Plant Noise Assessment

Block B1 and Car Park Fan

Carried out for

BDW Trading Limited (Barratt West London)

Report 107362/2

Compiled by Rebecca Hogg

8 August 2025

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Plant Noise Assessment

Block B1 and Car Park Fan

Carried out for: BDW Trading Limited (Barratt West London)
Hayes Village
Nestle Avenue
Hayes
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United Kingdom

Contract: Report 107362/2

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QUALITY ASSURANCE

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CONTENTS

FIGURES

TABLES

APPENDICES

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1 INTRODUCTION

Barratt West London (the client) commissioned BSRIA to carry out a plant noise assessment at Block B1 and the Car Park Fan at Nestle Hayes Village. The purpose of the plant noise assessment was to demonstrate compliance, or otherwise, with Planning Condition 21, which was supplied by the client, and is given below.

Condition 21 – Post installation noise assessment
"The rating level of noise emitted from the plant and/or machinery hereby approved shall be at least 5 dB below the existing background noise level. The noise levels shall be determined at the nearest residential property. The measurements and assessment shall be made in accordance with British Standard 4142:2014. A post installation noise assessment shall be carried out where required to confirm compliance with the noise criteria and additional steps to mitigate noise shall be taken, as necessary. Approved details shall be implemented prior to occupation of the development and thereafter be permanently retained."

The plant noise assessment was carried on 29th July 2025 on Block B1 and Car Park Fan at Nestle Hayes Village, Nestles Avenue, Hayes, UB3 4RF.

The weather during the monitoring period was warm and dry with a temperature of 20°C and a slight breeze. Weather conditions were within the requirements of the standard.

This report details the acoustic methodology and measurement results.

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2 METHODOLOGY

The objective of the plant noise assessment was to determine compliance, or otherwise, with Planning Condition 21. The client provided drawings of the plant locations which are given in Appendix A. Photographs are given in Appendix B.

The client provided a report with the required noise criteria entitled "Acoustic Assessment Report" dated 17th October 2019 Rev. no. 3, and the noise criteria is given in Table 1. The blocks are nearest to measurement position 4 and therefore the criteria of position 4 is used.

Table 1 Noise Criteria

Measurement Position	Daytime Plant Operation (07:00 – 23:00)	Night-time Plant Operation (23:00 – 07:00)
Position 1 – Nestles Avenue	50 dB	47 dB
Position 2 – Squirrels Trading Estate	51 dB	47 dB
Position 3 – Railway	49 dB	47 dB
Position 4 – Centre of Site	48 dB	43 dB

The calibration details of the instrumentation used during the acoustic testing are given in Table 2.

Table 2 Instrumentation Calibration Details

Instrument	Manufacturer	Range	Units	Serial Number	Calibration Due Date
Nor140 sound level meter	Norsonic	0 – 130	dB	1406333	27/02/2026
Nor1251 acoustic calibrator	Norsonic	114	dB	34437	13/03/2026

Noise measurements were carried out on the roof of Block B1 and at ground level around the Car Park Fan at an appropriate distance from the operational plant. A Nor140 sound level meter was installed at each monitoring location. The sound level meter was calibrated before and after the measurement period.

The client was responsible for operating the plant during the measurement period. The client stated all the plant was operating in Environmental Mode, which was the typical operation of the plant. The plant was operated for a short period to ensure stable operation and then a measurement was taken for 1 minute. For the BS 4142 assessment a worst-case scenario of the plant operating all day and night was used.

Due to the low noise levels of the plant noise on Block B1 compared to background noise levels it was not possible to measure at the closest receptor locations and therefore the alternative methodology in the standard of measuring close to the noise source (plant) and calculating the noise level at the nearest receptor. The nearest residential properties to the plant on the roof of Block B1 are on the balcony below or adjacent blocks with a minimum distance of at least 10m, which was used as a worst-case scenario for the noise assessment.

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3 RESULTS

3.1 BLOCK B1

The results of the noise monitoring on Block B1 are given in Table 3. The fan was slightly audible at the measurement location during the measurement period.

Table 3 Block B1 Result of Noise Monitoring

Operating Conditions	Location	Noise Level
Ambient noise levels - no plant	Roof of Block B1	48.3
Plant operating	Roof of Block B1 – 1m from fan extract	51.8
Plant operating	Nearest residential property	31.8 (predicted)

3.2 CAR PARK FAN

The results of the noise monitoring on the Car Park Fan are given in Table 4. The plant fan was very audible at the measurement locations during the measurement period.

Table 4 Car Park Fan Result of Noise Monitoring

Operating Conditions	Location	Noise Level
Ambient noise levels – no plant	Ground floor nearby car park fan	49.4
Plant operating	Ground floor – 1m from fan extract	79.3
Plant operating	Ground floor outside Plot 124 – 26m from fan extract	58.8

The client has stated the car park fan only operates when there is an excess of car fumes in the car park below and there are no set times for operation. It is estimated it may operate for approximately 3 hours per day, but not consecutive hours.

BS 4142:2014 outlines a calculation based on intermittent operation. Using this approach the overall daytime and nighttime have been calculated and are given in Table 5. All calculations are based on the nearest sensitive receptor.

Table 5 Car Park Fan – Predicted Noise Levels

Operating Hours	Daytime Predicted Noise Level	Night -time Predicted Noise Level
3 hours during 16-hour day only	51.0	n/a
2 hours during 16-hour day 1 hour during 8-hour night	49.2	49.2

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3.3 COMPLIANCE ASSESSMENT

Table 6 outlines if each block complies with Planning Condition 21 for daytime and night-time noise levels.

Table 6 Compliance Assessment

Block/Location	Complies Daytime Criteria	Complies Night-time Criteria
B1	Yes	Yes
Car Park Fan (3hrs day only)	No	Yes
Car Park Fan (2hrs day, 1 hr night)	No	No

In order to comply with the criteria, it has been estimated the car park fan should only operate for a maximum of 1.5 hours during the daytime and a maximum of 15 mins during the night-time.

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APPENDIX A: DRAWINGS

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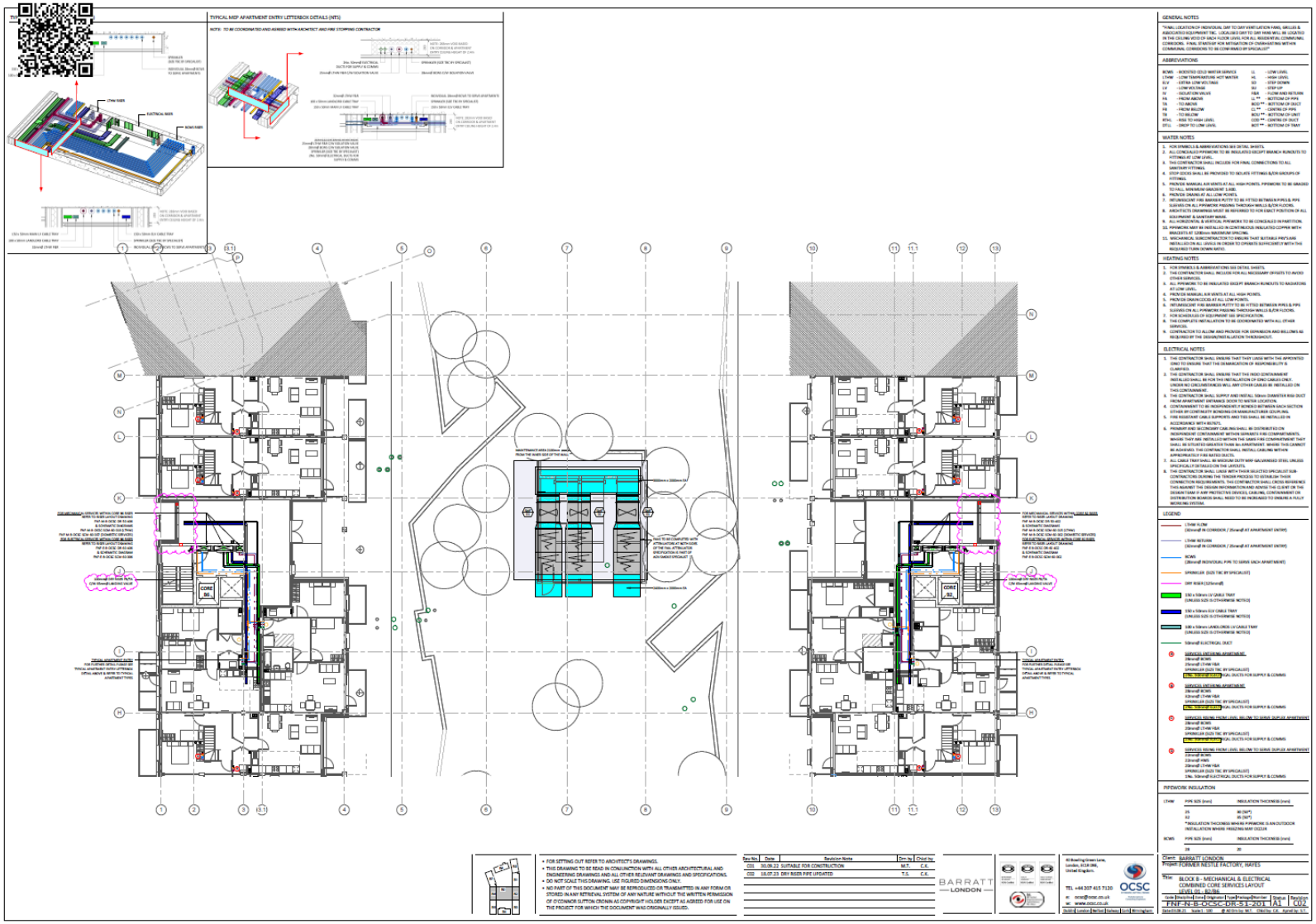

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APPENDIX B: PHOTOGRAPHS

Figure 1 Plant on Roof of Block B1

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Figure 2 Ground Floor Exhaust of Car Park Fan

Figure 3 Outside Plot 124

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