WARRINGTON
Borough Council

APPEAL BY PHILIP BROWN ASSOCIATES LIMITED AGAINST THE REFUSAL OF PLANNING PERMISSION FOR

LAND AT SPRING LANE NURSERIES, WARRINGTON, WA3 7AS
LPA REF (2024/00668/FUL)

Planning Inspectorate Reference:

APP/M0655/W/25/3367247

Rule 6 of the Town and Country Planning (Inquiries Procedure) (England) Rules 2000

Proof of Evidence for matters of Steven Smith

On Behalf of Warrington Borough Council

Date: 24th October 2025

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Abbreviations

The following abbreviations are used within this report: -

DEFRA	Department for Environment, Food and Rural Affairs
LPA	Local Planning Authority
LP	Local Plan
NPPF	National Planning Policy Framework
PPS	Planning Policy Statement
SoC	Statement of Case
SoCG	Statement of Common Ground
SoS	Secretary of State
TCPA	The Town and Country Planning Act
WBC	Warrington Borough Council

Acoustic Glossary

Rw	Sound Reduction Index
Rw+Ctr	Sound Reduction Index with Traffic Weighting
LAeq,t	Average 'A' weighted noise level over time period 't'

1.0. Introduction

1.1 My name is Steven Smith and I am the Principal Environmental Health Officer within the Public Protection Department within the Place Directorate of Warrington Borough Council. I have 28 years experience in Local Government, the last 17 being at Warrington specialising in Pollution Control matters including specialising in assessing complex planning applications for a range of impacts on amenity but particularly for complex noise impacts.
I hold a BSc (Hons) in Environmental Science and a Post Graduate Diploma in Acoustics. I was also a contributor to the 'Chartered Institute of Environmental Health Noise Management Guide – Technical Guidance Note 1: Example Planning Conditions', which was published in June 2023.

1.2 My Proof of Evidence concerns the original planning application, recommendation for refusal based on a lack of supporting information in relation to noise and then the subsequent acoustic report submitted as new evidence as part of the planning appeal process. The opinions expressed within this proof are my true and professional opinion based on my years of experience and familiarity and knowledge of the planning process and acoustic practice.

1.3 Reason for refusal. It was originally advised that the application should be refused due to a lack of supporting acoustic information to enable an informed decision to be made of the future living conditions, internally and externally, in relation to excessive noise arising from the development site being located immediately adjacent to the M62 motorway.

1.4 A robust noise assessment was considered to be an essential supporting document for determining the original application. As this was not supplied with the original application then a refusal recommendation was made based on a lack of supporting information in relation to noise and the 'considered' excessive noise climate for residential use at this location. The application could not be determined without such information as it was considered to be a material planning consideration.

1.5 Through the planning appeal process, an acoustic report was subsequently submitted and has been reviewed. I feel that the mitigation proposed does not yet provide a comprehensive or practical set of mitigation measures to enable a

suitable residential environment to be created in relation to external road traffic noise.

2.0 The Site and the Surroundings

2.1 The application is for the change of use from a former plant nursery to an area for the siting of 5 Gypsy / Traveller families with 2 caravans and one static caravan per family. The inclusion of hardstanding across the site and a communal amenity building serving all families.

2.2 The site abuts the M62 motorway to the south which is in an elevated position compared to the lower lying application site. To the west/north west is a poultry farm and associated residential accommodation at Springfield House Farm circa 100m to the west.

2.3 The M62 motorway is a primary and dominant noise source in the area of the proposal site. The proximity of the application site to the motorway places the site firmly into DEFRA Noise Mapping Layers which suggest significantly elevated noise levels during the daytime period and the acoustic night time period (23.00hrs to 07.00hrs). Given the elevated position of the motorway then typical attenuation using acoustic barriers or bunds will have limited effect unless direct line of sight can be blocked between the source and the receptor.

2.4 The nature of the proposed dwellings on site, namely being mobile homes, have a weaker level of acoustic attenuation built in compared to brick or block built structures due to the lightweight and mobile nature of both the caravans and the static mobile homes. Lightweight structures are not as adept at blocking external noise and by virtue of their construction type and ventilation requirements, it may not be possible to upgrade structures with typical, standard or effective acoustic upgrades.

2.5 The original application did not provide any supporting site specific noise information or provide any acoustic assessment pertaining to the site. In the absence of such supporting information and the nature of the site being acoustically weak mobile homes immediately adjacent to a busy motorway noise source, then the application was recommended for refusal based on a lack of supporting information in relation to noise.

3.0 Reasons for refusal

3.1 Reason 4 of the Decision Notice (dated 19th March 2025) states "The proposed development will be located in a DEFRA Noise Mapped Area where day and nighttime noise levels are up to 70db(A) due to the proximity to the M62 motorway. No noise impact assessment has been submitted with the application. Insufficient consideration or analysis of the impacts from noise have been submitted with the application, therefore it has not been demonstrated that the proposal would provide an acceptable and/or safe habitable environment for the intended occupiers of the site, as such the proposal is contrary to Policy ENV8 and DEV3 of the Warrington Local Plan and the NPPF.".

3.2 An Acoustic Assessment was not provided with the original application.

3.3 The nature of the proposed dwellings (lightweight construction) and proximity to the motorway network dictated the refusal recommendation based on the lack of supporting information as to whether appropriate or acceptable internal and external noise levels could be achieved on site.

3.4 It was not clearly understood whether suitable or effective acoustic mitigation could be applied to the proposed dwellings nor whether a suitable acoustic environment could be achieved, both internally and externally in the private amenity spaces. The amenity building, by virtue of the brick/block construction, was considered to be the only building where traditional acoustic mitigation treatments could effectively be applied to achieve recommended internal noise levels.

3.5 An acoustic report was subsequently submitted as part of the appeal documentation however this was not authored until May 2025 whereas the decision notice for refusal was already issued on 19 March 2025.

4.0 Relevant legislation and guidance

4.1 National Policies.

4.1.1 The National Planning Policy Framework (NPPF – December 2024) is the main planning policy reference document and includes noise within its remit.

Paragraph 135 states
"Planning policies and decisions should ensure that developments:
f) ***create places that*** *are safe, inclusive and accessible and which* ***promote health and well-being, with a high standard of amenity for existing and future users****.*

Paragraph 187 states
"*The planning system should contribute to and enhance the natural and local environment by:*
e) ***preventing new*** *and existing* ***development from*** *contributing to,* ***being put at unacceptable risk from, or being adversely affected by, unacceptable levels of*** *soil, air, water or* ***noise pollution*** *or land instability.*

Paragraph 198 states
"Planning policies and decisions should also ensure that new development is appropriate for its location *taking into account the likely effects (including cumulative effects) of pollution on health:….* ***In doing so they should****:*

A) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and ***avoid noise giving rise to significant adverse impacts on health and the quality of life****;*

4.1.2 National Planning Practice Guidance - Noise
A series of planning practice guidance notes were issued following the introduction of the NPPF. One of these includes Noise.

This guidance considers when noise is relevant to planning including where the development may be sensitive to the prevailing acoustic environment. It identifies the need for good acoustic design to be considered early in the process to ensure the most appropriate and cost-effective solutions identified from the outset.

It looks to consider whether a significant adverse effect is likely to occur and whether an good standard of amenity can be achieved. It also links in to the Noise Policy Statement for England (NPSE) – para 4.1.3 below.

The Significant Observed Adverse Effect level is described in this guidance, identifying where noise is above an acceptable level then a material change in behaviour will result – such as keeping windows closed for most of the time. It states that it is undesirable for such exposure to be caused. It states 'At the highest extreme, noise exposure would cause extensive and sustained adverse changes in behaviour and / or health without an ability to mitigate the effect of the noise. The impacts on health and quality of life are such that regardless of the benefits of the activity causing the noise, this situation should be avoided'.

The guidance considers how planning can address the adverse impacts noise sources. It suggests that engineering measures should be considered, layout to optimise distance, incorporating good design to minimise noise transmission and the use of noise insulation when the impact is on a building.
For noise sensitive developments then mitigation can avoid including noisy locations in the first place, designing to reduce the impact of noise, incorporating noise barriers and optimising the sound insulation provided by the building envelope.

The guidance does suggest that noise impacts may be partially offset if residents have access to more then one of:

- a relatively quiet façade (containing windows to habitable rooms) as part of their dwelling,
- A relatively quiet external amenity space for their sole use,
- A relatively quiet protected nearby external amenity space for the sole use of a limited group of residents, or
- A relatively quiet, protected external publicly accessible amenity space nearby (within 5 minute walking distance).

4.1.3 Noise Policy Statement for England (NPSE) – March 2010 – *Core Document CD 8.16*
The aims of this document state:

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

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

The policy further expands on the annoyance and sleep disturbance elements and the associated impact on annoyance and sleep disturbance which can give rise to adverse health effects.

The policy introduces toxicogical concepts in terms of NOEL – No Observed Effect Level, LOAEL – Lowest Observed Adverse Effect Level and SOAEL – Significant Observed Effect Level.
It does not define such levels as these are likely to be different for different noise sources and in different locations and contexts.

4.2 Local Policy.

4.2.1 Policy ENV8 within the Local Plan covers Environmental & Amenity Protection and sets out the following in General Principles:
*"**Development proposals, as appropriate to their nature and scale, should demonstrate that environmental risks have been evaluated and appropriate measures have been taken to minimise the risks of adverse impacts** to air, land and water quality, **whilst assessing** vibration, light and **noise pollution both during their construction and in their operation.***

Paragraphs 11 through 14 within ENV8 discuss noise in more detail:

*11) **The Council encourages consideration for noise and acoustic mitigation during early stages of design, having regard for layout, siting and internal features.***

*12) **Developments which are noise sensitive end uses near to busy roads** or noisy existing businesses **will need to demonstrate with any application that appropriate mitigation can be employed and implemented to prevent adverse impacts on health and quality of life for future site users**. Such developments need to consider and implement the 'agent of change' principle in accordance within the NPPF.*

In the explanatory 'Why we have taken this approach' section then the following paragraph expands on the reasoning and justification behind the policy aims and direction:

> *Paragraph 9.8.11) National guidance sets out what levels of noise are considered acceptable within the Noise Policy Statement for England (NPSE). Further information, including reference to relevant British Standards, can be found in the Council's Environmental Protection SPD. Noise and acoustic mitigation should always be designed into developments from the outset considering layout, siting and internal design. Sensitive development near to significant noise sources or in noise mapped areas or important areas (noise) will often require acoustic mitigation to be implemented fully prior to use, where this is acknowledged from the outset of the design stage the implementation is often easier and less costly.*

4.2.2 Environmental Protection Supplementary Planning Document. This contains a section on how noise should be considered within planning applications and advises that location and road traffic are considerations. It discusses BS8233 and WHO guideline noise levels for residential development. It also advises that a recommendation for refusal will be made if there is insufficient supporting information is provided with any application or it is deemed that there is no appropriate mitigation and the proposal would be unacceptable in noise terms.

4.3 ProPG – Planning and Noise. *Core Document CD 8.17*

This is a 2017 document aimed at the consideration of noise likely to impact a proposed development from the outset. It was authored jointly by the Acoustics and Noise Consultants, The Institute of Acoustics and the Chartered Institute of Environmental Health. It is primarily aimed at road traffic noise.

The document seeks high quality design from the outset of the planning process to integrate acoustic mitigation through good design and layouts for new proposals. It reviews noise and current guidance and standards and highlights the impacts of elevated noise levels on amenity, use of utility space and also highlights associations with elevated noise levels on long term health impacts from such noise.

5.0 The Case for the Local Planning Authority

5.1 It was considered at the time of the original application that noise impacts from the proximity of the site to the elevated M62 motorway had not been addressed nor any mitigation proposals put forward or expectation of the achievability of acceptable noise levels for the proposed occupiers had been indicated.

Without such information being provided with the application then in accordance with the NPPF, NPPG Noise, NPSE and Policy ENV8, there was insufficient information in relation to noise to determine the application.

5.2 Our concerns were based on the practical attainment of acceptable noise levels in the external amenity spaces and also within the proposed mobile homes given the elevated motorway noise source and extremely close proximity of the site to said noise source.

The proposal for the use of light weight mobile homes further exacerbated our concerns given that these are known to be acoustically significantly weaker than traditional brick/block dwellings and are, by design, well ventilated with multiple vents included across the homes to prevent the build up of explosive gases and to remove household derived moisture. These vents will also admit noise.

5.3 Traditional mitigation requirements often consider ventilation and glazing elements to provide an imperforate barrier to noise. Any imperfections in an acoustic façade will result in potentially unacceptable noise being introduced into a dwelling.

5.31 Ventilation elements are often the first element to be addressed. Unattenuated ventilation outlets along noisy façade will often require acoustic attenuation to be fitted, typically via acoustic trickle vents or wall mounted acoustic ventilators, to allow for background ventilation to occur whilst reducing noise ingress to an acceptable level. Unattenuated ventilation outlets are a direct pathway for noise to enter any dwelling. The ability to acoustically upgrade and protect such ventilation outlets on a lightweight structure is unknown given that the range of

commercially available products are designed primarily for traditional conventional dwellings rather than for mobile dwellings.

5.3.2 Acoustically glazing windows are often considered for implementation with locations with higher external noise levels. Typical non-acoustic domestic double glazing systems offer in the region of between 25 and 27dB Rw+Ctr (sound reduction index with traffic weighted attenuation). This is an indication that a glazing system reduces noise from the outside pane to the inside of the room by the figure advocated. Where noise sources are more dominant then a glazing system commensurate with the level of reduction will be required to attain acceptable internal noise levels. Where the motorway noise in this case advised by DEFRA screening data is up to 75dB daytime and 70dB night time, then a level of 40dB Rw +Ctr would be advocated to attain internal noise levels in accordance with BS8233:2014 recommendations. Such glazing systems are available and are possible to fit in conventional dwellings but it is unclear whether such systems are suitable or can be implemented satisfactorily in mobile dwellings.

DEFRA Noise Mapping Data is shown and linked via Extrium Viewer in Appendix A
BS8233:2014 is Hyperlinked and has screenshots of relevant paragraphs in Appendix B

Consideration of impacts of partially opened windows are also a factor as any acoustic attenuation offered by a closed window will reduce to between 12-15dB wherever a window is even partially opened. If the window in closed position achieves 40dB Rw+Ctr, partially opening that window will reduce the level of attenuation to between 12-15dB, increasing the internal noise level by circa 25-28dB simply by partly opening the window, thus rendering the acoustic properties of the glass as irrelevant whenever that window is opened.

5.3.3 With the lack of any supporting information as to how the mobile dwellings would be able to be acoustically attenuated and the lower overall attenuation of such a dwelling in a location close to a dominant noise source further compounded the concerns that a suitable living environment could not be guaranteed in this location unless defined, effective and practical mitigation was proposed. Given the lack of information on the ability to attenuate such noise sources for the type of dwelling proposed on site then it was not feasible to recommend conditions which may, on discharge, prove to be impractical, impossible to implement or be ineffective given implementation difficulties.

5.4 It was considered further that the external areas of the site also would be significantly above the upper guideline values by virtue of the proximity of the site to the M62 Motorway. The fact that the motorway is notably elevated above the ground level of the proposal site is a further detrimental feature of the site in terms of achieving practical acoustic mitigation.

5.4.1 Acoustic barriers would normally be considered for developments along major transportation networks such as a motorway. However, for an acoustic fence to be even considered effective then the fence must be able to block, either partially or fully, line of sight to the noise source. The low lying level of the application site compared to the elevated motorway would pose significant difficulties in practically being able to block line of sight in this location without a very significant fence being erected along the side of the motorway.
Such a fence with the necessary significant height would itself need to be considered prior to any decision being made given the height and appearance of such a fence would be a material planning consideration hence would have to be identified at the application stage rather than being implemented as part of a condition discharge process.
In this case, the ideal location for such a fence would also likely be outside of the applicants land ownership.

5.5 Use of Conditions
Conditions used to approve an application can only be considered where they will be effective, achievable and practical.

Where a condition cannot be recommended due to uncertainty in whether it is achievable or practical to implement then it is recommended that any application should be refused.

Where permission is granted and a condition is recommended that is subsequently found to be impossible to achieve, then that condition becomes useless and unenforceable – essentially it should not have been recommended in the first instance. Where this is key to a planning decision then the decision to refuse rather than recommend an ‘impossible condition’ must be the outcome.

5.5.1 Paragraph 56 of the NPPF highlights the following considerations for the use of planning conditions:

> '*Local planning authorities should consider whether otherwise unacceptable development could be made acceptable through the use of conditions or planning obligations*.'

5.5.2 Planning Conditions themselves must further meet certain tests, as advocated by Paragraph 57 of the NPPF, namely:

> *'Planning conditions should be kept to a minimum and only imposed where they are necessary, relevant to planning and to the development to be permitted, enforceable, precise and reasonable in all other respects'.*

5.5.3 In this case, given the various factors and unknown elements as to whether conditions or mitigation could actually be practically achieved on this site for the purpose intended, then it was not possible at the time of determination to recommend precise or enforceable conditions which would adequately ensure suitable living conditions would be met in terms of noise with any guarantee as to their ability to be implemented hence a recommendation for refusal was given based on a lack of supporting information in relation to noise.

6 Review of the Acoustic Assessment

6.1 An acoustic assessment was subsequently submitted with the appeal documentation. This assessment was dated after the decision date on the planning approval so was not available (or authored) at the time the application was considered.

The report is authored by LF Acoustics and is referenced as follows:

> *Noise Assessment. Change Of Use Of Land To Use As A Residential Caravan Site For 5 Gypsy / Traveller Families, Spring Lane Nurseries, Spring Lane, Croft. Mr T Smith. May 2025.*

A separate detailed review of this document was undertaken and detailed in a memo authored by myself on 4 August 2025.

APPENDIX C – 4 AUGUST 2025 MEMO

I will therefore summarise the key information and data in the following paragraphs.

6.1.1 Measurements have been taken on the site to record ambient noise levels. One position was close to the proposed amenity building. The other position was roughly representative of where the closed static mobile home would be positioned.

Noise measurements were between 64.5dB and 65.8dB for both locations at the site. These levels only varied by 1.3dB between day and night time suggesting traffic noise is dominant and relatively unchanging over any 24 hour period.

These measurements are noted to be 5-10dB below the originally quoted DEFRA noise mapping results in the earlier planning responses. This may be due to the lower level of this development providing some partial screening from some carriageways of the motorway.

6.1.2 The report has then modelled noise, using recognised software, across the mobile home areas of the site based on these measurements. No consideration of noise impacts has been provided for the amenity building.

6.1.3 For completeness, I have repeated the following paragraph from the 4 August 2025 memo as it describes sound attenuation and the relevant indices that can be referred to or specified – this is considered to be important given the context of the site:

> *Rw is a standard index used for calculating acoustic attenuation for 'typical' noise through a structure or façade element and is tested in typical laboratory conditions. There is however an enhanced version of this called Rw+Ctr – which is a 'traffic weighted' sound reduction index for application to developments subject to a lot of road traffic noise which naturally has a greater lower frequency element to it – the lower frequency noise elements being harder to block than higher frequency noise element.*

An Rw figure is always higher than an Rw+Ctr figure. Certainly for glazing systems then the difference between the simpler Rw and the lower frequency weighted Rw+Ctr can be in the region of 4-8dB or more depending on the product, Rw+Ctr will always be the lower figure.

6.1.4 The report has reviewed a British Standard – BS3632:2023 which relates to static mobile homes and only those manufactured in accordance with this standard after that date. Included within the standard is a reference to a sound reduction index of 33dB Rw between 100 and 3150Hz which is a minor change to the previous standard reflecting consideration of slightly lower frequency noise – previously the standard stated an Rw of 35dB between 125Hz to 4000Hz. This standard however only applies to the external walls and roof. It does not apply to glazing, clarification will be required whether it applies to the doors.

Given the proximity of the site to the motorway then it would be considered logical to require a traffic weighted Rw+Ctr value to be most representative to determine the noise climate at the site in any dwelling. It is highly probable that the Rw+Ctr figure for any static mobile home will be a few decibels lower than the 33dB Rw figure advocated by the BS3632 standard but I have not been able to discover any direct comparison table to illustrate the actual or probable difference. I do understand that it is predominantly a measure applying between 100Hz and 315Hz to reflect the lower frequency nature of road traffic.

6.1.5 The report then discusses thermal performance indicated within the standard and suggests that the provision of thermal double glazing equivalent to that of a

conventional dwelling would be used. In that case then using common supplier data such as from Pilkington Glass, a 4/(6-16)/4 glass (Glass/Air/Glass) or 6/(6-16)/6 glazing system would give a Rw+Ctr rating of between 25-27dB.

6.1.6 Paragraph 4.1.7 of the report demonstrates the measured noise levels at the site, Position 2 being adjacent to the motorway, position 1 being roughly comparable with the closest mobile home location.

Average noise levels are presented and suggested as 65.5 during the daytime and 65.2 overnight at position 1.

6.1.7 Using the weakest element of any façade (glass or potentially the mobile home itself), I can advise that the glass figure will probably be between 25-27dB Rw+Ctr, then internal noise levels with closed windows will be 38.5 to 40. The BS8233 target noise level is 35dB for bedrooms and lounges during the daytime.
At night the levels are essentially the same, albeit 0.3dB lower, resultant noise levels then will be 38.3 to 40.3dB internally however the night time noise levels advocated by BS8233 are 30dB.

BS8233 advises that there is an up to 5dB increase in the target noise levels allowed where development is considered necessary or desirable which suggests reasonable internal conditions will still be achieved. (Note 7, paragraph 7.7.2 of BS8233:2014) -APPENDIX B.

The above noise predictions assume that the myriad of ventilation elements on the mobile home are equally robust in attenuating noise as the glass. Given the different construction methods then this cannot be guaranteed. No indication is provided that suggests what the type of vent proposed will be or whether it may have any acoustic properties beyond simply being a grille.

6.1.8 These internal noise levels are reliant on the windows being closed. Any partial opening of the windows would lead to internal noise levels being 12-15dB below the measured ambient noise level – therefore 50.2dB to 53.5dB including day and night figures – which is a significant increase on the recommended guideline values. Such an exceedance would clearly contribute to sleep disturbance and restful conditions therefore you would assume that windows would be kept closed wherever possible.

6.1.9 For a conventional dwelling then I would advocate the use of mechanical ventilation with potentially acoustically uprated trickle vents to control this noise ingress, the mechanical ventilation element to 'reduce the need to open windows' by pulling air through the dwelling thereby improving comfort for the occupants. The ability to fit such a system to a mobile home and to be able to control airflow through the dwelling is however uncertain.

6.1.10 Mobile homes are also traditionally very thermally susceptible to outside conditions. When the weather is warmer then these dwellings tend to overheat during the day and then hold the heat during the night which may give rise to uncomfortable conditions which require windows to be opened to promote comfort.

6.1.11 The acoustic report indicated via paragraphs 5.2.10 and 5.2.11 that the standard ventilation in mobile homes will be sufficient to comply with the BS8233 guidelines for alternative ventilation. This will however only be ambient background ventilation (building regulations) rather than provision of a ventilation system that will be capable of dealing with the probable overheating that is commonly associated with mobile structures. Given the elevated external noise levels then opening of windows at this site will only be practical for short term periods or for purge ventilation purposes.

This section of BS8233 is also primarily aimed at 'Dwelling Houses, Flats and Rooms in Residential Use' rather than being a mobile home standard so may assume a different construction standard to what is being utilised in this situation, however given the absence of a separate standard for acoustic attenuation and application of mitigation in mobile homes then this appears to be the only 'relevant' standard.

6.1.12 It is noted that the Amenity Building is included within the plans and comprises of a Sitting/Dining Area, Kitchen plus Utility area plus bathroom facilities. The sitting/dining area would typically be subject to noise levels under BS8233 – being either a lounge area with a target of 35dB during daytime periods or a dining room setting with a target of 40dB during daytime periods.

Given the location of this facility then it will likely require glazing to achieve 30dB Rw+Ctr which is a slight upgrade beyond standard glazing. It is also noted that there are patio doors to one end of the building and other windows along that façade and elsewhere on the building.

Due to the elevated ambient noise levels for this amenity building then it will be necessary to include acoustically upgraded ventilation, in terms of trickle vents, but also a likely need to have a mechanical ventilation system with a manual boost facility in order for occupiers of the space to increase ventilation rates on demand when external (and internal) conditions dictate.

Opening windows in this location will significantly increase the internal noise levels to unacceptable levels for resting purposes during the daytime, especially if the patio doors were opened which face the oncoming traffic.

It is noted however that the acoustic report submitted has not considered this building for any mitigation requirements, the only mention being that the building will act as a minor acoustic screen which provides limited shielding to the remainder of the site.

6.1.13 Consideration of External Private Amenity Space

The acoustic report has not discussed any of the external spaces around the proposed mobile homes. It has modelled the area as part of Figure 3 for the purposes of determining external façade noise levels at the mobile homes, but has not provided any suggestions or consideration on how to achieve more acceptable noise levels for such areas. Typically for residential developments there will be a small area of private amenity space associated with a dwelling.

Noise levels in the outside area around the site are in the region of 65-70dB according to figure 3 during the daytime. BS8233 recommend a level of 50dB is considered to be reasonable but a level of 55dB is suggested to be the upper guideline value. Noise above such levels is considered to represent annoyance to future occupiers if they are in the external areas. It is recognised that higher levels may occur and be permissible where development is located close to the strategic motorway network. Paragraph 7.7.3.2 of BS8233:2014 states the following on this subject:

In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited.

Some attempt has been indicated to reduce noise levels by virtue of bunds around parts of the site – Paragraph 3.6 within the acoustic report, which references visual screening with some small degree of noise mitigation. But no other mitigation is proposed or considered for outside areas. No confirmation of the level of mitigation achieved by such bunds is indicated within the report suggesting that the impacts are of a negligible amount.

If private amenity spaces are not part of this proposal then the elevated external noise levels are of little consequence, however, typically with most developments then there would be some area of a relatively shielded space that would function as an amenity space.

6.1.14 The conclusions of the acoustic report indicate within paragraph 7.6.

'An assessment of the noise levels calculated within the proposed mobile homes based upon the proposed layout, would ensure that acceptable levels of noise were achieved within the mobile homes during the day and night-time periods assuming windows closed, meeting the requirements of both BS 8233 and ProPG guidance.'

I do not agree with this concluding statement.

- No evidence has been provided to demonstrate internal noise levels will meet guideline levels using the more positionally accurate Rw+Ctr sound reduction index.
- The mobile homes are only defined as having an overall Rw sound reduction index which will not accurately account for traffic weighted low frequency noise. This reference level only applies to the walls and ceiling – not the glazing element which is often a weaker acoustic element. Internal noise levels are therefore likely to be several dB above the recommended internal noise levels and even then, only when windows are closed.
- Open windows in this location will not be practical for anything other than purge ventilation.
- No alternative ventilation has been proposed and no assessment of the suitability of the inbuilt ventilation measures within the mobile homes has

been provided to demonstrate acceptable acoustic mitigation can be achieved.

- External noise levels are significantly above recommended guideline values, no mitigation or areas of relative quiet within the site have been identified. No alternative off site quiet areas exist in a close proximity to this site.
- No mitigation has been proposed to attempt to reduce external noise levels in any private amenity space by any perceptible amount.
- No mitigation has been proposed in relation to the amenity building.

6.1.15 If I had reviewed this acoustic report with the original application then I would have been unable to agree with the conclusions or recommendations (or lack thereof) and would have recommended refusal based on a lack of supporting information.

The report has reviewed noise levels at the site and acknowledged that they are elevated, however, has failed to provide any justification that acceptable internal noise levels will result, even with closed windows. The British Standard for residential park homes is noted, however it defines a broadband acoustic attenuation figure which whilst addresses low to mid frequencies, it does not necessarily focus on those frequencies to suit road traffic noise in the form of Rw+Ctr. The standard also ignores glazing elements and the report has provided no indication of whether ventilation openings are included in the overall attenuation for such dwellings.

Uprated ventilation in the form of mechanical ventilation is likely to be required on this site. The report does indicate consideration of air conditioning or comfort cooling to be provided but no indication has been given as to the practicalities of whether this can be incorporated given the lightweight structure of the buildings.

Very little information has been provided to address or discuss the external amenity spaces or areas of relative quiet on the site. On very close examination of Figure 3 of the acoustic report, then it can be seen that there are some very limited areas where the noise levels reduce reach or are just below 60dB on the sheltered side of the residential homes, but these are very limited areas and not effectively present for all of the permanently sited residential homes.

No attempt has been made to further enhance these areas by use of additional screening within the site. Such screening (barriers or fences) may have a positive effect and provide greater levels of acoustically shielded external private amenity space for the benefit of the occupiers.

Whilst it is normally possible to 'push for more information' in subsequent discussions or correspondence through the normal planning regime where queries exist, the late submission of this report and the pressing need for responses in the Inquiry process leaves no time to further expand on acceptability or breadth of proposals for this application. The report in its current form is not considered to clearly identify and establish, without any doubt, that acceptable living conditions can actually be practically achieved in this noisy environment given the lightweight structures involved and the difficulties in adequately attenuating noise given the elevational difference between the primary noise source and the proposed residential receptor.

6.2 Planning Appeals reviewed in the Acoustic Report

6.2.1 Appendix G – Little Hallingbury Appeal Decision

This appeal was lodged and dated in 2010, some years before the introduction of the NPPF and associated revised guidance. It is noted that PPG23 is mentioned in relation to Air Quality however 'PPG24 – Planning and Noise', the key document for the planning interpretation of noise is omitted.

The Planning Appeal decision then states that this is permitted as a 'temporary planning permission for no longer than 3 years' rather than permanent planning permission.

Paragraph 16 of the Secretary of State's decision indicates that for Air Quality then more evidence would be required to support a permanent planning permission, it then states within that same paragraph for noise that 'the available evidence does not suggest that the noise levels on the site are such that they should preclude the grant of a temporary planning permission'.

The Inspectors understanding in this case was that noise, whilst high levels exist in the open, will reduce considerably within the caravans, even with a window open.

Based on commonly accepted acoustic practice and rule of thumb, this is considered to be acoustically inaccurate and misleading in its meaning. General acoustic principles advise that the effects of a partially open window are such that noise levels will reduce by circa 12-15dB after noise has entered through such a part open window within any room.

In the context of this current appeal case which this proof of evidence reports to, where noise levels are circa 65-70dB outside according to Figure 3 within the acoustic report, internal noise levels with a part open window will be 50/53dB up to 55-58dB internally – against typical recommended internal noise levels of 35dB for daytime resting or a lounge area (BS8233:2014). Greater differences will occur at night time where a more stringent 30dB level is advocated.

This level of exceedance is not considered to be a 'considerable reduction in noise levels' when the acoustically accepted 12-15dB attenuation is provided.

6.2.2 Appendix H – Chesterton Appeal Decision

This appeal was lodged and dated in 2019 so follows the current planning policy framework and associated documents – albeit with some revisions applied since that date.

The proposal is similar in that it considers noise in relation to a motorway, in this case the M40 motorway, however one glaring and acoustically very significant difference is that it states that the M40 is in a cutting by the site and then goes on to recommend acoustic fencing atop a planted earth bund (to a combined height of 5m) to attenuate the noise arising from a cutting level motorway adjacent to the site. The inspectors summary advises that noise from the motorway is self evident and given the residential nature of the proposal, the development would be sensitive to the prevailing acoustic environment.

The current case under review for this planning inquiry is also adjacent to a motorway, however, the motorway in this case is elevated above the application site and acoustic mitigation in terms of acoustic bunds and fences have not been

proposed given the size and scale of such structures that would be required to block line of sight to the noise source.

Paragraph 38 of the inspectors decision indicates that prevailing noise in external spaces for the Chesterton site would be between 60-63dB LAeq,t after the bund/acoustic fence mitigation measures have lessened the noise.

In this case under current review then the ambient noise levels are shown by the appellants acoustic report as between 65-70dB within figure 3 - daytime noise levels. This is the case for the southern edge of amenity building as well as for the majority of the southern area of the site including much of the space closely outside the patio windows for the amenity building. It is noted that a very tight restricted area around the patio door opening for the amenity building will however be in the 60-65dB noise contour band. It is accepted that the residential homes to the north of the site have further reductions in noise however are still in the same ballpark region of 59-60dB on the quietest facades but up to 66-67dB on the noisiest facades.

Paragraph 32 of the Inspectors report discusses BS3622 but the 2015 version rather than the subsequently introduced 2023 version (British Standard for Residential Homes). It again concludes that the internal living conditions will be acceptable but I would suggest this may not be the case given the lack of attention to lower frequency noise and the Rw+Ctr values rather than relying on Rw alone. It also does not consider the need to keep windows closed at all times except for purge ventilation conditions due to the elevated ambient noise climate.

Paragraphs 35 to 38 discuss the external noise conditions and amenity spaces. Whilst I recognise that exceedances of these advocated levels are permissible under BS8233:2014, I do not currently consider that as much as could be practically done has been done to secure lower noise levels. Paragraph 7.7.3.2 of BS8233:2014 states as follows:

> *In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can*

> *be met, might be warranted.* ***In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited****.*

I do not feel that sufficient work has been demonstrated to be done to reduce noise sufficiently in the current case under examination and the bold paragraph above has been demonstrated to have been applied to the site.

The argument for elevated external noise being permitted also hinges on the ability to escape noise adequately by going inside the proposed dwellings. In a conventional dwelling with acoustic mitigation performance of between 40 & 50 dB attenuation by the main structure with glazing for high noise areas capable of achieving 35-40dB Rw+Ctr, then a good building design could place non habitable rooms on the noisy façade leaving habitable rooms on quieter facades. In this case with the lighter weight structure and uncertain confirmed acoustic attenuation by the entire building envelope (given that glazing and ventilation elements are currently unclear and are specifically not part of the BS3622 standard) then it is not necessarily possible to guarantee that moving inside will actually give any significant relief from the elevated ambient noise climate and as such there will be no peaceful area to retire to.

7.0 Conclusion

The application was recommended for refusal based on a lack of supporting information in relation to noise. Specifically noise from the elevated section of the M62, close to the M6/M62 interchange.

Concerns were raised on what resultant levels of noise would impact upon the proposed mobile caravans and mobile homes. The level of acoustic attenuation that such dwellings provide is acknowledged as considerably weaker than traditional homes.

Mitigation for the whole site to attenuate noise might not be possible or achievable in this location given the elevated motorway height – ruling out site boundary acoustic fences. Consideration of localised acoustic fences within the site to provide greater areas of relative quiet close to the residential homes have not however been considered or proposed.

Appropriate and effective acoustic mitigation techniques for the residential homes is also unclear due to the lightweight structure and the market traditionally aiming at brick/block built buildings.

Motorway noise also has a lower frequency element which traditionally is only blocked by dense heavy structures. A lightweight mobile residential home will not have the ability to attenuate low frequency noise as effectively as a conventional dwelling. Whilst the British Standard – BS3622, advises on a generic broadband sound reduction index of 33dB Rw, it does not consider or advise on the relative traffic weighted sound reduction index – Rw+Ctr – as such then given the traffic related source noise, the level of noise admitted into the building may be in the region of between 4-8dB higher than is indicated in the use of the Rw figure alone.

The lack supporting information provided with the application plus the unknown ability of the proposed dwellings to effectively attenuate noise and also to have attenuation measures applied led to significant doubt that acceptable noise levels could be attained across the site and within the dwellings.

7.1 An acoustic report was introduced with the appeal package as a ‘new document’. A review of this report has been made. Measurements undertaken are noted. The

report has used the measurements and then modelled noise propagation across the site to present façade noise levels which will impact on the proposed dwellings.

The report has discussed British Standard 3622 which refers to Residential Park Homes including some acoustic requirements. It is not clear whether proposed homes meeting this new standard will have sufficient protection against the elevated 24 hour motorway traffic noise at this location and will be able to attain acceptable internal noise levels due to the provision of Rw figures alone rather than the more pertinent traffic weighted Rw+Ctr values for the residential homes.

Noise levels are reported as being significant across the site but the report concludes that they will meet recommended BS8233 noise levels both in outside areas (using exceptions) but also inside the homes.

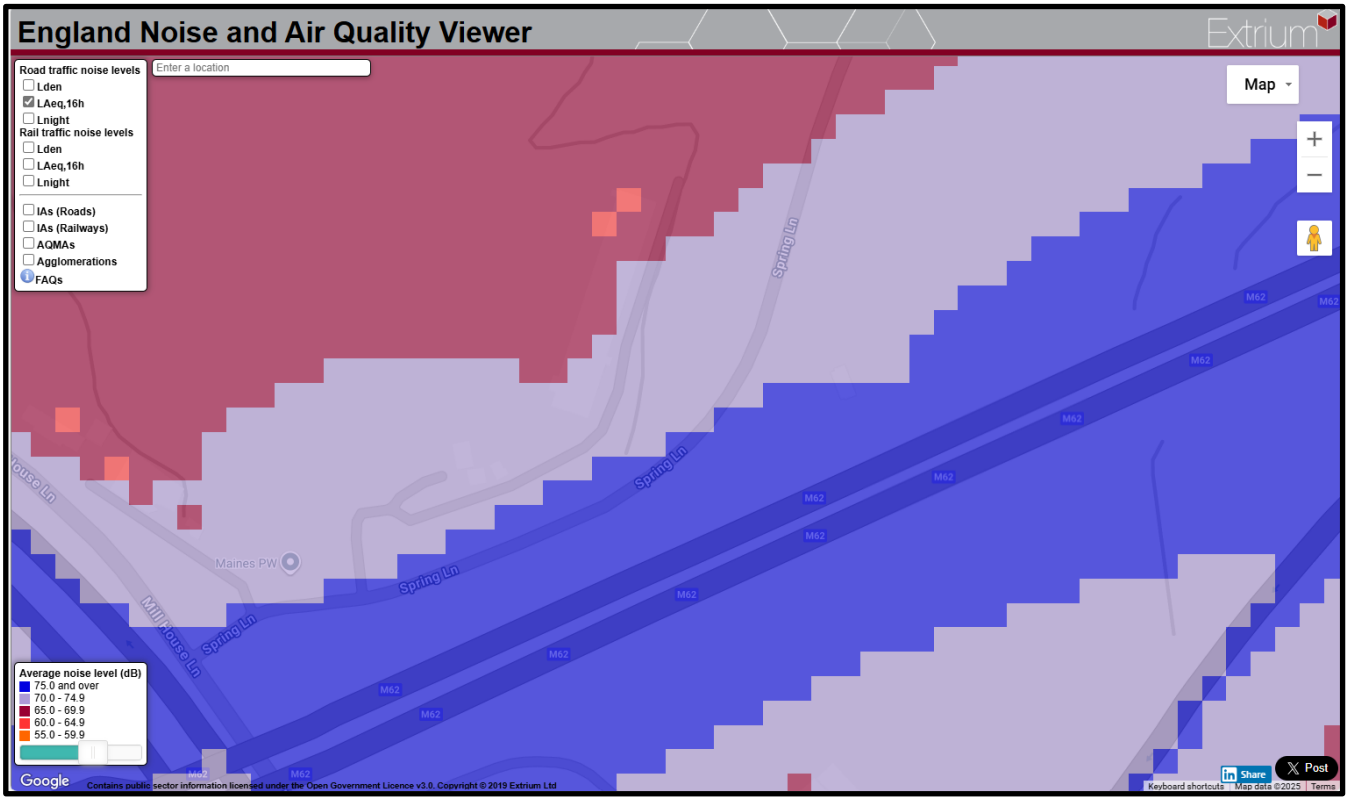
I do not concur with this assessment given the clear weakest element of these homes will be the standard glazing comprising 4/(6-16)/4 with a Rw+Ctr of 25dB or a 6/(6-16)/6 glazing system with an Rw+Ctr of 27dB whilst the overall building structure is likely to be similar when an Rw+Ctr value is considered. Windows will not be able to be opened for general ventilation but only for purge ventilation purposes due entirely to the excessive ambient noise climate. No alternative ventilation system has been definitively proposed although air conditioning or comfort cooling systems have been briefly stated with no actual firm proposals to implement. These resultant noise levels are considered to have adverse impacts on residential amenity and will adversely impact on sleep disturbance and overall health.

This proposal is concluded as being wholly unsuitable for the location given the significantly elevated noise levels arising from the motorway, the acoustically weak dwellings proposed on site and the lack of practical and effective acoustic mitigation measures available to address the elevated ambient noise climate. Residential amenity will be significantly and adversely impacted for all future occupiers of the site whether inside the homes or externally.
This is against recommendations advocated within the NPPF – paras 135, 187 & 198, The NPPG – Noise, NPSE and Local Policy ENV8.

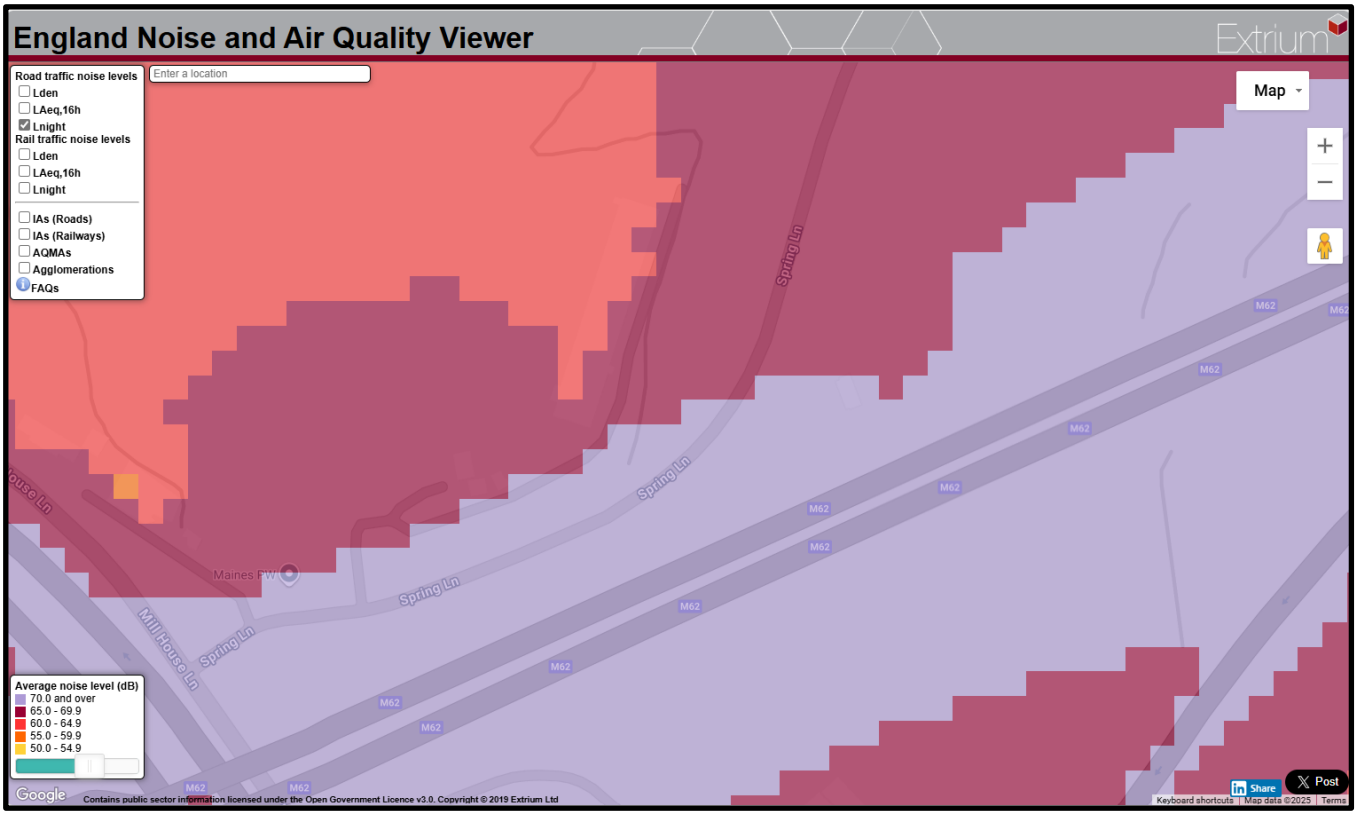
Appendix A – DEFRA Noise Mapping Data

Extrium Viewer - [Extrium > England Noise and Air Quality Viewer - http://www.extrium.co.uk/noiseviewer.html](http://www.extrium.co.uk/noiseviewer.html)

Daytime Noise – LAeq,16h



Night Time Noise – LAeq,8h - LNight



Appendix B – BS8233:2014 – Guidance on Sound Insulation and Noise Reduction for Buildings

BSI Weblink to guidance - https://knowledge.bsigroup.com/products/guidance-on-sound-insulation-and-noise-reduction-for-buildings

Screenshots from Guidance.

Paragraph 7.7.2 Internal Ambient Noise Levels for Dwellings

7.7.2 Internal ambient noise levels for dwellings

In general, for steady external noise sources, it is desirable that the internal ambient noise level does not exceed the guideline values in Table 4.

Table 4 Indoor ambient noise levels for dwellings

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living room	35 dB $L_{Aeq,16hour}$	—
Dining	Dining room/area	40 dB $L_{Aeq,16hour}$	—
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hour}$	30 dB $L_{Aeq,8hour}$

NOTE 1 Table 4 provides recommended levels for overall noise in the design of a building. These are the sum total of structure-borne and airborne noise sources. Groundborne noise is assessed separately and is not included as part of these targets, as human response to groundborne noise varies with many factors such as level, character, timing, occupant expectation and sensitivity.

NOTE 2 The levels shown in Table 4 are based on the existing guidelines issued by the WHO and assume normal diurnal fluctuations in external noise. In cases where local conditions do not follow a typical diurnal pattern, for example on a road serving a port with high levels of traffic at certain times of the night, an appropriate alternative period, e.g. 1 hour, may be used, but the level should be selected to ensure consistency with the levels recommended in Table 4.

NOTE 3 These levels are based on annual average data and do not have to be achieved in all circumstances. For example, it is normal to exclude occasional events, such as fireworks night or New Year's Eve.

NOTE 4 Regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of SEL or $L_{Amax,F}$ depending on the character and number of events per night. Sporadic noise events could require separate values.

Paragraph 7.7.2 Internal Ambient Noise Levels for Dwellings - Continued

NOTE 5 If relying on closed windows to meet the guide values, there needs to be an appropriate alternative ventilation that does not compromise the facade insulation or the resulting noise level.

If applicable, any room should have adequate ventilation (e.g. trickle ventilators should be open) during assessment.

NOTE 6 Attention is drawn to the Building Regulations [30, 31, 32].

NOTE 7 Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved.

If there is noise from a mechanical ventilation system, the internal ambient noise levels should be reported separately with the system operating and with it switched off. If the room contains items such as fridges, freezers, cookers and water heaters, these should be turned off during measurement. Shorter measurement periods such as $L_{Aeq,\ 1\ hour}$ may be used by agreement, provided the selected shorter measurement period is shown to be representative of the entire night or day period.

Paragraph 7.7.3.2 Design Criteria for External Noise

7.7.3.2 Design criteria for external noise

For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$, with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments. However, it is also recognized that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited.

Paragraph 7.7.3.2 Design Criteria for External Noise - Continued

Other locations, such as balconies, roof gardens and terraces, are also important in residential buildings where normal external amenity space might be limited or not available, i.e. in flats, apartment blocks, etc. In these locations, specification of noise limits is not necessarily appropriate. Small balconies may be included for uses such as drying washing or growing pot plants, and noise limits should not be necessary for these uses. However, the general guidance on noise in amenity space is still appropriate for larger balconies, roof gardens and terraces, which might be intended to be used for relaxation. In high-noise areas, consideration should be given to protecting these areas by screening or building design to achieve the lowest practicable levels. Achieving levels of 55 dB $L_{Aeq,T}$ or less might not be possible at the outer edge of these areas, but should be achievable in some areas of the space.

Appendix C – Environmental Protection Response – 4 August 2025

Environment & Transport - Public Protection & Prevention

Internal Memorandum

WARRINGTON Borough Council

To:	**Development Management**	**From:**	**Head of Public Protection & Prevention**
Case Officer:	**Ms Vivienne Pearson**	**Officer:**	**Environmental Protection Officer**
Planning Ref:	**2024/00668/FUL**	**My Ref:**	**EP/263412**
Date:	**4 August 2025**		

Proposal:	**Change of use of land to use as residential caravan site for 5 gypsy/traveller families, each with two caravans including no more than one static caravan/mobile home, together with the laying of hardstanding and erection of communal amenity building.** **Spring Lane Nurseries, Spring Lane, Warrington, WA3 7AS**

I have considered updated information provided for the Planning Appeal and have the following comments to make.

Air Quality – Ground 3 of Planning Refusal Decision Notice

The appellant has submitted Warrington Borough Council's own Annual Status Report 2024 (ASR) to support the appeal and address the reason for refusal. They have not submitted an actual detailed Air Quality Assessment to consider potential traffic impacts on the site.

Whilst the ASR does conclude that there are currently no exceedances within current Air Quality Management Areas (AQMA) and that the Council will be looking to revoke them, the proposed development will locate new receptors close to the motorway.

Irrespective of the AQMA designation, the development will place new residential units close to a major road and a detailed air quality assessment would still be required.

There are currently no air quality monitoring points close to this location, therefore there remains a lack of information on air quality impacts. It is also noted that traffic flows on this section of the M62 can be variable due to the close proximity to the junction that can cause congestion. Again, this reinforces the need for a detailed air quality assessment.

It is noted that no information has been provided about potential odour impacts from the nearby chicken farm.

The information so far provided has not addressed previous recommendations for refusal on lack of evidence.

Without the information on potential traffic related air quality and odour from the chicken farm, recommendations are unable to be made on the suitability of the development for protection of human health.

The information so far provided has not addressed previous recommendations for refusal based on lack of supporting evidence.

Noise – Ground 4 of Planning Refusal Decision Notice

An acoustic report has now been prepared to support the planning appeal however it is noted that this was not available (nor yet authored) at the time the application was decided therefore is new supporting evidence.

The report has undertaken noise measurements at two positions at the site, one close to the site edge where the amenity building will be located and then a further more inbound location which is approximately level to where the nearest mobile homes will be located (static caravan rather than touring caravan).

The report has indicated measured noise levels at the site being between 64.5dB and 65.8dB for both day and night time - both at the edge of the site plus in the middle of the site at a roughly representative location for the closest static mobile homes. The fact that there is only 1.3dB difference between day and night and in a close location and a more inbound location at the site demonstrates that noise is significant across the site and does not vary by any significant degree – which is typical of busy motorway traffic.

The report has then modelled noise across the site to determine noise levels at the mobile homes only – the amenity building has not been considered.

To clarify matters then Sound Reduction Index is explained very briefly here as it is important for the review of the report and the conclusions therein.
Rw is a standard index used for calculating acoustic attenuation for 'typical' noise through a structure or façade element. There is however an enhanced version of this called Rw+Ctr – which is a 'traffic weighted' sound reduction index for application to developments subject to a lot of road traffic noise which naturally has a greater lower frequency element to it – the lower frequency noise elements being harder to block than higher frequency noise element.

The report has reviewed BS3632:2023 which is a standard I have not previously been aware of. This standard reviews the minimum build and specification required for Static Mobile Homes, this includes standards for thermal insulation but includes acoustic minimum specifications. In this case it is stated that those mobile homes manufactured to meet this specification (after 2023) will have a sound reduction index (Rw) of 33dB over a frequency range of 100Hz to 3150Hz – a slight change to the previous version which required 35dB Rw over the range 125Hz to 4000Hz. This standard however only applies to the external walls and roof – it does not apply to glazing elements. Whilst this has been explained in terms of Rw and advises that it has better lower frequency noise protection than the previous standard attained, it has not been expressed in terms of the Rw+Ctr equivalent which is pertinent to lower frequency road traffic noise such as will be dominant at this site.

Given this development is immediately adjacent to the Motorway network and the M62 in particular then we would suggest that the Rw+Ctr value should be the relevant measure to utilise in this circumstance given the lower frequency dominant road traffic noise source adjacent to the site.

Given that low frequency noise is harder to attenuate against then the Rw+Ctr value is invariably lower than the Rw value by between 4 to 8dB – certainly when considering glazing elements depending which manufacturer details you look at.

The 33dB Rw structural elements may therefore only offer Rw+Ctr protection in the region of 25-28 dB, possibly less, when considering traffic noise resulting in internal noise levels of 37 to 40dB against the BS8233 target levels of 35dB daytime and 30dB night time with the windows closed. Whilst some dispensation of up to 5dB can be given to development which is necessary or desirable we should always look to achieve the best internal conditions possible for health and amenity benefits – this site will likely exceed 5dB above the guideline values, especially at night time.

Glazing has also not been considered as part of this. Reviewing Pilkingtons Glass data for conventional windows suggests that to achieve Rw+Ctr of 35dB (to get the night time noise down to BS8233 night time levels of 30dB for bedrooms given night time external noise levels of circa 65dB) then standard glazing configurations would not work – a Pilkington Optiphon (enhanced laminated glass) solution would be required such as 6mm glass/16mm

argon filled gap/8.8mm Pilkington Optiphon would achieve 35dB Rw+Ctr – the Rw figure for this glazing configuration is 41dB Rw in contrast.

However, when protecting any building then if any one element of the façade is weaker than the other then it will be the lower performance element that will allow noise to penetrate the home. So in this case and using the above glazing specification then the glazed element would be potentially 8dB better at attenuating noise than the walls and ceiling but it would be to no overall benefit given the lower acoustic attenuation performance of the main structure itself.

A further consideration is that glazing will only maintain it's performance when the windows are closed. If they are open then attenuation reduces to 12-15dB for partially open windows. Given the ambient external noise levels of around 65dB day and night time then this would result in internal noise levels of 50-53dB internally for those windows facing towards the noise source – vs a BS8233 noise level target of 35dB daytime and 30dB night time.

Given the above then it would be necessary to provide mechanical ventilation to significantly reduce the need to open windows otherwise the occupants would be subject to significantly elevated noise levels whenever the home becomes uncomfortable due to heat or humidity.
However, the fitment of commonly implemented systems may not be easily practical in a mobile home due to the structure. Ventilation systems can also admit noise by virtue of them requiring structural penetrations to allow air to pass through.
Air conditioning might be practical option however given that this does not necessarily circulate air through the wall or ceiling structure but instead 'conditions' the existing air within the home to reduce humidity and temperature to provide a more acceptable and comfortable internal environment.

The acoustic report indicates that screening bunds (paragraph 3.6) would be constructed along the western and eastern boundaries of the site in order to reduce noise levels across the site. These bunds are presumably shown in green on the acoustic report noise modelling – Figure 3 and Figure 4. There is no indication of the height of these bunds however so depending what height was assumed within the model vs what will be built is currently unclear.

Given the site is adjacent to an elevated section of the M62 motorway then the effect of these proposed bunds would have to be questioned. Acoustic attenuation by virtue of barriers relies on line of sight to the noise source being blocked. The difference between the 'direct line of sight' and the increased distance when a barrier is present is called the path difference. This directly relates to the acoustic attenuation that results from the barrier providing that the barrier does at least partially or ideally fully block line of sight. Where a bund exists and is at a lower level than the noise source then the acoustic effectiveness would be practically zero unless the bunds were able to at least partially block line of sight from the receiver position – i.e. the mobile home itself. This would represent a bund of approximately the same height as the mobile home itself – however no details of the proposals in this respect have been presented to my knowledge. This may have other consequences in terms of visual amenity for the development both inside and outside the site.

Ideally this application would need to be supported by a significant acoustic fence (or bund) forming a U shape along the Western, Eastern and Southern facades – however to block line of sight from the elevated motorway then it would be a very significant fence in its own right. It would however potentially be able to reduce noise levels on the site which consequently would reduce the level of mitigation required to protect the mobile homes from the external motorway noise source.

Certainly for other larger residential developments along the motorway granted permission in recent years for conventional dwellings have all been supported by acoustic fences with heights in excess of 2-3 metres minimum

above the ambient floor level to provide a demonstrable reduction in noise and to reduce the level of facade mitigation required to ground floor and first floor glazing elements along facing facades close to the motorway and to assist to achieve suitable external amenity space noise levels.

We have to be cautious over the presented information given the lack of clarity given the unknown height of the bunds. It is indicated however that this would only provide a 'small degree' of noise mitigation which suggests the bunds are low and therefore not blocking line of sight. The impacts are suggested as effectively inconsequential to the wider overall noise climate on site.

Paragraph 3.7 also indicates that the amenity building will provide some acoustic attenuation on site – this is agreed if it does block line of sight but this is not currently clear. However, looking at the acoustic report then it is only having any minor effect by potentially protecting the eastern part of the site rather than the western part which is suggested by looking at the noise contours for the daytime noise in Figure 3. The effects however do not readily reach the nearest mobile homes given that noise levels are essentially the same on the southern facing facades on either side of the site no doubt due to the elevated motorway noise source creating a direct line of sight.

Of note, the amenity building itself has not been considered for noise impacts. Given that this is a space where a lounge/living area is located and is likely to be used as a communal facility for all of the future occupiers then this seems to be an omission. It is located right at the boundary of the motorway and is a solid built structure so typical acoustic mitigation would be feasible to incorporate where necessary. There are patio doors at the western side of the building which open directly with a line of sight to the motorway. When open then these doors would admit a significant amount of noise into the room which would be at detriment to the amenity of the occupiers going forward.

As a minimum then the amenity building would require acoustic glazing to achieve 35dB Rw+Ctr to protect the habitable areas of the building and would also require a mechanical ventilation system or air conditioning to reduce the need to open windows in inclement conditions otherwise significant exceedances of noise internally would result.

Recommendations

The noise report submitted reports and concludes that an acceptable level of amenity will be provided for the future occupiers of the site.

In my professional opinion I do not agree with this overall conclusion.

To achieve an acceptable level of amenity then significant acoustic shielding will be necessary to block direct line of sight to the proposed mobile homes. The structure of the mobile homes is weaker than a traditional built structure therefore internal noise levels arising from the motorway noise will be above recommended guideline values and only be attainable if windows are closed.

Given the typical characteristics of a mobile home then overheating is a distinct possibility requiring opening windows to attain acceptable internal comfort conditions, however this will be at mercy of allowing significant external noise to permeate into the building if windows are opened.

Adequate ventilation systems are not clear cut for mobile homes but an air conditioning solution may be the only practical option – but this has not been offered as potential mitigation.

There are no practical mitigation options other than a bund (height unknown) offered by the acoustic report however it is recognised that this will be largely ineffective.

External amenity spaces will be significantly above the recommended BS8233:2014 50dB and upper guideline value of 55dB. No mitigation has been offered to protect any area of the development plot to achieve this.

The amenity building has been wholly ignored by the acoustic report in terms of mitigation. This is the only conventional building on site and is therefore one that for noise could be effectively mitigated against in terms of appropriate acoustic glazing requirements and a mechanical ventilation system. Conditions could be recommended to address this element only.

Environmental Protection Officer
Environmental Protection