

**IN RESPECT OF THE APPEAL AGAINST THE DECISION OF
HERTFORDSHIRE COUNTY COUNCIL FOR THE DEVELOPMENT OF
LAND AT HATFIELD AERODROME, OFF HATFIELD ROAD,
HATFIELD, HERTFORDSHIRE**

PLANNING INSPECTORATE REF: APP/M1900/W/24/3346607

LOCAL PLANNING AUTHORITY REF: PL/0232/21

**Paper submitted by former Rule 6 parties now third parties at the
request of the Planning Inspector**

NOISE

An independent review of the noise assessment for a quarry on the former Hatfield Aerodrome site detailing the impact on Housing and on a proposed Ellenbrook Country Park

Sections:

1. Monitoring points
2. Areas affected: A local assessment of potential noise generated by a quarry on the Old Hatfield Aerodrome site to Residents:
3. What are the appropriate noise standards for mineral operators for normal operations? (included for reference)
4. What type of operations may give rise to particularly noisy short-term activities and what noise limits may be appropriate? (included for reference)
5. Night and Daytime operational limits (included for reference)
6. Distances (included for reference)
7. Calculation of noise at the receiver dependencies (included for reference)
8. Popefield Farm
9. Lawrence Close
10. Ellenbrook Fields ECP
11. Bund Construction
12. Decibel readings guide (included for reference)
13. Theoretical noise with distance
14. Extra Pictures and Maps
15. Conclusion
16. Reference documents

1. Brett Aggregates NOISE 10 document

a) Monitoring points 1 to 6:



Fig 1

b) Noise 10 data

Table 10-4
Measured 2021
Baseline Levels

Location	L _{Aeq,T}	L _{A90}	L _{A10}	L _{Amax}
1. Popefield Farm	58.6	52.3	60.4	77.3
2. No.403 St. Albans Road West & The Lodge	73.4	56.8	77.2	88.8
3. No.616 Hatfield Road	72.2	60.6	75.8	87.9
4. Pasture View & Radio Nursery	45.5	42.5	47.0	61.2
5. Walker Grove & Nimrod Drive	44.0	32.3	40.0	75.5
6. Jove Gardens	45.5	41.0	47.2	71.0

Data from SLR Noise 10

LA90 data shows the baseline measurement 52.3, 56.8, 60.6, 42.5, 32.3, 41.0

Very high readings of L(A)eq,T

Location 1, 2, and 3, do not show a true representation of baseline or ambient sound levels in our area. The readings were taken at the kerbside by the main road A1057. Traffic noise fluctuations is “averaged” out and produces a very high LAeq,T reading. The Lodge gate (fig 13) may be high as the traffic brakes and speeds up because of a traffic camera and bend. No 616 (fig 12) Hatfield Road is situated by the approach to a roundabout.

1. Popefield Farm	58.6
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2. No.403 St. Albans Road West & The Lodge	73.4
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3. No.616 Hatfield Road	72.2
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Comments on the monitoring points

- Generally, the three points are only measuring the A1057 road noise, not the Properties
- The figures in red are taken by the kerbside on the noisy A1057 Hatfield Road as shown in the above map (fig 1) as 1, 2, and 3 points. This data does not represent the Properties and area to the south of the site as the baseline or ambient level.
- Popefield Farm sound levels should have been taken within the courtyard and gardens to represent the daily routine of the residents.
- The Lodge (fig 13) and St Albans Road West monitoring points would give more exactness taken in the sports ground. Fig 11. Section 14
- No 616 (fig 12) Hatfield Road (A1057) does not give a true representation, its front door is within a metre of the road. The best alternative receptor point would be Notcutts Garden Centre. Fig 11. Section 14.
- The three monitoring points would give a better representation of the area if they were situated in new positions as outlined in Fig 11. Section 14.

2. Areas affected:

- 1) Popefield Farm, Hatfield Road, to the south.
- 2) The Lodge and No.403 St Albans Road West, to the south.
- 3) No.616 Hatfield Road, to the southwest.
- 4) Pasture View, to the west.
- 5) Walker Grove, to the east.
- 6) Jove Gardens, to the west.
- 7) Lawrence Close, to the west
- 8) Ellenbrook Fields ECP

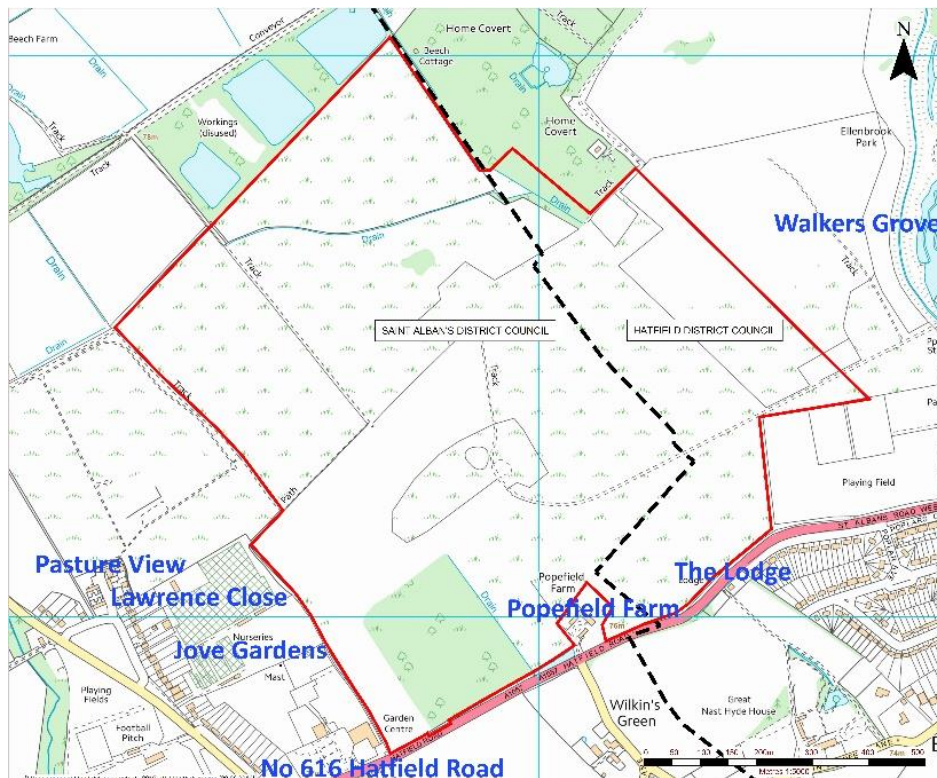


Fig 2

Comments on the areas affected.

Popefield Farm

This is located in the South with access from the A1057. It is surrounded by progressive phases A,B,D,F during the lifetime of the quarry. It may be impacted by three sources of noise from the Plant Site, Extraction, on-site Transport.

The garden is quiet, but the roadside is noisy.

Jove Gardens and Lawrence Close

These two housing estates are new and have been built on the western side of the application. Lawrence Close borders directly on the perimeter fence and is only separated by a 3m bund and wooden fence.

The site's Haul Road is within 65m of Lawrence Close with HGVs-32T and dumper trucks contributing noise.

Jove Gardens is set back from the perimeter fence by 100m of open space and 650m from the plant site. It does not have its own bunds and fencing. Jove Gardens is very quiet.

Lawrence Close is a new estate and has not been included in the Applicant's Noise Assessment 10 despite it being the nearest residential site to the haul road and plant site.

The developers were aware of a potential quarry and constructed their own bund and fence (fig 4) as a defence against noise from the haul road. However, the location of the plant site is 17 degrees N therefore the bund and fence will have little impact on plant noise.

The estate will be subject to noise from the haul road for the entire duration of the quarry.

Lawrence Close is currently very quiet.

Pasture View is 558m to the south of the Cemex plant site and 665m from Brett Plant site.

Walker Grove and Hatfield Village is over 1000m to the east of the Plant site.

a) Site Survey as undertaken by residents

location	quiet	noisy	very noisy	time & date	wind	Comment
Popefield Farm (1)	in courtyard quiet		A1057 traffic - entrance to farm	9/9/2024	14mph	quiet in garden, shielded by trees 16C, 75% humidity. garden, courtyard - 5 locations
The Lodge (2)			A1057 traffic	17/10/2024	9mph	less noisy 20m from road
No.616 Hatfield Rd (3)			A1057 traffic	16/10/2024	12mph	kerbside noise high
Pasture View (4)	quiet			24/10/2024	11mph	cannot hear Cemex
Walker Grove (5)	quiet			26/10/2024	4mph	very quiet
Jove Gardens (6)	quiet			24/10/2024	11mph	very quiet
Lawrence Close	quiet			24/10/2024	11mph	very quiet, nr houses
Ellenbrook Fields	quiet			various dates		generally quiet all over

Note: On the site visit we listened to the ambient noise, judging it to be quiet as in a country garden (>30dB). Noisy as in a town street (>40dB). Very noisy as in a busy road (>55dB).

3. What are the appropriate noise standards for mineral operators for normal operations?

extracts from Guidance on the planning for mineral extraction in plan making and the application process.

Paragraph: 021 Reference ID: 27-020-20140306 Revision date: 06 03 2014:

“Mineral planning authorities should aim to establish a noise limit, through a planning condition, at the noise-sensitive property that does not exceed the background noise level (LA90,1h) by more than 10dB(A) during normal working hours (0700-1900). Where it will be difficult not to exceed the background level by more than 10dB(A) without imposing unreasonable burdens on the mineral operator, the limit set should be as near that level as practicable. In any event, the total noise from the operations should not exceed 55dB(A) LAeq, 1h (free field). For operations during the evening (1900-2200) the noise limits should not exceed the background noise level (LA90,1h) by more than 10dB(A) and should not exceed 55dB(A) LAeq, 1h (free field). For any operations during the period 22.00 – 07.00 noise limits should be set to reduce to a minimum any adverse impacts, without imposing unreasonable burdens on the mineral operator. In any event the noise limit should not exceed 42dB(A) LAeq,1h (free field) at a noise sensitive property.”

4. What type of operations may give rise to particularly noisy short-term activities and what noise limits may be appropriate?

“Increased temporary daytime noise limits of up to 70dB(A) LAeq 1h (free field) for periods of up to 8 weeks in a year at specified noise-sensitive properties should be considered to facilitate essential site preparation and restoration work and construction of baffle mounds where it is clear that this will bring longer-term environmental benefits to the site or its environs.”

“Where work is likely to take longer than 8 weeks, a lower limit over a longer period should be considered. In some wholly exceptional cases, where there is no viable alternative, a higher limit for a very limited period may be appropriate in order to attain the environmental benefits. Within this framework, the 70 dB(A) LAeq 1h (free field) limit referred to above should be regarded as the normal maximum.”

[Minerals - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

5. Night and Daytime operational limits

The above statement sets noise limits during the day for the receptors (people and housing) of 55dB(A) LAeq, 1hour (free field). That is a maximum of 55dB, A weighted, equalized, for 1 hour.

The added noise should be no more than the normal level of that receptor.

Night-time 1900-2200 hours the noise limit is 42dB LAeq, 1hour. *Free field being no reflections.*

6. Distances:

Distance to;	Plant	Haul Road	Extraction site	Phases	Bunds
Lawrence Close	550m	75m	150m	F G	3m +3m fence*
Jove Gardens	680m	170m	250m	F G	in site
Popefield Farm	760m	100m	100 – 250m	A B D F	in site
St Albans Rd West	900m	175m	100 – 200m	A	in site

* *not acoustic*

7. Calculation of noise at the receiver depends on:

- The level in dBs of the source.
- The wind direction
- Angle and distance between the source and receptor
- Atmospheric absorption (rain)
- Type of ground (soft grass, hard clay)
- Reflection from nearby at receptor (walls)
- Screening (trees, bunds)

a) NOISE SOURCES:

Plant site.	Volvo A30G Articulated Dumper – Caterpillar CAT336D 40t Excavator	108dB
Haul road.	HGV - 32t Rigid Bodied Tipper Wagons (Sand & Gravel)	111dB
Extraction.	CAT325D Hydraulic Excavator – Volvo A30G – Komatsu D51EX-22	108dB

8. Popefield Farm:

a) SLR, Appendix 05: Updated Noise Impact Assessment October 2022.

Extract from Appendix 5 as follows:

Table 4-2 extracts 39.8 LA(90) from weekend working during the daytime.

Table 4-3 adds 10dB as the guidance to make 49.8

The noise Model Assumption (6.0) places the sources as the Plant site and Phase F.

The noise limit at PF is shown in table 7-4. **51.6dB L(A)eqT.** *From 55-3.4 (bunds)*

Table 7-1 shows a graphical representation, and the result in Table 7-5 is shown as “NEGLIGIBLE” impact.

Comments on Popefield Farm:

- Monitoring points at Popefield Farm appear to be outside the Farm (Fig 1) and not actually inside the courtyard or gardens.
- The farm is located in the south of the site with access from the A1057. It is surrounded by progressive phases A,B,D,F during the lifetime of the quarry.
- My own site visit reveals a low baseline or ambient at five locations inside Popefield Farm all defined as “QUIET”, this is to be expected in a rural environment (>30dB). The only exception is outside the farm on the corner of the entrance as “VERY NOISY” from the busy A1057.

[Draft] Noise Statement of Common Ground: Hertfordshire County Council & Brett Aggregates

It is understood that the Council accept that the impact on Popefield Farm has been adequately assessed. The assessment completed was a worst case with fixed plant positioned at the Plant Processing Area, and mobile plant operating in Phase F at its closest approach to Popefield Farm. It is understood that the Council agree that a LAeq,1hour dB(A) Site noise limit of 55dB(A) is appropriate. This is in accordance with paragraph 021 of the MPG.

Comment on the SOCG:

The above statement quotes the PPG of 55dB(A)eq, 1hour receptor limit. This applies to a maximum level irrespective of baseline or ambient. It does not represent the noise increasing by 10dB over ambient.

Assuming a baseline level of 39.8 dB(A) LA90 then any noise over 10 dB(A) would exceed the PPG limits. Anything generating noise over 49.8 dB(A) from a source or sources would infringe the guidelines. An attenuation device would add, such as a bund and acoustic fence, in this case 3.4dB.

$$39.8 + 10 + 3.4 = 53.2\text{dB}$$

Therefore, any predicted noise cannot go over 53.2dB
example: if all combined sources = 56.1dB then the noise excess would be over +2.9dB

a) 20. The conditions proposed in the Planning Officer's Report are agreed and are copied below.

Condition 49:

During normal operations the LAeq,1hour noise level from the site should not exceed the baseline background (LA90,T) noise level by more than 10dB(A) with an upper limit of 55dB(A) at the NSRs. The permitted noise limits of normal operations at the site at the following NSRs are as follows:

Popefield Farm 55dB(A) 
The Lodge 55dB(A)
No 616 Hatfield Road 55dB(A)
Pastures View 53dB(A)
Radio Nursery 53dB(A)
Walker Grove 42dB(A)
Nimrod Drive 43dB(A)
Jove Gardens 54dB(A)

Comments on Condition 49 :

- Popefield Farm's noise from the quarry operations is expected to be 55dB(A) during the lifetime of the quarry. note, that the 55dB(A) is based on the measurements taken on the A1057 road rather than the Farm Courtyard.
- If the readings as shown in condition 49 are "derived" from Table 10-9 then Nimrod Drive should be 42 and Jove Gardens should be 51dB(A).



Fig 3

The Courtyard inside the Farm complex

Minimum Noise levels from Table 4-2 at Popefield Farm:

Date	Period	LAeq,T	LAmix	Median LA10	Median LA90
	Day (0700-1300)	43.8	68.6	44.8	39.8

Data from table 4-2

Popefield Farm - Summary of Measured Sound Levels, free-field = **39.8dB L(A)90**

This modelling shows that the residents of Popefield Farm would be subject to noise from at least three sources:

1) Plant Site, 2) Excavation, and 3) Transport of minerals.

Maximum Noise levels:

Table 8-1 maximum noise for Popefield Farm from each 4 sources:

HGV	33.6 dB	Transport – 16 movements per hour
Excavator	52.4 dB	Excavation, dig site – three stationary
ADT	52.7 dB	Articulated Dumper Truck – 30 movements per hour
Dozer	46.3 dB	Bulldozer (500Hz) – 30 movements per hour

In addition to the table above there would be extra noise from the Plant Processing Area; Plant and equipment; @ 81 to 106 dB; see Table 6-1

With data from Table 8-1 my calculations for combining four decibel sources together:

$$(33.6 + 52.4 + 52.7 + 46.3) \text{ combined} =$$

Total 56.1dB(A)

; Inserting an attenuation bund of 3.4 dB(A) would reduce to $(56.1 - 3.4) =$ **52.7dB(A).**

; therefore, the increase of noise from ambient or base level is $52.7 - 39.8 =$ **+12.9dB(A)**

; therefore, the noise exceeds the +10dB(A) by **2.9dB(A)**

*“Mineral planning authorities should aim to establish a noise limit, through a planning condition, at the noise-sensitive property that does not exceed the background noise level (LA90,1h) by more than **10dB(A)** during normal working hours (0700 to 1900). Where it will be difficult not to exceed the background level by more than 10dB(A) without imposing unreasonable burdens on the mineral operator, the limit set should be as near that level as practicable. In any event, the total noise from the operations should not exceed **55dB(A) LAeq,1h (free field).**”*

Comments on the calculations

The calculations show that the increase in noise is likely to exceed the 10dB(A) limit by 2.9dB(A)

9. Lawrence Close

This is a new housing estate backing on to the western side of the quarry. There have been no noise readings taken from the location.

Our site survey showed it to be very quiet, it is also the closest residential area to the quarry site. To mitigate any potential noise the developers constructed a bund with wooden fence on top.

Any noise impact will come from the Haul Road, the Plant Site, and later in the development Phase G

a) Lawrence Close Bunds and Fencing



Fig 4



google earth Fig 5

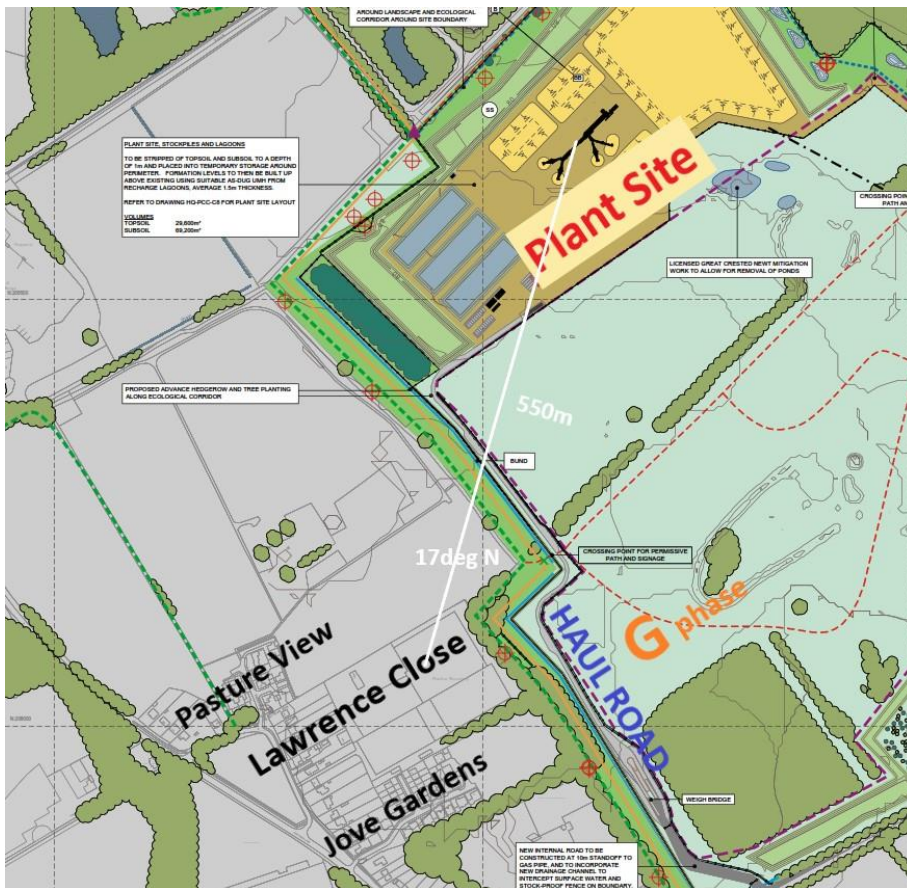


Fig 6

b) Noise from the Plant Site

The plant site lies 550m to the North at 17°N. At 16m tall the plant emits 108dB of noise during the day over soft ground.

The simulation below includes the quarry's 5m bunds running N-S and the local estate's bund but due to the 17deg N angle, this bund becomes ineffective.

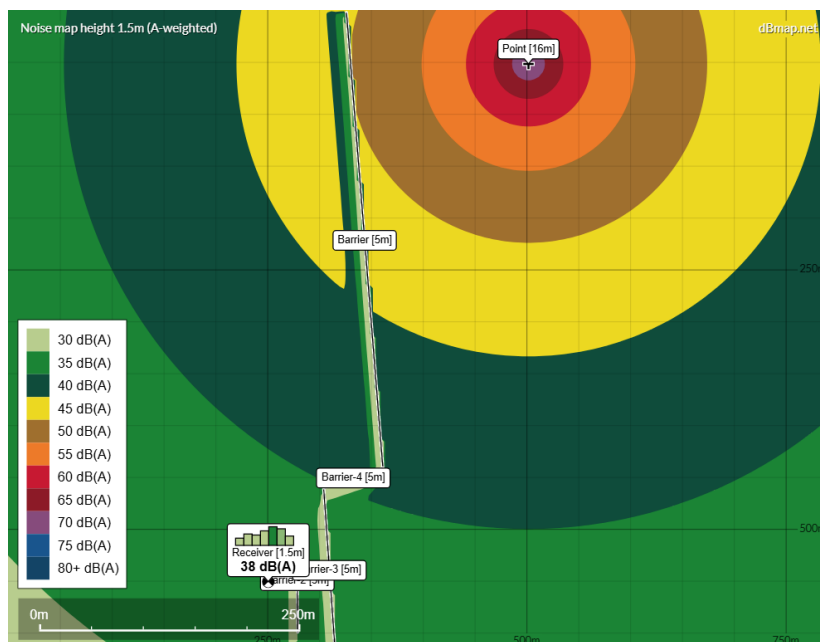


Fig 7

The result is **38dB(A)** at the receiver

c) Noise from the **Haul Road**

The haul road lies to the east of the Estate taking HGV and Articulated dump trucks during the day. Both bunds are effective in reducing the noise, but a simulation result shows **46dB(A)** at the receiver(Estate).

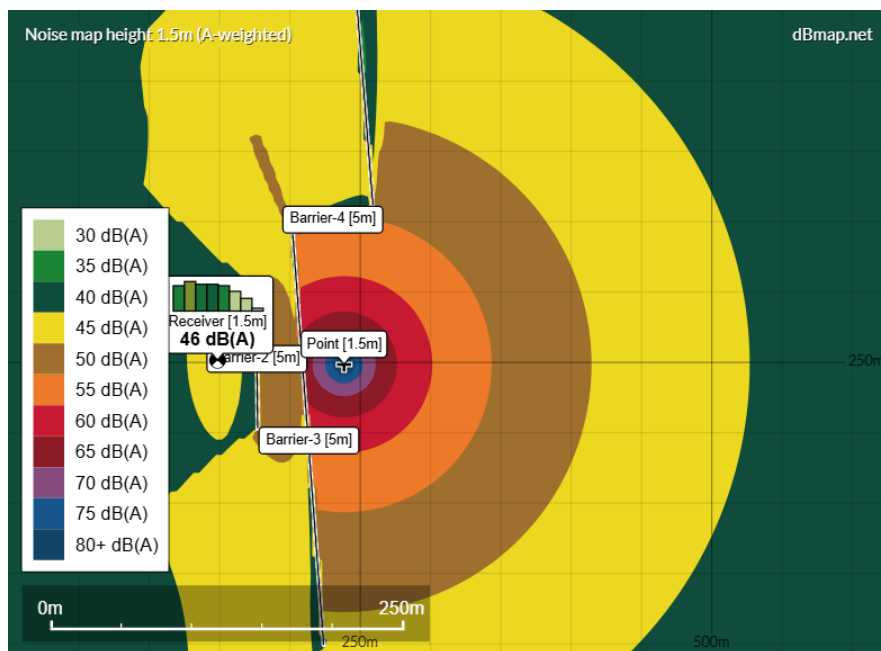


Fig 8

The combined noise from the Plant and the Haul road is: $38\text{dB(A)} + 46\text{dB(A)} = \mathbf{47\text{dB(A)}}$

d) Noise from the **Excavation**

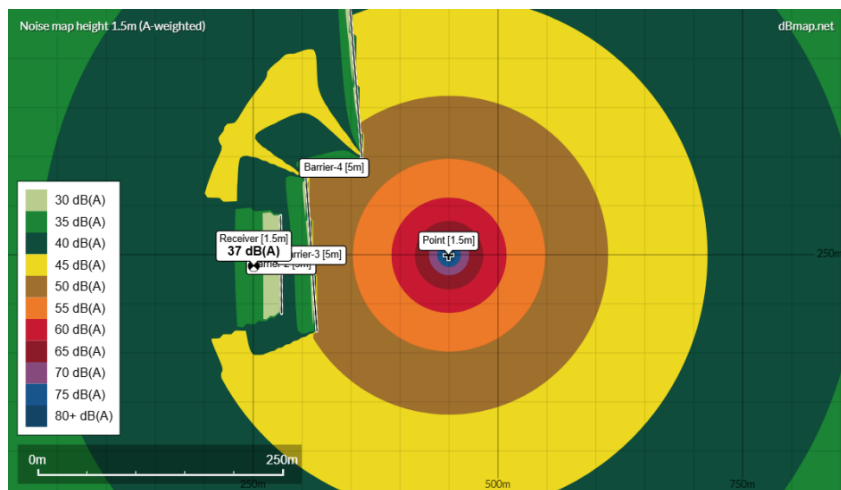


Fig 9

Simulation of **phase G**, 200m to the East will produces **37dB(A)**

The estimated combined Plant, Haul road, and Excavation (phase G) is:

$$38\text{dB(A)} + 46\text{dB(A)} + 37\text{dB(A)} = \mathbf{47\text{dB(A)}}$$

Comments on the noise levels on Lawrence Close:

- The bunds and fence built by the developer will provide very little noise protection
- We cannot verify the baseline or ambient, but it could be as low as 33 dB therefore in this case the combined noise sources could add **14dB(A)** or **4dB(A)** above the guidance value.
- This combined noise level becomes **MAJOR** over the lifetime of the quarry

10. Ellenbrook Fields ECP

Ellenbrook Country Park will be impacted by noise from the quarry as access routes run beside the Mineral workings, Haul road, and Plant site.

Fig 10 shows a simulation of the three sources of noise on the park.

Expected noise on walking routes:

Plant Site	Excavation	Haul road
55dB(A) max	52dB(A) max	63dB(A) max
49dB(A) min	49dB(A) min	59dB(A) min
northern walking route	southern walking route	Point

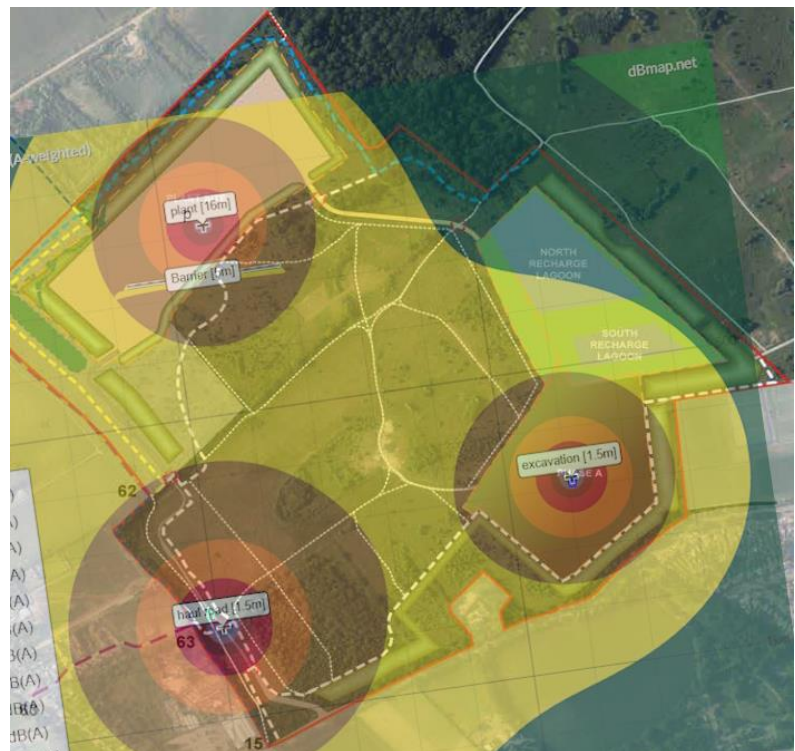


Fig 10

Figure 10a shows the simulation sources on the Park.

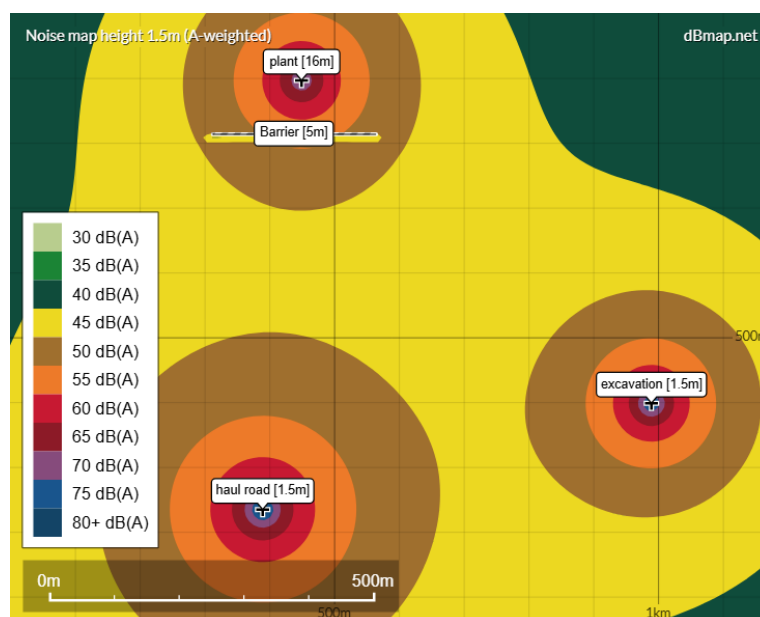


Fig 10a

Comments on the simulated maps

- The whole park is subject to **49dB(A)** of noise (yellow).
- Park users will be impacted by excessive noise on the proposed routes (dotted) as detailed on the Public Access Strategy June 2023, when they pass any of the three sources. Half of the walkways will be over the 55dB(A) threshold and assuming a base level of 33dB(A) all will be over the 10dB(A) mineral guidance for noise.
- An extra bund on the southern border of the Plant site, would make no difference to the Park itself but would reduce pathway noise to 45dB(A), providing the path was within 25m of the bund.
- We cannot verify the baseline or ambient, but it could be as low as 33 dB therefore in this case the combined noise sources will add **16dB(A)** or **6dB(A)** above the guidance value.

11. Bund Construction:

Brett Aggregate's Development Description 3:

3.64 'Built in' mitigation includes the use of peripheral screen mounds at the edge of the working areas.

As noted above, these would be 3m in height (for soils storage, in line with best practice) and 4m in height for the overburden storage mounds. In addition, a 3m high acoustic fence would be installed on the western side of the access road to protect properties to the west of the application site.

3.65 In addition to the noise mitigation measures incorporated into the site design, good site management practices and other specific measures would also provide additional noise mitigation. These measures (as set out in Chapter 10) would include: ref: 2108_Hatfield_ES_chp10_Noise_FINAL.pdf

10.45 A bund with an acoustic fence on top (having a combined height of 5m) has been included in the assessment, to run along the entire western boundary of the site, to protect the amenity at the nearby residential receptors. *ref: Noise 10*

Comment on the Bund Construction:

There are no figures for the attenuation for the bunds and fence

12. Decibel readings guide

LA90,T: The "A weighted" noise level exceeded for 90 per cent of the specified measurement period (T).

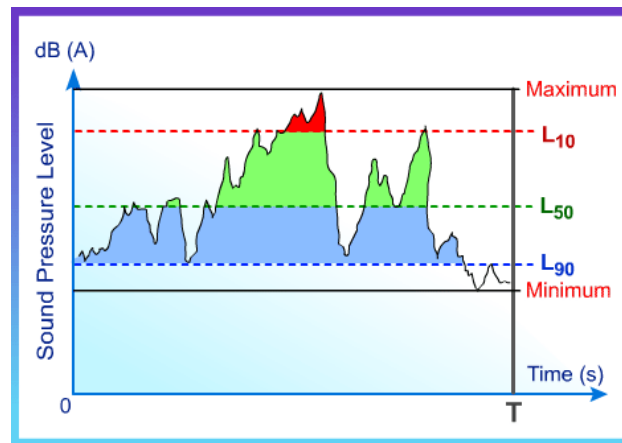
LA10: 10% of the time exceeded – average maximum level

LA90: 90% of the time exceeded – average minimum level

LAeq,T: The "A weighted" equivalent continuous sound level – the sound level of a notionally steady sound having the same energy as the actual fluctuating sound over the same time period (T).

In table 10-4 (SLR) the column LAeq,T is the sound measured in decibels, weighted by A the ear response - not a flat frequency response. The "eq" is the equivalent sound level having ironed out all the peaks. T is the sample time.

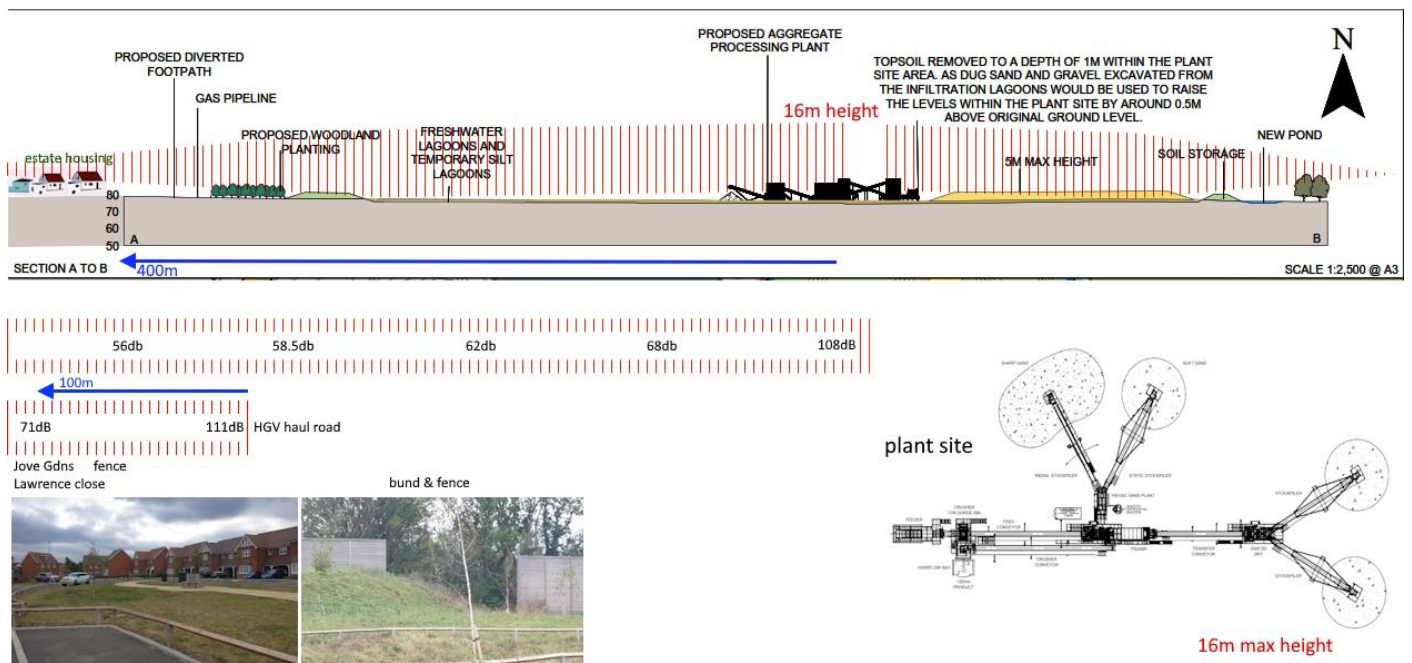
Lmax: The highest noise level recorded during a noise event or measuring period. The time weighting should be stated.



Please note that $L_{10} > L_{50} > L_{90}$ for the same sound or noise.

example: $LA_{90,T}$: The “A weighted” noise level exceeded for 90 per cent of the specified measurement period (T).

13.Theoretical noise with distance



Comment on the theoretical noise with distance

- The graphics above illustrate how the noise will travel over the bunds and impact the residential areas of Jove Gardens and Lawrence Close

14.Extra Pictures and Maps



Fig 11



Fig 12 No 616 Hatfield Road A1057



Fig 13 No 405 The Lodge St Albans Road west A1057

15.Conclusion

- The appellant’s selection of receptor sites is not sufficient to present a representative measure of background noise and in consequence the impact of the increase in noise due to the proposed development is underestimated.
- The readings from Noise Assessment 10 do not represent the Properties to the south of the application site, they only represent noise on the busy A1057.
- Noise 10 Appendix 02 2021 Table 02-1/2/3/ all show excessive readings for LAeq, LA90, LA10, LAFMAX for Popefield Farm, The Lodge, and 616 Hatfield Rd.
- Popefield Farm readings should have been taken in the courtyard and gardens not outside on the main road A1057.
- There are no noise readings for Lawrence Close, despite it being the closest residential area to the quarry operation and subject to noise for the entire duration of the quarry. This is a serious omission.
- The bunds around Lawrence Close and Jove Gardens will not protect them from all the noise.
- The derived noise figures from Noise 10, Table 10-5 appear to have been transferred to the SoCG incorrectly.
- The noise levels across the whole park are likely to be in the “noisy” category and in the “very noisy” along some of the proposed walkways. The noise levels on the Park will exceed the +10dB(A) mineral guidance for noise.
- Our overall conclusion is that the noise levels are such that the Country Park will not be fit for purpose and therefore you cannot integrate a Quarry and a Park together.

Reference Documents

2108_Hatfield_ES_chp10_Noise_FINAL.pdf

Reg25_Appendix05_Hatfield_PopeFieldFarm_NoiseAssessment_Final Issued.pdf

Noise SoCG_Draft FINAL FOR _SUBMISSION June 2024_BRE2319_4_504012154.pdf