Noise Impact Assessment

Premier Inn Manchester Airport, Heald Green

Whitbread PLC

17/03/2026

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1 Introduction

1.1 Proposals are in place to construct a new extension to the Premier Inn hotel in Heald Green, Greater Manchester (Finney Ln, Wythenshawe, Stockport SK8 3QA) in place of the existing Beefeater restaurant, and remodel some guestrooms in the existing hotel building.

1.2 Noise from nearby environmental sources has potential to affect occupants in newly formed guestrooms, and noise from building services plant associated with the new extension has potential to affect nearby noise-sensitive dwellings.

1.3 A noise survey has been carried out at the site and the data from this has been used to inform assessments of noise ingress and egress. This report presents details of the survey and assessments.

2 Criteria

2.1 Local Authority

2.1.1 Manchester City Council sets out its Local Plan strategy in the *Core Strategy Development Plan Document*. This includes the following relevant sections:

> *Policy DM 1*
>
> *Development Management*
>
> *All development should have regard to the following specific issues for which more detailed guidance may be given within a supplementary planning document:*
>
> *...*
>
> *Effects on amenity, including privacy, light, noise, vibration, air quality.... This could also include proposals which would be sensitive to existing environmental conditions, such as noise.*

2.1.2 Further specific guidance is given in Manchester City Council's *Planning and Noise Technical Guidance* (2022).

2.1.3 This references national and international acoustics standards, most importantly BS 8233; *"British Standard BS 8233 provides design guidelines for appropriate internal acoustic environments within buildings according to their function".*

2.1.4 The following table provides indoor ambient noise levels for residential dwellings from BS 8233, reproduced within the Technical Guidance document.

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 $L_{Aeq,8hour}$

Table 2-1 BS 8233 Noise levels for residential dwellings

2.1.5 The following guidance for noise emissions assessments is relevant to this scheme:

> *Noise from fixed plant, equipment or machinery can be very annoying and disruptive to people living nearby particularly where that item involved emits a noise with impulsive or tonal characteristics.*
>
> *Many of the complaints Environmental Health receive about noise from plant, equipment and machinery specifically concern the character of the noise emitted. Any noise assessment needs to consider not only the overall*

level of noise emitted, but also its particular characteristics. The noise assessment should be based on BS 4142, and any application for fixed plant, equipment or machinery must demonstrate that:

'Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (L_{Aeq}) below the typical background (L_{A90}) level at the nearest noise sensitive location'.

By designing the sound pressure level of any plant items to generate a noise impact of at least 5dB below the existing background level, any plant noise impact should be of a negligible level which should not give rise to complaints from users or occupiers of existing noise-sensitive usages.

2.1.6 Noise generated 'outside the development' (environmental noise affecting sensitive development) requires an initial appraisal taking into account the options for:

1. location of the site in relation to the noise source/s

2. reduction of noise at source

3. positioning of buildings on site

4. orientation of buildings on site

5. provision of barriers

6. increasing the sound insulation of the building envelope

7. re-planning the interior layout of the building

2.1.7 Noise surveys required for planning application sites are addressed, with the following relevant guidance:

Examples of where these are required include:

- *Before construction, to establish the existing noise climate at the site of a proposed development where reliable prediction is impracticable, as an aid to the design of the building envelope, either to protect against external noise or contain internally produced noise*

A noise survey is used to determine the existing noise environment on or around a particular development site. It is an important part of a noise assessment, as it is the baseline against which any predictions of the noise impact of a development will be compared.

2.2 British Standard 4142:2014 +A1:2019

2.2.1 BS 4142:2014+A1 2019 *Methods for rating and assessing industrial and commercial sound* presents a method for predicting noise impact on noise-sensitive neighbours. This is done by comparing the noise level of a source (the *specific* sound level) with the existing background noise level in the area, in the absence of the source (the *background* sound level).

2.2.2 The methodology requires consideration be given to all aspects of the assessment process and it must also account for any unusual acoustic features, such as tonal, impulsive, and intermittency characteristics. These are accounted for by the addition of various decibel corrections to the specific sound level. This corrected level is the *rating* level.

2.2.3 The greater the positive difference between the rating level and the background level, the greater the magnitude of the impact. BS 4142:2014 gives the following descriptions with regards to the potential impact:

- A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending upon the context.
- A difference of around +5dB or more is likely to be an indication of an adverse impact, depending upon the context.
- Where the rating level does not exceed the background sound level, this is an indication of a low impact, depending upon the context.

3 External noise survey

3.1 Site description

3.1.1 The hotel is located behind Heald Green train station, off Finney Lane/Irvin Drive, SK8 3QA. The north end of Manchester Airport's runway is 1.5km to the south-west. Planes using Manchester Airport pass almost directly over the hotel.

3.1.2 A combination of road and air traffic makes up the acoustic environment around the site.

3.1.3 Incoming planes are significantly louder than all other environmental noise sources in the area and vary in frequency throughout the day. During busy times, plane flyovers occur about every two minutes. This busy activity was noted to occur intermittently during daytime hours as well as overnight. At less busy times, planes flew over roughly every 5 minutes. Plane flyovers were noted to be every 2 minutes for a period of approximately 30 minutes on the night of Sunday 22nd February and beyond midnight into Monday 23rd.

3.1.4 Traffic on Finney Lane was observed to be free-flowing and constant throughout daytime and evening hours, comprised of cars, vans, buses and occasional HGVs. Buses stop outside the hotel car park, often idling with distinctive mechanical noise. There is no acoustic screening between the road and the north-facing portions of the hotel.

3.1.5 Noise from railway lines was not audible around the hotel, owing to masking by road/rail as well as the railway line being sunken by c.12m. Rail lines were out of use on Sunday 22nd February as part of scheduled maintenance, but at other times run every 10-20 minutes in both directions between around 0600 and 0030. Freight trains were not observed during the noise survey but it is not known whether any did pass by (it is understood that the Styal line is used for freight).

3.1.6 To the west of the site is a National Car Park and to the south is a series of commercial/light industrial buildings (Ashbrook Office Park). Neither of these areas were observed to generate noise significantly audible against noise from road traffic on Finney Lane.

3.1.7 During occasional lulls in traffic on Finney Lane, noise from outdoor air conditioning condensers serving the existing Beefeater restaurant could be heard faintly from a distance c.20m from the units.

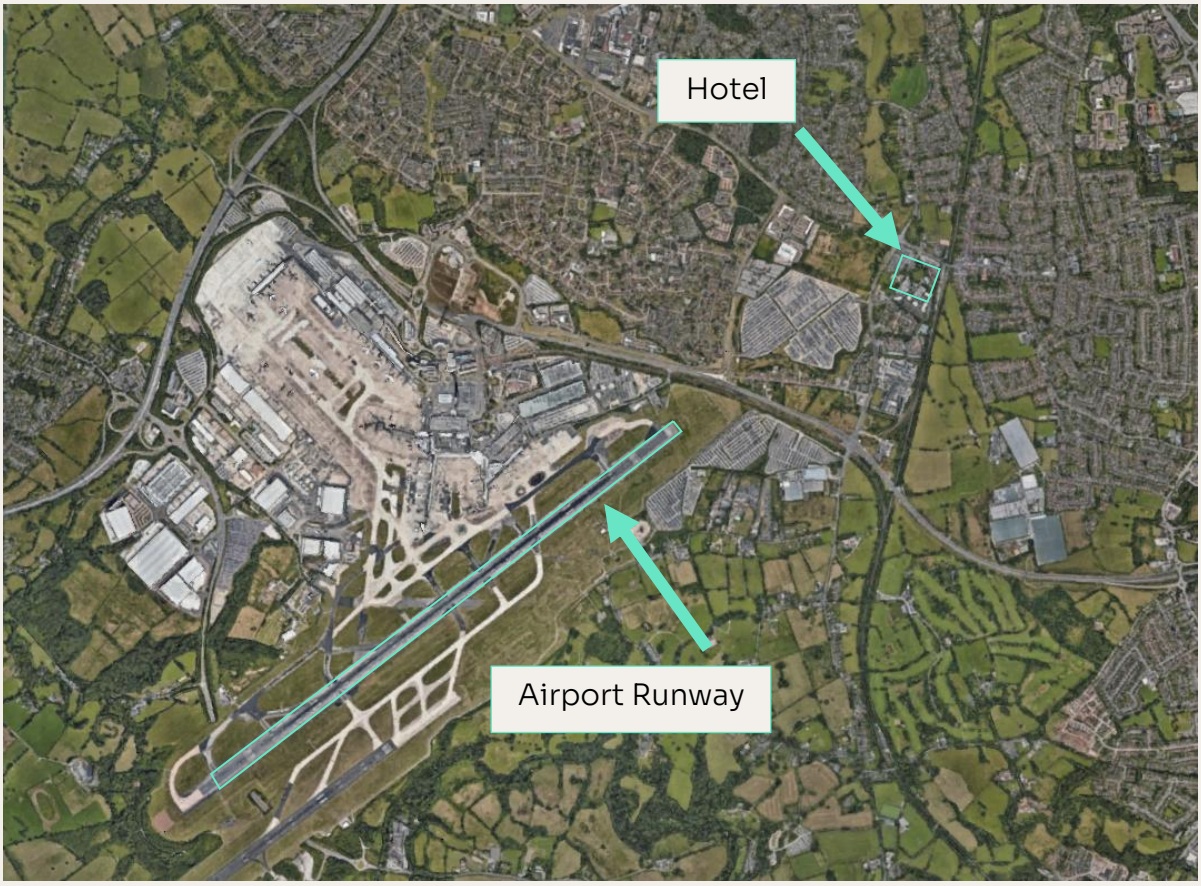

Figure 3-1 Aerial view of wider site area, showing Manchester Airport runway in relation to the Premier Inn site. Satellite image courtesy of Google Earth.

3.2 Measurement methodology

3.2.1 Measurements were undertaken in accordance with the procedures advised within British Standard 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound* and British Standard 7445-1:2003 *Description and measurement of environmental noise*.

3.2.2 Continuous, unattended sound level measurements were conducted at the site from Sunday 22nd February to Tuesday 24th February 2026. Additional short-term attended measurements were conducted on Tuesday 24th February at the same location.

3.2.3 The site area is shown on an aerial view of the site in Figure 3-2.

Figure 3-2 Aerial view of site, indicating local noise sources and properties which may be noise-sensitive. Satellite image courtesy of Google Earth.

3.2.4 The microphone was attached to a lightweight pole extended approximately 3m above local ground height, on the fence at the south-western perimeter of the hotel car park. The measurement location is shown in Figure 3-3.

Figure 3-3 Aerial and site photograph showing microphone positioned at western site perimeter. Aerial view courtesy of Google Earth.

3.2.5 Statistical and spectral octave-band data were recorded in 15-minute samples between 16:15 on the 22nd and 08:45 on the 24th February 2026. The "fast" (125ms) time constant was used for all measurements.

3.2.6 The following equipment was used to carry out the measurements:

Equipment	Manufacturer/model	Serial no.
Sound level meter	Norsonic 131	131 3605
Weather enclosure	Norsonic 1218	1218 2673
Portable sound calibrator	B&K 4231	2291098

Table 3-1 Equipment used for noise survey

3.2.7 The calibration of the sound level meter and associated microphone were checked prior to and on completion of the survey in accordance with recommended practice. No significant drift in calibration occurred during the survey. The accuracy of the calibrator can be traced to National Physical Laboratory Standards.

3.2.8 The weather conditions during the survey are believed to have been generally dry, with little rain. The wind speeds are believed to have been generally under 5ms^{-1} for the duration of the survey, and therefore the weather conditions are not believed to have meaningfully affected the results of the survey or subsequent assessments.

3.3 Results & commentary

3.3.1 A level-history graph of the unattended noise survey is presented overleaf.

3.3.2 A summary of measurement results is presented in Table 3-2. Reported lowest and highest values have been duly investigated against the rest of the survey data as well as observations on site and are considered to be statistically representative, i.e. are not anomalous.

Description	Time	Level
Lowest background sound level	07:00-23:00	48 dB $L_{AF90,15mins}$
	23:00-07:00	46 dB $L_{AF90,15mins}$
Highest ambient sound level	07:00-23:00	68 dB $L_{Aeq,16h}$
	23:00-07:00	64 dB $L_{Aeq,8h}$
Highest maximum sound level (night only)	23:00-07:00	89 dB $L_{AFmax,15mins}$

Table 3-2 Sound levels established from unattended noise survey.

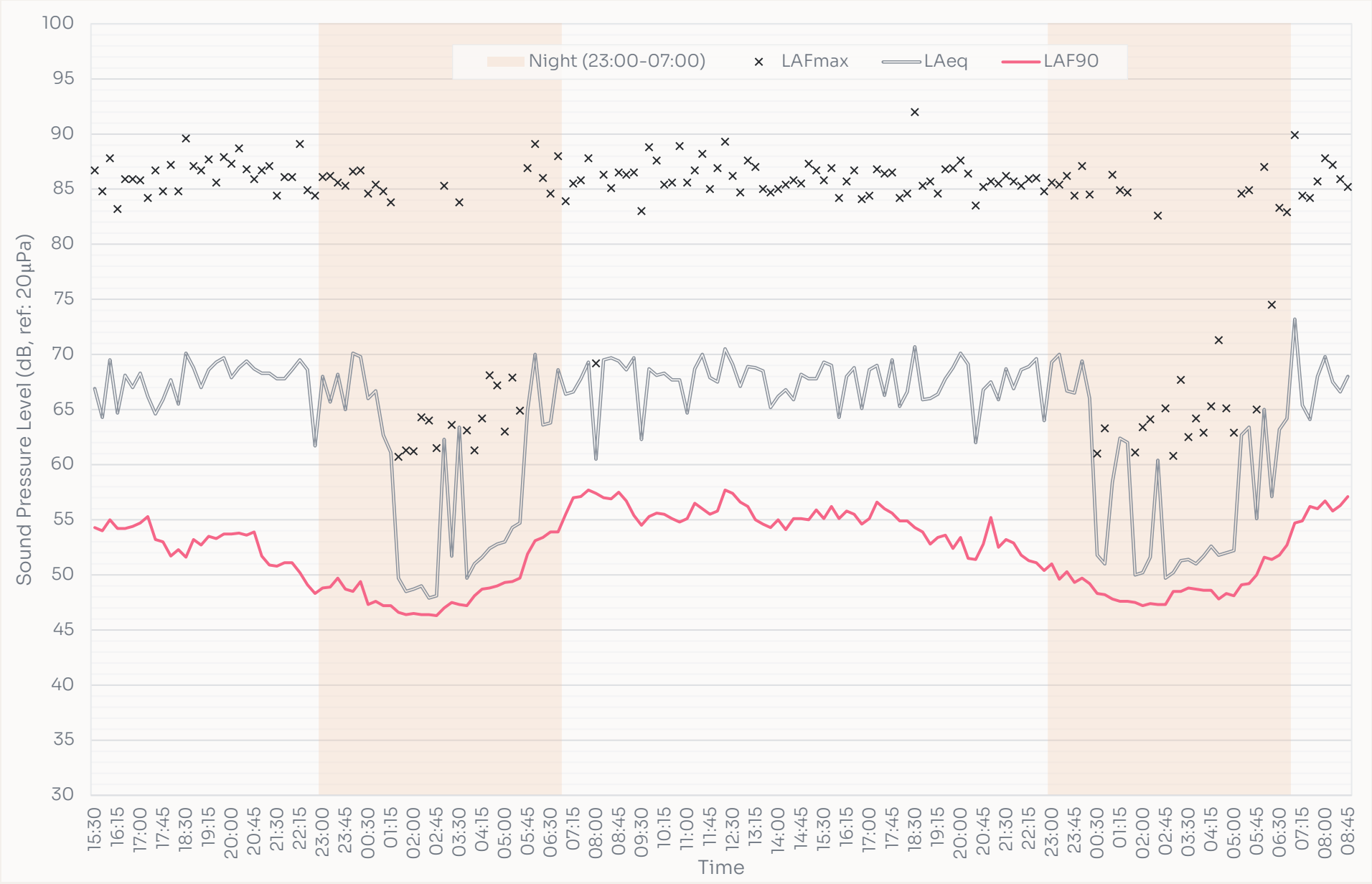

Figure 3-4 Level-history graph for noise survey period

3.3.3 The results show relatively high noise levels caused by planes and a significant drop in level in the absence of planes overnight. Maxima caused by planes are broadly consistent between c.84-88 dB, with occasional outliers.

3.3.4 The level history is considered to be consistent with observations during the survey, most notably regarding the operating times of the airport. Planes were noted to pass over the site every c.2-5 minutes during both day and night.

3.3.5 The sound level meter had a clear line-of-sight to both Finney Lane and Irvin Drive, and lulls in road traffic noted manually during the survey period are consistent with those seen in the L_{AF90} level history.

3.3.6 Separate, attended measurements were taken at the measurement location at 09:00 on Tuesday 24th February to further verify the different noise sources observed in unattended survey results. A summary of these measurements is provided in the table below.

Description	Average noise level	Maximum noise level
Road traffic only. Morning weekday rush hour featuring constant road traffic on Finney Lane including buses and HGVs.	62 dB $L_{Aeq,3mins}$	75 dB L_{AFmax}
Aircraft flyover, also during morning weekday rush hour.	70 dB $L_{Aeq,3mins}$	84 dB L_{AFmax}

Table 3-3 Attended noise level measurements summary

4 Noise emission assessment

4.1 Proposed outdoor building services plant

4.1.1 Outdoor plant equipment serving the extension will consist of 3no. air-source heat-pumps serving an air-conditioning system (Mitsubishi PURY EP200) and 1no. air-source heat-pump as a water heater (Mitsubishi Qton ESA30EH-25).

4.1.2 The AC system is designed in such a way that the heat-pumps will not exceed 70% of their total possible capacity during the day, and 50% overnight. Sound power levels from manufacturer's literature are presented in Table 4-1 below. Data for PURY units represents their heating mode have been used, which is louder than cooling mode, as a worst-case design assumption.

Item		Octave band centre frequency (Hz)								
	Qty.	63	125	250	500	1k	2k	4k	8k	dBA
PURY EP200 (daytime, 70%)	3	80	76	72	71	69	65	67	61	74
PURY EP200 (night-time, 50%)		76	70	64	63	61	57	61	57	67
Qton heat-pump (day/night, 100%)	1	68	63	57	57	60	55	51	45	63

Table 4-1 Sound power levels per unit for proposed building services equipment

4.1.3 A site plan is presented overleaf, with the location of the new AC compound highlighted.

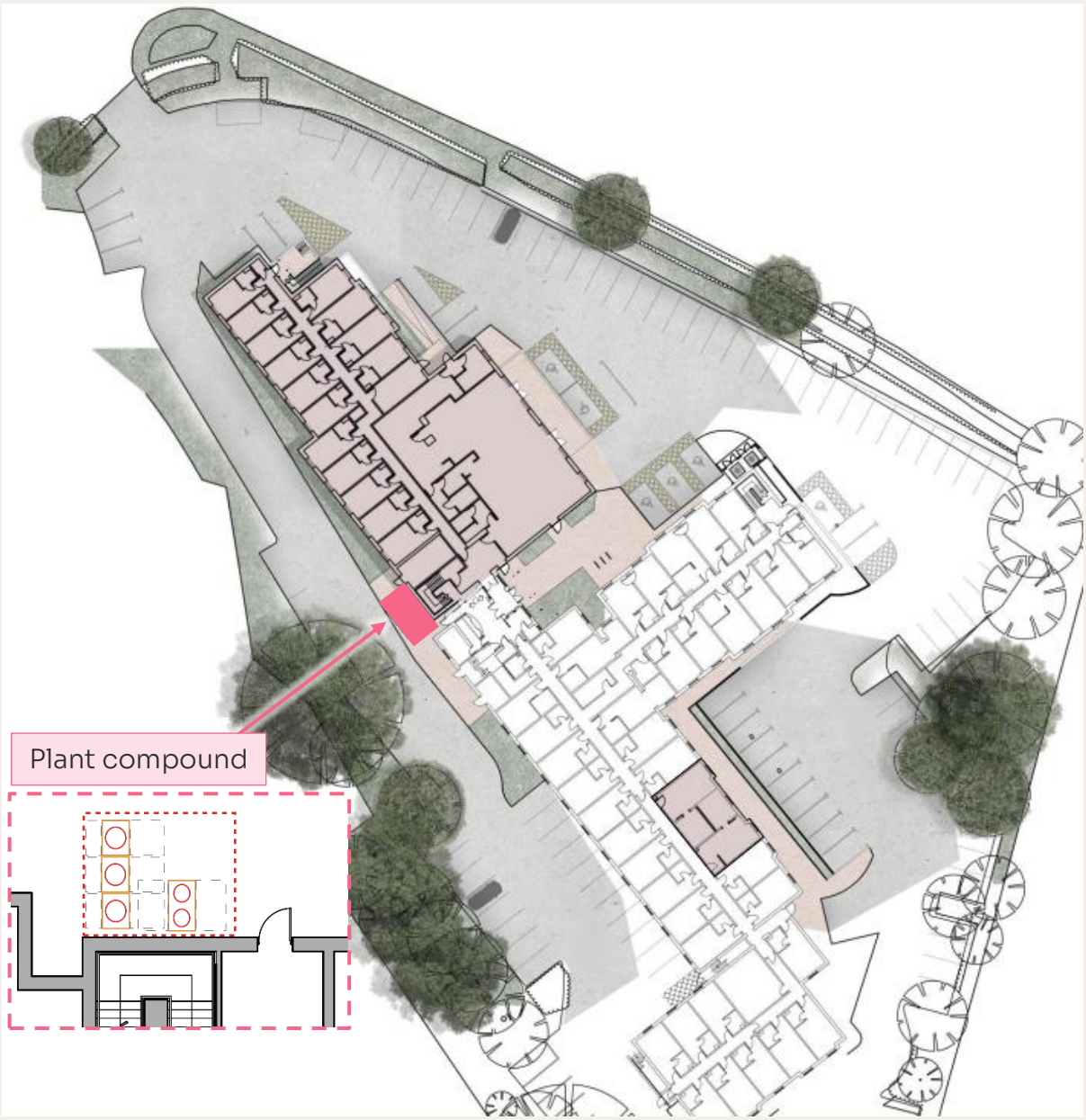

Figure 4-1 Site plan drawing with new plant compound indicated

4.2 Nearest noise-sensitive receivers (NNSRs)

4.2.1 Residential properties to the west of the site are expected to be the most affected noise-sensitive receptors to the proposed mechanical plant as all other surrounding buildings can be seen to have greater screening and/or greater distance from the proposed plant.

4.2.2 Controlling noise emissions to the closest dwelling, 5 Irvin Drive, can therefore be expected to result in lower noise levels at any other noise-sensitive receiver location.

4.3 Calculation of noise propagation

4.3.1 The level of noise from proposed plant has been predicted at NNSRs using point-source propagation and taking into account site conditions, local reflective and absorptive surfaces, screening, and distance attenuation (geometric divergence). Calculations have been carried out in accordance with the principles outlined in British Standard ISO 9613:2024[1].

4.4 Predicted specific sound levels

4.4.1 Specific sound levels at the NNSR are predicted as follows:

Time	Predicted specific level	Background sound level	Difference
Daytime	32 dB L_{Aeq}	48 dB $L_{AF90,15mins}$	-16 dB
Night-time	25 dB L_{Aeq}	46 dB $L_{AF90,15mins}$	-21 dB

Table 4-2 Summary of specific sound levels predicted at the closest point of 5 Irvin Drive

4.5 Calculated rating levels

4.5.1 The guidance in BS 4142 requires that decibel corrections be added to the specific sound level if the sound contains unusual acoustic characteristics. The corrected sound level is the rating level.

4.5.2 Tonality, impulsivity and intermittency are considered separately for application of decibel corrections, as follows:

- **Tonality** – Noise from proposed PURY and Qton units will typically be airflow noise when they are operating at maximum duty, which is broad-band in character and therefore not expected to contain noticeable tonal qualities. However, ASHPs are known to sometimes be perceived as tonal, particularly when fan noise is not dominant, due to components such as compressors. A precautionary correction of +2 dB has been applied to reflect a "just perceptible" tonal quality.
- **Impulsivity** – When properly maintained, noise from the proposed units are not expected to exhibit impulsive characteristics, therefore no impulsivity correction has been applied.
- **Intermittency** – The duty of each individual PURY ASHP will vary depending on the demand placed on the system by hotel occupants. The equipment operates with gradual stop starts, so it is unlikely that a distinct intermittent characteristic would be noticeable at the neighbouring properties. However, a + 3 dB correction has been applied to account for this possibility.

[1] *ISO 9613:2024 Acoustics – Attenuation of sound during propagation outdoors. Part 2: Engineering method for the prediction of sound pressure levels outdoors*

4.5.3 The BS 4142 rating level will therefore be 5 dB higher than the specific sound level.

4.5.4 BS 4142 rating sound levels during typical worst-case plant operation (i.e. with all equipment running at maximum design duty of 70% during the day and 50% overnight) are predicted at each receiver as follows:

Time	Predicted rating level	Background sound level	Difference
Daytime	37 dB L_{Ar}	48 dB $L_{AF90,15mins}$	-11 dB
Night-time	30 dB L_{Ar}	46 dB $L_{AF90,15mins}$	-16 dB

Table 4-3 Summary of rating levels during typical worst-case ASHP operation

4.6 Context & uncertainty

4.6.1 BS4142 requires the context and uncertainty of the assessment to be considered.

4.6.2 With regard to the context, the new noise sources are considered to have a similar character to those making up the existing background sound environment at the site (pre-existing local building services equipment).

4.6.3 The presence of the airport and the road traffic are considered to provide further favourable context as all receivers around the site area are regularly exposed to average ($L_{Aeq,15mins}$) noise levels c.25-30 dB higher throughout daytime hours as well as a significant portion of the night-time.

4.6.4 Character corrections added to the assessment (outlined in paragraph 4.5.1) have been added as a precautionary measure, where tonality and intermittency are not expected to be noticeable at the neighbour during normal operation. This is considered to provide an additional margin within the assessment of up to 5 dB in the case that the acoustic characteristics do not exist.

4.6.5 The assessment scenario assumes all of the ASHPs are operating at maximum design duty (70% during the day and 50% overnight) simultaneously. This would reflect a scenario in which all served rooms are occupied and demanding air conditioning from the system at the same time. At all other times, the noise level emitted by the ASHPs will be lower.

4.6.6 Based on the above, no further corrections are considered relevant owing to context.

4.7 Assessment of noise impact

4.7.1 At the most affected receiver, the predicted rating level is 11 dB below the lowest measured background noise level, in the worst-case operating scenario. This is an indication of a **low impact** according to BS 4142.

4.7.2 Manchester City Council's planning guidance requires the rating level to be below the background sound level by at least 5 dB (see paragraph 2.1.5), so this assessment is considered to indicate compliance with the anticipated planning requirements.

4.8 Additional noise sources

4.8.1 It is not yet known whether a kitchen extract ventilation system will be installed to serve the extension.

4.8.2 Calculations show that with a kitchen vent system installed in the proposed plant compound, an atmosphere duct terminus would need to be controlled to have a sound pressure level of 48 dB L_{pA} at 1m, in order for the rating level in Table 4-3 to not be affected.

4.8.3 This limit may be higher if installed in a screened location, or if the rating level were to be exceeded to give a smaller margin below the background sound level. This can be developed during the design stage if necessary but is considered to be readily achievable.

5 Noise intrusion assessment

5.1 Introduction

5.1.1 Newly formed guestrooms are to be built to comply with the Premier Inn Specification regarding external noise intrusion. This requires the following:

Period	Noise level
Daytime (07:00-23:00)	≤ 35 dB $L_{Aeq,1hour}$
Night-time (23:00-07:00)	≤ 30 dB $L_{Aeq,1hour}$ ≤ 42 dB L_{AFmax}*

** The maximum criterion applies to all vehicle and railway train passbys and all aircraft flyovers. It also applies to the noise from all street activities including those associated with patrons attending and leaving adjacent, neighbouring or connected entertainment venues; noise associated with commercial and industrial neighbouring premises including delivery activities and process equipment; seagulls and church bells. Genuinely infrequent and unpredictable sources of noise such as car alarms occurring no more than twice a night are excluded.*

Table 5-1: Internal background noise level requirements for guestrooms (Premier Inn brand standards)

5.1.2 The Premier Inn Specification is more onerous than the BS 8233 levels quoted in Manchester City Council's *Planning and Noise Technical Guidance* document; therefore by satisfying the PI Spec criteria, the Local Authority criteria will also be satisfied.

5.2 Calculation of noise ingress

5.2.1 The level of noise ingress into a space is a function of the external noise levels, façade constructions and the volume and soft furnishings within the space.

5.2.2 Composite sound reduction calculations have been undertaken in accordance with the principles in BS 12354-2 incorporating all spectral noise survey data and based on dimensions shown in the latest architectural plans.

5.2.3 The worst-case room has been identified as one on the north end of the extension, on the first floor. This has been identified because it has the highest ratio of façade (including roof) to internal floor area, resulting in a greater radiating area for noise ingress. All other newly formed guestrooms would be less impacted given the same external noise levels and constructions. This includes proposed remodelled rooms in the existing portion of the hotel.

5.2.4 Noise survey results are considered representative of noise levels incident on all new proposed guestrooms, owing to the overhead nature of the aircraft noise and how this was measured during the survey.

5.3 Envelope sound insulation

5.3.1 The following façade element sound insulation performances are recommended as a minimum for the control of noise ingress to comply with the commercial and local authority requirements outlined in 5.1.

5.3.2 A specification is given separately for glazing and 'opaque' areas, where 'opaque' includes all non-glazed wall sections as well as the roof over guestrooms on the first floor.

Item	Sound reduction (dB R) / Octave band centre frequency (Hz)								Single-figure
	63	125	250	500	1k	2k	4k	8k	
Glazing	28	38	43	47	50	50	50	50	50 dB R_w
Opaque	37	46	48	53	53	53	50	50	52 dB R_w

Table 5-2 Sound reduction performances recommended for adequate control of noise ingress

5.3.3 Note that glazing performances do not include the effects of framing loss, but an allowance has been made such that the requirements may be expected to be met with losses in-situ of up to 2 dB (a typical assumption). The above values therefore represent necessary laboratory performance for the glass only.

5.4 Envelope construction

5.4.1 It has been assumed that triple glazing is preferred for thermal insulation reasons, however the given performances can also be met with acoustic double glazing.

5.4.2 The following glazing build-up is expected to meet the glazing sound insulation performances in Table 5-2.

- 24mm acoustic laminate glass
- 10mm cavity
- 6mm glass
- 12mm cavity
- 10mm acoustic laminate glass

5.4.3 Other build ups may be suitable, provided they achieve the laboratory performances in Table 5-2 above.

5.4.4 The performances given for opaque (non-glazed) façade elements may be expected to be met with a typical cavity masonry wall construction, noting that an additional mass layer may be required to inner plasterboard linings (such as cementitious board) to achieve the low-frequency performances.

5.4.5 The roof should be formed of a cavity construction with a mass layer such as plasterboard provided internally. This would be expected to be satisfied with a suspended plasterboard ceiling in guestroom and en-suite areas, with the cavity as deep as possible and containing acoustic absorption (mineral wool) to maximise sound insulation performance.

5.4.6 These wall and roof configurations are considered to be readily achievable and can be developed during the design stage.

5.4.7 Alternative build-ups are considered viable and should be developed during the detailed design stage.

5.5 Ventilation

5.5.1 Ventilation is to be provided to guestrooms via individual MVHR units in ceiling voids. The typical Premier Inn design includes attenuation to the ducts connecting to the façade, so that noise ingress via the penetration and via the duct is adequately controlled.

5.5.2 It is recommended that a rigid in-duct attenuator is allowed for in intake and exhaust ducts. This attenuator should be installed as close to the façade connection as possible, to reduce the amount of noise breaking out from the duct.

5.5.3 Initial calculations suggest a minimum length of 900mm for these attenuators, but this is subject to detailed calculations. 900mm is recommended as an allowance at this stage and can be developed during detailed design.

6 Conclusion

6.1 The proposed new extension and partial remodelling of guestrooms at Premier Inn Manchester Airport (Heald Green) has been assessed in terms of noise intrusion and noise emissions, in line with Local Authority requirements as well as typical industry practice and commercial requirements of the hotel operator.

6.2 It is expected that the current building services plant proposals will have a low noise impact on all nearby noise-sensitive receivers following an assessment carried out in accordance with British Standard 4142.

6.3 Newly-formed guestrooms can readily comply with the Premier Inn Specification's external noise ingress limits, with constructions outlined within this report. These limits are more onerous than those recommended within planning guidance. Therefore, the requirements of the Local Authority are expected to be satisfied by virtue of achieving the Premier Inn Specification criteria.

6.4 The proposals are therefore expected to be compliant with Manchester City Council's planning policies.

Appendix A: Glossary

This appendix provides an explanation of some of the terms used in this report.

A-weighting **L_A or L_{pA}, L_{WA},**	Within its operating limits a precision measurement microphone measures all frequencies the same so the output it produces does not reflect what we would actually hear. The A-weighting is an electronic filter that matches the response of a sound level meter to that of the human ear. When A-weighted the Sound Pressure Level L_p becomes L_{pA} (or L_A) and the Sound Power Level L_W becomes L_{WA}.
L_p	*The instantaneous sound pressure level* (L_p)
L_{pA} (or L_A)	*The A-weighted instantaneous sound pressure level* (L_{pA} or L_A). This is the root mean square size of the pressure fluctuations in the air. This level can fluctuate wildly even for seemingly steady sounds. To make sound level meters easier to read the values on the display are smoothed or damped out. This is effectively done by taking a rolling average of the previous 0.125s (FAST time constant) or the previous 1s (SLOW time constant).
L_{AF}, L_{AS}	The letters F or S are added to the subscripts in the notation to indicate when the FAST or SLOW time constant has been used. These are often omitted but it is good practice to include them.
L_{max}	*The maximum instantaneous sound pressure level* (L_{max}),
L_{Amax}	*The A-weighted maximum instantaneous sound pressure level* (L_{Amax})
L_{AFmax}	*The A-weighted maximum instantaneous sound pressure level with a FAST time constant* (L_{AFmax}).
$L_{N,T}$	*The percentage exceedance sound pressure level* ($L_{N,T}$),
$L_{AN,T}$ $L_{AFN,T}$ **N = %age value, 0-100** **T = measurement time** **e.g. L_{A90}, L_{A10}, $L_{AF90,\,5\,min}$**	*The A-weighted percentage exceedance sound pressure level* ($L_{AN,T}$), *the A-weighted percentage exceedance sound pressure level with a FAST time constant* ($L_{AFN,T}$). This is the sound pressure level exceeded for *N*% of time period *T*. e.g. If an A-weighted level of x dB is exceeded for a total of 6 minutes within one hour, the level will have been above x dB for 10% of the measurement period. This is written as $L_{A10,1hr}$ = x dB. L_{A0} (the level exceeded for 0 % of the time) is equivalent to the L_{Amax} and L_{A100} (the level exceeded for 100 % of the time) is equivalent to the L_{Amin}. It is good practice to include the letter which identifies the time constant used as this can make a significant difference to the value.
$L_{eq,T}$	The *equivalent continuous sound pressure level over period T* ($L_{eq,T}$),
$L_{Aeq,T}$ **T = measurement time** **e.g. $L_{Aeq,5min}$**	*The A-weighted equivalent continuous sound pressure level over period T* ($L_{Aeq,T}$). This is effectively the average sound pressure level over a given period. As the decibel is a logarithmic quantity the L_{eq} is not a simple arithmetic mean value. The L_{eq} is calculated from the raw sound pressure data. It is not appropriate to include a reference to the FAST and SLOW time constants in the notation.