (from ~450 m east) almost inaudible (blending into background), likely due to being downwind from monitoring point. Road noise from Reach lane (west) faintly audible. Trees audibly rustling, but not in immediate vicinity to sound level meter. Occasional wind gusts increase sound pressure level (SPL) by 3-5 dB. Car alarm for 15 s, circa 200 m away. High flying plane for circa 35 s. Mid-level flying plane for circa 240 s. Low flying plane for circa 60 s.
ST2	430 m south	14:04	10/09/2024	Audible: **CAT D6T LGP Bulldozer (tracked) & Bomag BW 216 Roller & 8-wheeler tippers** ~80 m west. **CAT 962M Frontloader & McCloskey S190 Screener** ~300 m north. Active on site plant listed in comments section below.	15	55.9	68.3	59.3	49.5	Dominant noise source from site activities, in particular bulldozer (no roller operation for this monitoring period), with intermittent load delivery from 8-wheeler tipper trucks circa 80 - 100 m west. Frontloader and screener audible circa 300 m north. Other plant in quarry (from 250 m north east) almost inaudible (blending into background), likely due to being downwind from monitoring point. Occasional wind gusts increase sound pressure level (SPL) by 3-5 dB. SPL of 48 dB when frontloader is static.

Comments	Plant active: **CAT D6T LGP Bulldozer (tracked)**; **Bomag BW 216 Roller**; **CAT 962M Frontloader**; **McCloskey S190 Screener; Tipper Trucks (8 wheeler)**; Parker T80-48 Conveyor; Warrior 1400X Powerscreen; Doosan DX225LC Excavator; and CAT 962M Frontloader (x2).

Signed (Surveyor):	Kristian Wood

	Attended Noise Survey	**Job No.**	213461 – L.B. Silica Sand - Heath and Reach							
		Weather:	Sunny with passing clouds, a gentle breeze humidity ~65%.	**Temp:**	19 °C	**Wind speed**:	11 mph northeasterly			
	17/09/2024	**Sound Level Meter:**	Norsonic 131 Sound Level Meter (1312759) - last calibrated: 28/06/2024.			**Mic height**:	1.5 m			
						Calibration Reading (dB)				
Dynamic Range:	30-120 dB	**Calibrator Type:**	Nor Sound Calibrator Type 1251 (33765) - last calibrated: 28/06/2024.			**Before:**	113.7 (Norsonic)	**After:**	113.7 (Norsonic)	

Station	Distance to Proposed Wash Plant	:10	Date	Construction Activity/Equipment used	Measurement Duration (T, mins)	LAeq, T (dB)	LAMax, T (dB)	LA10, T (dB)	LA90,T (dB)	Monitoring Comments
ST1	300 m south west	11:10	17/09/2024	Audible: **Kobelco SK350LC Excavator** ~200 m north east. **CAT 962M Frontloader** & **McCloskey S190 Screener** ~270 m northeast. Active on site plant listed in comments section below.	15	50.5	61.5	52.8	47.4	Dominant noise source from site activities, in particular, excavator moving material (~200 m northeast): bucket banging increasing Sound pressure level (SPL) by 3 - 4 dB. Frontloader and screener in the centre of the site (~270 m northeast), operating for 260 s. Other plant in quarry (from ~450 m east) almost inaudible (blending into background). Trees audibly rustling, but not in immediate vicinity to sound level meter. Mid-level flying plane for circa 95 s. Low level propeller plane for circa 20 s, not flying overhead.
ST2	430 m south	11:53	17/09/2024	Audible: **CAT D6T LGP Bulldozer (tracked)** ~80 m west. K**obelco SK350LC Excavator** ~360 m north west. **CAT 962M Frontloader & McCloskey S190 Screener** ~300 m north. Active on site plant listed in comments section below.	15	53.7	66	56	50	Dominant noise source from site activities, in particular bulldozer operation; operating for 370 s; and idling for remainder. Frontloader and screener audible circa 300 m north. Excavator moving material (~360 m northwest), banging bucket. Other plant not noticeably audible, but likely contributing to the SPL (upwind of monitoring location). Frontloader moving atop stockpile (~280 northeast). Mid-level flying plane for circa 65 s. Low level flying plane for circa 50 s, not flying overhead.
ST1	300 m south west	12:18	17/09/2024	Audible: **Kobelco SK350LC Excavator** ~200 m north east. **CAT 962M Frontloader & McCloskey S190 Screener** ~270 m northeast. Active on site plant listed in comments section below.	15	52.7	62.5	54.4	50.6	Dominant noise source from site activities, in particular, excavator moving material (~200 m northeast): bucket banging increasing Sound pressure level (SPL) by 3 - 4 dB - operating for circa 450 s. Frontloader and screener in the centre of the site (~270 m northeast). Other plant in quarry (from ~450 m east) almost inaudible (blending into background). Lawnmower operating circa 50-100m south of the monitoring location for circa 570 s. Trees audibly rustling, but not in immediate vicinity to sound level meter. Mid-level flying jet plane for circa 30 s.
ST2	430 m south	12:48	17/09/2024	Audible: **CAT D6T LGP Bulldozer (tracked)** ~80 m west. **CAT 962M Frontloader & McCloskey S190 Screener** ~300 m north. Active on site plant listed in comments section below.	15	53.6	77.5	55.2	50.6	Dominant noise source from site activities, in particular bulldozer, operating for 430 s, idling for remainder. Frontloader and screener audible circa 300 m north. Excavator moving material (~360 m northwest), banging bucket. Single load delivered from 8-wheeler tipper truck circa 80 - 100 m west, with tailgate bang triggering SPL of 76.8 dB. Frontloader and screener audible circa 300 m north. Excavator on stockpile circa 250 m northeast, loading dumper truck with concrete (3x loads).

Comments	Plant active: **Kobelco SK350LC Excavator; CAT D6T LGP Bulldozer (tracked); CAT 962M Frontloader**; **McCloskey S190 Screener; Tipper Trucks (8 wheeler);** Parker T80-48 Conveyor; Warrior 1400X Powerscreen; Doosan DX225LC Excavator; CASE CX300C Excavator, CAT 962M Frontloader (x2); Doosan DA45 Dumper.
Signed (Surveyor):	Kristian Wood

Appendix C – CDE wash plant source noise measurement details and results

Key:

- Site Boundary
- Impermeable concrete surfacing
- S5 Noise Monitoring Location
- Clay Press
- Sand Screen
- Hopper/ Feedstock
- 10 mm Screen
- Wash Plant

Notes:

1. A Noise Assessment Survey was conducted by an AAe operative on 23/10/2019. Two rounds of noise monitoring were completed at locations S1, S2 and S4. One round of noise monitoring was completed at locations S3,S5 and S6.

Table 1: Noise Monitoring Locations and Primary Noise Sources

Noise Monitoring Location	Primary Noise Source
S1	Clay Press
S2	Sand Screen
S3	Hopper/ Feedstock
S4	Hopper/ Feedstock
S5	10 mm Screen
S6	Wash Plant and Hopper/ Feedstock

Rev.	Details	Drawn / Chkd.	Date

Project
183260
Dix Pit Soil Washing Facility

Title
Noise Monitoring Plan

AA Environmental Ltd
Units 4-8
Cholswell Court
Shippon Abingdon
Oxon OX13 6HX

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Scale	Date	Drg. No.	Rev.
1:500@A3	Oct '19 (Drawn JM, Chkd. EB)	183260/NM/D/001	

Attended Noise Survey							Job No.	183260 Dix Pit Soil Washing Facility, Stanton Harcourt			
Monitoring Date	23/10/2019		**Weather**:	Mild, overcast.	**Temperature**:	11°C		**Wind speed**:	< 10 mph (BBC Weather source)		
			Sound Level Meter:		Norsonic 131 Sound Level Meter (1312759) - last calibrated: 23/01/18			**Mic height**:	1.5 m		
								Calibration Reading (dB)			
Dynamic Range:	30-120 dB		**Calibrator Type:**		Nor Sound Calibrator Type 1251 (33765) - last calibrated: 10/01/19			**Before:**	114.0	**After:**	114.0

Station	Start Time	Construction Activity/Equipment used	Measurement Duration (T, mins)	$L_{Aeq, T}$ (dB)	$L_{AMax, T}$ (dB)	$L_{A10, T}$ (dB)	$L_{A90, T}$ (dB)	Monitoring Comments
S1	12:16	Normal operational work ongoing.	15	65.7	85.0	67.2	63.8	The primary noise source was the clay press located circa m 38 away. During the monitoring session a lorry drove by behind the noise monitoring point within 10 m of the monitoring point. This event is in line with normal site operations, and likely represents the recorded L_{AMax}.
S2	12:42	Normal operational work ongoing.	15	66.0	83.2	68.4	53.4	The primary noise source was the sand screen located circa 28 m away. During the monitoring session a forklift passed in front of the monitoring point <10 times and idled in front of the monitoring point for approximately 25 seconds within 10 m of the monitoring point. These events are in line with normal site operations and likely represents the recorded L_{AMax}.
S3	13:55	Normal operational work ongoing.	15	71.3	86.0	75.3	63.8	The primary noise source was the 360 excavator on the feedstock loading the hopper located circa 27 m away. During the monitoring session a front loader passed in front of the monitoring point <5 times and a lorry passed in front 1 time within 10 m of the monitoring point. These events are in line with normal site operations and likely represents the recorded L_{AMax}.
S4	14:15	Normal operational work ongoing.	15	72.8	86.5	76.4	67.5	The primary noise source was the 360 excavator on the feedstock loading the hopper located circa 14 m away. During the monitoring session a front loader passed in front of the monitoring point <10 times and a lorry passed in front 2 times within 5 m of the monitoring point. These events are in line with normal site operations and likely represents the recorded L_{AMax}.
S5	14:34	Normal operational work ongoing.	15	67.9	81.3	68.6	66.4	The primary noise source was the 10 mm screen located circa 24 m away. During the monitoring session a lorry drove within 10 m of the noise monitoring point. This event is in line with normal site operations and likely represents the recorded L_{AMax}.
S1	14:53	Normal operational work ongoing.	15	65.0	74.9	66.1	63.1	The primary noise source was the clay press located circa 38 m away. During the monitoring session <5 lorries drove within 10 m of the noise monitoring point. These events are in line with normal site operations and likely represents the recorded L_{AMax}.

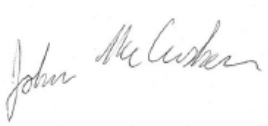
S2	15:13	Normal operational work ongoing.	15	68.2	86.1	71.0	57.4	The primary noise source was the sand screen located circa 28 m away. During the monitoring session a forklift passed in front of the monitoring point <10 times and a lorry passed in front of the monitoring point 1 time all within 10 m of the noise monitoring point. These events are in line with normal site operations and likely represents the recorded L_{AMax}.
S6	15:37	Normal operational work ongoing.	15	65.2	85.5	67.2	61.1	The primary noise source was the wash tank and the 360 excavator on the feedstock loading the hopper located circa 46 m and 34 m away respectively. During the monitoring 1 lorry passed and then tipped a load within 10 m of the monitoring point. This event is in line with normal site operations and likely represents the recorded L_{AMax}.
S4	15:56	Normal operational work ongoing.	15	67.1	80.2	69.1	63.6	The primary noise source was the 360 excavator on the feedstock loading the hopper located circa 14 m away. During the monitoring session a front loader passed in front of the monitoring point <5 times. Halfway through the monitoring session the 360 excavator stopped loading the hopper and the noise levels dropped slightly. These events are in line with normal site operations and likely represents the recorded L_{AMax}.
Signed (Surveyor):								
Reviewer:								

Table D1 - Specific noise sources for BS 4142 assessment to NSRs to the west (adjacent Location LT1) (dB re 2 x 10-5 Pa)											
Equipment	**Source levels $L_{Aeq,T}$ (dB)**	**% On-time**	**On-time Correction (dB)**	**Character correction**	**Source to meas distance (m)**	**Source - NSR distance (m)**	**Distance Correction (dB)**	**Noise barrier correction**	**No. Sources**	**Multiple Source Correction (dB)**	**Overall Noise Level, $L_{Aeq,1hr}$ (dB)**
CDE wash plant meas location S1	65	85	-1	0	38	267	-17	-5	1	0	**42**

Table D2 - Specific noise sources for BS 4142 assessment to NSRs to the south-west (adjacent Location ST1) (dB re 2 x 10-5 Pa)											
Equipment	**Source levels $L_{Aeq,T}$ (dB)**	**% On-time**	**On-time Correction (dB)**	**Character correction**	**Source to meas distance (m)**	**Source - NSR distance (m)**	**Distance Correction (dB)**	**Noise barrier correction**	**No. Sources**	**Multiple Source Correction (dB)**	**Overall Noise Level, $L_{Aeq,1hr}$ (dB)**
CDE wash plant meas location S1	65	85	-1	0	38	313	-18	0	1	0	**46**

Table D3 - Specific noise sources for BS 4142 assessment to NSRs to the south (adjacent Location ST2) (dB re 2 x 10-5 Pa)											
Equipment	**Source levels $L_{Aeq,T}$ (dB)**	**% On-time**	**On-time Correction (dB)**	**Character correction**	**Source to meas distance (m)**	**Source - NSR distance (m)**	**Distance Correction (dB)**	**Noise barrier correction**	**No. Sources**	**Multiple Source Correction (dB)**	**Overall Noise Level, $L_{Aeq,1hr}$ (dB)**
CDE wash plant meas location S5	68	85	-1	0	24	448	-25	0	1	0	**42**

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APPENDIX C
Complaints Procedure / Form

Complaints Procedure

INTRODUCTION

This Complaints Procedure outlines how the Operator will respond in the event of a complaint. A complaint may arise relating to the site permitted activities involving a nuisance (dust, noise, odour, pests). This procedure contains information on how any complaint will be investigated and any actions taken as a result of the complaint.

KEY CONTACTS

The key contacts will be shown on the site notice board at the site entrance. Alternatively, any complaints can be made at the site to any site operative and/or the Site Manager. The contacts are shown below.

Contact	Role	Contact Number
John Peaker	Off site Manager	0161 629 8347
On site Site Manager	Responsible for operation at the site under the Environmental Permit and their staff at the site	TBC
Supervisor / Engineer	Responsible for implementing and inspection of controls at the site under the Environmental Permit and their staff at the site	TBC

PROCEDURE

1. Any complaints made will be immediately logged by the Site Manager and/or Site Operative. In the event a complaint is made to a Site Operative, the Site Operative will refer the complaint to the Site Manager. If able to do so, the complainant details will be taken on initial contact either by phone or in person.

2. The Site Manager (or nominated operative) will discuss any concerns with the complainant directly within 1 working day of the complaint being made; and request contact details to notify the complainant of any updates/corrective measures. The complain will be logged using the Complaint Form (attached) and given a unique reference number.

3. The Site Manager will review the site activities and ensure control measures are in accordance with the Site's Management Systems.

4. The Site Manager will investigate the location of concern raised in relation to the site i.e. at a local receptor location and/or public highway to inspect the impact on the receptor.

5. The Site Manager will notify the complainant of any updates to the control measures / site operations. Control measures may be corrective and/or preventative and include additional control measures and/or increase the frequency of an existing control measure. Alternatively, the design of the site operations may change to decrease nuisance to that receptor.

6. In the event the same issue persists, the Site Manager will further review site operations and control measures. This may require a temporary cessation of certain operations whilst additional measure is implemented. The works will not recommence until further control measures have been incorporated and a review of effectiveness has been agreed / witnessed by the Site Manager. The complainant will be kept abreast of further measures.

The target close out of any complaint is within 1 week of point 1 however this is dependent on the complaint, effectiveness of control and any third party testing required to quantify complaint and/or control.

Complaints Procedure

RECORDS

On site Records
A copy of this procedure is kept on site and briefed to all site operatives upon site induction. Any identified complaints, incidents or accidents, as well as corrective measures, are recorded in the Complaint Form. Copies of the complaint forms are kept on site.

Review
This procedure is reviewed on a yearly basis or post-incident to ensure it remains up-to-date with the site operations.

Complaint Form

Complaint Form Reference No.	

Date of Complaint	

Details of Complainant			
Name			
Address			
Contact Number		**Email Address**	
Nature of Complaint			
Reported To		**Date of Incident (if different to date of complaint)**	
Corrective Measure Taken			
Follow up Communication with Complainant			
Preventative Measure Taken (if any)			
Sign off		**Close out Date**	