

142 West End Lane, London, NW6 1SD

Planning noise assessment

Winkworth

15 May 2024

ARM0281-01

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1 Introduction

It is understood that air conditioning equipment is to be installed at the premises of 142 West End Lane, London, NW6 1SD. The plant is to comprise 1no. outdoor condenser units (and associated indoor unit) serving the commercial premises and which may potentially operate over the period 08:00 – 20:00hrs, Monday to Saturday.

In order to ensure that the amenity of adjacent noise sensitive premises is not unduly affected as a result of noise emission from the mechanical plant, it is necessary to demonstrate to the local planning authority, the London Borough of Camden, that noise will be adequately controlled. The *Camden Local Plan 2017*, sets out the Council's approach to planning policies, whilst further information is contained within the *Camden Planning Guidance, Amenity*, which sets out the methodology for assessment. The guidance advises that the assessment methodology set out in *BS 4142: Method for rating industrial noise affecting mixed industrial and residential areas* should be adopted.

ARM Acoustics have therefore been appointed by the client to evaluate potential noise impacts and effects arising from the foregoing mechanical plant, as necessary to comply with the requirements of the planning regime. This report therefore sets out the relevant assumptions, methodology, results and conclusions of the assessment.

2 Site location and development proposal

2.1 Site location

The building comprises a single storey commercial premises located on a bridge above the mainline railway (Camden Road West Junction to Kensal Green Junction, BOK2). The front façade of the building lies on West End Lane, while the rear elevation overlooks the railway corridor.

Similar single storey commercial premises adjoin either side of the property. Beyond these to the north at a distance of approximately 18m from the site are the 4 storey mixed use premises of 148 West End Lane. These provide commercial use at ground floor, with residential accommodation on the upper storeys; the end wall facing the site is blind, containing no openable windows.

On the opposite side of the road at 199-209 West End Lane are further 3 storey premises, with commercial use at ground floor and residential accommodation above. The closest of these is approximately 16m from the site boundary. West Hampstead Station is situated opposite the site, while further to the south are the 5 storey premises of West End Square, again accommodating commercial usage at ground floor and residential above.

Situated to the south of the site are the 5 storey residential dwellings of Tower Mansions, 134-136 West End Lane, which are approximately 20m from the site.

Please refer to the site layout plan at Figure 1, Appendix 1.

2.2 Development proposal

It is proposed that air conditioning plant be installed at the premises, comprising 1no. outdoor condenser units (and associated indoor units) which may potentially operate over the period 08:00 - 20:00hrs Monday to Saturday. It is proposed that the condenser unit is to be located at roof level to the rear of the parapet wall at the front of the building, as indicated at Figure 1.

3 Policy, legislation and standards

3.1 National Planning Policy Framework 2021

The *National Planning Policy Framework 2021* (NPPF) sets out the Government's planning policies for England and how these are expected to be applied and is a material consideration in planning decisions. To ensure that sustainable development is pursued in a positive way, at the heart of the Framework is a presumption in favour of sustainable development. With regard to noise, the NPPF paragraph 174 states that:

"Planning policies and decisions should contribute to and enhance the natural and local environment by... 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... taking into account relevant information".

In support of the above, paragraph 185 states the following:

"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".

3.2 National Planning Practice Guidance (2019)

The *Planning Practice Guidance – Noise* (PPGN) to the NPPF advises on how the planning regime can manage potential noise impacts arising from new development. It is noted that whilst in some circumstances noise can override other planning concerns, it is important to look at noise in the context of the wider characteristics of a development proposal, its likely users and its surroundings, as these can have an important effect on whether noise is likely to pose a concern. Planning and decisions made by local planning authorities should take account of the acoustic environment, and in doing so consider whether or not:

- a significant adverse effect is occurring or likely to occur;
- an adverse effect is occurring or likely to occur; and
- a good standard of amenity can be achieved.

In consideration of the presence or otherwise of adverse effects, the Noise Policy Statement for England, 2010 (NPSE) introduces these concepts, which are summarised as follows:

SOAEL - Significant observed adverse effect level (SOAEL): This is the level of noise exposure above which significant adverse effects on health and quality of life occur.

LOAEL - Lowest observed adverse effect level (LOAEL): this is the level of noise exposure above which adverse effects on health and quality of life can be detected.

NOEL - No observed effect level: this is the level of noise exposure below which no effect at all on health or quality of life can be detected.

Although the word 'level' is used, this does not mean that the effects can only be defined in terms of a single value of noise exposure. In some circumstances adverse effects are defined in terms of a

combination of more than one factor such as noise exposure, the number of occurrences of the noise in a given time period, the duration of the noise and the time of day the noise occurs.

The below table 1 (reproduced from the Guidance) summarises the noise exposure hierarchy, based on the likely average response of those affected.

Table 1: Noise exposure hierarchy (as per National Planning Practice Guidance)

Response	Examples of outcomes	Increasing effect level	Action
No Observed Effect Level			
Not present	No effect	No Observed Effect	No specific measures required
No Observed Adverse Effect Level			
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 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 small actual or 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 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 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

The Guidance also suggests four broad types of mitigation against noise:

- engineering: reducing the noise generated at source and/or containing the noise generated;
- layout: where possible, optimising the distance between the source and noise sensitive receptors and/or incorporating good design to minimise noise transmission through the use of screening by natural or purpose-built barriers, or other buildings;
- using planning conditions/obligations to restrict activities allowed on the site at certain times and/or specifying permissible noise levels differentiating as appropriate between different times of day, such as evenings and late at night, and;

- mitigating the impact on areas likely to be affected by noise including through noise insulation when the impact is on a building.

3.3 Local Planning Policy

In order to ensure that the amenity of adjacent premises is not unduly affected as a result of noise emission from the mechanical plant, it is necessary to demonstrate to the local planning authority, the London Borough of Camden, that noise will be adequately controlled. Relevant local planning policies include Policy D14 of the London Plan and Policy A4 of the Camden Local Plan 2017.

London Plan, 2021

In relation to noise, Policy D14 of the London Plan advises that:

“In order to reduce, manage and mitigate noise to improve health and quality of life, residential and other non-aviation development proposals should manage noise by:

- 1) avoiding significant adverse noise impacts on health and quality of life
- 2) reflecting the Agent of Change principle as set out in Policy D13 Agent of Change
- 3) mitigating and minimising the existing and potential adverse impacts of noise on, from, within, as a result of, or in the vicinity of new development without placing unreasonable restrictions on existing noise-generating uses
- 4) improving and enhancing the acoustic environment and promoting appropriate soundscapes (including Quiet Areas and spaces of relative tranquillity)
- 5) separating new noise-sensitive development from major noise sources (such as road, rail, air transport and some types of industrial use) through the use of distance, screening, layout, orientation, uses and materials – in preference to sole reliance on sound insulation
- 6) where it is not possible to achieve separation of noise-sensitive development and noise sources without undue impact on other sustainable development objectives, then any potential adverse effects should be controlled and mitigated through applying good acoustic design principles
- 7) promoting new technologies and improved practices to reduce noise at the source, and on the transmission path from source to receiver.”

The London Plan also provides high level consideration of the approach to management of noise, in the wider context of achieving sustainable development, such that the foregoing policies can be met.

London Borough of Camden

The Camden Local Plan 2017 sets out how areas within the borough are to be developed and the policies which will be adopted to guide new development, including *Policy A1 Managing the impact of development*, which advises that the Council will seek to protect the quality of life of occupiers and neighbours with planning permission for development being granted unless this causes unacceptable harm to amenity, including considerations of noise and vibration. This is developed by *Policy A4 Noise and Vibration*, which advises that:

Policy A4 Noise and Vibration

The Council will seek to ensure that noise and vibration is controlled and managed.

Development should have regard to Camden’s Noise and Vibration Thresholds (Appendix 3). We will not grant planning permission for:

- a. development likely to generate unacceptable noise and vibration impacts; or*

b. development sensitive to noise in locations which experience high levels of noise, unless appropriate attenuation measures can be provided and will not harm the continued operation of existing uses.

We will only grant permission for noise generating development, including any plant and machinery, if it can be operated without causing harm to amenity. We will also seek to minimise the impact on local amenity from deliveries and from the demolition and construction phases of development.

Further information is contained within the *Camden Planning Guidance, Amenity*, which sets out the methodology for assessment of plant, ventilation, air extraction or conditioning equipment. The guidance advises that the assessment methodology set out in *BS 4142: Method for rating industrial noise affecting mixed industrial and residential areas*, should be adopted. Furthermore, evaluation should be considered against the noise thresholds set out in Appendix 3 of the Local Plan, as reproduced below, which are presented in terms of the potential effect level (LOAEL, SOAEL etc). Generally speaking, a 'Rating Level' of 10 dB below background (15dB if tonal components are present) should be considered as the design criterion.

Table C: Noise levels applicable to proposed industrial and commercial developments (including plant and machinery)

Existing Noise sensitive receptor	Assessment Location	Design Period	LOAEL (Green)	LOAEL to SOAEL (Amber)	SOAL (Red)
Dwellings**	Garden used for main amenity (free field) and Outside living or dining or bedroom window (façade)	Day	'Rating level' 10dB* below background	'Rating level' between 9dB below and 5dB above background	'Rating level' greater than 5dB above background
Dwellings**	Outside bedroom window (façade)	Night	'Rating level' 10dB* below background and no events exceeding 57dBL _{Amax}	'Rating level' between 9dB below and 5dB above background or noise events between 57dB and 88dB L _{Amax}	'Rating level' greater than 5dB above background and/or events exceeding 88dBL _{Amax}

3.4 British standards and guidance

BS 4142: 2014+A1:2019 - Method for rating industrial noise affecting mixed industrial and residential areas

British Standard BS 4142:2019 provides a method for rating and assessment of sound of an industrial nature, together with the procedures for assessing whether the noise in question is likely to give rise to adverse or significant adverse effects upon the amenity residential dwellings, or premises used for residential purposes. The scope of the standard is not applicable to the assessment of the effects of sound on users of commercial, industrial or similar "non-residential" purposes. Industrial and commercial noise sources falling within the scope of the standard include:

- 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 fork-lift trucks, or that from train or ship movements on or around an industrial and/or commercial site.

In carrying out the assessment, the standard advises that an initial estimate of the impact of the specific sound is obtained by subtracting the measured background sound level from the rating level. The standard advises that:

- 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."

Note 2 to Clause 11 advises that:

"Adverse impacts may include but not be limited to annoyance and sleep disturbance. Not all adverse impacts will lead to complaints and not every complaint is proof of an adverse impact."

When the initial estimate of the impact needs to be modified due to the context, all pertinent factors should be considered which may include:

- 1) The absolute level of sound. For a given difference between the rating level and the background sound level, the magnitude of the overall impact might be greater for an acoustic environment where the residual sound level is high than for an acoustic environment where the residual sound level is low.
Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night.
- 2) The character and level of the residual sound compared to the character and level of the specific sound.
- 3) The sensitivity of the receptor and whether dwellings or other premises used for residential purposes will already incorporate design measures that secure good internal and/or outdoor acoustic conditions, such as:
 - i) facade insulation treatment;
 - ii) ventilation and/or cooling; and
 - iii) acoustic screening.

As noted, the initial estimate of impact may be modified depending on the absolute level of the sound. Guidance on absolute sound levels both within buildings is given in BS 8233:2014, which is referred to in the examples of Annex A of the standard. The relevant content of BS 8233:2014 is reviewed below.

BS8233:2014: Guidance on sound insulation and noise reduction for buildings

For residential developments which might be subjected to noise above the Lowest Observed Adverse Effect Levels, the principles of the NPPF require that any adverse effects should be mitigated and reduced to a minimum. In doing so, it is necessary to consider the design noise levels that should be adopted to demonstrate that this has been achieved.

Guidance on suitable internal noise levels for dwelling houses and flats can be found in 'BS8233:2014: Guidance on sound insulation and noise reduction for buildings. In general, it is desirable that for steady external noise sources the internal ambient noise levels set out within Table 4 therein, are not exceeded (reproduced below). These criteria are based upon the guideline values presented within the WHO Guidelines for Community Noise, 1999.

The footnotes to BS8233 Table 4, advise 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 5dB and reasonable internal conditions still achieved.

Table 2: Internal ambient noise levels for dwellings (as per BS8233:2014)

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

For additional context, it is noted that the WHO Guidelines for Community Noise also provide guideline values for application external to bedrooms (assuming partially open windows) during the night time period in order to prevent sleep disturbance; these values are 45 dB $L_{Aeq,8\text{ hour}}$ and 60 dB $L_{Amax,f}$; these values are 15dB higher than those applicable within bedrooms, accounting for the open window loss. Outside of bedrooms and living rooms during the daytime, the stated internal guideline values of 35 dB $L_{Aeq,16\text{ hour}}$ would therefore correspond to external noise levels of 50 dB $L_{Aeq,16\text{ hour}}$.

4 Noise survey

4.1 Baseline noise survey

In order to determine the underlying baseline ambient sound climate in the vicinity of the site an attended noise survey was carried out over the period approximately 16:00 – 20:00hrs on Monday 13th May 2024. The survey was carried out in accordance with the general principles set out in BS 7445 – *Description and measurement of environmental noise*.

Baseline measurement locations on West End Lane and to the south of the railway corridor (adjacent to Tower Mansions) were adopted, as indicated at Figure 1, Appendix 1. The measurement locations were at a height of 1.2m above the ground plane in the free-field and considered representative of the ambient noise climate at the nearest noise sensitive premises.

Measurement Position B1: 199 West End Lane at a height of 1.2m above the ground level in the free-field [51.547611, -0.191164]

Measurement Position B1: Adjacent to Tower Mansions at a height of 1.2m above the ground level in the free-field [51.547450, -0.190787]

The sound level meter used is verified to appropriate national standards (BS7580: Part 1 1997) at a UKAS accredited laboratory, as follows:

01dB Solo sound level meter s/n 65335 – laboratory calibration 07/11/23

01dB PRE21S preamp s/n 15939 – laboratory calibration 07/11/23

01dB MCE 212 microphone s/n 142792 – laboratory calibration 07/11/23

Rion NC74 sound calibrator s/n 34304641 – laboratory calibration 23/08/23

The sound level meter underwent a field calibration check on site prior to and following the survey, with no significant variation in the calibration level, 93.8dB \pm 0.1 dB @ 1kHz. Broadband and 1/1

octave band (50Hz to 8kHz) sound pressure levels were measured using the fast (0.125s) time constant and a sample of 15 minute periods logged at each location during the survey.

Weather during the survey period was mild (temperature 18°C), with no precipitation and light or minimal breeze (wind speeds below 4.5m/s).

4.2 Baseline sound data

Logged data have been post-processed to derive 15-minute data pertaining to the relevant assessment periods across the survey period. The derived broadband survey data in terms of $L_{Aeq,T}$, $L_{A90,T}$ and $L_{AF,max}$ are presented in Table 3, below.

Table 3: Baseline ambient noise data

Period start	Baseline sound level, dB		
	$L_{Aeq,15min}$	$L_{A90,15min}$	$L_{AFmax,15min}$
Location B1			
13/05/2024 16:11	60.3	55	76.7
13/05/2024 16:56	62.9	53.5	84.6
13/05/2024 17:32	60.1	52.3	82.6
13/05/2024 18:05	58.2	51.7	74.5
13/05/2024 19:03	63.8	52	80.2
Location B1	61	52	-
Location B2			
13/05/2024 16:29	70.3	62.1	94.1
13/05/2024 17:15	70.4	61.9	97.2
13/05/2024 17:49	70.2	61.9	92.6
13/05/2024 18:22	69.2	62	87.8
13/05/2024 19:19	69.2	61	87.4
Location B2	70	61	-

As noted, the Local Authority advise that the plant noise emissions and background noise levels should be evaluated as per the method set out in BS 4142. The commentary to Clause 8.1 of the Standard advises that:

“In using the background sound level in the method for rating and assessing industrial and commercial sound it is important to ensure that values are reliable and suitably represent both the particular circumstances and periods of interest. For this purpose, the objective is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods.”

The standard doesn't explicitly advise how a typical background sound level(s) may be determined. Note 1 to Subclause 8.1.4 makes it clear that it is not a simple matter of identifying a minimum or modal value over a particular period, but recognizing that several periods of measurement may be necessary and that a thorough analysis of the data may be required.

Typical background noise values have therefore been derived, as below:

Table 4 Typical representative background sound levels

Location	Typical background sound level, $L_{A90,15mins}$ (facade) Day (08:00-20:00hrs)
B1 - Tower Mansions	52 dB
B2 - West End Lane	61 dB

4.3 Specific sound data

The specific sound level arising from operation of the proposed outdoor condenser unit (Fujitsu AOYG18KBTB) is taken from manufacturer's laboratory test data. Data are stated as a sound pressure levels at 1m in Table 5, below.

Table 5: Source sound pressure level @1m

Plant ref.	Plant item	Octave Band Centre Frequency Hz								L _{p,A}
		63	125	250	500	1000	2000	4000	8000	
C1	Fujitsu AOYG18KBTB - Heating	56	57	47	47	44	39	35	28	50
	- Cooling	62	57	49	47	47	40	38	29	50

NB. Sound pressure level at 1m under anechoic conditions

5 Noise assessment

5.1 Noise modelling

The foregoing information has been used to carry out modelling and assessment of the potential noise impacts arising from use of the proposed plant, comprising 1no. outdoor condenser unit (Fujitsu AOYG18KBTB). Modelling of noise was undertaken using the proprietary environmental modelling software package CadnaA, implementing the standards set out within *ISO 9613-2:1996, Acoustics -- Attenuation of sound during propagation outdoors -- Part 2: General method of calculation*. Site geometry and building data is based upon opensource mapping data and information obtained during site visits.

As stated at 2.2, the condenser unit may potentially operate over the period 08:00 – 20:00hrs, Monday to Saturday.

5.2 Predicted noise levels

Resultant specific sound pressure levels have been calculated at positions external to the façade of noise sensitive receptors in the vicinity of the site and at each floor. For the purposes of the assessment, it has been assumed that the unit may operate continuously over the 1hour reference period. The resulting specific sound levels are presented in Table 6, below.

Table 6: Predicted specific sound pressure levels

AL_ID	Address	Specific sound level, L _{Aeq,T} 08:00 - 20:00hrs
R1	Tower Mansions, 134-136 W End Ln, London NW6 1S	24 dB
R2	Tower Mansions, 134-136 W End Ln, London NW6 1S	24 dB
R3	199a W End Lane, West Hampstead, NW6 1SA	26 dB
R4	209 W End Lane, West Hampstead, NW6 2HL	20 dB
R5	148 W End Lane, West Hampstead, NW6 1SD	24 dB
R6	West Hampstead Square, 6 Heritage Ln, NW6 2AF	12 dB

5.3 Noise impact assessment

Based upon the predicted specific sound levels in Table 6, an evaluation of the potential impact of the plant noise emissions has been carried out on the most affected noise sensitive receptor (side elevation of R1, Tower Mansions, which is subject to lower background noise levels than those receptors fronting West End Lane) has been carried out in accordance with the methodology set out in BS4142 as set out in Table 7, below.

Table 7: BS4142 assessment at R1, Tower Mansions – Day time (08:00 – 20:00hrs).

Results		Relevant clause	Commentary
Background sound level	$L_{A90(15min)} = 52$	8.3	Background sound level (modal value) determined from measured values at B1
Residual sound level	$L_{Aeq,T} = 61$	7.3.3	Estimated residual sound level
Reference time interval of 1 hour on the basis that plant may operate during the daytime period.		7.2	
On time correction	0 dB	7.3.15	Assumes 100% on time during the reference period.
Specific sound level (calculated)	$L_{Aeq(1\text{ hour})} = 24$	7.3.6	Accounting for geometric attenuation, ground absorption, reflection effects and on-time.
Acoustic feature correction	0 dB	9.2	Specific sound level substantially below the daytime residual and background noise levels. No acoustic features are anticipated to be present at the receptor locations.
Rating level	$24 + 0 = 24$ dB	9.2	
Background sound level	$L_{A90(15min)} = 52$	8.6	
Excess of rating over background sound level	$(24 - 52)$ dB = -28 dB	11	
Assessment indicates no or negligible impact at the receptor		11	
Uncertainty of the assessment		10	Assumes 100% on-time during the reference period, which is considered a worst case. Specific sound levels are based upon manufacturer's laboratory test data and calculations undertaken in accordance with ISO9613-2.

From the foregoing assessment it can be seen that the rating level is anticipated to be 28dB below the typical minimum $L_{A90,15\text{minute}}$ background sound level during the period of operation, with no acoustic features anticipated to be present at the receptor locations. As advised within BS4142, where the rating level does not exceed the background sound level, this is an indication that of the specific sound source having a low impact. 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. The proposed installation is therefore considered likely to have no or negligible impact.

Furthermore, the absolute level of the specific sound is substantially below the BS8233 guideline values which would be applicable external to the premises (daytime 50 dB $L_{Aeq,16\text{ hour}}$ allowing for open window losses) and would indicate that no adverse impact will arise from the operation.

6 Conclusion

Air conditioning equipment comprise 1no. outdoor condenser unit is to be installed to service the ground floor commercial premises at 142 West End Lane, London, NW6 1SD. Operation of the equipment may be over the period 08:00 – 20:00hrs, Monday to Saturday.

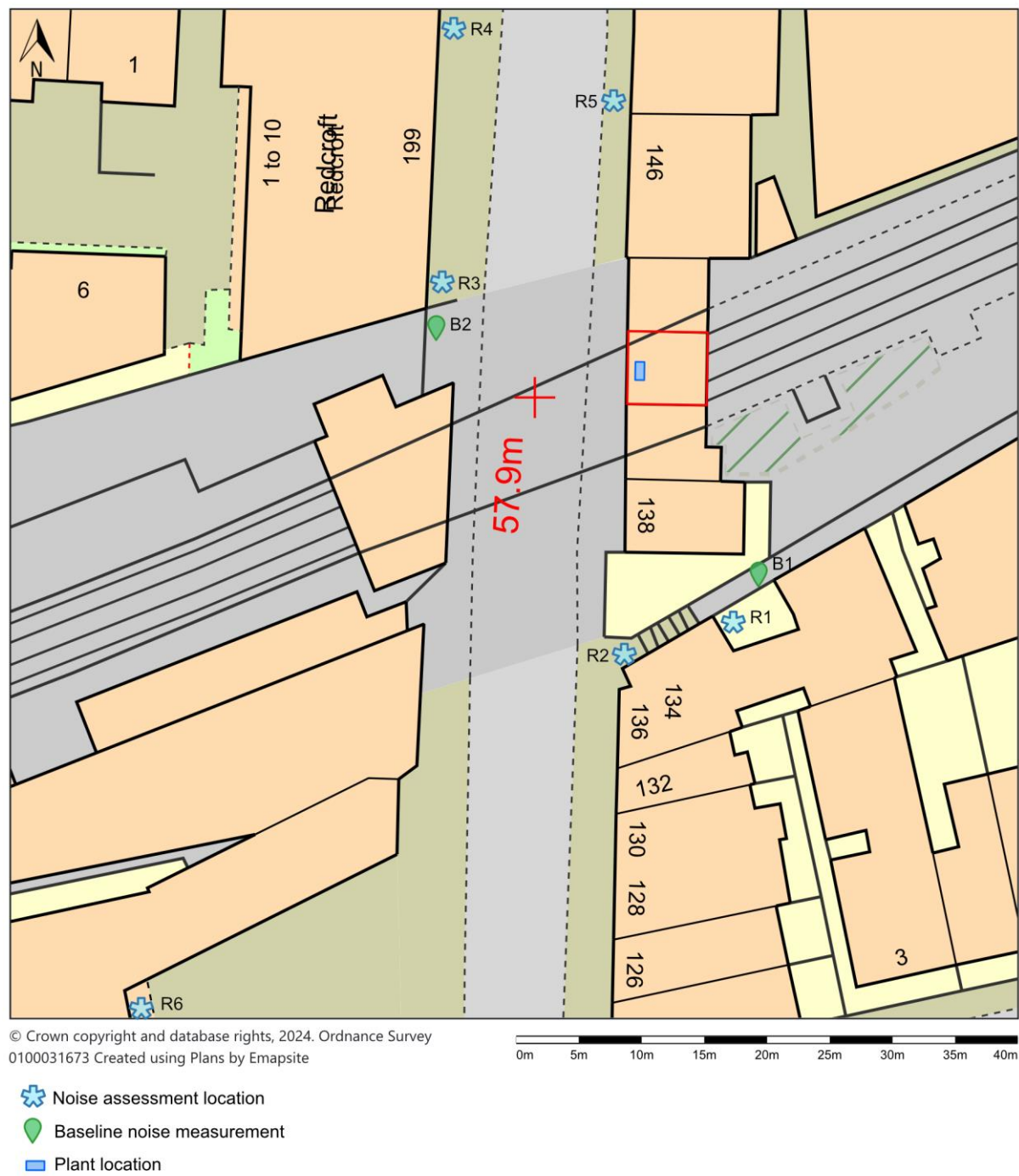
In order to ensure that the amenity of adjacent noise sensitive premises is not unduly affected as a result of noise emission from the mechanical plant, it is necessary to demonstrate to the local planning authority, the London Borough of Camden, that noise will be adequately controlled. The *Camden Local Plan 2017*, sets out the Council's approach to planning policies, whilst further information is contained within the *Camden Planning Guidance, Amenity*, which sets out the methodology for assessment. The guidance advises that the assessment methodology set out in *BS 4142: Method for rating industrial noise affecting mixed industrial and residential areas* should be adopted.

The results of the assessment indicate that the rating level of the sound from the operation of the plant is below the background noise level by 28dB for the daytime period (08:00 – 20:00hrs) corresponding to the proposed operation of the plant, which is an indication that the sound source has no or negligible impact. This is further supported through consideration of the contextual considerations, including the level of the residual sound and the low absolute level of the specific sound when considered against BS8233 guideline values.

The assessment therefore serves to demonstrate the suitability of the proposal in the context of national and local planning policy and guidance within the context of sustainable development and the principles of good design, as adverse effects have been avoided. It is therefore considered that sound arising from the operation of the plant installation is compliant with the requirements of the *Camden Local Plan policies A1 and A4* and the requirements of the *Camden Planning Guidance, Amenity*.

Appendix 1 – Site plan

Figure 1: Site plan



Appendix 2 – SQA statement

My name is Marcus Richardson. I have a BEng (Hons) in Mechanical Engineering and am a Member of the Institute of Acoustics. I have over 20 years' experience in private sector acoustics consultancy, encompassing transportation, environmental and construction noise and vibration, architectural and building acoustics, including providing expert evidence. I am a founding director of ARM Environment Ltd (2007), an ANC member company.

I have worked on projects of all sizes, including major infrastructure projects, from inception through planning, to detailed design and construction and been responsible for noise impact assessments contributing to Environmental Impact Assessments for several rail schemes (including High Speed Two, London – West Midlands) and mixed-use developments. I was engaged by Network Rail for several years in the management and delivery of noise and vibration related aspects of the Thameslink Programme and also provided technical and policy support to the cross-industry Noise Policy Working Group.

I have worked with contractors, developers, architects and their design teams in the development of numerous commercial, residential, industrial and education schemes, ensuring the adoption of best practice in acoustics design and discharge of planning and statutory obligations.

I have contributed to Defra research studies into human response to vibration in residential environments and noise nuisance from windfarms, as well as producing papers and articles for presentation and publication in various journals (Proceedings of the Institute of Acoustics, International Workshop on Railway Noise, Acoustics Bulletin).