

3 – 10 Market Place Reading

Environmental Noise Survey and Plant Noise Impact Assessment Report

Date: 30 September 2026

Client: Tene Living UK (Reading) Ltd
35 Ballards Lane
London
N3 1DX

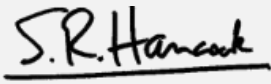
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Document Approvals

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For Information

Please Note

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Contents

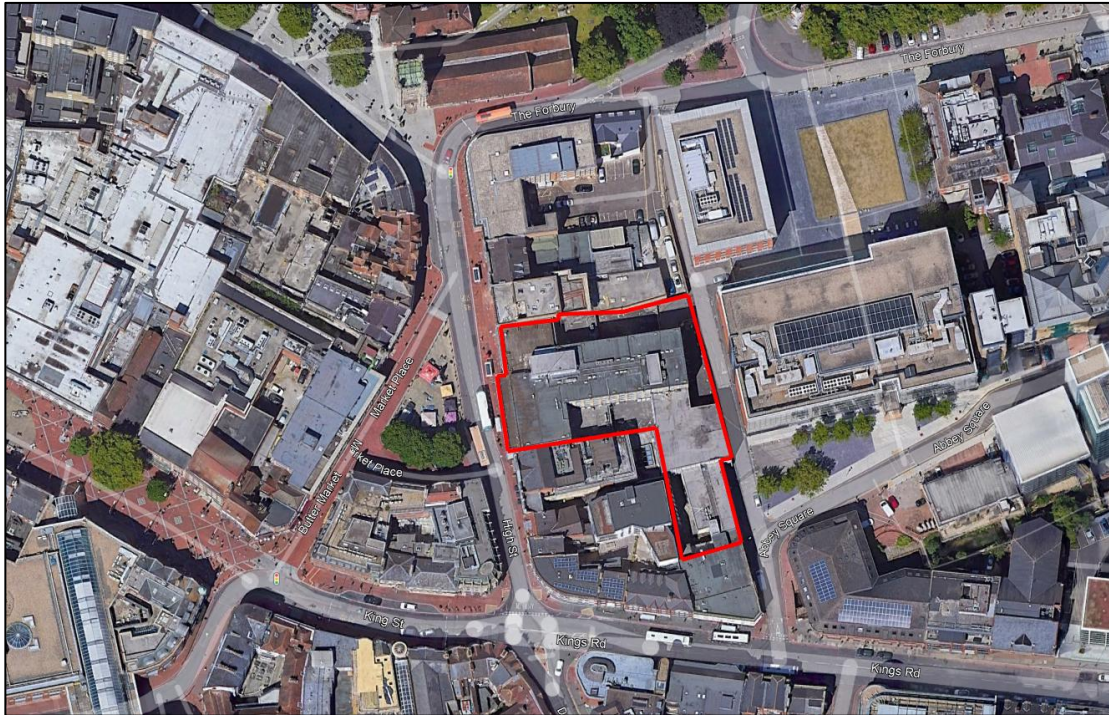
1.0	INTRODUCTION.....	4
2.0	SITE DESCRIPTION.....	5
3.0	ACOUSTIC TERMINOLOGY	6
4.0	PLANNING POLICY AND ASSESSMENT GUIDANCE	7
5.0	NOISE SURVEY METHODOLOGY	13
6.0	NOISE SURVEY FINDINGS.....	16
7.0	PLANT NOISE EMISSION CRITERIA	20
8.0	PLANT NOISE IMPACT ASSESSMENT.....	22
9.0	SMOKE SHAFT FANS	26
10.0	CONCLUSIONS.....	27

1.0 INTRODUCTION

- 1.1 This Environmental Noise Survey and Plant Impact Assessment report has been prepared to accompany a full planning application for development proposed 3 – 10 Market Place which include the installation of plant at roof level.
- 1.2 Quantum Acoustics has been appointed by Tene Living (Reading) Ltd to establish appropriate plant noise emission criteria and subsequently assess the acceptability of atmospheric noise emission from the proposed plant.
- 1.3 An environmental noise survey was previously undertaken by Quantum Acoustics in 2025.
- 1.4 This report presents our methodology and findings.

2.0 SITE DESCRIPTION

- 2.1 The site is located at 3 – 10 Market Place, Reading. The existing building comprises residential use on the first to fourth floors, following the conversion of the upper floors to provide 144 apartments. The site is indicated below, outlined in red.



Site Plan (Google Imagery 2025, The GeoInformation Group)

- 2.2 The existing building overlooks Market Place at the front. The rear of the building overlooks Abbey Square. The rest generally overlooks internal courtyards and a rear access road that is accessed via Abbey Square.
- 2.3 Market Place is predominately commercial and retail in nature. There are some residential uses in the area overlooking Market Place.
- 2.4 The Market House Hotel is adjacent to the south/front. It features cooling plant located at fourth floor roof level plus a roof terrace/bar.
- 2.5 The Madras Flavours restaurant is adjacent to the south/rear. It features a kitchen extract system.
- 2.6 There is a small Tesco supermarket within the site on the ground floor, which has deliveries to the rear via the covered underground car park at lower ground/basement level, which is accessed via Abbey Square.
- 2.7 The local planning authority is Reading Borough Council.

3.0 ACOUSTIC TERMINOLOGY

3.1 The following section uses the following acoustic terms:

- **A-weighted** noise levels are frequency-weighted in a way that approximates the frequency response of the human ear and allows sound levels to be expressed as a single figure value. The A-weighted level is therefore a measure of the subjective loudness, rather than physical amplitude.
- **L₉₀** is the noise levels that is exceeded for 90% of the measurement period. It reflects the quiet periods during that time and is often referred to as the "background noise level". It is often used as a basis for setting noise emission criteria. The A-weighted value over time period (T) is written as $L_{A90,T}$.
- **L_{eq}** is the level of a notional continuous sound that would deliver the same sound energy as the actual fluctuating sound over the measurement period. This may be thought of as the "average" level during the measurement period.
- **L_{max}** is the maximum noise level during the measurement period.

4.0 PLANNING POLICY AND ASSESSMENT GUIDANCE

Noise Policy Statement for England

- 4.1 The Noise Policy Statement for England (NPSE) was published in March 2010. The NPSE is the primary statement of noise policy for England and applies to all forms of noise other than occupational noise. The NPSE sets out the long-term vision of Government noise policy which is to:

"Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development."

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

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

- 4.2 The Explanatory Note to the NPSE introduces guidance to assist in defining the adverse impacts:

- **NOEL – No Observed Effect Level**

This is the level below which no effect can be detected and below which there is no detectable effect on health and quality of life due to noise.

- **LOAEL – Lowest Observable Adverse Effect Level**

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

- **SOAEL – Significant Observed Adverse Effect Level**

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

- 4.3 These categories are further discussed in the Planning Practice Guidance section below.
- 4.4 The NPSE acknowledges that it is not possible to have a single objective noise level based measure that is mandatory and applicable to all sources of noise in all situations.

Planning Practice Guidance

- 4.5 The government's Planning Practice Guidance is a web based resource and provide advice on various issues, including noise (<https://www.gov.uk/guidance/noise--2>). The advice (March 2014, latest update July 2019) states in the context of considering when noise is relevant to planning, "noise needs to be considered when new development may create additional noise, or would be sensitive to the prevailing acoustic environment (including any anticipated changes to that environment from activities that are permitted but not yet commenced)."
- 4.6 The Planning Practice Guidance pages also include more explanation of the effect level categories noted above, providing an explanatory Noise Exposure Hierarchy Table, which explores how actions such as a requirement for noise mitigation, or prevention of a development, might be assessed with respect to whether noise levels are considered above the category thresholds.

Planning Practice Guidance - Noise Exposure Hierarchy			
Response	Examples of outcomes	Increasing effect level	Action
No Observed Effect Level			
Not present	No effect	No Observed Effect	No specific measures required
Present and not intrusive	Noise can be heard but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, 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.	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 and/or attitude, 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 and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable hard, e.g. auditory and non-auditory.	Unacceptable Adverse Effect	Prevent

National Planning Policy Framework

- 4.7 The following paragraphs are from the National Planning Policy Framework (NPPF). The NPPF was revised in August 2026.

"P3: Living conditions and pollution

1. *Development proposals should be appropriate for their location, taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, whether these effects are on or off-site; and whether this is as a result of the development itself or the product of preexisting conditions in its vicinity. In assessing the potential effects of pollution, consideration should be given to the potential sensitivity of the site, and its intended occupiers and users, as well as that of the environment and population in the surrounding area (including where certain groups could be particularly vulnerable to its effects, such as children and older people).*
2. *Within this context development proposals should:*
 - a. *Provide healthy living conditions for occupiers and users in terms of adequate access to light and avoiding exposure to levels of air, noise, artificial light or other sources of pollution which could have an unacceptable adverse effect on health and the quality of life. Where necessary suitable mitigation measures should be incorporated to secure acceptable living conditions;*
 - b. *Not give rise to, or contribute to, an unacceptable level of access to daylight and sunlight for neighbouring residents and occupiers, or unacceptable levels of air, noise, artificial light, water, soil or other forms of pollution on or beyond the site. Adverse impacts of this nature should be avoided where possible, or else mitigated to an acceptable degree. Where possible, opportunities should be taken to reduce pollution affecting the wider area (such as through traffic and travel management or improved external lighting);*
 - ...
 - d. *Mitigate and reduce to a minimum potential adverse impacts resulting from noise, not result in levels of noise exposure which would have a significant observed adverse effect, and maintain the character of tranquil areas (those areas that have remained relatively undisturbed by noise from human sources and are prized for their recreational and amenity value for this reason);*

..."

Local Authority Requirements

- 4.8 The site lies within the jurisdiction of Reading Borough Council.
- 4.9 Reading Borough Council's Local Plan was adopted in November 2019. Key planning policies relating to noise include:
- "Policy CC8: Safeguarding Amenity*
- ...
- Development will not cause a detrimental impact on the living environment of existing residential properties or unacceptable living conditions for new residential properties, in terms of:*
- ...
- *Noise and disturbance;*
- Policy EN16: Pollution and Water Resources*
- Development will only be permitted where it would not be damaging to the environment and sensitive receptors through land, noise or light pollution;*
- ...
- Proposals for development that are sensitive to the effects of noise or light pollution will only be permitted in areas where they will not be subject to high levels of such pollution, unless adequate mitigation measures are provided to minimise the impact of such pollution.*
- Policy EN17: Noise Generating Equipment*
- Where noise generating equipment is proposed, the noise source specific level (plant noise level) should be at least 10dBA below the existing background level as measured at the nearest noise sensitive receptor."*
- 4.10 A review of the draft Reading Local Plan Partial Update (November 2024) has been undertaken. The draft Local Plan does not make any changes to noise policies and no new relevant policies are proposed, therefore the guidance in the Local Plan (2019) remains valid.
- 4.11 Quantum Acoustics have approached the Environmental Health Officer (EHO), Rebecca Moon, who has confirmed that noise from the smoke shafts is not required to be assessed in line with Policy EN17 and information in respect of noise levels, proposed location, and frequency of testing should be provided.

BS 4142:2014

- 4.12 BS 4142:2014+A1:2019 "Methods for Rating and Assessing Industrial and Commercial Sound" addresses the likelihood of adverse impact from noise generated by plant equipment. A noise rating is determined and compared with the existing local background sound level, and several cumulative acoustic feature corrections to the noise rating are available to apply where appropriate. For example, if the noise includes a distinguishable tone, impulse, intermittency or other readily distinguishable sound characteristic.
- 4.13 BS 4142:2014 seeks to determine a "representative" background sound level, stating that "...the objective is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods".
- 4.14 The assessment of the impact depends upon the margin by which the rating level of the specific sound source exceeds the background sound level but also promotes a consideration of the context in which the sound occurs when making an assessment. BS 4142:2014 states that an initial estimate of the impact of the specific sound is made by subtracting the measured background sound level from the rating level, while considering the following points:
- 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.
- 4.15 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.

5.0 NOISE SURVEY METHODOLOGY

Survey Period

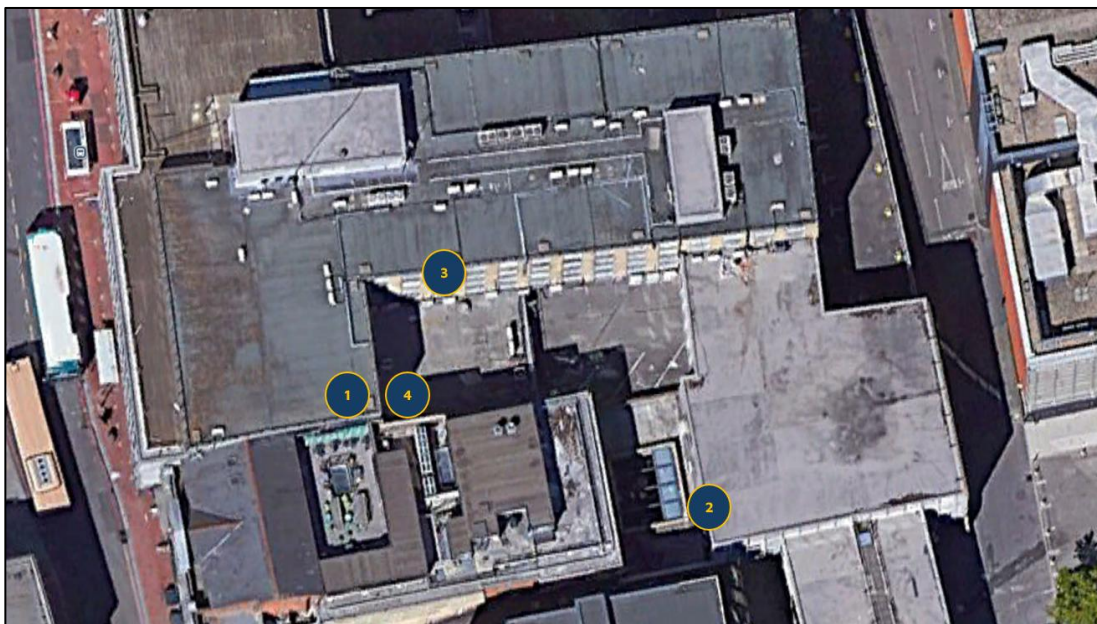
- 5.1 An unattended fully environmental noise survey was undertaken from approximately 11:00 hours on 25 June 2025 to approximately 11:00 hours on 26 June 2025.

Measurement Positions

- 5.2 Noise monitoring equipment was located at the following positions:

Noise Monitoring Positions	
Position	Description
Position 1	Located on the fourth-floor roof, approximately 1m north of the Market House roof terrace.
Position 2	Located on the second-floor roof, approximately 7m east of Market House and approximately 3m northeast of the corner of 1-9 Kings Road.
Position 3	Located at fourth floor level, in the lightwell, on the southern façade facing Market House.
Position 4	At the bottom of the lightwell, in the southwest corner of the lightwell.

- 5.3 The noise monitoring positions are indicated on the following plan.



Plan Showing Measurement Positions (Google Imagery 2025, The GeoInformation Group)

Equipment

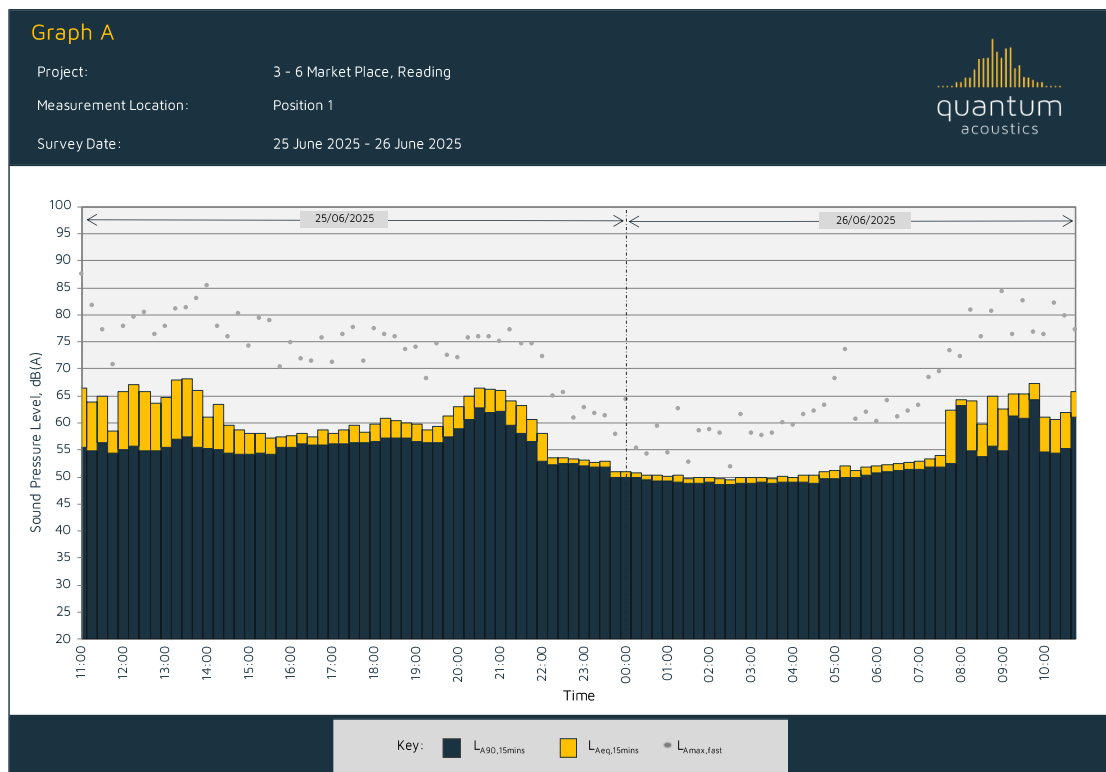
- 5.4 The sound level meters at Positions 1 and 4 were set up to continuously measure the A-weighted (dBA) L_{90} , L_{eq} and L_{max} sound pressure levels over sampling periods of 15 minutes duration, along with $\frac{1}{3}$ Octave parameters and audio capture.
- 5.5 The sound level meters at Positions 2 and 3 were set up to continuously measure the A-weighted (dBA) L_{90} , L_{eq} and L_{max} sound pressure levels over sampling periods of 15 minutes duration.
- 5.6 Calibration certificates for the equipment, traceable to national standards, used in this survey are available upon request.
- 5.7 Calibration checks were carried out prior to and on completion of the survey, with no significant calibration drift observed.
- 5.8 Details of the equipment used for the survey are summarised below:

Survey Equipment				
Location ID	Description	Manufacturer	Type	Serial Number
Position 1	Type 1 Sound Level Meter	Svantek	971A	143557
Position 2	Type 1 Sound Level Meter	Convergence	Nsrt_mk4	AnJerX2S8X23KDlyxODRvD

Survey Equipment				
Location ID	Description	Manufacturer	Type	Serial Number
Position 3	Type 1 Sound Level Meter	Convergence	Nsrt_mk4	CHB0D1W4e9U9opvgy6JRvD
Position 4	Type 1 Sound Level Meter	Svantek	971A	151366
All	Acoustic Calibrator	Svantek	SV 33B	125699

6.0 NOISE SURVEY FINDINGS

- 6.1 The noise survey results are presented in the graphs below, showing the A-weighted L_{90} , L_{eq} and L_{max} noise levels measured during each consecutive 15-minute period of the survey.

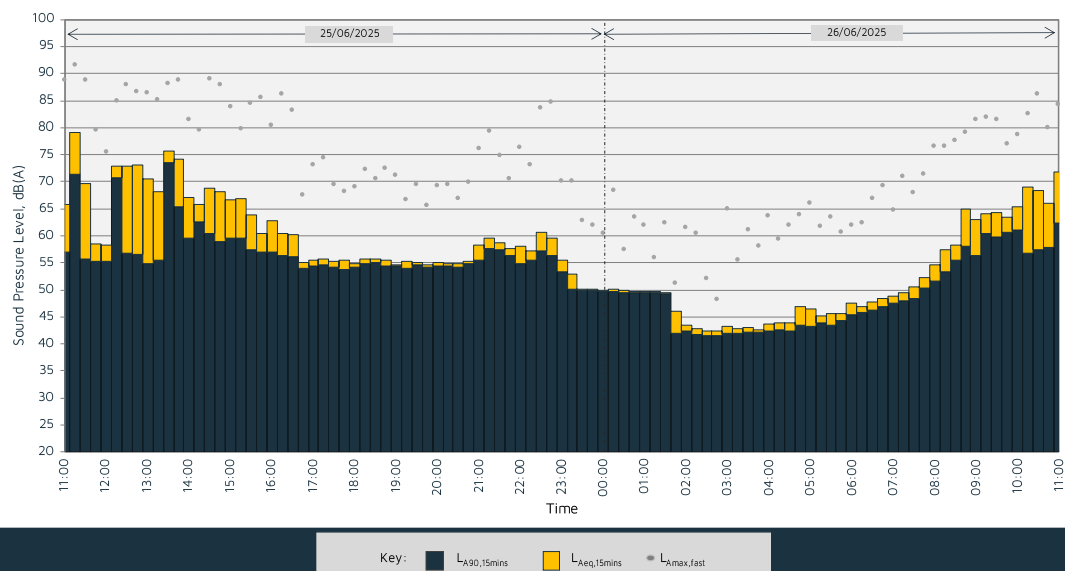


Graph B

Project: 3 - 6 Market Place, Reading

Measurement Location: Position 2

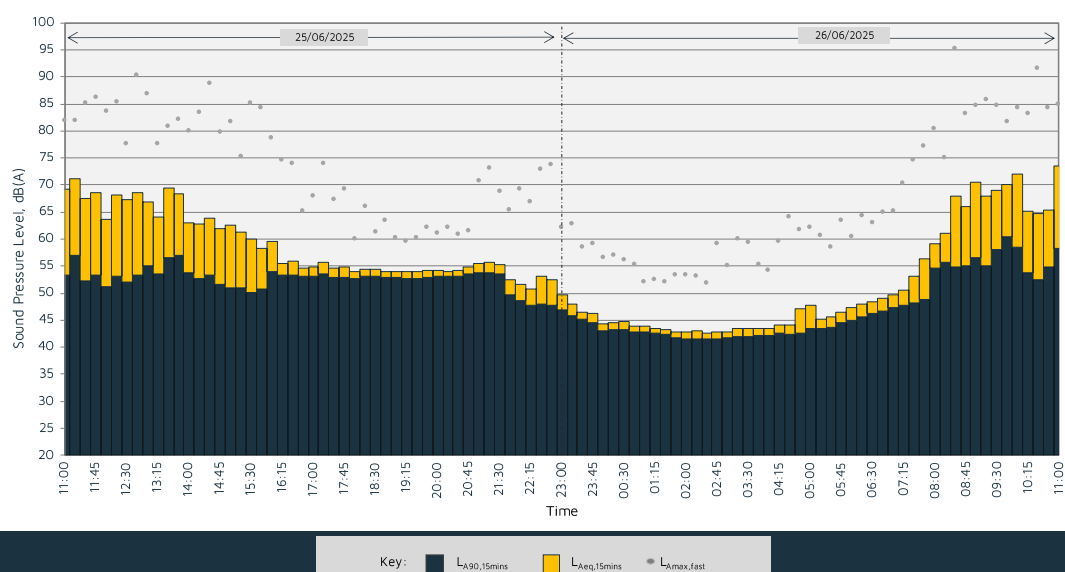
Survey Date: 25 June 2025 - 26 June 2025

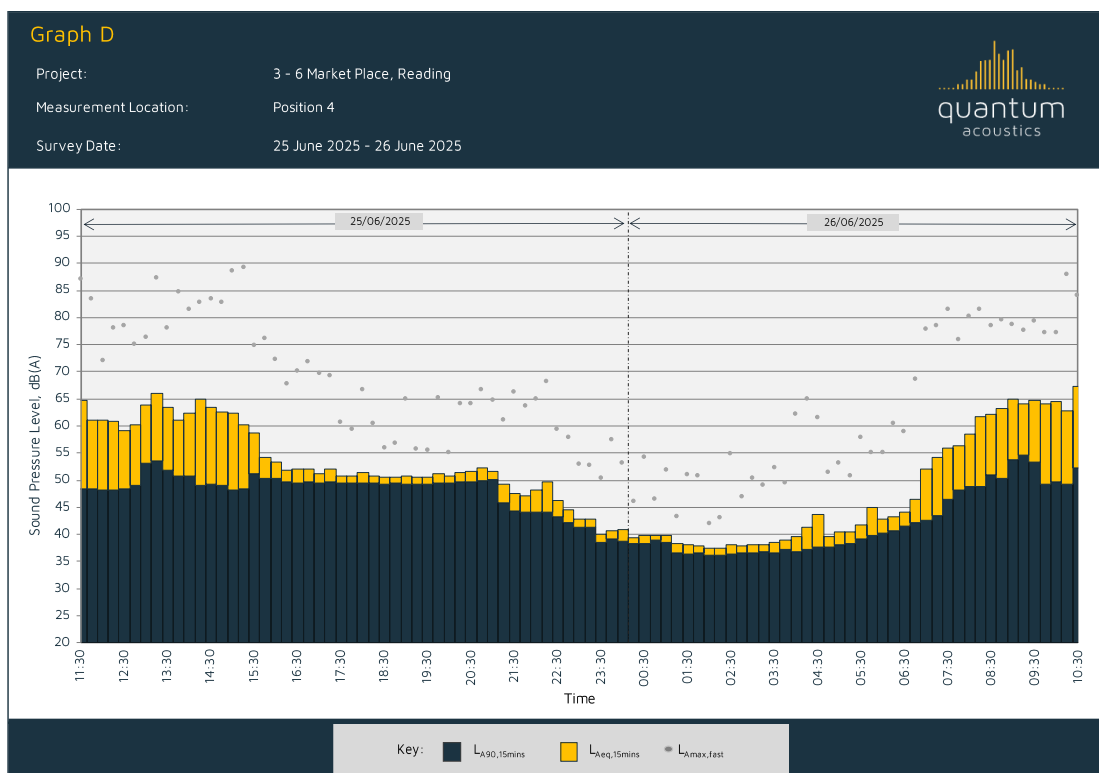
**Graph C**

Project: 3 - 6 Market Place, Reading

Measurement Location: Position 3

Survey Date: 25 June 2025 - 26 June 2025





6.2 The measured daytime L_{Aeq} (16 hour) and night-time L_{Aeq} (8 hour) noise levels are presented in the table below:

L_{Aeq} Noise Levels [dB]		
Position	Daytime (07:00 – 23:00)	Night-time (23:00 – 07:00)
Position 1	63	51
Position 2	68	48
Position 3	66	46
Position 4	61	41

6.3 The measured modal background L_{A90} noise levels are presented in the table overleaf:

Modal Background L_{A90} Noise Levels [dB]		
Position	Daytime (07:00 – 23:00)	Night-time(23:00 – 07:00)
Position 1	56	49
Position 2	57	42
Position 3	54	42
Position 4	50	37

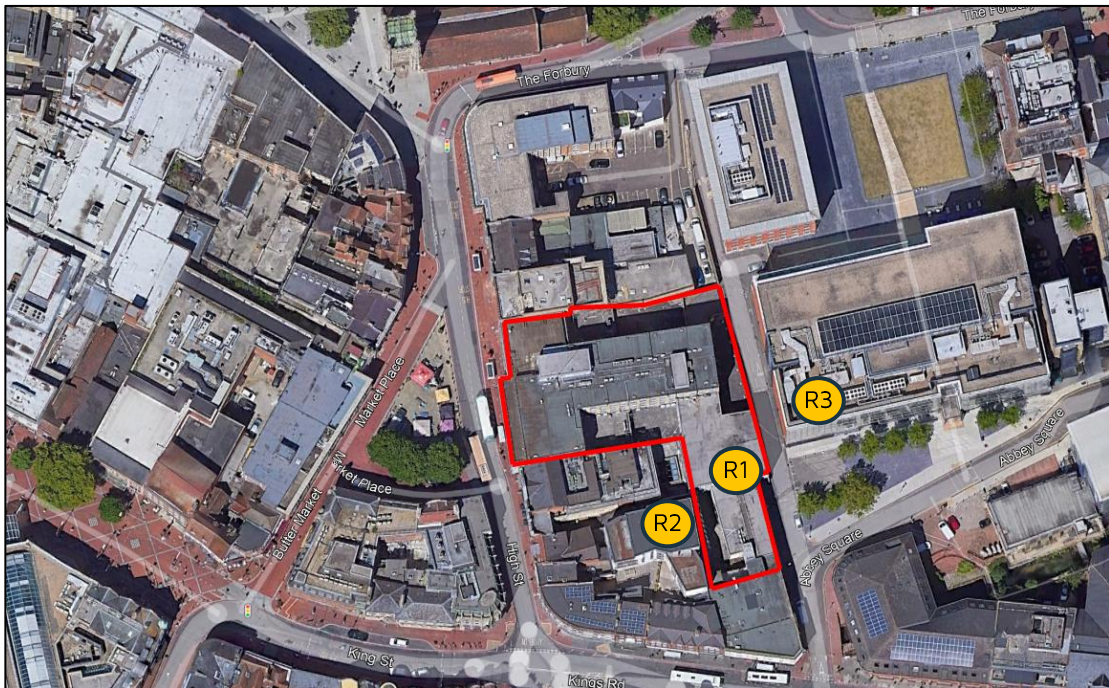
Discussion of Noise Climate

- 6.4 During the periods we were present on site, the subjectively dominant noise sources at Positions 1, 3 and 4 were construction works, kitchen extracts flues and mechanical services plant serving Market House.
- 6.5 At Position 2, the subjectively dominant noise sources were construction works, and the kitchen extract flue serving Madras Flavours.
- 6.6 The kitchen extract flue for Madras Flavours operates during the daytime period and was audible at Position 2 whilst we were on site. Graph B indicates the kitchen extract switched off at approximately 22:45 hours. This corresponds with Madras Flavours opening times, which are Monday – Thursday 0900 hours to 22:00 hours and Friday and Sunday 09:00 hours to 22:30 hours.
- 6.7 The kitchen extract flue for Market House operates during the daytime period and was audible at Positions 1, 3 and 4. Graphs C and D indicate the kitchen extract flue switched on at approximately 15:30 hours. Graphs A, C and D indicate that the kitchen extract switched off at approximately 21:35 hours. This corresponds with Market House food service times (Monday – Thursday 16:00 hours to 21:00 hours, Friday and Saturday 12:00 hours to 21:30 hours and Sunday 12:00 hours to 18:00 hours).
- 6.8 During the evening period, prior to 23:00 hours, Position 1 was also affected by patron noise within the roof terrace of Market House.
- 6.9 Measurement Positions 1 and 4, corresponding to Graphs A and D, are representative of the residential windows facing the lightwell. Graphs A and D, along with the audio files, show that the building services noise levels reduced at approximately 23:45 hours. Some building services noise remained audible/steady throughout the night-time period. It is likely that this building services noise was from the heat recovery units located on the roof of Market House, or possibly the nearby louvres which face the lightwell – although we cannot be certain.
- 6.10 Whilst the dominant noise source during the daytime period is construction noise, the assessment of fixed plant noise utilises the background noise levels, in accordance with BS 4142 and Reading Borough Council's policy. The night-time period is considered the most vital for the assessment, as both ambient and background noise levels are typically lower than during the daytime, increasing the potential for fixed plant noise to be perceptible.

7.0 PLANT NOISE EMISSION CRITERIA

Nearest Noise Sensitive Receptor

- 7.1 The potentially most affected noise-sensitive receptors to the proposed plant are residential windows located on the south façade of the building at third floor level, approximately 9 metres from the plant. We have referred to these as Receptor R1
- 7.2 The potentially most affected neighbouring noise-sensitive receptor to the proposed plant is a residential window at 1 – 33 Jackson's Corner, approximately 15 metres from the plant. We have referred to this receptor as Receptor R2.
- 7.3 The potentially most affected neighbouring office receptor to the proposed plant is office windows at Davidson House, approximately 20 metres from the plant. We have referred to this receptor as Receptor R3.
- 7.4 The identified noise sensitive receptors, namely Receptor R1, R2 and R3, are indicated by the yellow circles below:



Site Plan (Google Imagery 2025, The GeoInformation Group)

Plant Noise Emission Criteria

- 7.5 To comply the aforementioned guidance including the Local Authority's requirements of 10dB below the existing background noise levels, and on the basis of the noise survey results, the following environmental plant noise emission criteria are proposed to be achieved at 1 metre from the noise sensitive residential window:

Plant Noise Emission Limits L_{Aeq} dB		
Receptor	Daytime (07:00 – 23:00)	Night-time (23:00 – 07:00)
Receptor R1	47	32
Receptor R2	47	32

- 7.6 We also recommend that noise levels at 1m from openable windows of nearby offices do not exceed 55dBA.
- 7.7 The above criteria apply to cumulative noise level of all plant operating simultaneously, under normal operating conditions.
- 7.8 Relaxations of the above criteria may be acceptable for emergency plant, however they must be considered on a case-by-case basis.

8.0 PLANT NOISE IMPACT ASSESSMENT

Proposed Plant Selections

8.1 We understand the proposed plant comprises:

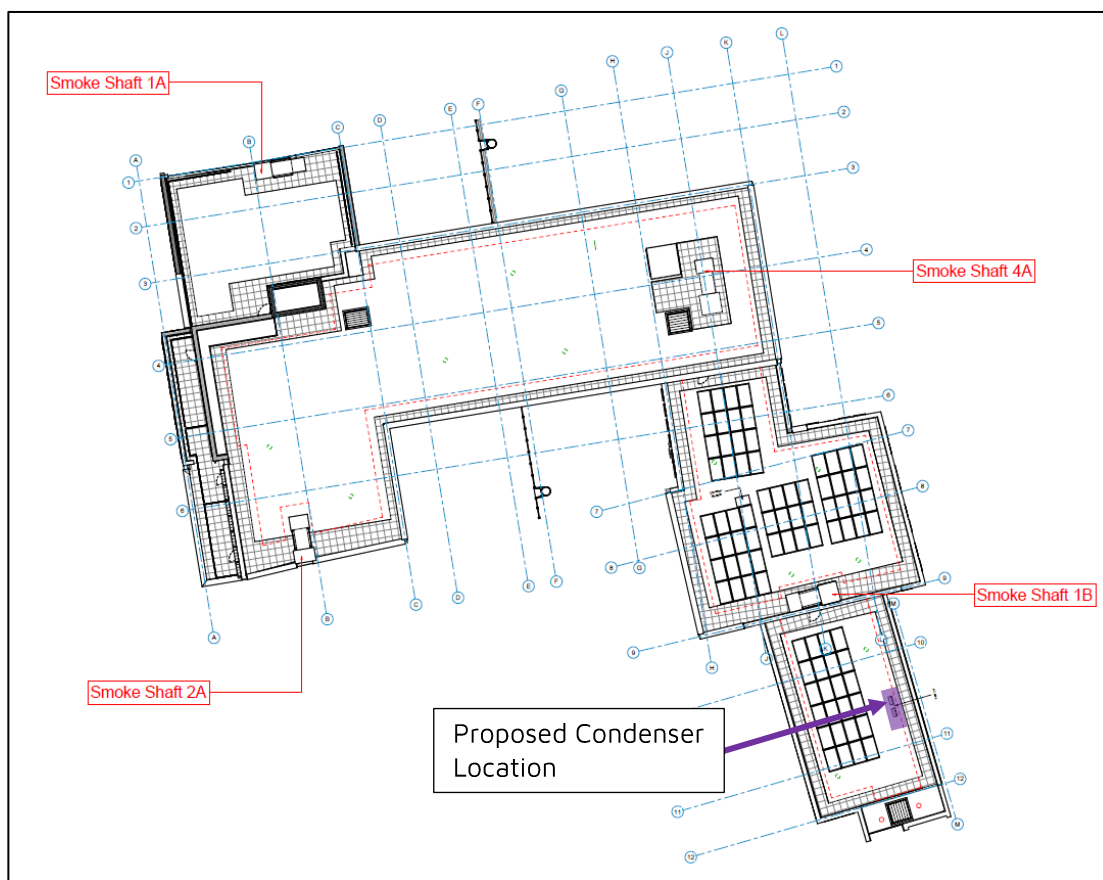
Proposed Plant		
Manufacturer	Model	Quantity
Samsung	AR60F09C1AWXEU	2

8.2 According to the manufacturer's noise data, the sound pressure levels for the proposed plant are shown in the table below:

Proposed Plant	
Plant	Sound Pressure Level (Lp) (dBA)
Samsung AR60F09C1AWXEU	45 @ 1m

8.3 The above plant selections are indicative. If alternative plant is selected, it must not be any noisier.

8.4 The location of the proposed plant items is identified on the figure overleaf. The proposed condensers are highlighted in purple:



Noise to Residential Windows

8.6 The following table summarises our assessment of plant noise to the noise sensitive residential window during the daytime:

Daytime Noise Assessment to Nearest Noise Sensitive Residential Windows		
Description	Sound Pressure [dBA]	
	Receptor R1	Receptor R2
Manufacturers noise data (Sound Pressure Level at 1 metre)	45 @ 1m	45 @ 1m
Correction for 2 No. quantity	+ 3	+ 3
Cumulative Sound Pressure at 1 metre	48 @ 1m	48 @ 1m
Propagation Loss	-16	-20

Daytime Noise Assessment to Nearest Noise Sensitive Residential Windows		
Description	Sound Pressure [dBA]	
	Receptor R1	Receptor R2
Predicted Plant Noise Level	32	28
Criterion	47	47
Compliance	✓	✓

- 8.7 The following table summarises our assessment of plant noise to the noise sensitive residential window during the night-time:

Night-time Noise Assessment to Nearest Noise Sensitive Residential Windows		
Description	Sound Pressure [dBA]	
	Receptor R1	Receptor R2
Manufacturers noise data (Sound Pressure Level at 1 metre)	45 @ 1m	45 @ 1m
Correction for 2 No. quantity	+ 3	+ 3
Cumulative Sound Pressure at 1 metre	48 @ 1m	48 @ 1m
Propagation Loss	-16	-20
Predicted Plant Noise Level	32	28
Criterion	32	32
Compliance	✓	✓

- 8.8 Our calculations therefore indicate that environmental noise emissions from the proposed roof plant, should comply with the proposed criteria, at the nearest residential receptors.

Assessment to Office Windows

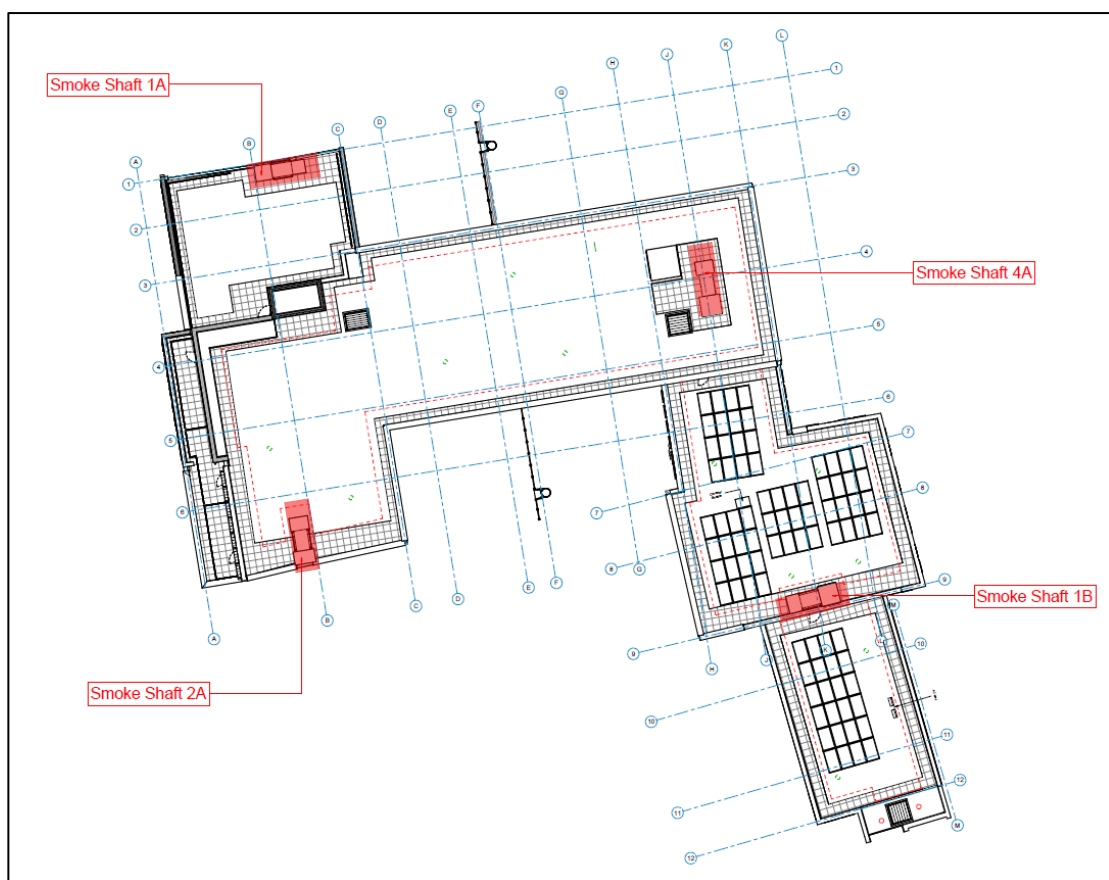
- 8.9 The following table summarises our assessment of plant noise to the noise sensitive office window:

Noise Assessment to Nearest Noise Sensitive Office Windows	
Item	Sound Pressure [dBA] @ R3
Condenser Unit 1	45 @ 1 m
Condenser Unit 2	45 @ 1 m
Cumulative Sound Pressure at 1 metre	48 @ 1 m
Propagation Loss	-23
Predicted External Plant Noise Level	25
Criterion	55
Compliance	✓

- 8.10 Our calculations therefore indicate that environmental noise emissions from the proposed plant, should comply with the proposed criteria, at the neighbouring office receptors.

9.0 SMOKE SHAFT FANS

- 9.1 It should be noted that the smoke shafts are for emergency use only and therefore do not need to be assessed, as confirmed by the EHO.
- 9.2 At the time of writing, the smoke extract fan data has not yet been made available. We understand that there will be four smoke shafts located on the roof.
- 9.3 The location of the proposed plant items is identified on the figure below. The proposed smoke shafts are highlighted in red:



10.0 CONCLUSIONS

- 10.1 Quantum Acoustics has previously undertaken an environmental noise survey to establish the prevailing baseline noise climate around the site.
- 10.2 Appropriate plant noise emission criteria have been derived with reference to the measured baseline conditions, relevant national guidance and the requirements of the Local Planning Authority.
- 10.3 Environmental noise emissions from the proposed plant have been assessed to noise sensitive receptors.
- 10.4 Our calculations indicate that environmental plant noise emissions should comply with the proposed criteria. The proposed plant is therefore not be expected to give rise to significant adverse noise effects.
- 10.5 On the basis of the findings of this assessment, the proposed plant is considered acoustically acceptable and, in terms of noise impact, there are no acoustic reasons why planning permission should be refused.



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