

# Noise Survey

**Noise Survey & Impact Assessment for  
Proposed Hand Car Wash Facility on  
Land at No 10A Regent Street, Heckmondwike WF16 0DH  
To Inform Planning No 2025/92459**

Our Reference – J3373

Revision – Rev 1

Report compiled by - Paul Horsley MIOA

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## DOCUMENT ISSUE RECORD

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## Limitations

The assessments and interpretation have been made in line with legislation and guidelines in force at the time of writing, representing best practice at that time.

All of the comments and opinions contained in this report, including any conclusions, are based on the information obtained by Paul Horsley Acoustics Ltd during our investigations.

There may be other conditions prevailing on the site which have not been disclosed by this investigation, and which have not been considered by this report. Responsibility cannot be accepted for conditions not revealed by the investigation.

Any diagram or opinion of the possible configuration of the findings is conjectural and given for guidance only and confirmation of intermediate ground conditions should be considered if deemed necessary.

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**1.0 Agent**

D K Architects  
Suite 4 Batley Business Park  
Technology Drive  
Batley  
WF17 6ER

**2.0 Site**

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Heckmondwike  
WF16 0HD

**3.0 Aims**

The aim of this report is to determine the baseline noise levels at No 10A Regent Street, Heckmondwike for the change of use of the vacant site from a former taxi booking office and car park to a hand car wash facility as required as part of Planning Application 2025/92459.

Determine the likely impact of noise produced by the car wash activities on the land in question when considered at the nearby residential premises.

Provide mitigating noise control advice, should any be necessary, in order to maintain the pre-existing amenity of the nearby noise sensitive premises.

#### 4.0 Location and Description of Existing Noise Sources

The specific site under consideration is located at 10A Regent Street, in the centre of Heckmondwike.

The specific site under consideration comprises of a ground floor office and storage space, formerly the taxi booking office and an external area used as a car park, which will form the hand car wash area of the proposal.

The site occupies an external area of approximately 25m x 16m. The ground floor of the premises consists of 2 No spaces to be used as a waiting room and office space. The first floor area is utilised as an existing residential flat.

The site is bounded to the east by Regent Street, a primary link road between Heckmondwike town centre and Morrisons Supermarket to the south. The road is also used as a main bus route. On the opposite side of the road is a public house / club and loading bay for the shop units located along Westgate, the main high street of Heckmondwike. The northern site boundary is formed by the rear of shops positioned along Westgate. The western site boundary is formed by the rear façade of an industrial building used presently as a garage and MOT centre. The southern site boundary is formed by an industrial unit, with Morrisons Supermarket car park located beyond.

The sources relevant to the area noise climate are primarily due to traffic flow along Regent Street itself, with a constant traffic flow noise audible along Westgate to the north. Industrial noise is audible from the nearby industrial units. Pedestrian noise is audible from people passing the site to and from Morrisons Supermarket.

## 5.0 Guidance on the Assessment of Noise Levels.

The purpose of any criterion or standard for environmental noise should be to safeguard against unacceptable levels of community response, deemed as a feeling of annoyance during daytime or disturbance at night. WHO defines annoyance as "...a feeling of displeasure evoked by noise."

The main source of information relating to noise and the community response are field studies including noise measurements and social surveys. These studies then attempt to establish a correlation between the two sets of results.

In the absence of any definitive guidance and in order to establish suitable noise criteria, it is necessary to rely on general guidance and assessment methods used for community noise sources. Discussions on the current methods are given below.

### 5.1 BS4142:2014+A1:2019 'Method for Rating and Assessing Industrial and Commercial Sound'.

The standard describes methods for rating and assessing sound of an industrial and/or commercial nature, which includes:

- a) Sound from industrial and manufacturing processes:
- b) Sound from fixed installations which comprise mechanical and electrical plant and equipment:
- c) Sound from the loading and unloading of goods and materials at industrial and / or commercial premises: and
- d) Sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes, such as that from forklift trucks, or that from train or ship movements on or around an industrial and / or commercial site.

The methods described in this British Standard use outdoor sound levels to assess the effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident. The standard compares sound from industrial / commercial sources with the background sound level.

In addition to the above, the standard states "Certain acoustic features can increase the significance of impact over that expected from a basic comparison between the specific sound level and the background sound level." Such features are considered by adding a correction to the specific sound level depending on the extent to which the distinguishing acoustic characteristics will attract attention. The standard states the following:

**Tonality:** For sound ranging from not tonal to prominently tonal the Joint Nordic Method gives a correction of between 0 dB and +6 dB for tonality. Subjectively, this can be converted to a penalty of +2 dB for a tone that is just perceptible at the noise receptor, +4 dB where it is clearly perceptible, and +6 dB where it is highly perceptible. Where the subjective method is considered not sufficient for the determination of tonality, alternative methods including a one third octave band analysis method, which assesses the  $L_{zeq}$  sound pressure level in a one third octave band against adjacent one third octave bands. If a tone is identified, then a tonal correction of +6 dB should be applied.

A tone can be considered present where the difference between both adjacent one-third octave bands is as follows.

- 15 dB difference between 25Hz – 125Hz
- 8 dB difference between 160Hz – 400Hz
- 5 dB difference between 500Hz – 10,000Hz

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

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

Where tonal and impulsive characteristics are present in the specific sound within the same reference period then these two corrections can both be considered. If one feature is dominant, then it may be appropriate to apply a single correction. Where both features are likely to affect perception of response, the correction ought normally to be applied in a linear fashion.

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

BS4142:2014+A1:2019 provides guidance on the assessment of noise impacts as below:

The significance of sound of an industrial / commercial nature depends upon both the margin by which the rating of the specific sound source exceeds the background sound level and the context in which the sound occurs. An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs / will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context.

Obtain an initial estimate of the impact of the specific sound by subtracting the measured background sound level from the rating level, and consider the following:

- a) Typically, the greater this difference, the greater the magnitude of the impact.
- b) A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.
- c) A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.
- d) The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

The Standard introduces additional rating elements, these being subject assessments of tonality, and impulsivity of a sound source, with weighted rating values accordingly applied at the judgment of the assessor.

The introduction of Uncertainty has been applied to the measured values; again, consideration of this is left to the professional executing the survey and assessment. However, steps are provided within the Standard for the reduction of uncertainty in both measurement and calculations of the sound source and rating value. Actual meteorological conditions are now required to be recorded and reported upon for the survey and report.

## **5.2 World Health Organisation 1999 “Guidance for Community Noise”**

This document provides a review of the effects of noise and a description of the principles of the WHO health criteria and guidelines for Community Noise.

The effects of noise in dwellings are identified as sleep disturbance, annoyance and speech interference. For bedrooms, the critical effect is sleep disturbance. Indoor guideline values for bedrooms are 30 dB LAeq for continuous noise and 45 dB L<sub>Amax</sub> for sound events. At nighttime, outside sound levels about 1 metre from facades of living spaces should not exceed 45 dB LAeq, so that people may sleep with bedroom windows open. This value is equivalent to that specifies in the Criteria 12 document; however, it is now assumed that the noise reduction from outside to inside with the window open is 15 dB.

To enable casual conversation indoors during the daytime, the sound level of the interfering noise should not exceed 35 dB LAeq.

To protect the majority of people from being **seriously** annoyed during the daytime, the outdoor sound level from steady, continuous noise should not exceed 55dB LAeq on balconies, terraces and in outdoor living areas. To protect the majority of people from being **moderately** annoyed during the daytime, the outdoor sound level should not exceed 50 dB LAeq.

Table 1 of the document summarises the guideline values for community noise in specific environments and includes the noise indices to be adopted. Significantly, the corresponding time base to be used for the assessment is also included.

The relevant extracts of Table 1 are reproduced thus:

Specific Environment	Critical health effect (s)	LAeq dB	Time Base hours	L <sub>Amax</sub> dB
Outdoor living area	Serious annoyance, daytime and evening	55	16	-
	Moderate Annoyance, Daytime and evening	50	16	-
Dwelling, Indoors	Speech intelligibility & moderate annoyance daytime & evening.	35	16	-
	Sleep Disturbance, night-time	30	8	45
Outside Bedroom	Sleep disturbance, window open (Outdoor Values)	45	8	60

### 5.3 National Planning Policy Framework, NPPF.

The National Planning Policy Framework, NPPF, provides advice to planning authorities in England on how they must seek to minimise the adverse impact of noisy activities on noise sensitive receptors. This NPPF, replacing PPG 24, is not prescriptive with respect to specific noise levels, and is mainly concerned with the advising on good practice for environmental noise assessment.

In the absence of definitive noise criterion within the NPPF most Local Authorities in England default to the daytime noise levels inside dwellings not to exceed NR 35; and NR 25, to be achieved inside dwellings at night to avoid sleep disturbance which is not applicable to this application as operations would only take place during daytime periods, based upon ingress of external noise sources.

## 5.4 Subjective Impression of Noise Changes

The following Table provides a semantic scale that may be used to “subjectively” rate changes in sound pressure level.

**Table 1: Subjective effect of changes in sound pressure level**

Change in sound level dB	Change in Power		Change in apparent loudness
	Decrease	Increase	
3	1/2	2	Just perceptible
5	1/3	3	Clearly noticeable
10	1/10	10	Half / Twice as loud
20	1/100	100	Much quieter / louder

After Bies and Hansen

This table is taken from Professor Colin H Hansen’s publication “Fundamentals of Acoustics” page 41, for the Department of Mechanical Engineering, University of Adelaide. This table also appears in “Engineering Noise Control” by Colin Hansen and David Bies, a comprehensive reference book, amongst others.

## 6.0 Survey Equipment

Svantek Sound Analyser, SV 979, Type 1, Serial No 92932

Svantek SV 17 Microphone Serial No 106523

RION NC-74 Calibrator Serial No 530712

90mm Windshield

Tripod

## 7.0 Survey Method

An attended environmental noise monitoring survey was carried out on the 31<sup>st</sup> October 2025, by the author, in order to ascertain the pre-existing baseline noise climate for the area over a typical daytime period. The survey was executed in accordance with the requirements of BS4142:2014+A1:2019.

Various external sound measurements were taken using the sound analyser, set to record 1/1 Octave centre band frequency noise levels with Fast response, taking account of "A" weighted Leq, Lmax, L90 and L10 features of the noise.

The measurement indices noted above are defined as follows:

$LA_{eq, T}$	"A" weighted equivalent continuous noise level of sample period T
$LA_{90, T}$	"A" weighted level exceeded for 90% of sample period T
$LA_{10, T}$	"A" weighted level exceeded for 10% of sample period T
$LAF_{max}$	"A" weighted maximum level during the sample period T

In order to determine the existing baseline noise climate, sound recordings were taken in the centre of the site over morning and afternoon sessions to cover the proposed operational period for the site. The results of these samples will be used to assess the likely impact of noise from the site.

The sound level meter was calibrated before and after the measurements using the calibrator to ensure accuracy of the results. No variations were noted between calibrations and the results obtained can be deemed to be an accurate representation of the levels recorded.

Sound insulation testing was conducted on the existing party floor between the ground floor office space and the 1<sup>st</sup> floor residential flat of No 10A Regent Street to determine the acoustic properties of the party element relating to acceptability with respect to Building Regulations Part E

## 8.0 Prevailing Weather Conditions

31 <sup>st</sup> October 2025 Morning	+13 °C, 80% cloud cover, wind 0-3mph S, 998 mb, 86% Rh.
31 <sup>st</sup> October 2025 Afternoon	+15 °C, 90% cloud cover, wind 0-3mph S, 995 mb, 80% Rh.

Road surfaces were dry throughout the monitoring sessions.

## 9.0 Noise Survey Results

During the monitoring period noise samples were recorded using a broadband and 1/1 Octave Centre Band analysis for the survey. The monitoring samples were collected from the locations described below. This was to establish the general baseline noise climate for the site prior to development.

The table of results on the following page indicates the noise levels recorded during the monitoring period, with a brief description of the noise sources contributing to the monitored noise levels recorded.

An overview of monitoring positions is given below:-

1. Location 1 relates to the position within the existing site car park area.

The above monitoring locations should be read in conjunction with the site layout appearing in Appendix A of this report.

Refer to Appendix B for the survey results frequency analysis table.

## 10.0 Noise Survey Results Table

Below are the results table for the noise monitoring sessions completed for the site.

### 10.1 Results Table

Location	Period	Data ID	Start date & time	LAMax dB	LAeq dB	LA10 dB	LA90 dB	Source Description
Car Park Area Outside No 10A	Morning	1	31/10/2025 09:47:35	88.2	64.6	69.2	50.1	Traffic passing along Regent St dominant. Westgate traffic drone dominant when passing traffic not present.
	Afternoon	2	31/10/2025 13:30:36	94.7	65.7	69.4	50.0	Pedestrian talking audible.

Library Hand Car Wash Data Measured at 1m from Each Activity	78.9	71.5	73.0	69.6	Valeting using vacuum cleaner at 1m
	80.1	75.0	78.0	62.0	High pressure lance at 1m removing dirt
	77.8	65.8	69.3	56.6	Low pressure lance at 1m
	81.3	73.2	75.3	69.0	High pressure lance at 1m de-soaping

Refer to Appendix B for frequency analysis data.

### 10.2 Sound Insulation Test Results

Test Location	Results	Pass / Fail
Sound Insulation Test Between Ground Floor Office / Store and 1 <sup>st</sup> Floor Residential Flat at 10A Regent Street	$D_{nT,w}(C; C_{tr}) = 54 (-3;-8) \text{ dB}$	Fail

See Appendix C for Test Certificate

## 11.0 Discussion and Design Targets

The above results table indicates the noise data collected over a typical noise sensitive weekday period and can be deemed as representative of the noise climate for the area.

The general noise climate was dominated constant and at times heavy vehicle movements along Regent Street.

In order not to unduly affect the existing amenity of the nearby noise sensitive premises as a result of the proposed hand car wash activities of the site, it is advisable to take reference from the available standards and guidance, noted in section 5 above.

If we consider BS4142:2014+A1:2019, we find that a noise level rating of a difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending upon the context. A difference of around +5 dB is an indication of an adverse impact, depending upon the context. The lower the rating level is relative to the measured sound level, the less it is that the specific sound source will have an adverse impact or a significant impact. Where the rating does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending upon context.

Taking reference from W.H.O., we find that the maximum allowable external noise level has been deemed as 35 LAeq dB for continuous sources internal within noise sensitive premises for daytime periods, equivalent to 50 LAeq dB in external spaces. However, this value does not take account of the actual context of the noise climate location and as such could be lower than the area sound level being considered, therefore, a judgement is required.

As can be seen from 5.3 above, an increase in noise levels of up to +3 dB is just perceptible and not likely to give rise to complaints. However, the baseline should not be increased such that it exceeds the W.H.O or BS4142:2014+A1:2019 limits, and as such it is intended that the design target for the plant should be in line with context of the pre-existing noise climate to maintain the amenity of the nearby noise sensitive premises.

Taking account of the above standards and their recommendations and the actual noise climate for the area, it would be prudent to set output noise levels for the operations under consideration in accordance with the area noise climate -5 dB below the existing ambient levels to ensure that the activities do not give rise to loss of amenity.

## Table of Recommended Noise Limits

Period	Existing Noise Climate	Proposed Site Noise Limits
Relevant Daytime Period 09:00 – 17:00 Hrs Mon-Fri 10:00 – 16:00 Sat & Sun	LA <sub>eq</sub> – 65 dB LAF <sub>Max</sub> – 88 dB	LA <sub>eq</sub> – 60 dB LAF <sub>Max</sub> – 83 dB

The above limits are based upon average noise values for the area. If these limits are achievable, then it will have been proved that the amenity of the nearby residents is being preserved.

It should be noted that the car wash will only ever operate during daytime periods as indicated above. In order to ensure that the above recommendations are achieved it is necessary to consider the contribution of the noise sources resulting from the proposed hand car wash activities for the site under consideration.

### 12.0 Noise Impact Assessment

In order to ensure that the above recommendations are achieved it is necessary to consider the contribution of the noise sources resulting from the proposed hand car wash activities for the site under consideration.

The impact assessment will deal with the operational activity time periods relevant to site.

The proposed trading times advised are as follows.

Monday to Friday	09.00 to 17.00
Saturday and Sunday	10.00 to 16.00

The client has indicated that the plant proposed for the site would be as follows:

- 1 No Vacuum Cleaner.
- 1 No High Pressure Jet Washer.
- 1 No Low Pressure Foaming Washer.

It is proposed that all pressure washer equipment will be stored within office area of the site with the hoses being the only exposed equipment associated with the operation of the plant, therefore, the noise associated with the drive motors and pumps will not be relevant to the noise output from the site.

This would typically provide for noise associated with hand car washing using the following sequence of events, from pre-wash, wash and drying, and valeting occurring to the north of the site adjacent to the office area of the site. Typically, the operations take place individually, however, during busier periods there is a possibility that the sequence could take place with simultaneous use of plant items. To account for the worst-case situation valeting and car wash activities will be assessed as taking place simultaneously.

Below is a table of operational noise levels monitored at 1m (taken from a typical hand car wash facility) which will be used within the assessment contribution of the specific source. These are based upon noise due to the actual operation of the equipment at the vehicle during a wash situation, with the primary source due to the hose lance's.

Plant Item	Monitored Sound Level dBA at 1m
High Pressure Lance – Pre Wash	75.0
Low Pressure Lance – Foaming	65.8
Low Pressure Lance – Watering	65.8
High Pressure Lance - Rinsing	73.2
Vacuum Cleaner – Valet Area	71.5
<b>Simultaneous Operation of all Above Plant Items Contribution</b>	<b>78.5</b>

Taking account of the above values for the simultaneous operations of the site plant and activities, we can determine the likely impact that the introduction of the noise sources, when considered at the nearby residential premises.

Since the operations will run parallel to the residential premises, we shall assume a linear distance for the sound arriving at each property, whereas in reality the sound from each item of plant or operation would diminish as the distance increased. The result of this calculation will therefore be a worst case scenario and likely to produce a higher contribution impact than would be the case on site.

The following is an assessment of the activities and likely impact.

Description	Value
Simultaneous Operations	78.5 dBA at 1m
Mean Distance to Residence	16m
Distance Correction	$-20 \log r = -24.1 \text{ dB}$
Location Correction	+3 dB
Barrier Correction to 1 <sup>st</sup> Floor Living Room Window	-8 dB *
Assessed Contribution Outside Residential Premises 1 <sup>st</sup> Floor Living Room Window	$78.5 - (24.1 + 3 - 8) = 49.4 \text{ dBA}$
Design Target Limit	60 dBA
Variance	-10.6 dB

\*Refer to Appendix D for calculation details

The above assessment indicates that the noise contribution is likely to achieve the design intent based upon the worst-case scenario of all plant and activities taking place simultaneously. Provided that the finalized on-site plant noise is at or below those values used in the above assessment there is no reason to suspect that noise will be an issue with respect to receipt of justifiable complaints from nearby residents.

However, what this simple assessment does not account for is the potential intermittency or tonality that may be present, therefore, it would be prudent to provide a full BS4142:2014+A1:2019 assessment of the activities.

## 12.1 BS4142:2014+A1:2019 Assessment – 10A Regent Street Premises

For robustness the following is an assessment in accordance with BS4142:2014, which has been based upon the worst case results above for the car wash deemed as the output for all operations working simultaneously. All readings have been rounded to the nearest whole number. It is highly unlikely that all operations will be simultaneous use, however, this assessment will determine the worst case possible output when considered at the residential premises.

## BS4142:2014+A1:2019 Assessment

Description	Indices	Value	Comments
Total simultaneous plant operations 1m for all items	L <sub>Aeq</sub>	79 dB	Based upon calculated worst case scenario
Distance correction to premises 16m = 20 log (r)+3 dB		-21 dB	Plant contribution at 16m from location to residence
Barrier Correction to 1 <sup>st</sup> Floor Window		-8 dB	Barrier to external 1 <sup>st</sup> floor living room window along eastern elevation
Resultant plant contribution		49 dB	
Residual Sound Level taken from site	L <sub>Aeq</sub>	65 dB	Traffic dominant source.
Background Noise Level	L <sub>A90</sub>	50 dB	Background level consisted of sources noted above.
Specific sound source correcting the ambient sound level to remove the residual sound level	L <sub>Aeq</sub>	49 dB	Non applicable as this is a calculated value.
Acoustic feature correction		+3 dB	Potential Intermittent operation
Rating Level	(49 + 3)	52 dB	
Background Noise Level	L <sub>A90</sub>	50 dB	Traffic dominant sources
Excess of Rating over background sound level	(52 – 50)	<b>+2 dB</b>	
The excess of +2 dB is below the level in which the noise from the worst case scenario of all plant items operating simultaneously is audible above existing background activities and should not result in justifiable adverse impact due to the operations when considered outside the nearby premises opposite.			
<p>Uncertainty of the assessment</p> <p>There is uncertainty in the calculation as it is based upon a measurement with a correction applied which may account for a minimal variation in the actual values for the car wash and valet operations at this location. The uncertainty is not significant as the rating is classified as significant and the value is in context with the actual area. The measurements presented indicate that the confidence of the rating for the specific source.</p>			

Upon inspection of the specific noise levels of the plant, Appendix B, there is no evidence of tonal output from the specific operations at close quarters. If we track the Octave band values this assertion is verified, as tonality is defined as a variance of more than 10 dB between adjacent frequency values. This is further evidence that noise experienced is not tonal in nature.

A rating value of +2 dB is not a significant noise source and as such not likely to give rise to justifiable complaints, and as such further mitigation measures should not be necessary to maintain the existing amenity of the resident at 10A Regent Street.

If we consider the design target to be achieved, 60 LAeq dB, we find that this has been achieved when considered outside the residential premises due to this plant items, assessed as producing a direct contribution of 49 LAeq dB, equating to a -11 dB below target.

## 12.2 Proposed Ground Floor Office Space

The sound insulation test conducted on the site between the ground floor and 1<sup>st</sup> floor spaces indicates that if we were dealing with a typical residential change of use to form dwelling spaces then the existing party floor would be adequate and fit for purpose without the need for additional mitigating measures. The minimum sound insulation requirement in this situation is 43 dB DnT,w(C; Ctr) and the existing party building element is achieving 46 dB.

However, since we are dealing with a commercial to residential situation the sound reduction performance increases due to potential commercial noise likely to be introduced as a consequence of the development and formation of the office space.

Based upon details appearing within the Building Regulation Part E for such occurrences the minimum sound insulation should be at least 55 dB DnT,w(C; Ctr).

To achieve this additional sound insulation additional mitigation measures will be required to the party building element.

## 12.3 Mitigation Recommendations

As can be seen from the above results the actual external hand car wash facility is not likely to result in any adverse noise impact on the existing amenity of the resident of No 10A Regent Street.

However, the party floor between the formed ground floor office / storage space and the 1<sup>st</sup> floor dwelling space of the building requires additional mitigation measures to achieve the Building Regulation Part E requirements.

To provide the additional +8 dB sound reduction to the party floor / ceiling between the ground and 1<sup>st</sup> floor areas of the building it is recommended that the ceiling of the ground floor is acoustically treated as follows.

- Existing ground floor ceiling is inspected for defects and acoustically sealed accordingly.
- A void of at least 150mm is formed and filled with 15 Kg/m<sup>3</sup> density mineral wool.
- Resilient hangers are used to support a ceiling metal framework.
- 2 layers of 15mm thick sound block plasterboard are fitted to the ceiling framework, having staggered joints and acoustically sealed after installation.

### 13.0 Summary and Conclusions

There is a planning application, reference 2025/92457, for the change of use of a former taxi booking office and car park site to hand car wash facility on land at No 10A Regent Street, Heckmondwike. As such a baseline noise assessment has been completed. The pre-existing noise climate for the area is assessed as being due primarily to traffic movements along Regent Street, with additional industrial noise associated with nearby commercial units.

Use has been made of the relevant national and international standards with regards noise and limiting noise levels set for the site activities for during the daytime periods.

Based upon the limiting recommendations of the relevant standards the following design target noise limits have been utilized for the site, based upon the relevant operational hours.

**Table of Recommended Design Target Noise Limits**

Period	Existing Noise Climate	Proposed Site Noise Limits
Relevant Daytime Period (0900 – 1900 Hrs)	LA <sub>eq</sub> – 65 dB LAF <sub>Max</sub> – 88 dB	LA <sub>eq</sub> – 60 dB LAF <sub>Max</sub> – 83 dB

Impact noise assessments have been carried out for the noise associated with the proposed plant for the site, including pressure washers and a vacuum cleaner. It has been concluded that the noise from these activities, assessed at 49 LA<sub>eq</sub> dB, are within the limits and design targets and as such not likely to have a detrimental effect or unduly impact on the amenity of the noise sensitive residential premises in the vicinity of the site.

When we carry out a BS4142:2014+A1:2019 rating of the activity noise, we find that the unmitigated noise is +2 dB above the average background level for the plant operations and activities when considered at the residential premises opposite.

Based upon the above finding no further additional mitigation measures are necessary to achieve the recommended requirement of a minimum of -5 dB below the existing noise climate for the area.

The proposed office space within the ground floor level of No 10A Regent Street will require additional sound insulation treatment to the ceiling to allow the Building Regulations Part E commercial to residential dwellings to be achieved. Mitigation recommendations have been proposed for this element of the change of use for the premises to allow the space to be used as an office / storage area.

Based upon the findings of the above noise survey and impact assessment there is no reason why this application cannot proceed on the grounds of noise as there will be no loss of existing amenity for the nearby residential premises, provided that the mitigation measures recommended are included.

## Appendix A Locational Plan and Survey Position



Proposed Site Plan

## Appendix B Noise Recording Frequency Analysis Results Table

Location	Period	Data ID	L <sub>AMax</sub> dB	L <sub>Aeq</sub> dB	L <sub>A10</sub> dB	L <sub>A90</sub> dB	Linear 1/1 Oct L <sub>Zeq</sub> dB in Frequency Band Hz								L <sub>90</sub> dB in Frequency Band Hz							
							63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
Car Park Area Outside No 10A	Morning	1	88.2	64.6	69.2	50.1	68.7	62.1	60.3	58.8	61.5	57.6	50.8	46.5	58.9	54.1	48.8	45.6	45.5	41.6	34.5	25.7
	Afternoon	2	94.7	65.7	69.4	50.0	68.6	63.7	62.5	61.3	63.1	57.3	50.2	45.8	59.8	53.3	48.6	45.5	45.7	41.1	33.6	24.4

## Appendix C Sound Insulation Test Certificate

Standardized level difference measured in accordance with ISO 140-4																																													
Field measurements of airborne sound insulation between rooms																																													
Date of test: 2025-10-31																																													
Task: J3373	Object: Sound Insulation Test																																												
Client: DK Architects																																													
Description:																																													
Sound Insulation Test Between Existing Ground Floor Office and 1st Floor Residential Flat at No 10A Regent St, Heckmondwike																																													
Area of common partition:	25.0 m <sup>2</sup> Note: Party Floor / Ceiling																																												
Receiving room volume:	40.0 m <sup>3</sup> Name: 1st Floor Flat																																												
Source room volume:	70.0 m <sup>3</sup> Name: Ground Floor Office																																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Frequency <i>f</i> Hz</th> <th style="text-align: center;"><i>D</i><sub>nT</sub> (1/3 octave) dB</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">50</td><td style="text-align: center;">25.9</td></tr> <tr><td style="text-align: center;">63</td><td style="text-align: center;">31.2</td></tr> <tr><td style="text-align: center;">80</td><td style="text-align: center;">26.3</td></tr> <tr><td style="text-align: center;">100</td><td style="text-align: center;">33.4</td></tr> <tr><td style="text-align: center;">125</td><td style="text-align: center;">33.1</td></tr> <tr><td style="text-align: center;">160</td><td style="text-align: center;">35.4</td></tr> <tr><td style="text-align: center;">200</td><td style="text-align: center;">39.2</td></tr> <tr><td style="text-align: center;">250</td><td style="text-align: center;">38.4</td></tr> <tr><td style="text-align: center;">315</td><td style="text-align: center;">54.4</td></tr> <tr><td style="text-align: center;">400</td><td style="text-align: center;">50.4</td></tr> <tr><td style="text-align: center;">500</td><td style="text-align: center;">51.7</td></tr> <tr><td style="text-align: center;">630</td><td style="text-align: center;">54.1</td></tr> <tr><td style="text-align: center;">800</td><td style="text-align: center;">61.2</td></tr> <tr><td style="text-align: center;">1000</td><td style="text-align: center;">62.3</td></tr> <tr><td style="text-align: center;">1250</td><td style="text-align: center;">65.4</td></tr> <tr><td style="text-align: center;">1600</td><td style="text-align: center;">67.4</td></tr> <tr><td style="text-align: center;">2000</td><td style="text-align: center;">71.3</td></tr> <tr><td style="text-align: center;">2500</td><td style="text-align: center;">69.8</td></tr> <tr><td style="text-align: center;">3150</td><td style="text-align: center;">70.1</td></tr> <tr><td style="text-align: center;">4000</td><td style="text-align: center;">71.8</td></tr> <tr><td style="text-align: center;">5000</td><td style="text-align: center;">74.4</td></tr> </tbody> </table>	Frequency <i>f</i> Hz	<i>D</i> <sub>nT</sub> (1/3 octave) dB	50	25.9	63	31.2	80	26.3	100	33.4	125	33.1	160	35.4	200	39.2	250	38.4	315	54.4	400	50.4	500	51.7	630	54.1	800	61.2	1000	62.3	1250	65.4	1600	67.4	2000	71.3	2500	69.8	3150	70.1	4000	71.8	5000	74.4	<p> <span style="color: red;">—</span> Measured characteristic  <span style="color: blue;">- - -</span> Frequency range according to the  <span style="color: blue;">—</span> Curve of reference values (ISO 717-1)  <span style="color: blue;">- - -</span> Shifted curve         </p>
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<p>Rating according to ISO 717-1</p> <p> <math>D_{nT,w}(C; C_{tr}) = \mathbf{54} \text{ ( } \mathbf{-3} \text{ ; } \mathbf{-8} \text{ ) dB}</math> <span style="margin-left: 20px;"><math>C_{50-3150} = -3 \text{ dB}</math></span> <span style="margin-left: 20px;"><math>C_{50-5000} = -2 \text{ dB}</math></span> <span style="margin-left: 20px;"><math>C_{100-5000} = -2 \text{ dB}</math></span> </p> <p> <span style="margin-left: 100px;"><math>C_{tr,50-3150} = -11 \text{ dB}</math></span> <span style="margin-left: 20px;"><math>C_{tr,50-5000} = -11 \text{ dB}</math></span> <span style="margin-left: 20px;"><math>C_{tr,100-5000} = -8 \text{ dB}</math></span> </p> <p>Evaluation based on field measurement results obtained by an engineering method</p>																																													
No. of test report: J3373-Test 1	Name of test institute: Paul Horsley Acoustics Ltd																																												
Date: 2025-10-31	Signature:																																												

## Appendix D Barrier Attenuation Calculation

Project: Proposed Car Wash - Barrier Assessment

Freq Hz	63	125	250	500	1k	2k	4k	8k
Source SPL dB	51	52	52	55	55	55	54	52

### POSITIVE SCREEI

Source to Barrier	16	
Barrier to Receiver	1	(estimated distance to receiver)
Barrier Height	1.5	
Source Height	1	
Receiver Height	1	(direct line of sight assumed between source & receiver)
Path Difference	0.12	

### Attenuation due to Screens

Path Difference	63	125	250	500	1k	2k	4k	8k
-0.30	1	0	0	0	0	0	0	0
-0.20	2	1	0	0	0	0	0	0
-0.10	3	2	1	0	0	0	0	0
-0.05	3	3	2	1	0	0	0	0
-0.01	4	4	4	3	3	2	1	1
0.00	5	5	5	5	5	5	5	5
0.01	5	6	6	6	7	8	8	8
0.05	7	7	8	9	10	12	13	13
0.10	7	8	9	10	11	14	16	16
0.20	8	9	10	11	14	16	19	19
0.30	8	9	10	13	16	18	20	20
0.40	9	10	12	14	17	20	22	22
0.50	9	10	12	15	18	20	23	23
1.00	11	12	14	18	20	23	25	25
2.00	14	15	18	20	24	27	29	29
3.00	15	17	20	22	25	28	30	30
4.00	16	18	20	24	26	30	31	31
5.00	16	18	21	25	27	30	32	32

Screening Effect from above table (B):	7	8	9	10	11	14	16	16
SRI of Screen Panels (C):	25	25	25	25	25	25	25	25
Level at Receiver due to Screening Effect (A - B)=D:	44	44	43	45	44	41	38	36
Level at Receiver due to Direct Transmission (A - C)=E:	26	27	27	30	30	30	29	27
Resultant Level at Receiver (log add'n of D & E):	44	44	43	45	44	41	39	37
NR Level Required:	NR45	71	61	54	48	45	40	38
Additional Attenuation Required:	-27	-17	-11	-3	-1	-1	-1	-1

dBA Correction:	-26	-16	-9	-3	0	1	1	-1
A-Weighted Equivalent:	18	28	34	42	44	42	39	35
dBA Level at Receiver (with no additional attenuation):	49	dBA						
NR65	87	78	72	68	65	62	61	59
NR60	83	74	68	63	60	57	55	54
NR55	79	70	63	58	55	52	50	49
NR50	75	65	59	53	50	47	45	43
NR45	71	61	54	48	45	42	40	38
NR40	67	57	49	44	40	37	35	33
NR35	63	52	45	39	35	32	30	28
NR30	59	48	40	34	30	27	25	23
NR25	55	44	35	29	25	22	20	17

Completed By: \_\_\_\_\_

Date: 13.11.25