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Noise Assessment

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Executive Summary

Bureau Veritas was instructed by Jigsaw Planning Ltd to undertake an environmental noise impact assessment at the Asda Petrol Filling Station (PFS), Rochester Rd, Chalk, Gravesend DA12 4TN, relating to the proposed extension of opening hours in the early morning.

Trading at the PFS and associated retail store is currently restricted to 07:00 – 23:00 on any day.

An assessment of the operation noise during the proposed extension period (i.e., 06:00 - 07:00) has been carried out in accordance with the relevant British Standard to consider the potential impacts on the nearest noise sensitive receptors.

To establish the current levels of ambient and background sound levels at the nearest residential receptors, a measurement survey was undertaken in August 2025. Existing ambient noise levels at the nearest residential receptors are dominated by the local road traffic noise from Rochester Road, along with pedestrian sound and occasional car movements within the PFS.

A computational noise model of the site operation was developed using measured noise emission data for the sound sources. Standard noise propagation calculations were used to predict the operational noise levels at the nearest noise sensitive receptors.

The assessment concludes that, the noise impacts of the extension of opening hours would be below the Lowest Observed Adverse Effect Level.

1. Introduction

- 1.1. Bureau Veritas was instructed by Jigsaw Planning Ltd to undertake an environmental noise impact assessment at the Asda PFS, Rochester Road, Chalk, Gravesend DA12 4TN, relating to the proposed extension of opening hours in the early morning.
- 1.2. The purpose of this assessment is to determine the potential impacts of the retail store and Petrol Filling Station (PFS) trading during the extension period of 06:00 - 07:00 on any day, if permitted, on sensitive receptors off site in terms of noise, based on current guidance and best practice.
- 1.3. The report also details the baseline noise surveys, assessment methods used, and consideration of the need for noise mitigation measures.
- 1.4. A glossary of acoustic terminology is included in **Appendix One**.

2. Site Location

- 2.1. The Asda Chalk Express Petrol Station is a typical retail fuel service location operated by Asda Stores Limited, featuring multiple fuel dispensing lanes under a covered canopy structure. The site encompasses a forecourt area designed for vehicle circulation, fuel purchase, and potential convenience store access.
- 2.2. The Asda Chalk Express Petrol Station is located on the A226 Rochester Road connecting urban and suburban areas. Positioned at a prominent roadside location, the site offers convenient access for motorists with clear visibility and easy entry/exit points.
- 2.3. The Site is situated within a mixed commercial and residential zone with immediate proximity to North Kent College and City Praise Centre to the north. Adjacent to the Site, to the east and south are residential dwellings. To the west is Lion Roundabout connecting Rochester Road, Old Road E and Dering Way.
- 2.4. The nearest residential receptors to the site operation are residents of 181 Rochester Road on Rochester Road (NSR1), and residents of the dwellings on Main Road to the south of the Site (NSR2); the locations of the NSRs are shown in **Appendix Two**.

3. Criteria for Assessment

- 3.1. The sounds caused by the vehicle movements and fuel pump operation are considered as commercial noise, therefore British Standard 4142: 2014+A1: 2019 is the main guidance for the assessment, along with the other relevant references, to assess the potential noise impact on the nearby sensitive receptors.
- 3.2. The noise impact from the site noise should not exceed the guideline values of 30 dB(A) in bedrooms between 23:00 and 07:00 hrs.
- 3.3. The relevant guidance documents are listed below:
 - National Planning Policy Framework (NPPF) 2024; and the supplementary Planning Practice Guidance for Noise (PPG(N)) July 2019;
 - British Standard BS 7445: 2003 – Description and Measurement of Environmental Noise – Guide to Quantities and Procedures;
 - British Standard 4142: 2014+A1:2019, “Methods for rating and assessing industrial and commercial sound” (BS4142);
 - British Standard 8233: 2014, “Guidance on sound insulation and noise reduction for buildings” (BS8233); and
 - ISO 9613-2:2024 ‘Acoustics – Attenuation of Sound during Propagation Outdoors – Part 2: General Method of Calculation’.

Planning Policy

National Planning Policy Framework, 2024

- 3.4. The Revised NPPF (December 2024) sets out the Government's planning policies for England. It states:

"187. Planning policies and decisions 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. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and..."*

- 3.5. It goes on to state:

"198. 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, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. 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;*
- b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and*
- c) ..."*

- 3.6. The terms 'significant adverse impact' and other adverse impacts are defined in the explanatory notes of the 'Noise Policy Statement for England (NPSE)', which states:

There are two established concepts from toxicology that are currently being applied to noise impacts, for example, by the World Health Organisation. They are:

NOEL – No Observed Effect Level

This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life

LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected.

Extending these concepts for the purpose of this NPSE leads to the concept of a significant observed adverse effect level.

SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur.

- 3.7. It should be noted that specific noise limits for LOAEL and SOAEL have not yet been specifically defined, and would be specific to different sectors. However, guidance from other acoustic standards may be employed to determine suitable levels within the overall principle of the NPPF.
- 3.8. The Planning Practice Guidance for Noise (PPGN) provides further detail about how the effects of noise can be categorised. **Table 3.1** summarises the noise exposure hierarchy.

Table 3.1: National Planning Practice Guidance Noise Exposure Hierarchy

Perception	Examples of Outcomes	Increasing Effect Level	Action
Not present	No Effect	No Observed Effect	No specific measures required
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g., turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Present and disruptive	The noise causes a material change in the behaviour, attitude or other physiological response, e.g., avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in the behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g., regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g., auditory and non-auditory	Unacceptable Adverse Effect	Prevent

Technical Guidance

British Standard 4142: 2014+A1: 2019 'Methods for rating and assessing industrial and commercial sound'

- 3.9. The Standard provides a method for assessing whether a sound from industrial or commercial premises (e.g., fixed mechanical and electrical (M&E) plant, loading activities etc.) is likely to cause a disturbance to persons living in the vicinity of the site.
- 3.10. BS 4142 assesses potential significance of effect by comparing the 'specific sound level' of an industrial source to the typically representative background sound level (L_{A90}). Certain acoustic features can increase the potential for a sound to attract attention, and therefore increase its relative significance than that expected from a simple comparison between the specific sound level and the background sound level. In particular, BS 4142 identifies noise that contains discrete impulses and/or audible tonal qualities and in these cases recommends that a correction be added to the specific sound level. The specific sound level along with any applicable correction is referred to as the 'rating level'.
- 3.11. The greater the difference between the rating level and the background sound level; the greater the likelihood of complaints. The assessment criteria given by BS 4142 are as follows:
 - A difference of +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.
 - A difference of +5 dB could be an indication of an adverse impact, depending on the context.
 - The lower the rating level is relative to the measured background sound level, the less likely it is that there will be an adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

- Also, to take into account the absolute level, risk that it will cause annoyance/interference with everyday activities, context of the sound, frequency and temporal variations to the sound.
- 3.12. During the daytime and evening, BS 4142 requires that sound levels are assessed over 1-hour periods. During the night-time, because sleep disturbance is the important issue and individual sound events are, therefore, more important, sound levels are assessed over 15-minute periods.

British Standard 8233: 2014 Guidance on Sound Insulation and Noise Reduction for Buildings

- 3.13. BS 8233:2014 provides guidance for the control of noise in and around buildings. It is applicable to the design of new buildings, or refurbished buildings undergoing a change of use.
- 3.14. With regards to external sound sources affecting habitable residential spaces, Table 4 of BS 8233:2014 provides guideline values that it is desirable to not exceed during daytime and night-time periods. These guideline values are reproduced in **Table 3.2**.

Table 3.2: Indoor ambient sound 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 $L_{Aeq,8hour}$

- 3.15. The internal sound requirements are not intended to be met with open windows, although BS 8223:2014 states that the internal sound levels should take account of the proposed ventilation strategy.
- 3.16. BS 8233:2014 also notes that:
- “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”.*
- 3.17. BS8233:2014 does not provide specific guidance on sound levels for regular individual sound events, such as passing trains, which can cause sleep disturbance. Guidance on suitable sound levels for individual events is provided in the WHO Guidelines for Community Noise.
- 3.18. The WHO guidelines state that for a reasonable standard in bedrooms to be achieved individual sound events should not normally exceed 45dB L_{Amax} 10 to 15 times during the night-time period.
- 3.19. For traditional external areas that are used for amenity space, such as gardens and patios, BS8233 states that it is desirable that the external sound 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.

ISO 9613-2:2024 ‘Acoustics – Attenuation of Sound during Propagation Outdoors – Part 2: General Method of Calculation’

- 3.20. ISO 9613-2:2024 specifies methods for the description of sound outdoors in community environments. ISO 9613 can be applied to a wide variety of sound sources and includes methods to determine most of the major mechanisms of sound attenuation, such as:
- Geometric divergence (A_{div}) – spherical spreading of sound energy;
 - Atmospheric absorption (A_{atm}) – attenuation of sound due to interaction with the air (dependant on frequency of sound and negligible at short distances);
 - Ground effect (A_{gr}) – sound reflecting by the ground surface interfacing with the sound propagating directly from source to receiver;

- Reflection from surfaces (image source method, included in A_{gr} calculation) – sound is reflected from hard surfaces such as building facades due to atmospheric impedance of the surface. This effect increases the sound level when compared to a location free of buildings (i.e., free field); and
- Screening by obstacles (A_{bar}) – Hard obstacles such as close-boarded timber fences and varying topography, including hills attenuate the sound from a source due to the insertion loss properties of the obstacle. However, there is an element of the sound which will diffract around the obstacle, especially at lower frequencies. The diffraction effect is determined using the path differences between the direct and diffracted sound. It should be noted that the screening effect provided by trees and foliage is negligible in the majority of cases; the exception is large areas of dense forest or plantations.

4. Baseline Sound Level Survey

Background Sound Level

- 4.1. To establish the existing ambient and background sound levels at the nearest residential receptors, attended baseline monitoring was carried out on Sunday 3rd August 2025 and Wednesday 6th August 2025 at monitoring location MP1 (refer to figure in **Appendix Two**).
- 4.2. All measurements were undertaken in free-field conditions at a height of approximately 1.5 m above ground. The noise monitoring equipment was calibrated at the beginning and end of the assessment period using an acoustic calibrator, which had itself been calibrated against a reference set traceable to National and International Standards. No shift in calibration level was observed.
- 4.3. During the measurement survey, the meteorological conditions comprised:
 - Sunday 3rd August 2025 - wind at 3-4 m/s from W, 13 °C, clear sky, with 88% humidity.
 - Sunday 6th August 2025 - wind at 1 m/s from SE, 10 °C, clear sky, with 88% humidity on.
- 4.4. The weather conditions satisfy the requirements in BS4142.
- 4.5. At MP1, existing ambient noise levels are dominated by the local road traffic noise from Rochester Road, along with pedestrian sound and occasional car movements within the PFS.
- 4.6. **Table 4.1** presents a summary of the baseline sound level survey results.

Table 4.1: Summary of Derived Sound Levels at the short-term monitoring locations						
Date	Period	Start time	Sound Pressure Level, dB re: 20µPa (Fast, Free-field)			
			L _{Aeq,T}	L _{Amax,T}	L _{A10,T}	L _{A90,T}
Sunday 03/08/2025	Night-time	06:00-06:15	58	74	63	38
		06:15-06:30	58	74	63	38
		06:30-06:45	59	72	64	41
		06:45-07:00	60	74	65	42
	Daytime	07:00-08:00	61	74	66	45
		08:00-09:00	63	77	67	51
Wednesday 06/08/2025	Night-time	06:02-06:17	64	87	69	45
		06:17-06:32	66	83	70	49
		06:32-06:47	66	77	70	48
		06:47-07:02	66	80	70	51
	Daytime	07:02-08:02	67	82	70	54

- 4.7. To provide a robust assessment, the lowest background sound levels are considered as the representative background sound levels at the receptor locations.
- 4.8. The representative daytime (07:00-09:00) Sunday ambient and background sound levels are decided as 61 dB L_{Aeq} and 45 dB L_{A90} at MP1. The representative night-time (06:00-07:00) weekday ambient and background sound levels are decided as 58 dB L_{Aeq} and 38 dB L_{A90} at MP1.
- 4.9. The representative daytime (07:00-08:00) weekday ambient and background sound levels are decided as 67 dB L_{Aeq} and 54 dB L_{A90} at MP1. The representative night-time (06:00-07:00) weekday ambient and background sound levels are decided as 64 dB L_{Aeq} and 45 dB L_{A90} at MP1.
- 4.10. Therefore, the representative night-time background sound levels is **38 dB L_{A90}** at NSR1 and NSR2 as worst case.

Sound Source Measurements

- 4.11. The site operation included vehicle movement and pump fill, and tyre air compressor. There are no car wash, vacuum or jetwash facilities on site.
- 4.12. Bureau Veritas has in-house sound source data of pump fill and car movement measured previously for other ASDA PFS sites. Sound source measurement was only undertaken for air compressor on 6th August 2025.
- 4.13. **Table 4.2** shows the measured sound levels for the tyre air compressor.

Table 4.2: Summary of Derived Sound Levels of Site Operation Activities												
Sound Source	Distance from Sound Source	Sound Pressure Level (dBA)	Octave Band Sound Pressure Level (dBz)									Duration
			31.5Hz	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
Air Compressor	@1m	70	30	45	55	56	62	63	66	60	56	6 mins

- 4.14. It should be noted that the noise levels in **Table 4.2** are the L_{Aeq} values over the duration time. Based on the site observation, there are approximately 1-2 users of the air compressor per hour.

5. Noise Assessment

Introduction

- 5.1. The noise impact assessment with respect to site operation on the existing environment has been carried out for night-time (06:00 – 07:00 any day) periods.
- 5.2. The assessment is based on the predicted operation noise levels ($L_{Aeq,T}$) and the background sound levels ($L_{A90,T}$) measured in August 2025. The sound levels of the retail store and PFS trading noise at the nearest sensitive receptors were predicted by noise modelling, using CadnaA software.
- 5.3. Noise propagation was predicted using algorithms described in ISO 9613-2, as incorporated within the noise modelling software.
- 5.4. All buildings were assumed to have a reflection loss of 1 dB for reflected ray paths. The topography and the existing barriers were also included in the model.
- 5.5. Two reflections are calculated for each ray path from each noise source. Ground factor, $G = 0.5$ was used for mixed soft and hard grounds.

Sound Sources

- 5.6. Vehicle movement, pump fill, and air compressor are identified as the main sound sources in the site. Noise from the vehicle arriving and departing was modelled as a line source. Other sound sources are modelled as point sources. The sound power levels are calibrated in the model by the measurement data.
- 5.7. The number of users of fuel pumps during 06:00 – 07:30 is unknown at this stage. It typically took 3-5 minutes for each user. As such, 12 vehicle movements per pump fill per hour (72 vehicle movements per hour in total) is assumed as a worst-case scenario.
- 5.8. Therefore, the modelled sound emission rates comprise:
 - Pump fill = 82 dB L_{WA} , at 1.2 m height;
 - Air compressor = 80 dB L_{WA} , at 1 m height; and
 - Vehicle movement = 65 L_{WA} , 72 movements per hour during daytime and 36 movements per hour during night-time, at speed of 5mph, at 0.5 m height.
- 5.9. It is assumed all 3no. pump fills and 1no. air compressor are all in use simultaneously, as a conservatively robust assessment scenario.

BS4142 Assessment

5.10. The modelled specific sound levels of the site operation at the nearest receptors are shown in **Table 5.1** below.

Table 5.1: Summary of Predicted Highest Sound Levels of the PFS operation on the Nearest Facades		
Receptor(s)	Sound Pressure Level, dB L_{Aeq} – Night-time (06:00-07:00) – 1 st Floor	Sound Pressure Level, dB L_{Aq} – Night (06:00-07:00) – Ground Floor
NSR1	35	35
NSR2	37	37

5.11. **Figures 5.1 and 5.2** show the predicted sound propagation grids ground and first-floor levels.

Figure 5.1: Prediction of Specific Sound Level night-time L_{Aeq} – 1.5 m above ground

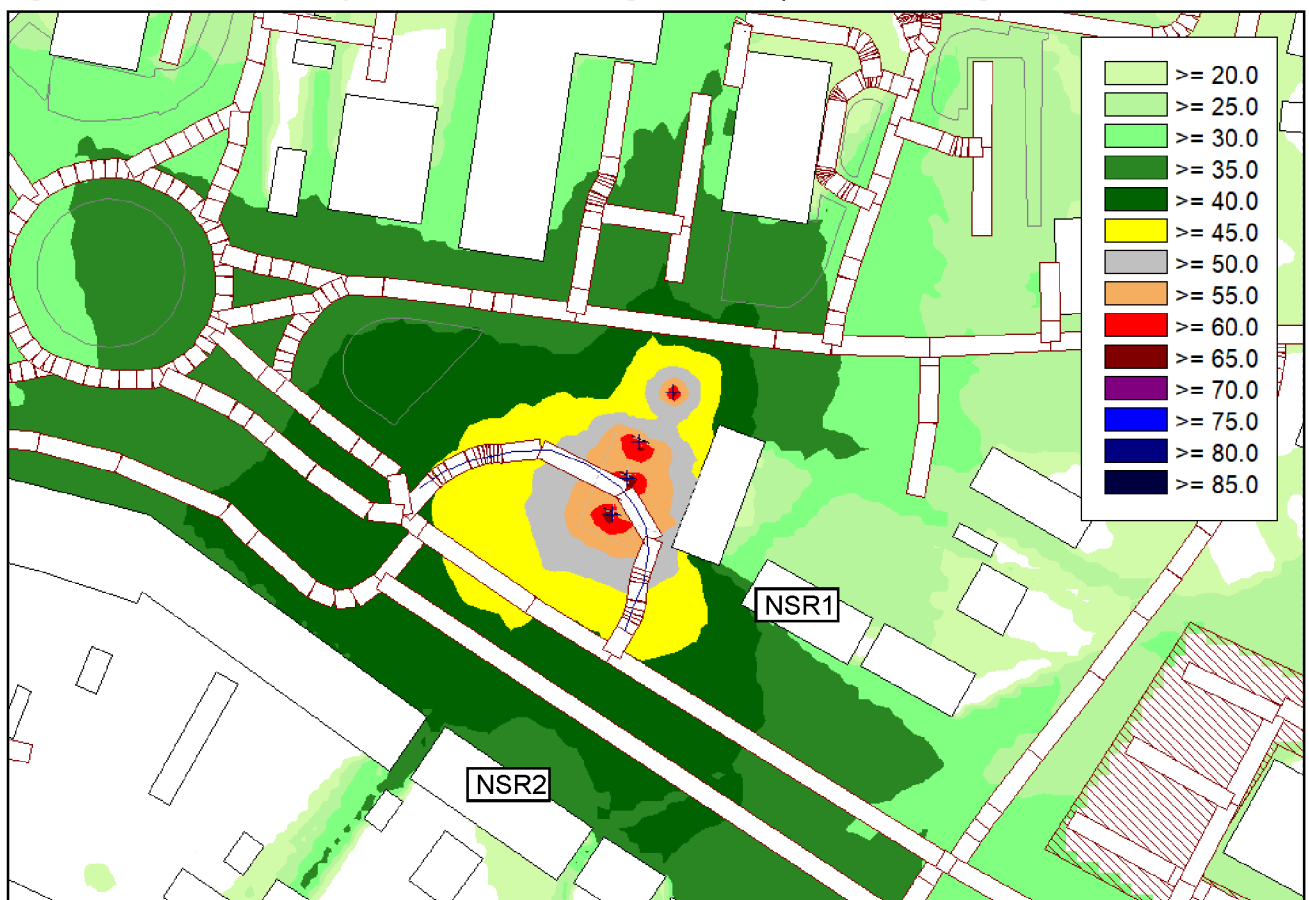
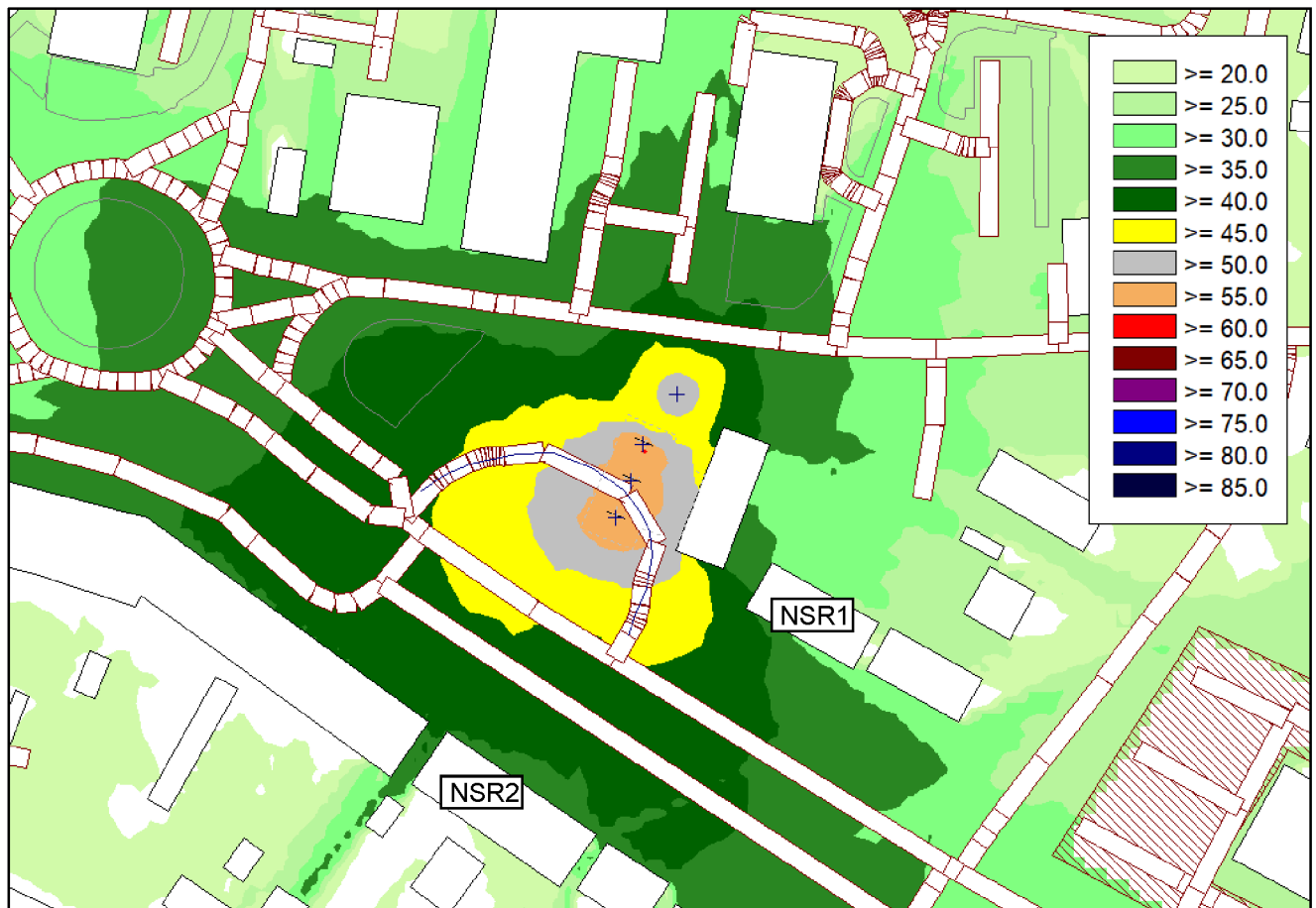


Figure 5.2: Prediction of Specific Sound Level night-time L_{Aeq} – 4 m above ground



- 5.12. It is noted that the modelling results are for the worst-case scenario, with the pump fills, air compressor, and car movements are running simultaneously, which rarely occur. The site operation noise levels at the receptors would typically be lower than the worst-case predicted values in **Table 5.1**.

Night-time assessment (06:00-07:00)

5.14. The indicative BS 4142 assessment for night-time (06:00 – 07:00) is provided in **Table 5.2** below.

Table 5.2: Indicative BS 4142:2014 Assessment of Operation Noise- Night (06:00 – 07:00)			
Description	Result	Relevant Clauses of BS 4142:2014	Commentary
Specific Sound Level (free-field), dB $L_{Aeq,1hr}$	35 (NSR1) 37 (NSR2)	7.3.6	Predicted level (free-field) at first floor level at the nearest receptor. Determined by calculation using CadnaA.
Background sound level L_{A90} , dB	38	8.1 and 8.2	The background noise levels (free-field) were measured at the monitoring location representative of the noise-sensitive receptors.
Acoustic features correction	3	9.2	Just perceptible impulsivity is predicted to be audible inside properties
Rating Level, dB L_{Ar}	38 (NSR1) 40 (NSR2)		
Excess of Rating Level over Background Sound Level, dB	0 (NSR1) +2 (NSR2)		
Assessment of impact: Indication of Low impact due to noise at NSRs, depending on context		11	
Context		11 8.2	A sound reduction of 13 dB is expected through a partially open window for ventilation, the internal noise at NSRs would be below the BS8233 guidelines for bedrooms (30 dB $L_{Aeq,8h}$). NSR1 and NSR2 are on roadside, and the ambient noise levels are much higher than the site operation noise. As such, the windows of NSR1 and NSR2 are very likely closed during night, which provides at least 27 dB noise attenuation with standard double-glazing windows.
Uncertainty of the assessment		10	The specific noise level has been predicted by CadnaA, which utilises ISO9613 calculations, which have a claimed uncertainty of +/- 3 dB. The background sound levels at the receptors are decided based on the short-term noise monitoring.

5.15. It is therefore concluded that the noise impacts of the site operation during night-time would be below the Lowest Observed Adverse Effect Level and no noise mitigation measures are required.

Assessment of peak noise events

- 5.16. **Table 5.4** shows the typical L_{Amax} sound pressure level data for car door slamming and car ignition starts according to the best practice. It can be seen that the car door slamming has the highest dB L_{Amax} .

Table 5.4: Typical sound pressure level data for car peak noise event		
Activity	Height of Source (m)	Maximum Noise Level, dB L_{Amax} at 10 m
Car ignition and pull out	0.5	70
Door slamming	0.5	71

- 5.17. The shortest distance between the car door slamming at the EV charger and the receptor NSR1 is approximately 14 m as a worst case. A reduction of approximately 3 dB is expected ($20 \times \log [14/10]$) and therefore the noise level of car doors slamming is likely to be 68 dB L_{Amax} on the nearest facades of the receptors and therefore the internal level would be 53 dB L_{Amax} , assuming 15 dB attenuation through an open window. Noise levels would be significantly lower with closed windows.
- 5.18. With regards to night-time periods, WHO guidance states that for good sleep the internal sound level should not exceed typically 45 dB L_{Amax} more than 10 to 15 times per night. Therefore, typical maximum noise levels due to the car door slamming should ideally not typically exceed 60 dB L_{Amax} at the nearest noise sensitive façade during night-time periods, allowing 15 dB attenuation through an open window for ventilation purposes.
- 5.19. Based on site observation, it is very unlikely that there would be more than 10 times of car door slamming at the EV charger to the NSR1 during night-time (06:00 – 07:00), below the 10 events required to trigger the WHO response threshold. The car door slamming sound at the pump fills are no more than 45 dB L_{Amax} at the NSR1 indoor due to the bigger distances (more than 30m). As such, the site operation is very unlikely to cause sleep disturbances at NSRs in line with the guidance.
- 5.20. Compared the baseline data (see **Table 4.1**), it can be seen that the lowest L_{Amax} measured at the monitoring locations during the attended monitoring is 74 dB during daytime and 72 dB during night-time, which is much higher than the predicted L_{Amax} of the car door slamming noise.
- 5.21. Therefore, it can be concluded that at this site the noise impact associated with the impulsive noise of intermittent car door slamming and other activities in the PFS would not be significant during the extended period.

6. Conclusions

- 6.1. Bureau Veritas was instructed by Jigsaw Planning Ltd to undertake an environmental noise impact assessment at the Asda PFS, Rochester Rd, Chalk, Gravesend DA12 4TN, relating to the proposed extension of opening hours in the early morning.
- 6.2. Trading at the PFS and associated retail store is currently restricted to 07:00 – 23:00 on any day.
- 6.3. An assessment of the operation noise during the proposed extension period (i.e., 06:00 – 08:00) has been carried out in accordance with the relevant British Standard to consider the potential impacts on the nearest noise sensitive receptors.
- 6.4. To establish the current levels of ambient and background sound levels at the nearest residential receptors, a measurement survey was undertaken in August 2025. Existing ambient noise levels at the nearest residential receptors are dominated by the local road traffic noise from Rochester Road, along with pedestrian sound and occasional car movements within the PFS.
- 6.5. A computational noise model of the site operation was developed using measured noise emission data for the sound sources. Standard noise propagation calculations were used to predict the operational noise levels at the nearest noise sensitive receptors.
- 6.6. The assessment concludes that, the noise impacts of the extension of opening hours would be below the Lowest Observed Adverse Effect Level.

Appendix One – Glossary of Acoustic Terminology

Sound power level	A logarithmic measure of the power of a sound relative to a reference value.
"A" Weighting (dB(A))	The human ear does not respond uniformly to different frequencies. "A" weighting is commonly used to simulate the frequency response of the ear. It is used in the assessment of the risk of damage to hearing due to noise.
Decibel (dB)	The range of audible sound pressures is approximately 2×10^{-5} Pa to 200 Pa. Using decibel notation presents this range in a more manageable form, 0 dB to 140 dB.
Ambient sound level, $L_{Aeq,T}$	equivalent continuous A-weighted sound pressure level of the totally encompassing sound in a given situation at a given time, usually from many sources near and far, at the assessment location over a given time interval, T. NOTE The ambient sound level is a measure of the residual sound and the specific sound when present.
Background sound level, $L_{90,T}$	A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval, T, measured using time weighting F and quoted to the nearest whole number of decibels.
Maximum sound level, $L_{Amax,T}$	The maximum RMS A-weighted sound pressure level occurring within a specified time period.
Noise	Unwanted sound.
Ambient sound	Totally encompassing sound in a given situation at any given time composed of noise from many sources, near and far.
Residual sound	Ambient sound remaining at the assessment location when the specific sound source is suppressed to such a degree that it does not contribute to the ambient sound.
Rating level	Specific sound level plus any adjustment for the characteristic features of the sound.

Appendix Two – NSRs and Baseline Monitoring Location

