A66 Northern Trans-Pennine project

TR010062

7.16 Brough Hill Fair Technical Note

Infrastructure Planning (Examination Procedure) Rules 2010

Deadline 3

Planning Act 2008

24 January 2023

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Examination Procedure) Rules 2010

A66 Northern Trans-Pennine project Development Consent Order 202x

7.16 BROUGH HILL FAIR TECHNICAL NOTE

Deadline:	Deadline 3
Planning Inspectorate Scheme Reference	TR010062
Application Document Reference	NH/EX/7.16
Author:	A66 Northern Trans-Pennine project, Project Team, National Highways

Version	Date	Status of Version
Rev 1	24 January 2023	Deadline 3

Table of Contents

1 Introduction and Purpose of Document

1.1.1 This document has been prepared to support the Examination process for the A66 Northern Trans-Pennine Project ("the Project"). It forms part of the Applicants', National Highways, submission to the Examining Authority (the "ExA") for Deadline 3 (24 January 2023).

1.1.2 This document provides further information in regard to Agenda Item 5.0 discussed at Issue Specific Hearing 2 ("ISH2"), held on 1 December 2022:

> *"The ExA wishes to better understand the following:*
>
> *• The issues around the selection of the replacement Brough Hill Fair site. This will include confirmation from the Applicant as to which site is proposed to be the replacement site and the specific site concerns of both alternatives from the gypsies and travellers' representative."*

1.1.3 ISH2 was attended by the ExA, the Applicant and a number of Interested Parties and Affected Persons, including Mr Billy Welch, the representative of the Gypsy and Traveller Community.

1.1.4 In Deadline 1 Submission – 7.3 Issue Specific Hearing 2 (ISH2) Post Hearing Submissions [REP1-009], as outlined under Agenda Item 5.0, the Applicant noted:

> *"Having regard to comments made by Mr Welch in his relevant representation, and as a part of on-going engagement, the Applicant shared verbally with Mr Welch the main outcomes of a more granular level of detail on the noise levels at the Bivvy site. This was not required to be reported in the ES…but was provided to aid Mr Welch's understanding of the Applicant's proposals for the Bivvy site. This work demonstrated that the Bivvy site showed an improvement in terms of noise impacts for the bunded section of the site when comparing to the existing site. The technical note will be updated at Deadline 3 to reflect the on-going work by the Applicant in respect of potential noise and horse barriers at this location."*

1.1.5 This document therefore provides the updated technical note version P02 referred to above, replacing that submitted as Appendix 7 to REP1-009, to support the ExA in their Examination of the Development Consent Order application for the Project.

1.1.6 This further assessment work is reported below to address the points raised by Mr Welch regarding the safety and security of the proposed Brough Hill Fair

replacement site and its proximity to the proposed A66 dual carriageway. In response to concerns regarding the potential for horses to escape the site and access the A66 dual carriageway, the technical note has been updated to present a proposed boundary fence arrangement, replacing the bunding proposed in December 2022, to safely contain horses and which also provides noise benefits to site users.

1.1.7 The Project team have determined that this boundary fence to contain horses can be constructed alongside the proposed A66 dual carriageway next to the Brough Hill Fair replacement site to mitigate the safety concerns raised at ISH2. However, it is important to note that the final form, including height, of this fencing arrangement will be determined during detailed design. As such, the updated technical note version P02 presents results of noise modelling for an indicative range of boundary fence heights.

1.1.8 The current Deadline 3 proposals reported below provide safety and security benefits for site and road users. If a boundary fence arrangement is implemented, the indicative modelling also demonstrates a betterment on the Deadline 1 proposals with regards traffic noise attenuation for the Brough Hill Fair replacement site. In addition, depending on the type of fencing implemented, there is the potential for the proposed Brough Hill Fair replacement site to experience lower noise levels than the Gypsy and Traveller community currently experience at the existing Brough Hill Fair site located alongside the A66.

1.1.9 The Applicant can report that the fencing proposals have been discussed with the Gypsy and Traveller Community during engagement since ISH2 in December 2022. The most recent meeting was held on 19 January 2023, as recorded in the updated Statement of Common Ground with the Gypsy and Travellers Representative [Document Reference 4.5, Rev 2], also submitted at Deadline 3.

2. TECHNICAL NOTE

	Name	Date
Created	C.Bustos	21/12/22
Checked	C.Bustos	21/12/22
Reviewed	A.Warwick	22/12/22
Approved	---	---
Authorised	---	---

2.1 Introduction

National Highways (the Applicant) is promoting the A66 Northern Trans-Pennine Project (the Project). This would dual the remaining single carriageway sections on the route between M6 junction 40 at Penrith and A1(M) at Scotch Corner. These plans for widening the A66 extend through part of a field used for the Brough Hill Fair, which is culturally important to the Gypsy and Traveller community. The Fair started in the 1300s and has been held almost every year since, for four days at the end of September.

It is proposed that, as part of the Project, Brough Hill Fair is relocated onto a site owned by the Ministry of Defence (MoD), adjacent to the current site. The proposed relocation site is currently used by the MoD as a 'Bivvy' or camping site and training area (thus known as the 'Bivvy site'). The access to the site is from Station Road.

This further assessment work is to address the points raised by Mr Welch regarding the safety and security of the proposed Brough Hill Fair replacement site and its proximity to the proposed A66 dual carriageway. In response to concerns regarding the potential for horses to escape the site and access the A66 dual carriageway, this technical note has been updated to present a proposed boundary fence arrangement suitable for containing horses, replacing the bunding proposed in December 2022. The fencing proposals have been discussed with the Gypsy and Traveller Community during engagement since ISH2 (in January 2023).

Version P01 dated 29 November 2022 of this technical note, submitted for Deadline 1 on 18 December 2022, presented the results of noise modelling with 3m earth bunds on the northern perimeter of the proposed Bivvy site. In response to the discussion that took place in relation to horse security and safety at ISH2, including submissions by the representative of the Gypsy and Travellers community, this version P02 of the report presents the results of noise modelling with the implementation of a boundary fence suitable for containing horses. These fences will also provide some traffic noise attenuation, rather than earth bunds to the northern perimeter of the proposed site (as previously proposed) which would not have been effective barriers to horses.

This note presents the predicted noise levels at the proposed Bivvy site (with Scheme 6 in place) compared with the noise levels at the existing Brough Hill Fair site without Scheme 6 in place. The noise levels have been calculated based on the noise model developed for the Project's

2022 Environmental Statement (ES) [Document Reference 3.2, APP-055]. The noise levels are calculated based on predicted traffic growth up to the proposed opening year of the Scheme in 2028.

It is noted that the Brough Hill Fair site (both the existing and proposed relocated sites) was not identified expressly as a noise sensitive receptor in the Project's 2022 ES based upon the temporary nature of its use and hence no adverse likely significant effects were identified. As such, there was no requirement for the Applicant to expressly report the predicted noise levels at the existing or proposed relocated Brough Hill Fair sites to ensure the likely significant effects of the Project were fully reported in the ES. This technical note is therefore prepared to aid the understanding only of the noise levels that are likely to be experienced at the proposed Bivvy site as a result of the Project, taking into consideration comments received during relevant representations and on-going engagement with the relevant stakeholders.

2.2 Proposed site

The proposed Bivvy site and existing Brough Hill site are presented in Figure 1 below.

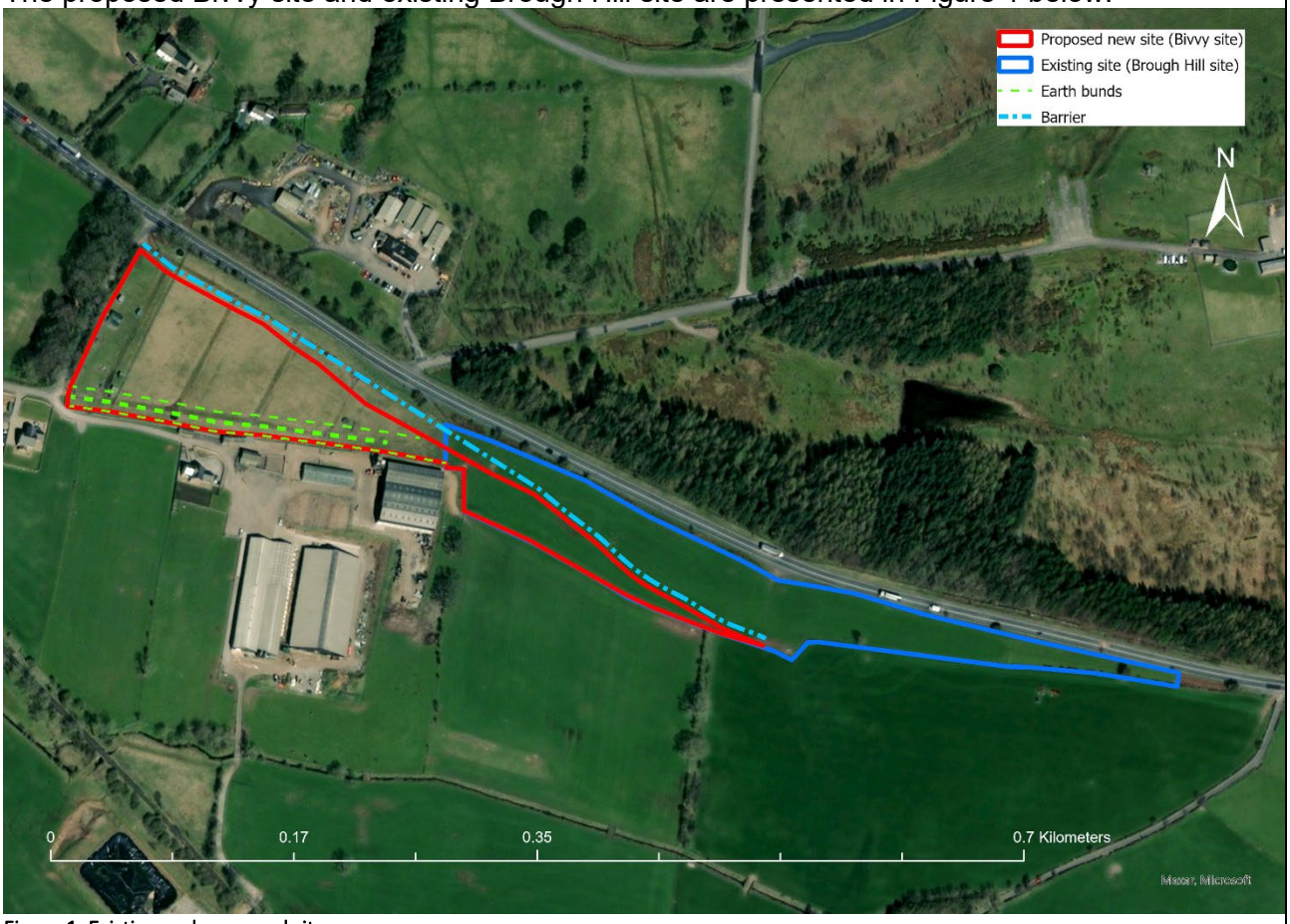


Figure 1: Existing and proposed sites

The proposed Bivvy site is located to the west of the existing site alongside the existing A66, with part of the existing Brough Hill site retained. The topography of the proposed Bivvy site is similar to that of the existing Brough Hill site and its noise climate is dominated by the existing A66. The

proposed site would have a boundary fence, suitable for containing horses along the northern edge (closest to the A66) which will provide some level of noise screening to the majority of the site. This would be a close boarded fence or similar. Three metre high earth bunds will also be provided along the southern edge of the western portion of the site to provide visual screening between the site and the adjacent farm business. The extent of the barrier and the earth bunds is shown in Figure 1.

2.3 Assessment methodology

The assessment presented in this report compares the predicted noise levels at the existing Brough Hill site against the predicted noise levels at the proposed Bivvy site. The comparison considers the following scenarios:

- Noise levels at the existing Brough Hill site resulting from the existing A66 (Do-Minimum Opening Year – without scheme); and
- Noise levels at the proposed Bivvy site resulting from the proposed 'Appleby to Brough' scheme (Do-Something Opening Year – with scheme).

The noise levels reported are based on the three-dimensional noise model developed for the ES [Document Reference 3.2, APP-055].

The methodologies adopted reflect those described in section 12.4 of Chapter 12 Noise and Vibration in the ES [Document Reference 3.2, APP-055] and derived from the Design Manual for Roads and Bridges (DMRB) LA 111 Noise and Vibration (DMRB LA 111) and the Calculation of Road Traffic Noise (CRTN) 1988 (Department for Transport, 1988).

Regarding absolute operational noise levels, the LOAEL and SOAEL are defined in Government noise policy NPSE (Noise Policy Statement for England) as thresholds for the onset of the following levels of effect:

- Lowest Observed Adverse Effect Levels (LOAEL) to identify the onset of adverse impacts on health and quality of life.
- Significant Observed Adverse Effect Levels (SOAEL) to identify the onset of significant impacts on health and quality of life.

The effect level categories adopted in DMRB LA 111 for the daytime and night-time LOAEL and SOAEL are set out for all noise sensitive receptors in Chapter 12 Noise and Vibration of the ES and are presented below in Table 1.

The daytime LOAEL is based on the onset of moderate community annoyance and the daytime SOAEL is based on the onset of cardiovascular health effects (according to WHO Guidelines for Community Noise and the noise insulation threshold).

The night-time LOAEL is defined using the WHO Night Noise Guidelines for Europe and the night-time SOAEL is equivalent to the levels above which cardiovascular health effects become a major health concern according to the WHO Night Noise Guidelines for Europe.

Time period	LOAEL	SOAEL
Day	55dB $L_{A10,18hr}$ (façade) 50dB $L_{Aeq,16hr}$ (free-field)	68dB $L_{A10,18hr}$ (façade) 63dB $L_{Aeq,16hr}$ (free-field)
Night	40dB $L_{night,outside}$ (free-field)	55dB $L_{night,outside}$ (free-field)
Notes: Façade – sound level that is determined 1 metre in front of a window or door in a façade. Free-field – the sound level which is measured or calculated 3.5m from reflecting surfaces (as per *BS 8233:2014 Guidance on sound insulation and noise reduction for buildings*), without any reflections from nearby surfaces except the ground.		

Table 1: Operational noise LOAELs and SOAELs

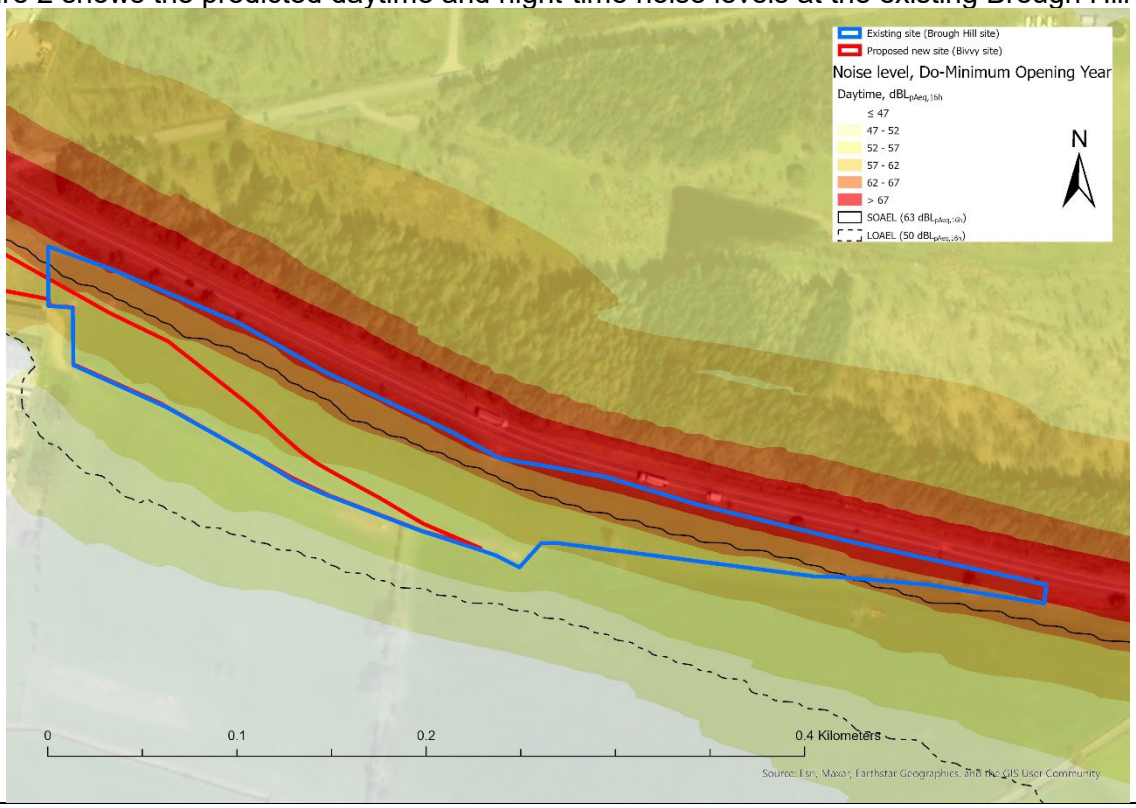
2.4 Assumptions and limitations

The assumptions and limitations presented in section 12.5 of Chapter 12 Noise and Vibration of the ES [Document Reference 3.2, APP-055] are appliable for the outcomes presented in this report.

2.5 Noise assessment

To allow a more detailed understanding of the predicted road traffic noise levels upon the existing Brough Hill and proposed Bivvy site, the noise model has been updated to show results at a height of 1.5m and with a higher resolution than presented in Volume 3.3 of the ES [Document Reference 3.3, APP-112 to APP-118]. The ES was based on traffic noise levels at a height of 4.0m above local ground level to provide a worst-case assessment to typical first floor window level. This is considered a worst-case scenario in terms of exposure to noise from the Project, i.e. greater angle of view and exposure to incident road traffic noise, rather than at ground level where there is likely to be greater screening of incident traffic noise. The existing Brough Hill and proposed Bivvy site would be used for the fair and therefore noise calculations are more representative at 1.5m above ground i.e. it is unlikely there would be receptors 4m above ground in the fair.

Figure 2 shows the predicted daytime and night-time noise levels at the existing Brough Hill site.



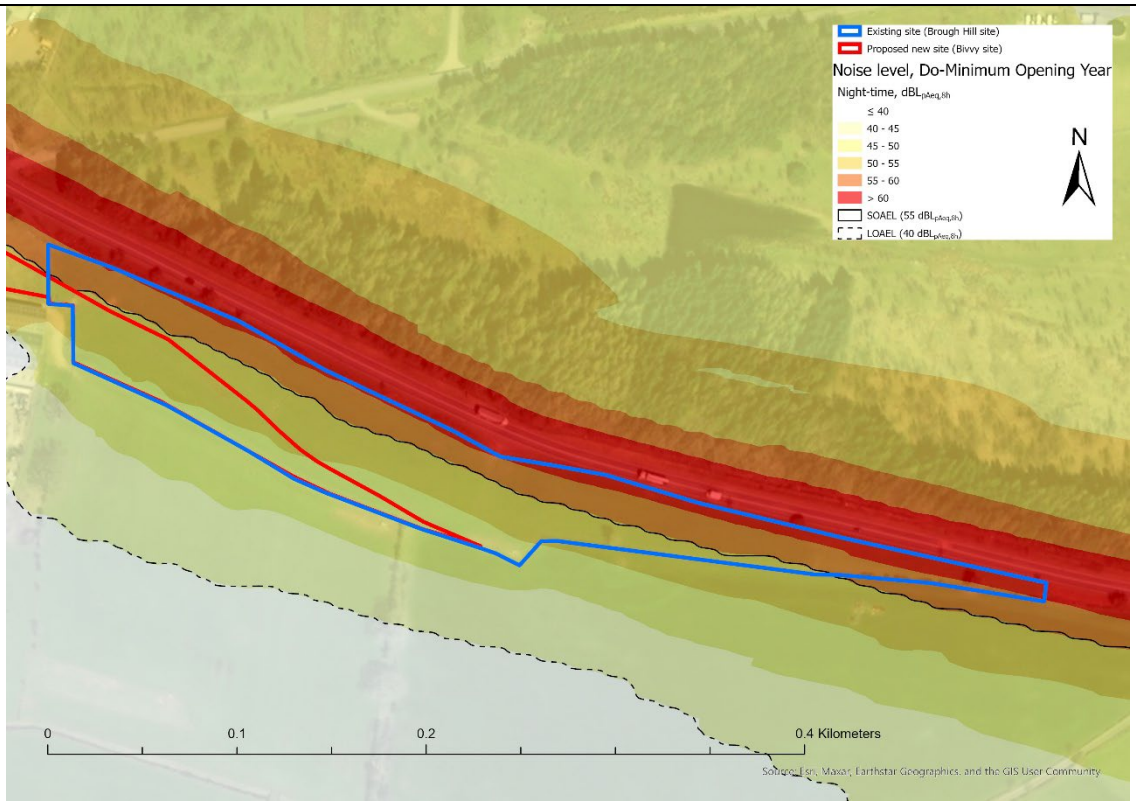


Figure 2: Traffic noise levels at the existing Brough Hill site (blue polygon) for the Do-Minimum Opening Year (DMOY) during the daytime (top) and night-time (bottom)

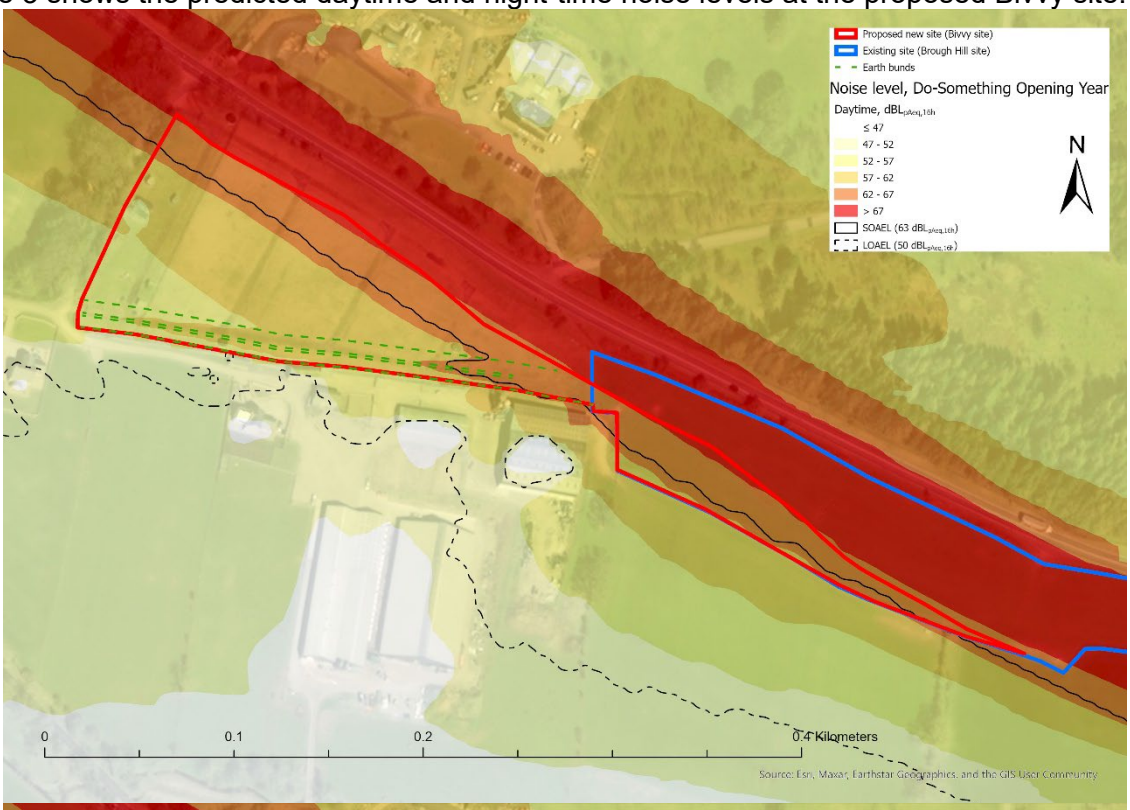
As shown in the figures above, the majority of the existing Brough Hill site is exposed to daytime noise levels between 57 and 67dB$L_{pAeq,16h}$ and night-time noise levels between 50 and 60dB$L_{pAeq,8h}$. These noise levels range between LOAEL and SOAEL and, close to the A66, above SOAEL for the daytime and night-time. Approximately 40% of the Brough Hill site experiences daytime noise levels above SOAEL compared to approximately 45% of the site at night-time. As the ground topography is fairly consistent across the site, noise levels decrease proportionally with distance from the A66.

The proposed horse safety fence along the northern edge of the proposed Bivvy site (closest to the A66) will also provide some acoustic benefit to the proposed site as it will be a solid impermeable fence without gaps or holes i.e. the barrier will not be a post or rail fence and may, subject to detailed design, be softened visually with landscaping planting. As such, predicted daytime and night-time noise levels have been assessed across the proposed Bivvy site with a barrier in place. To reflect the on-going work in respect of potential noise and horse safety barrier (as noted in ISH2 Post Hearing Submission [REP1-009]), the assessment has been updated to include the following range of barrier heights: no barrier, 0.5m, 1m, 2m and 3m.

The following sections show the predicted incident noise levels on the site with each barrier height and a comparison to the incident noise levels across the existing site.

No boundary fence

Figure 3 shows the predicted daytime and night-time noise levels at the proposed Bivvy site.



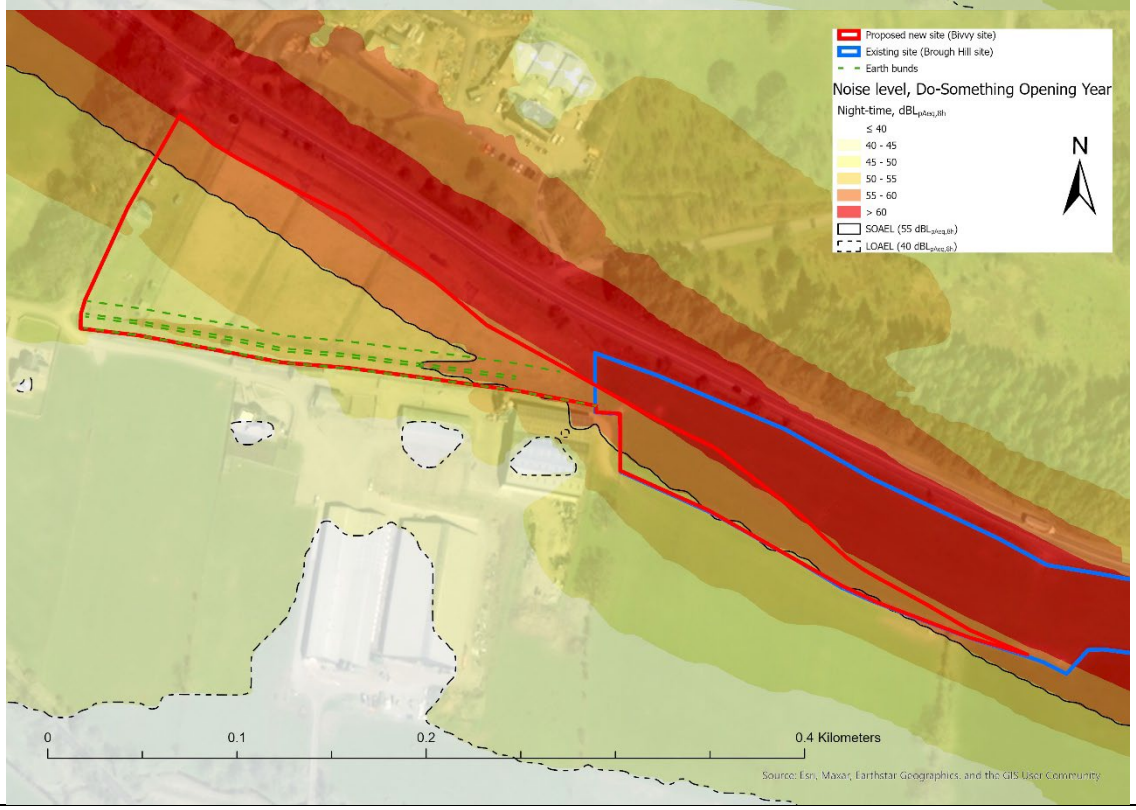


Figure 3: Predicted noise levels at the proposed relocation site (red polygon) for the Do-Something Opening Year (DSOY) during the daytime (top) and night-time (bottom) with no barrier along the northern edge of the proposed site

In contrast to the existing Brough Hill site, Figure 3 shows that with no boundary fence, the majority of the proposed replacement site is exposed to daytime noise levels between 52 and 62dB$L_{pAeq,16h}$ and night-time noise levels between 45 and 55dB$L_{pAeq,8h}$. These noise levels are below the daytime and night-time SOAELs defined in Table 1 for the majority of the site. Approximately 38% of the site experiences noise levels above the SOAEL during the daytime and approximately 48% at night-time. Of course, the areas of the proposed Bivvy site closest to the A66 are exposed to higher levels of noise (above 67dB$L_{pAeq,16h}$ and in the 62-67dB$L_{pAeq,16h}$ contour band) due to the proximity to the road. This is similar to the case for the existing site, though a slightly larger proportion of the total area of the proposed site is exposed to traffic noise in the 62-67dB$L_{pAeq,16h}$ noise bands as explained below.
Figure 4 presents a comparison of the noise levels across both sites as a pie chart and Table 2 presents the results of the noise bands as a percentage of the total site area.

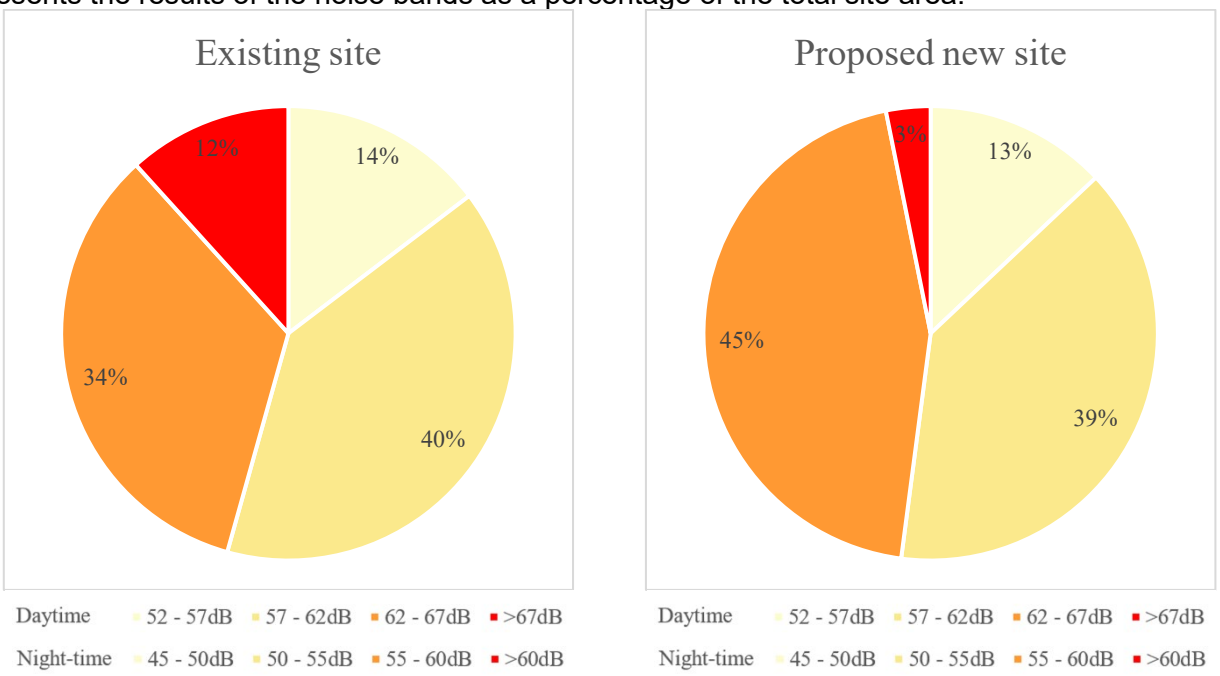


Figure 4: Comparison of the noise levels across the existing and proposed new site (including no barrier) (dB $L_{pAeq,16h}$ for the daytime and dB $L_{pAeq,8h}$ for the night-time), shown as a percentage of the site area

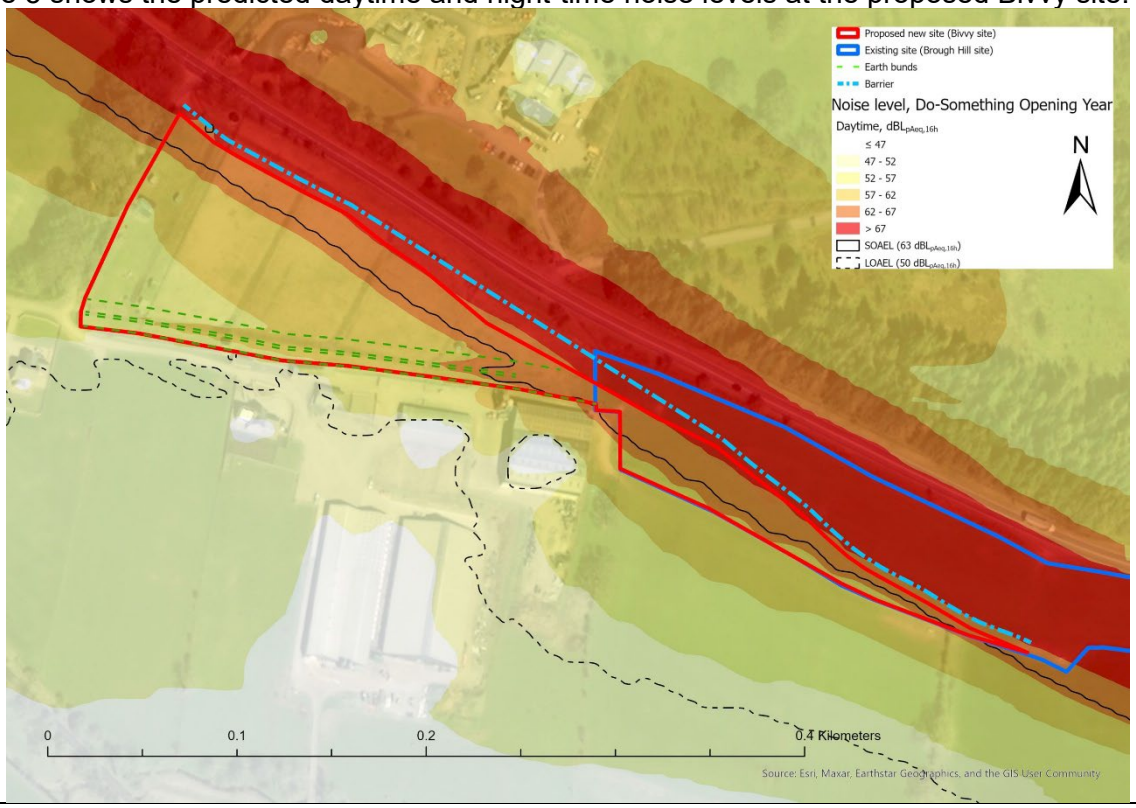
Daytime noise level, dB$L_{pAeq,16h}$	Night-time noise level, dB$L_{pAeq,8h}$	Existing site		Proposed site		Approximate change
		Area (m^2)	Area (%)	Area (m^2)	Area (%)	
47 – 52	40 – 45	--	--	45	<1%	Similar
52 – 57	45 – 50	3,195	14%	2,880	13%	Similar
57 – 62	50 – 55	8,655	40%	8,655	39%	Similar
62 – 67	55 – 60	7,405	34%	9,905	45%	10% increase
>67	>60	2,555	12%	710	3%	10% decrease

Total area (m^2)		21,810		22,200		

Table 2: Areas of the existing and proposed new site (with no barrier) within each noise band shown in Figure 3 and Figure 4

0.5m high barrier

Figure 5 shows the predicted daytime and night-time noise levels at the proposed Bivvy site.



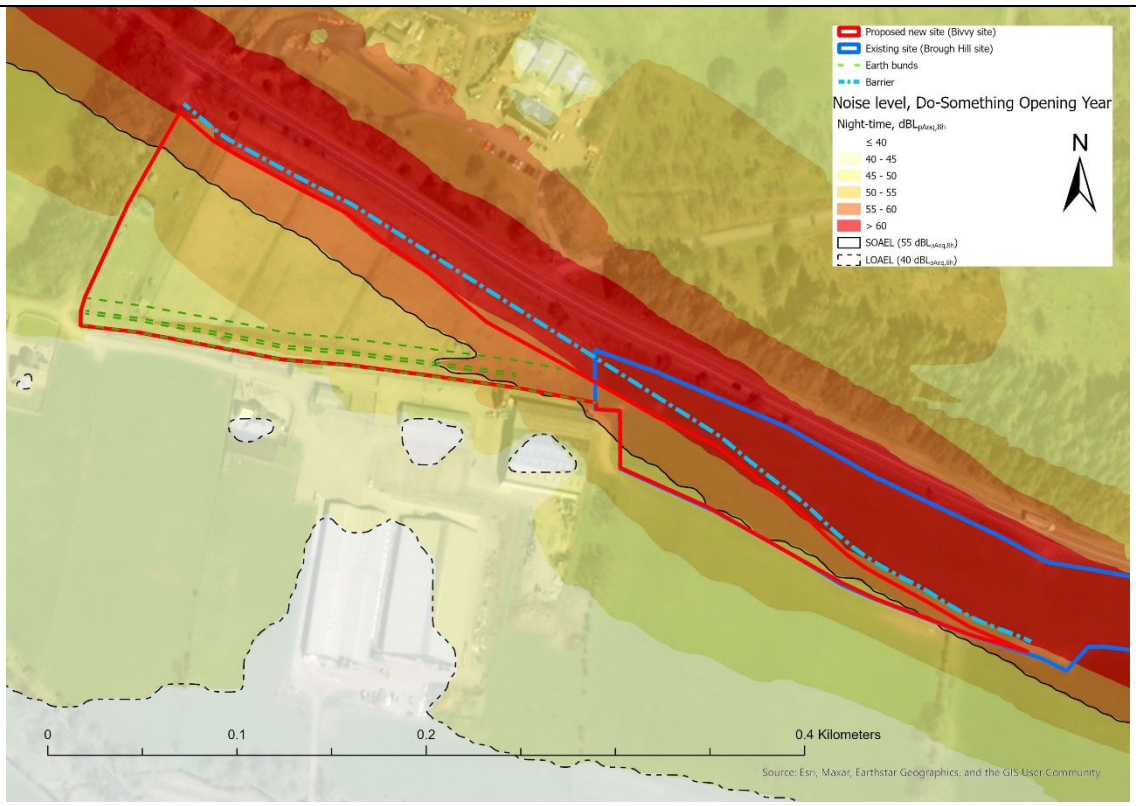


Figure 5: Predicted noise levels at the proposed relocation site (red polygon) for the Do-Something Opening Year (DSOY) during the daytime (top) and night-time (bottom) with a 0.5m high barrier along the northern edge of the proposed site

In contrast to the existing Brough Hill site, Figure 5 shows that with a 0.5m high boundary fence, the majority of the proposed site is exposed to daytime noise levels between 52 and 62dB$L_{pAeq,16h}$ and night-time noise levels between 45 and 55dB$L_{pAeq,8h}$. These noise levels for the majority of the site are below the daytime and night-time SOAELs defined in Table 1. Approximately 32% of the site experiences noise levels above the SOAEL during the daytime and approximately 43% at night-time. Of course, the areas of the proposed Bivvy site closest to the A66 are exposed to higher levels of noise (above 67dB$L_{pAeq,16h}$ and in the 62-67dB$L_{pAeq,16h}$ contour band) due to the proximity to the road. This is similar to the case for the existing site, although a slightly larger proportion of the total area of the proposed site is exposed to traffic noise in the 62-67dB$L_{pAeq,16h}$ bands as explained below.

Figure 6 presents a comparison of the noise levels across both sites as a pie chart and Table 3 presents the results of the noise bands as a percentage of the total site area.

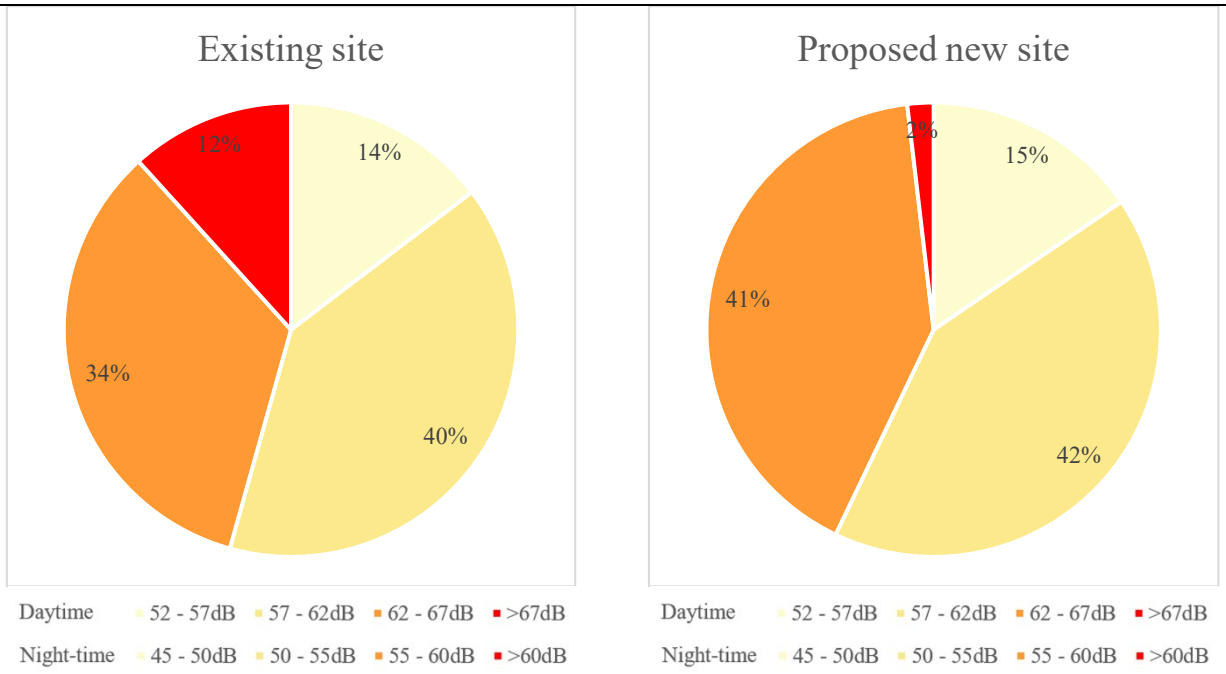


Figure 6: Comparison of the noise levels across the existing and proposed new site (including 0.5m high barrier) site (dB $L_{pAeq,16h}$ for the daytime and dB $L_{pAeq,8h}$ for the night-time), shown as a percentage of the site area

Daytime noise level, $dBL_{pAeq,16h}$	Night-time noise level, $dBL_{pAeq,8h}$	Existing site		Proposed site		Approximate change
		Area (m^2)	Area (%)	Area (m^2)	Area (%)	
47 – 52	40 – 45	--	--	50	<1%	Similar
52 – 57	45 – 50	3,195	14%	3,430	15%	Similar
57 – 62	50 – 55	8,655	40%	9,215	42%	Similar
62 – 67	55 – 60	7,405	34%	9,085	41%	10% increase
>67	>60	2,555	12%	420	2%	10% decrease
Total area (m^2)		21,810		22,200		

Table 3: Areas of the existing and proposed new site (with 0.5m high barrier) within each noise band shown in Figure 3 and Figure 5

1m high boundary fence

Figure 7 shows the predicted daytime and night-time noise levels at the proposed Bivvy site.

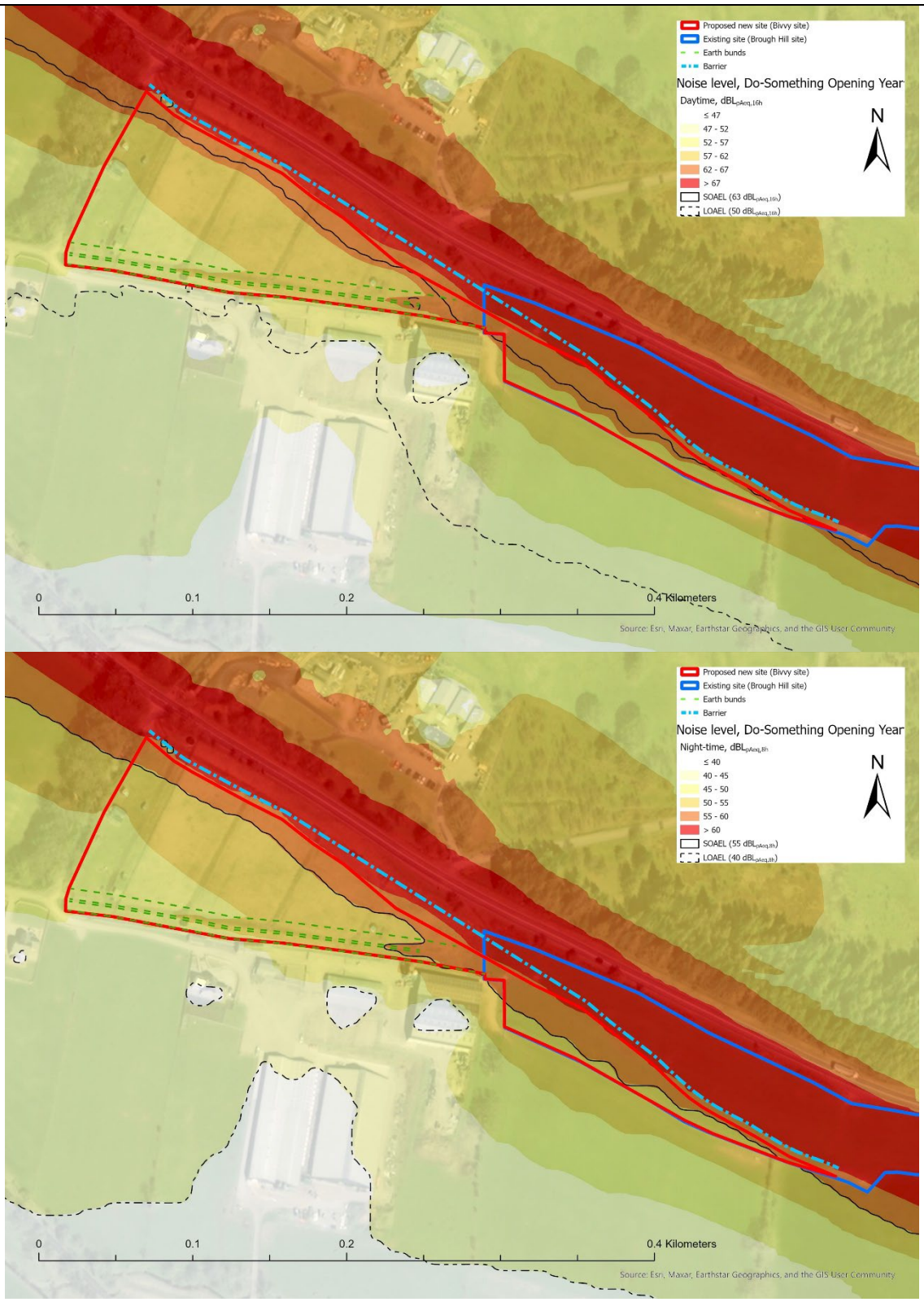


Figure 7: Predicted noise levels at the proposed relocation site (red polygon) for the Do-Something Opening Year (DSOY) during the daytime (top) and night-time (bottom) with a 1m high barrier along the northern edge of the proposed site

In contrast to the existing Brough Hill site, Figure 7 shows that with a 1m high boundary fence, the majority of the proposed site is exposed to daytime noise levels between 52 and 62dB$L_{pAeq,16h}$ and night-time noise levels between 45 and 55dB$L_{pAeq,8h}$. These noise levels are below the daytime and night-time SOAELs defined in Table 1 for the majority of the site. Approximately 20% of the site experiences noise levels above the SOAEL during the daytime and approximately 30% at night-time. Of course, the areas of the proposed Bivvy site closest to the A66 are exposed to higher levels of noise (62-67dB$L_{pAeq,16h}$) due to the proximity to the road. In noise terms, this is an improvement in comparison to the existing site, as explained below.
Figure 8 presents a comparison of the noise levels across both sites as a pie chart and Table 4 presents the results of the noise bands as a percentage of the total site area.

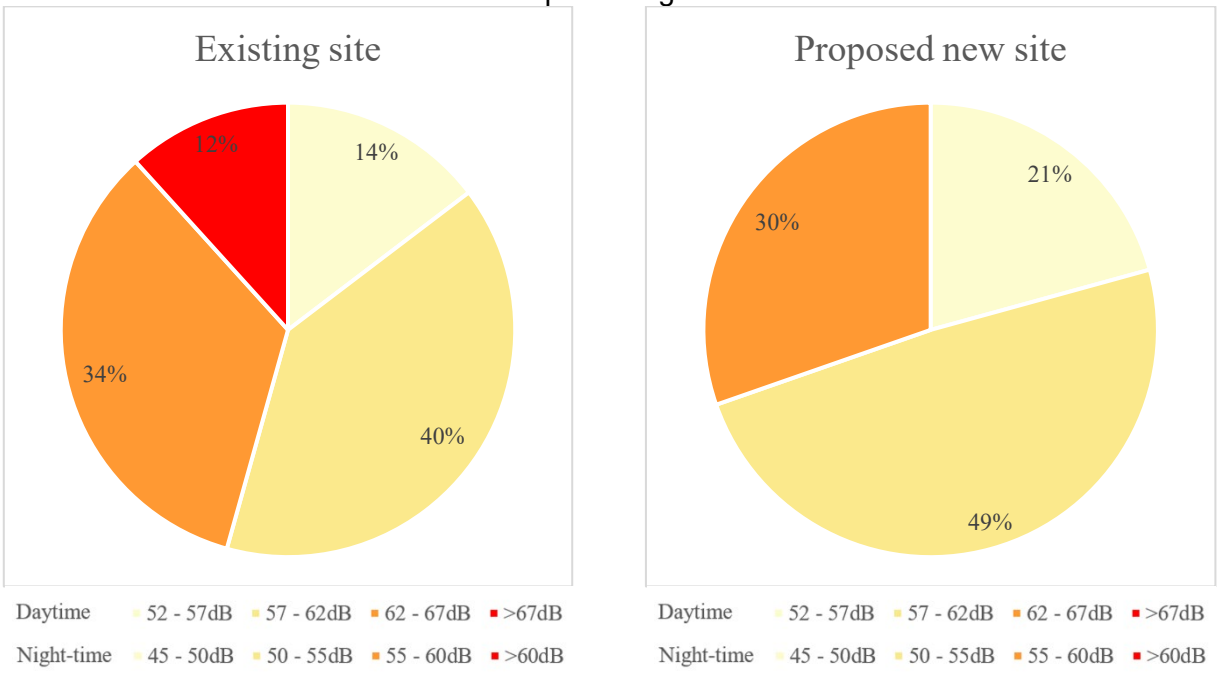


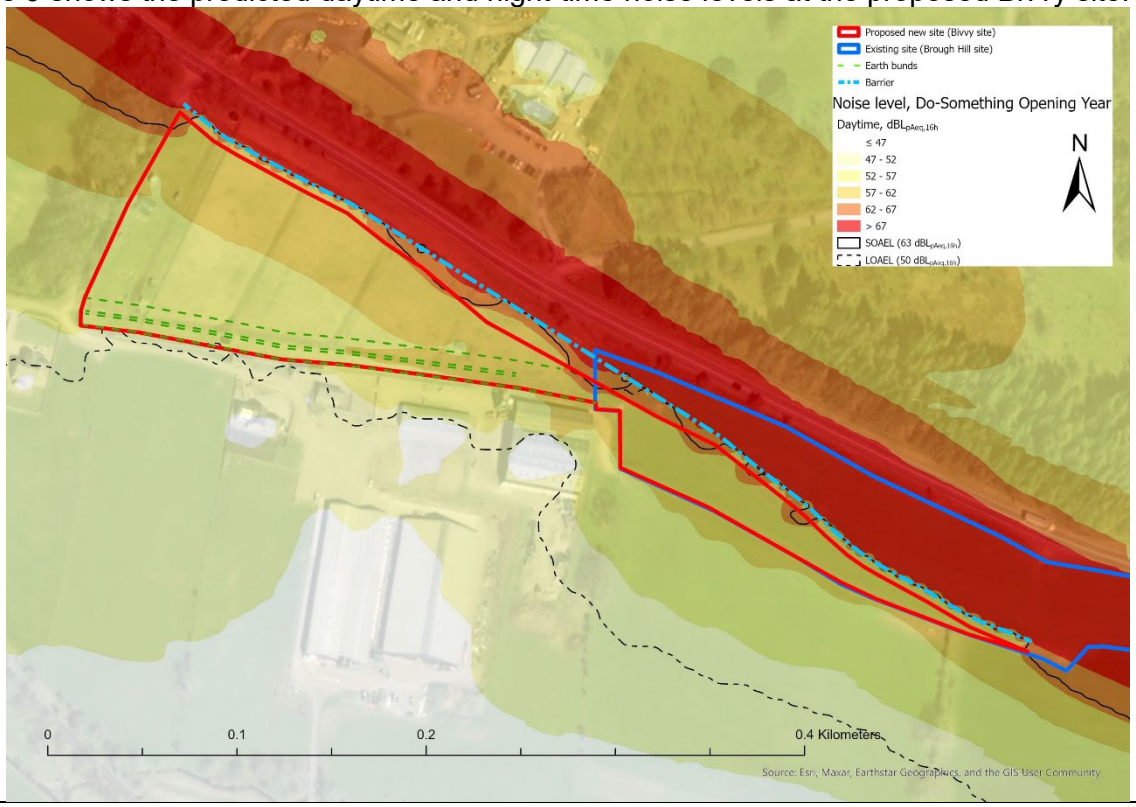
Figure 8: Comparison of the noise levels across the existing and proposed new site (including 1m high barrier) site (dB $L_{pAeq,16}$ for the daytime and dB $L_{pAeq,8h}$ for the night-time $_h$), shown as a percentage of the site area

Daytime noise level, dB$L_{pAeq,16h}$	Night-time noise level, dB$L_{pAeq,8h}$	Existing site		Proposed site		Approximate change
		Area (m^2)	Area (%)	Area (m^2)	Area (%)	
47 – 52	40 – 45	--	--	50	<1%	Similar
52 – 57	45 – 50	3,195	14%	4,580	21%	5% increase
57 – 62	50 – 55	8,655	40%	10,800	49%	10% increase
62 – 67	55 – 60	7,405	34%	6,695	30%	5% decrease
>67	>60	2,555	12%	75	<1%	10% decrease
Total area (m^2)		21,810		22,200		

Table 4: Areas of the existing and proposed new site (with 1m high barrier) within each noise band shown in Figure 3 and Figure 7

2m high boundary fence

Figure 9 shows the predicted daytime and night-time noise levels at the proposed Bivvy site.



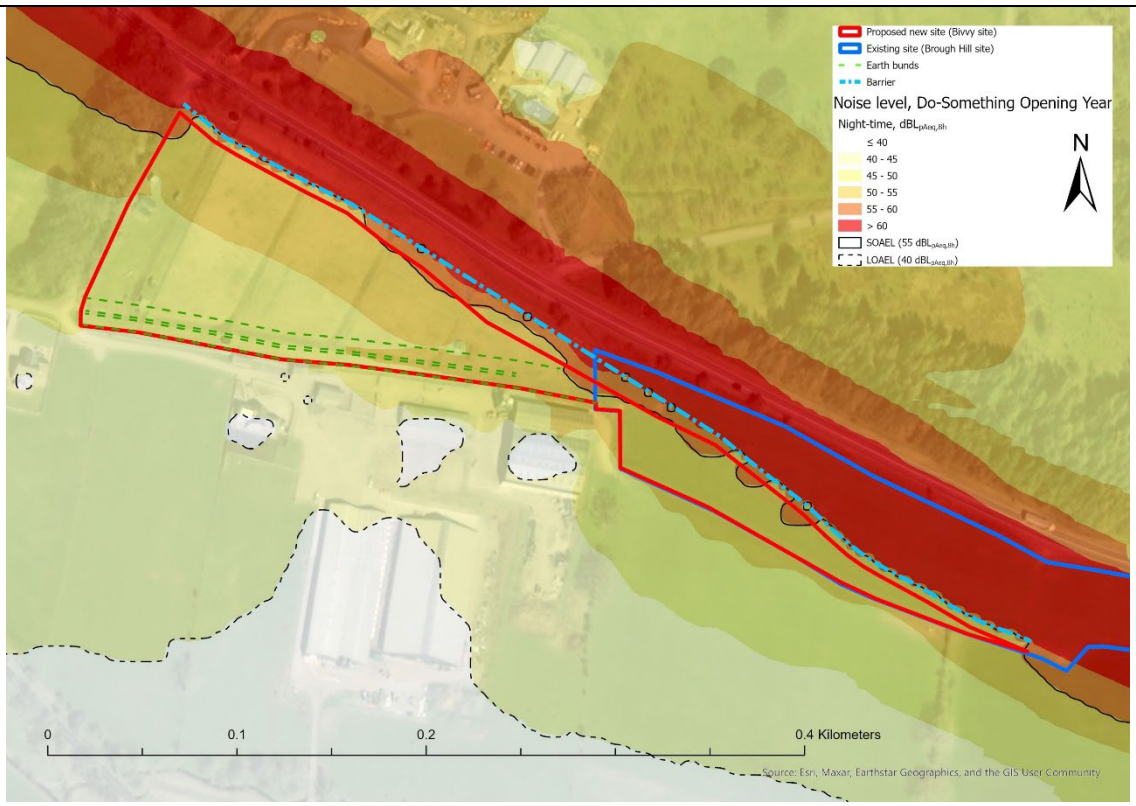


Figure 9: Predicted noise levels at the proposed relocation site (red polygon) for the Do-Something Opening Year (DSOY) during the daytime (top) and night-time (bottom) with a 2m high barrier along the northern edge of the proposed site

In contrast to the existing Brough Hill site, Figure 9 shows that with a 2m high boundary fence, the majority of the proposed site is exposed to daytime noise levels between 52 and 62dB$L_{pAeq,16h}$ and night-time noise levels between 45 and 55dB$L_{pAeq,8h}$. These noise levels are below the daytime and night-time SOAELs defined in Table 1 for the majority of the site. Approximately 1% of the site experiences noise levels above the SOAEL during the daytime and approximately 3% at night-time. Of course, the areas of the proposed Bivvy site closest to the A66 are exposed to higher levels of noise (62-67dB$L_{pAeq,16h}$) due to the proximity to the road. In noise terms, this is an improvement to the case for the existing site, as explained below.
Figure 10 presents a comparison of the noise levels across both sites as a pie chart and Table 5 presents the results of the noise bands as a percentage of the total site area.

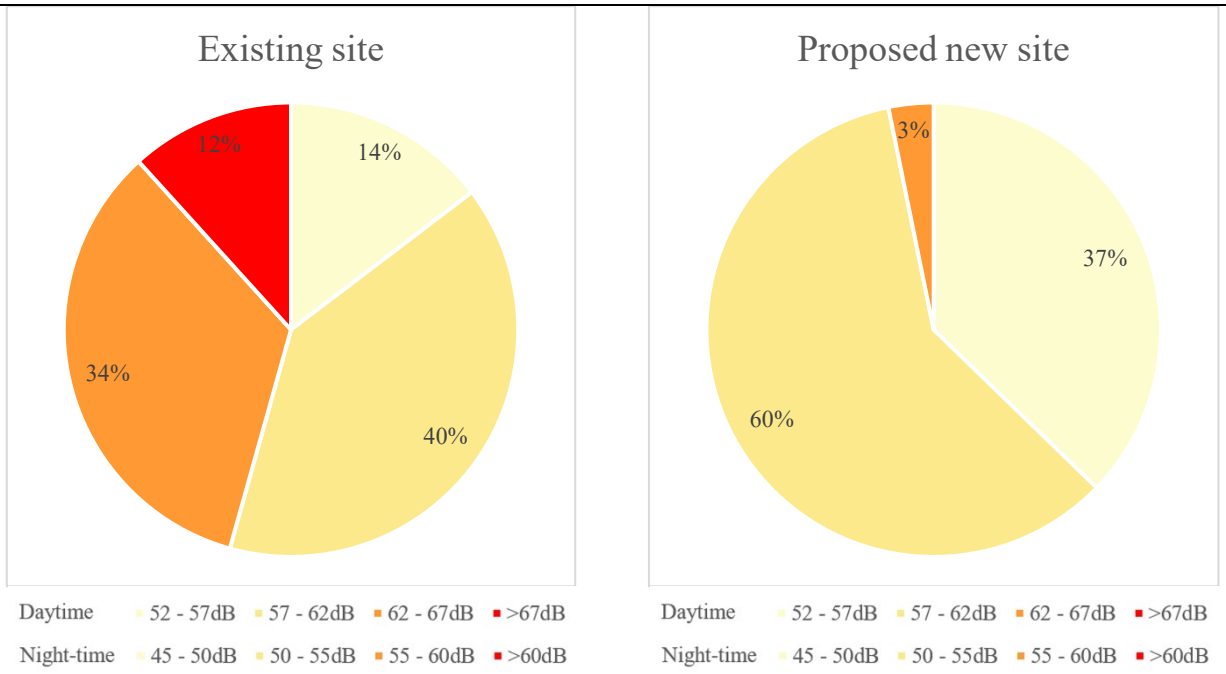


Figure 10: Comparison of the noise levels across the existing and proposed new site (including 2m high barrier) site (dB $L_{pAeq,16h}$ for the daytime and dB $L_{pAeq,8h}$ for the night-time), shown as a percentage of the site area

Daytime noise level, $dBL_{pAeq,16h}$	Night-time noise level, $dBL_{pAeq,8h}$	Existing site		Proposed site		Approximate change
		Area (m^2)	Area (%)	Area (m^2)	Area (%)	
47 – 52	40 – 45	--	--	70	<1%	Similar
52 – 57	45 – 50	3,195	14%	8,245	37%	20% increase
57 – 62	50 – 55	8,655	40%	13,165	60%	20% increase
62 – 67	55 – 60	7,405	34%	720	3%	30% decrease
>67	>60	2,555	12%	--	--	10% decrease
Total area (m^2)		21,810		22,200		

Table 5: Areas of the existing and proposed new site (with 2m high barrier) within each noise band shown in Figure 3 and Figure 9

3m high boundary fence

Figure 11 shows the predicted daytime and night-time noise levels at the proposed Bivvy site.

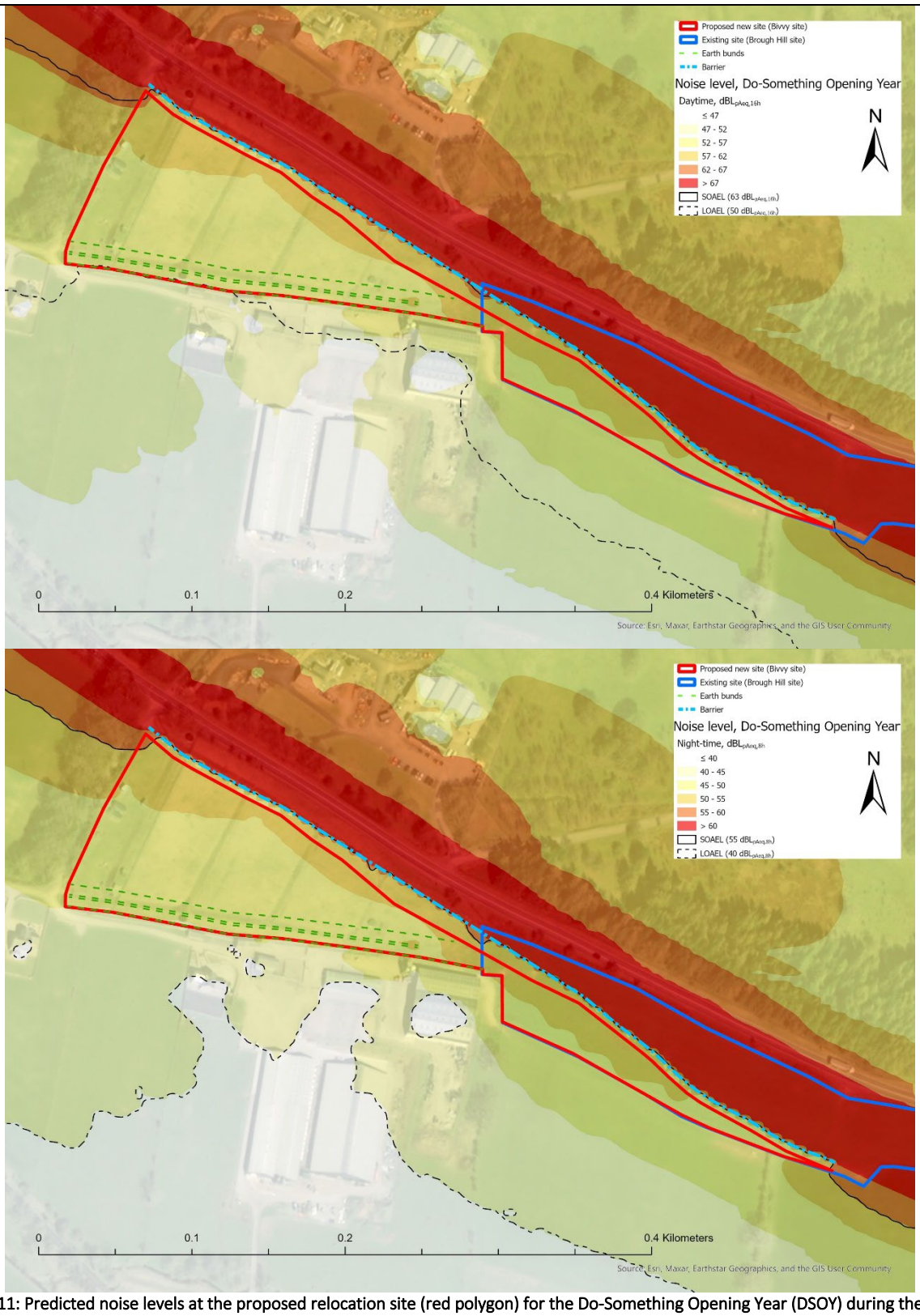


Figure 11: Predicted noise levels at the proposed relocation site (red polygon) for the Do-Something Opening Year (DSOY) during the daytime (top) and night-time (bottom) with a 3m high barrier along the northern edge of the proposed site

In contrast to the existing Brough Hill site, Figure 11 shows that with a 3m high boundary fence, the majority of the proposed site is exposed to daytime noise levels between 52 and 57dB$L_{pAeq,16h}$ and night-time noise levels between 45 and 50dB$L_{pAeq,8h}$. These noise levels for the whole site are well below the daytime and night-time SOAELs defined in Table 1. Of course, the areas of the proposed Bivvy site closest to the A66 are exposed to higher levels of noise (57-62dB$L_{pAeq,16h}$) due to the proximity to the road. In noise terms, this isan improvement to the case for the existing site, as explained below.

Figure 12 presents a comparison of the noise levels across both sites as a pie chart and Table 6 presents the results of the noise bands as a percentage of the total site area.

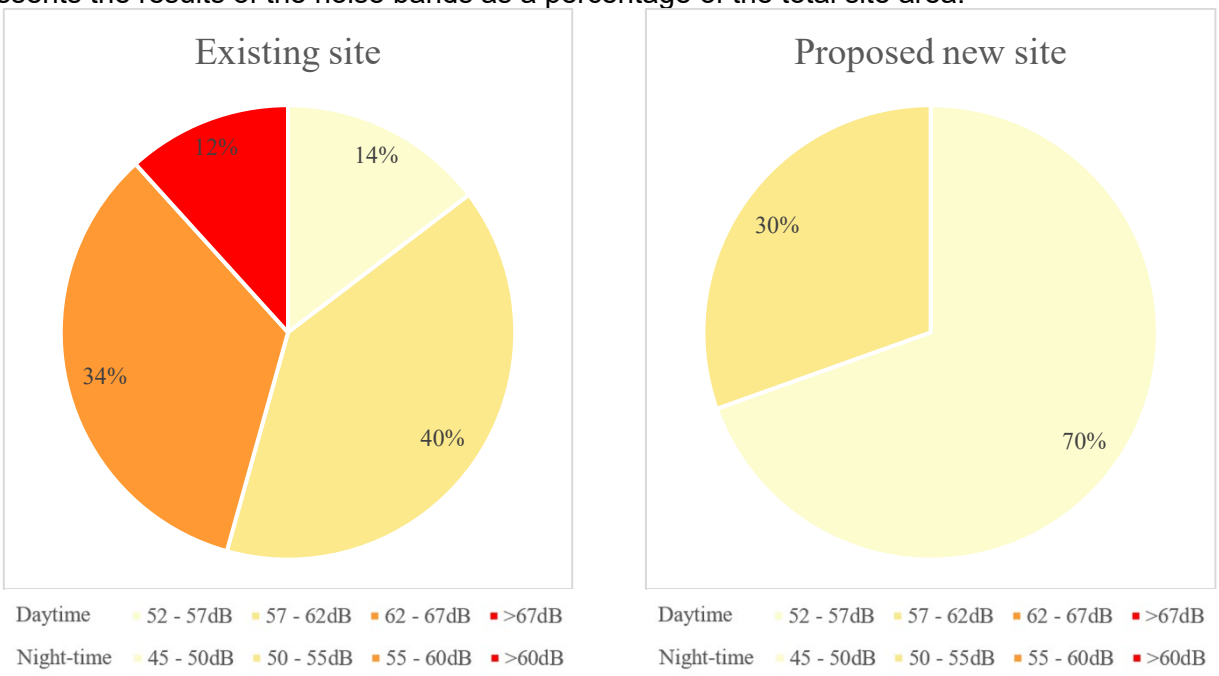


Figure 12: Comparison of the noise levels across the existing and proposed new site (including 3m high barrier) (dB $L_{pAeq,16h}$ for the daytime and dB $L_{pAeq,8h}$ for the night-time), shown as a percentage of the site area

Daytime noise level, dB$L_{pAeq,16h}$	Night-time noise level, dB$L_{pAeq,8h}$	Existing site		Proposed site		Approximate change
		Area (m^2)	Area (%)	Area (m^2)	Area (%)	
47 – 52	40 – 45	--	--	135	<1%	Similar
52 – 57	45 – 50	3,195	14%	15,310	70%	55% increase
57 – 62	50 – 55	8,655	40%	6,705	30%	10% decrease
62 – 67	55 – 60	7,405	34%	55	<1%	35% decrease
>67	>60	2,555	12%	--	--	10% decrease
Total area (m^2)		21,810		22,200		

Table 6: Areas of the existing and proposed new site (with 3m high barrier) within each noise band shown in Figure 3 and Figure 11

2.6 Conclusion

This technical note has been updated to reflect the on-going design work in respect of potential boundary fences suitable for containing horses. Version P01 of this report presented results of noise modelling with the implementation of 3m earth bunds to the north perimeter of the proposed site. Responding to comments from the Gypsy and Traveller community at ISH2, this version P02 of the report presents the results of noise modelling with the implementation of a boundary fence. These fences also provide some traffic noise attenuation, rather than earth bunds to the northern perimeter of the proposed site.

The results of the noise modelling carried out for this assessment indicate that the proposed Bivvy Site is exposed to similar noise levels as the existing Brough Hill site without any fencing in place. If a solid close boarded horse safety barrier is to be implemented, then it is likely that the proposed Bivvy site will experience lower noise levels than the existing Brough Hill site.