

**1 Tony Wilson Place
Manchester, M15 4FN**

**Proposed New Mechanical Services Plant
Planning Noise Impact Assessment**

Report ref.

RK3832/24311/Rev 0

Issued to

Resero

Prepared by

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1. INTRODUCTION

Resero's client is seeking planning permission to replace mechanical services plant at 1 Tony Wilson Place in Manchester. The site is located in a sensitive area. Consequently, a noise impact assessment is required to cover the operation of the proposed new mechanical services plant.

Accordingly, Spectrum Acoustic Consultants has been commissioned by Resero to carry out a noise assessment for the purpose of establishing the potential noise impact associated with the new plant. This report is submitted with the intention of providing the sufficient information required to both inform and satisfy the requirements of the Local Planning Authority.

2. SITE DESCRIPTION AND PROPOSALS

The proposed new mechanical services plant is to be located at 1 Tony Wilson Place, Manchester, M15 4FN. The seven-storey high commercial office building is bounded to the north by Tony Wilson Place, beyond which are a number of commercial buildings, as well as a hotel (INNSiDE) operated by Meliá. To the east of the site is a multi-storey car park and an eleven-storey high student accommodation building. To the west of the site is an eight-storey high office building. First Street bounds the site to the south which has a number of office buildings currently undergoing construction. An existing site location plan is included in Appendix A.

Proposals involve removing the existing water cooled VRV air conditioning system, comprising of four large dry coolers on the roof. The intention is to replace this with new air cooled VRV system which would comprise of a number of new units on the roof. As the offices are not used during the night-time, the proposed new plant would operate during the daytime only. A proposed scheme drawing is included in Appendix B.

3. ASSESSMENT CRITERIA

The noise impact assessment relating to the proposed new mechanical services plant will be carried out in accordance with the procedures set out in BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound*. The principle of BS 4142 is to determine an initial estimate of impact of industrial/commercial sound on nearby residents by comparing the Rating Level (sound level from the industrial/commercial source, with a correction applied for any acoustic features that characterise the sound) with the Background Sound Level (L_{A90} as measured in absence of the industrial/commercial source).

Generally, the greater the difference by which the Rating Level exceeds the Background Sound Level, the greater the magnitude of impact. BS 4142 states that *'a difference of around +10 dB or more is likely to be an indication of a significant adverse impact [...]. A difference of around +5 dB is likely to be an indication of an 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.'*

However, BS 4142 also advises that *'when making assessments and arriving at decisions [...] it is essential to place the sound in context'* so in each case, the context in which the sound is placed must be considered and the initial estimate of impact should be modified accordingly.



For example, it advises ‘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.’ It also indicates that impacts estimated during ‘the middle of the night can be distinctly different (and potentially of lesser importance) compared to the start or end of the night-time period for sleep purposes.’

Additionally, Guidelines for Community Noise - World Health Organization, 1999 (GCN) was published in 1999 with the aim of informing legislation and guidance produced at the national and regional levels for the purposes of minimising any potential adverse health effects resulting from noise in the community. It presents guideline noise level criteria for the avoidance of adverse effects such as sleep disturbance and annoyance in a range of specific environments. The preface to WHO states that community noise includes road, rail and air traffic, industries, construction and public work, and the neighbourhood.

The GCN document advises that for outdoor living areas during the daytime period (07:00-23:00), table 4.1 of WHO references a guideline façade level of $L_{Aeq(16\text{-hour})}$ 50dB(A). For outside bedrooms (with windows open) during the night-time period (23:00-07:00), table 4.1 of WHO references a guideline façade level of $L_{Aeq(8\text{-hour})}$ 45dB(A).

New guidance from WHO titled Environmental Noise Guidelines for the European Region (ENG) was published in 2018. The document takes a very different approach to guidance set out in the previous GCN document by identifying separate thresholds for specific sources rather than for community noise as a whole. Consequently, much of the earlier guidance set out in GCN is now absent from ENG. While ENG was intended to supersede GCN, it recognises this absence and states that ‘indoor guideline values and any values not covered by the current guidelines (such as industrial noise and shopping areas) should remain valid.’

Manchester City Council provide the following guidance for plant noise in their Planning and Noise Technical Guidance, October 2022 document:

“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 (LAeq) below the typical background (LA90) level at the nearest noise sensitive location.”

For the assessment of the potential noise impact, consideration will therefore be given to the BS 4142:2014+A1:2019 assessment level, together with the precautionary guideline noise limits defined by the WHO Guidelines and Manchester’s Technical Guidance.

4. BACKGROUND NOISE MEASUREMENT SURVEY

4.1 MEASUREMENT LOCATIONS

For the purpose of the noise assessment, the following noise measurement locations have been identified as being representative of the most sensitive residential positions to the proposed new plant:

- Position 1 – North-western corner of Vita Student Accommodation.
- Position 2 – North of Friedrich Engels statue, south of INNSiDE hotel.

The measurement locations are illustrated on the existing site location plan, included in Appendix A.



4.2 NOISE SURVEY DETAILS AND INSTRUMENTATION

The background noise measurement survey, completed for providing information to use in the noise impact assessment, was carried out on Monday 20 January 2025. The noise survey consisted of attended measurements carried out during the daytime period when the proposed new plant will operate. All noise measurements were carried out in accordance with the procedures outlined in BS 4142:2014, with noise samples recorded in terms of 5-minute periods, at 1.5m above ground. During the survey, existing mechanical services plant at 1 Tony Wilson Place which is due to be removed was switched off between 10:00 and 12:30.

The parameters recorded during the measurement survey included L_{Aeq} , L_{A90} and L_{AFmax} . In accordance with BS 4142 guidance, L_{A90} is used for describing background noise and, as such, will be used for the purpose of the noise impact assessment. L_{Aeq} is used to describe the ambient noise level, with L_{Amax} representing the maximum noise level measured during the sample period.

The following instrumentation was used during the noise measurement survey:

- Bruel & Kjaer Type 2250 Sound Level Meter s/n 2739650
- Bruel & Kjaer Type 4189 Microphone s/n 2983518
- Bruel & Kjaer Type 4231 Acoustic Calibrator s/n 3030452

Before and after the survey, the sound level meter was field-calibrated in accordance with the manufacturer's guidelines, and no significant drift was observed. The meter, microphone and field calibrator are laboratory calibrated biennially in accordance with UKAS procedures or to traceable National Standards.

During the noise survey, the weather was mild with occasional rain showers. Wind speeds were low. The conditions were adequate for noise measurement purposes.

4.3 NOISE SURVEY RESULTS

During the survey, background noise levels were controlled by distant road traffic movements on nearby roads, plant noise emanating from other nearby premises, as well as general street noise. Environmental noise record sheets detailing a full breakdown of the noise measurements are included in Appendix C.

When determining the representative background $L_{A90,T}$ levels for the relevant periods, BS 4142¹ guidance states "*a representative level ought to account for the range in background levels and ought not automatically to be assumed to be either the minimum or modal value.*" With this in mind, statistical analysis has been used to determine the representative background $L_{A90,T}$ noise levels for each of the sensitive periods. The analysis derives the mode, mean, and median values. Once these values have been established, the lowest of these values is considered representative. In this instance, the mean values were used.

Table 1 shows the representative background noise levels at the noise measurement locations.

¹ BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound*



Noise Measurement Location (NML)	Representative Night-time Background Sound Level $L_{A90,1hour}$ (dB)
Position 1 North-western corner of Vita Student Accommodation.	58
Position 2 North of Friedrich Engels statue, south of INNSiDE hotel.	58

Table 1: Representative background sound levels

5. POTENTIAL NOISE IMPACT

The mechanical plant layout proposals are outlined on the plans included in Appendix B. The noise output (in terms of sound power levels) generated by the mechanical plant to be included in the proposed scheme, is shown in Table 2. The noise data is based upon information provided in specifications issued by the mechanical services contractor and equipment suppliers.

Plant Item	No. of	Calculated Sound Power Level L_{wA}^2
Daikin REYA18A	1	85
Daikin REYA20A	1	90
Daikin REYA24A	1	87
Daikin REYA26A	13	86
Daikin REYA28A	14	88

Table 2: Sound Power Levels of the proposed new external mechanical plant

The plant operates on thermostatic, speed and timer controls according to heat loads and occupation rates and so would not be operating 100% of the time. Whilst a typical on-time for this type of equipment might only 20-35%, a conservative and therefore more robust assessment assumes a 50% on-time for a typical worst-case scenario (ie 50% of all condensers operating at any one time).

To accurately evaluate the overall effect of the proposed new plant, it is necessary to consider the noise that is generated by the equipment, at the nearby residential receptor locations.

Predictions of how the noise from each of the mechanical plant sources propagates to sensitive community receptors, together with the cumulative effect of all these noise sources, has been determined by noise modelling using proprietary software (iNoise³) which meets the requirement of ISO 9613 Part 2:1996⁴.

² Sound power levels (L_{wA}) are calculated from sound pressure level (L_pA) measurements made at a specified distance from equipment.

³ DGMR Raadgevende Ingenieurs B.V – iNoise V2024.1

⁴ ISO 9613-2:1996 "Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation to determine Noise Levels



The noise model takes account of the following in its calculations procedures:

- Source sound power level (for point, line and area sources)
- Reflection from nearby structures and source directivity
- Distance from noise source (geometric spreading)
- Atmospheric absorption
- Acoustic screening of intervening structures and topography
- Ground absorption
- Ground effects (which includes the height of ground relative to the noise source)

Detailed noise calculations, providing information on total specific noise at each receptor, together with the contributions from each individual noise source, at each receptor location, are computed. To illustrate the model, a diagram showing the distribution and locations of mechanical plant noise sources, superimposed on a 3D view of the site, is included in Appendix D. A noise map, showing the noise contours produced by the existing mechanical services plant is also provided in Appendix D of this report.

Predicted specific noise levels from the proposed new mechanical plant at the nearest noise sensitive receptors are provided in Table 3 below.

Receptor	L_{Aeq} dB(A)	L_{Aeq} Octave Band Centre Frequency (Hz)							
		63	125	250	500	1k	2k	4k	8k
R1. Vita Student Accommodation.	46	26	34	39	40	41	37	31	24
R2. INNSiDE hotel.	49	21	31	37	41	45	44	40	30

Table 3: Predicted specific noise contribution from the proposed mechanical services plant at the nearest noise sensitive receptors.

As indicated in Table 3, the predicted noise levels at the nearest noise sensitive receptors from the combined proposed new mechanical services plant are L_{Aeq} 46-49dB(A).

6. ASSESSMENT OF NOISE IMPACT

The proposed new replacement mechanical plant items would operate through the daytime when the offices are in use. Consequently, for the purposes of this assessment, the predicted plant rating levels will be compared with the background sound levels at the nearest noise sensitive receptors.

Table 4 shows a BS 4142 assessment covering the noise impact associated with proposed new replacement mechanical plant scheme. None of the plant items do not emit any distinct impulses or tones. However, the plant could emit other characteristics which may be distinctive against the existing residual acoustic environment.

Receptor	Rating Level (dB)	Character Correction (dB)	Rating Level (dB)	Background L_{A90} (dB)	Assessment Level (dB) (Background excess)
R1. Vita Student Accommodation.	46	+3	49	58	-9
R2. INNSiDE hotel.	49	+3	52	58	-6

Table 4: Predicted rating levels from the proposed new replacement plant operating at full duty at the nearest noise sensitive receptors, compared with the representative background $L_{A90,1hour}$ levels



With the proposed new mechanical services plant in place, the rating levels would be comfortably lower than the representative background noise level at all of the residential properties. Furthermore, noise levels would not exceed the noise limits set out in Manchester City Council's Planning and Noise Technical Guidance, October 2022 document.

The difference between the rating levels and background levels is such that any uncertainty would have no significance on the outcome of the assessment. Additionally, specific noise levels from the proposed mechanical plant would be comfortably lower than the WHO $L_{Aeq,16 \text{ hour}}$ 50dB advised daytime criteria at all of the nearby residential receptor locations.

7. CONCLUSIONS

A noise assessment has been completed to consider the potential impact of noise produced by installing new replacement mechanical services plant at 1 Tony Wilson Place in Manchester.

A background noise measurement survey has been conducted at locations representative of the most sensitive residential positions to the site and predictions of noise from the cumulative proposed new mechanical plant equipment has been completed, utilising a proprietary software package.

Noise limits for the mechanical services plant have been established, based on measured background noise levels, as well as taking account of BS 4142, Manchester City Council's Planning and Noise Technical Guidance, and WHO. The assessment has indicated that the development proposals would result in noise levels from the proposed plant would not exceed the noise limits set out in Manchester City Council's Planning and Noise Technical Guidance, October 2022 document. Therefore, the development proposals would have a low noise impact at all of the nearby sensitive receptor locations.

APPENDIX A

Site Location Plan



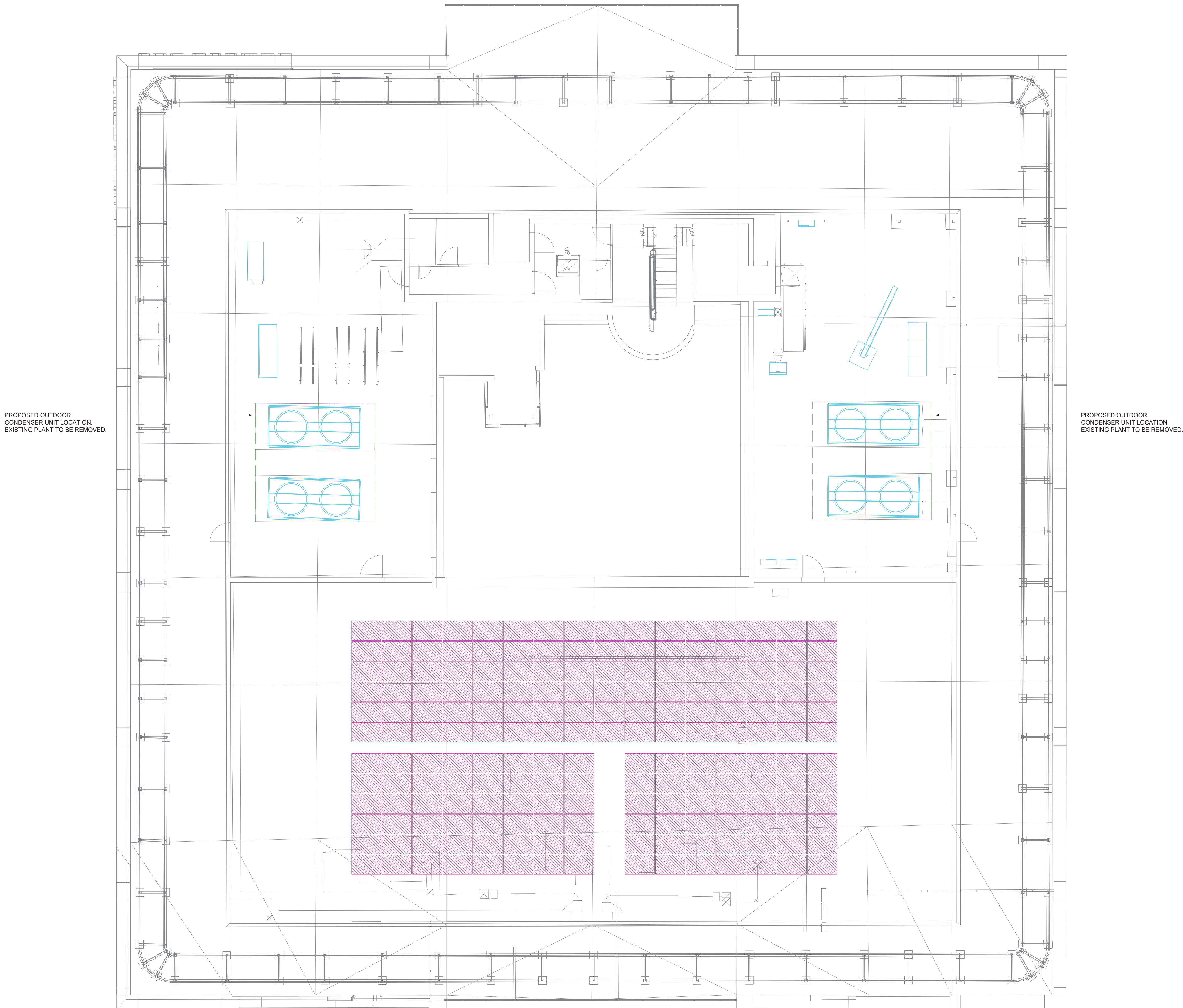
A P P E N D I X B

Proposed New M&E Scheme



NOTES

1. XXX



PO	24-01-25	FOR INFORMATION	LO
REV	DATE	DESCRIPTION	BY
 Resero, The Pump House, Cotton Hill, Shrewsbury, SY1 2DP (T) 01743 341903 (W) www.resero.co.uk (E) cad@resero.co.uk X (formerly Twitter) @Resero_UK LinkedIn www.linkedin.com/company/reserouk  abrdn			
PROJECT 1 TONY WILSON PLACE			
TITLE ROOF LEVEL EXISTING SERVICES / SOLAR PV LAYOUT			
DATE	24-01-2025	DRAWN BY LO	CHECKED ND
SCALE	1:100	PAPER A0	DRAWING No: 3021-RES-12-07-DR-ME-0100
STATUS INFORMATION			REVISION P0

APPENDIX C

Environmental Noise Record Sheets

Environmental Noise Record Sheet



Project: 1 Tony Wilson Place
Project number: 24311
Date: 20/01/2025

Noise monitoring location: 1: North-western corner of Vita Student Accommodation
Plant operating condition: Off
Instrumentation: 2250-1
Calibration times: 10.15, 12.20

Date/time			Weather			Noise Level (dB)						Comments (Including description of noise (eg whine, hiss, rumble, impact, vehicle rain, vegetation, or animal noise))
Date	Start time	Duration (min:sec)	Wind speed (m/s)	Wind direction	Cloud (%)	LAF10.0	LAF50.0	LAF90.0	LAFmax	LAFmin	LAeq	
20/01/25	10:15	05:00	0-1	W	100	58	56	56	62	55	57	Background plant noise from restaurants, multi-storey carpark and surrounding buildings (student accommodation). Local cars and traffic noise. Distant construction noise (vehicles moving, reversing sounds, banging). Pedestrian voices and footfall, cars braking and idling outside of car park
20/01/25	10:20	05:00	0-1	W	100	59	57	56	69	55	58	
20/01/25	10:25	05:00	0-1	W	100	64	58	57	84	56	63	
20/01/25	10:50	05:00	0-1	W	100	60	58	57	69	56	59	
20/01/25	10:55	05:00	0-1	W	100	60	58	57	69	56	58	Background plant noise from restaurants and carpark, local traffic and vehicle noise outside carpark, construction noise from south (banging, drilling, hammering), pedestrian voices, alarm from construction tower lift @10.54-11.00
20/01/25	11:00	05:00	0-1	W	100	59	58	57	65	56	58	
20/01/25	11:25	05:00	0-1	W	100	59	58	57	65	56	58	
20/01/25	11:30	05:00	0-1	W	100	59	58	57	69	56	58	
20/01/25	11:35	05:00	0-1	W	100	58	57	56	63	55	57	Background fans and plant from restaurants, carpark and student accommodation. Vehicle noise from access road to carpark, construction site to south (vehicles moving, banging, hammering). pedestrian noise and footfall
20/01/25	12:01	05:00	0-1	W	100	63	59	57	79	56	62	
20/01/25	12:06	05:00	0-1	W	100	60	58	57	69	56	59	
20/01/25	12:11	05:00	0-1	W	100	60	58	57	65	56	59	

Environmental Noise Record Sheet



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Plant operating condition: Off
Instrumentation: 2250-1
Calibration times: 10.15, 12.20

Date/time			Weather			Leq Octave Band Pressure Level (dB)										Comments	
Date	Start time	Duration (min:sec)	Wind speed (m/s)	Wind direction	Cloud (%)	31.5	63	125	250	500	1k	2k	4k	8k	dB(A)	(Including description of noise (eg whine, hiss, rumble, impact, vehicle rain, vegetation, or animal noise))	
20/01/25	10:15	05:00	0-1	W	100	62	61	58	55	53	53	49	40	30	57	Background plant noise from restaurants, multi-storey carpark and surrounding buildings (student accommodation). Local cars and traffic noise. Distant construction noise (vehicles moving, reversing sounds, banging). Pedestrian voices and footfall, cars braking and idling outside of car park	
20/01/25	10:20	05:00	0-1	W	100	65	63	60	57	55	54	50	44	38	58	Light rain @10.20-10.30	
20/01/25	10:25	05:00	0-1	W	100	66	64	62	61	58	58	56	54	52	63	Passing bins and rubbish trolleys @10.28	
20/01/25	10:50	05:00	0-1	W	100	65	64	61	57	55	55	51	44	33	59	Background plant noise from restaurants and carpark, local traffic and vehicle noise outside carpark, construction noise from south (banging, drilling, hammering), pedestrian voices, alarm from construction tower lift @10.54-11.00	
20/01/25	10:55	05:00	0-1	W	100	63	63	61	57	55	54	51	44	32	58		
20/01/25	11:00	05:00	0-1	W	100	64	64	61	57	54	54	50	43	30	58		
20/01/25	11:25	05:00	0-1	W	100	64	63	61	57	54	54	50	42	31	58	Background fans and plant from restaurants, carpark and student accommodation. Vehicle noise from access road to carpark, construction site to south (vehicles moving, banging, hammering). pedestrian noise and footfall	
20/01/25	11:30	05:00	0-1	W	100	63	62	60	57	55	54	50	44	38	58	pedestrian suitcases @11.31	
20/01/25	11:35	05:00	0-1	W	100	63	62	59	56	54	53	49	41	33	57	distant siren @11.37	
20/01/25	12:01	05:00	0-1	W	100	68	64	60	58	55	56	59	45	34	62	Background plant and fans from restaurant, carpark and student accommodation, vehicles in/out carpark and access road, construction site south hammering, delivery lorry idling and banging near carpark, road traffic noise from River Street, pedestrian voices and footfall, delivery lorry reversing @12.04	
20/01/25	12:06	05:00	0-1	W	100	67	65	60	57	55	55	51	44	34	59		
20/01/25	12:11	05:00	0-1	W	100	64	63	59	58	55	55	51	43	34	59	delivery lorry idling 12.14	

Environmental Noise Record Sheet



Project: 1 Tony Wilson Place
Project number: 24311
Date: 20/01/2025

Noise monitoring location: 2: North of Friedrich Engels statue, south of INNSiDE hotel
Plant operating condition: Off
Instrumentation: 2250-1
Calibration times: 10.15, 12.20

Date/time			Weather			Noise Level (dB)						Comments (Including description of noise (eg whine, hiss, rumble, impact, vehicle rain, vegetation, or animal noise))
Date	Start time	Duration (min:sec)	Wind speed (m/s)	Wind direction	Cloud (%)	LAF10.0	LAF50.0	LAF90.0	LAFmax	LAFmin	LAeq	
20/01/25	10:15	05:00	0-1	W	100	58	56	56	62	55	57	Background plant noise from restaurants, multi-storey carpark and surrounding buildings (student accommodation). Local cars and traffic noise. Distant construction noise (vehicles moving, reversing sounds, banging). Pedestrian voices and footfall, cars braking and idling outside of car park
20/01/25	10:20	05:00	0-1	W	100	59	57	56	69	55	58	
20/01/25	10:25	05:00	0-1	W	100	64	58	57	84	56	63	
20/01/25	10:50	05:00	0-1	W	100	60	58	57	69	56	59	
20/01/25	10:55	05:00	0-1	W	100	60	58	57	69	56	58	Background plant noise from restaurants and carpark, local traffic and vehicle noise outside carpark, construction noise from south (banging, drilling, hammering), pedestrian voices, alarm from construction tower lift @10.54-11.00
20/01/25	11:00	05:00	0-1	W	100	59	58	57	65	56	58	
20/01/25	11:25	05:00	0-1	W	100	59	58	57	65	56	58	
20/01/25	11:30	05:00	0-1	W	100	59	58	57	69	56	58	
20/01/25	11:35	05:00	0-1	W	100	58	57	56	63	55	57	Background fans and plant from restaurants, carpark and student accommodation. Vehicle noise from access road to carpark, construction site to south (vehicles moving, banging, hammering). pedestrian noise and footfall
20/01/25	12:01	05:00	0-1	W	100	63	59	57	79	56	62	
20/01/25	12:06	05:00	0-1	W	100	60	58	57	69	56	59	
20/01/25	12:11	05:00	0-1	W	100	60	58	57	65	56	59	

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Date	Start time	Duration (min:sec)	Wind speed (m/s)	Wind direction	Cloud (%)	31.5	63	125	250	500	1k	2k	4k	8k	dB(A)	(Including description of noise (eg whine, hiss, rumble, impact, vehicle rain, vegetation, or animal noise))	
20/01/25	10:15	05:00	0-1	W	100	62	61	58	55	53	53	49	40	30	57	Background plant noise from restaurants, multi-storey carpark and surrounding buildings (student accommodation). Local cars and traffic noise. Distant construction noise (vehicles moving, reversing sounds, banging). Pedestrian voices and footfall, cars braking and idling outside of car park	
20/01/25	10:20	05:00	0-1	W	100	65	63	60	57	55	54	50	44	38	58	Light rain @10.20-10.30	
20/01/25	10:25	05:00	0-1	W	100	66	64	62	61	58	58	56	54	52	63	Passing bins and rubbish trolleys @10.28	
20/01/25	10:50	05:00	0-1	W	100	65	64	61	57	55	55	51	44	33	59	Background plant noise from restaurants and carpark, local traffic and vehicle noise outside carpark, construction noise from south (banging, drilling, hammering), pedestrian voices, alarm from construction tower lift @10.54-11.00	
20/01/25	10:55	05:00	0-1	W	100	63	63	61	57	55	54	51	44	32	58		
20/01/25	11:00	05:00	0-1	W	100	64	64	61	57	54	54	50	43	30	58		
20/01/25	11:25	05:00	0-1	W	100	64	63	61	57	54	54	50	42	31	58	Background fans and plant from restaurants, carpark and student accommodation. Vehicle noise from access road to carpark, construction site to south (vehicles moving, banging, hammering). pedestrian noise and footfall	
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20/01/25	11:35	05:00	0-1	W	100	63	62	59	56	54	53	49	41	33	57	distant siren @11.37	
20/01/25	12:01	05:00	0-1	W	100	68	64	60	58	55	56	59	45	34	62	Background plant and fans from restaurant, carpark and student accommodation, vehicles in/out carpark and access road, construction site south hammering, delivery lorry idling and banging near carpark, road traffic noise from River Street, pedestrian voices and footfall, delivery lorry reversing @12.04	
20/01/25	12:06	05:00	0-1	W	100	67	65	60	57	55	55	51	44	34	59		
20/01/25	12:11	05:00	0-1	W	100	64	63	59	58	55	55	51	43	34	59	delivery lorry idling 12.14	

APPENDIX D

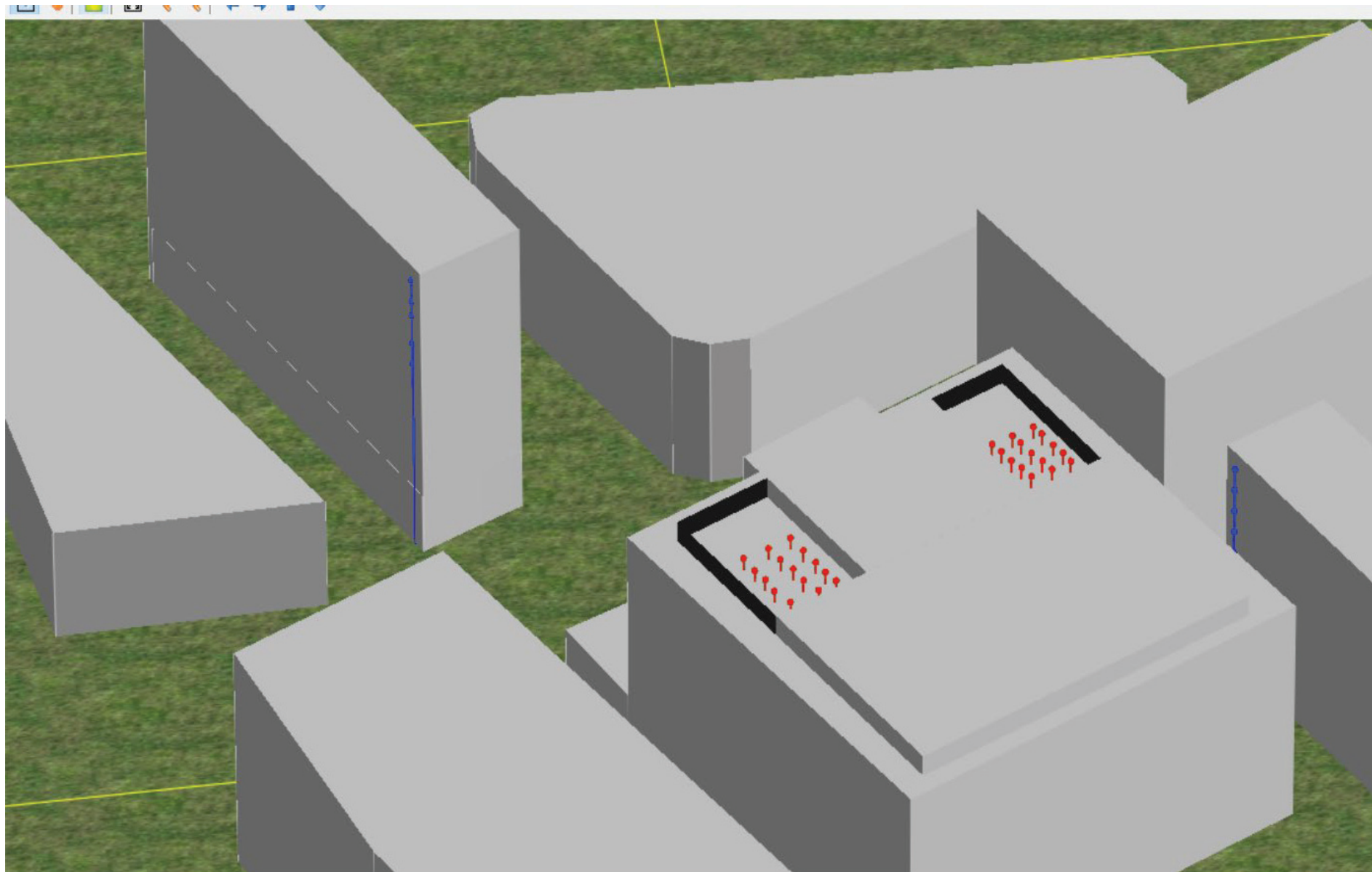
Results of the noise prediction model relating to the proposed new mechanical plant

Calculation Sheet



Project:	1 Tony Wilson Place, Manchester
Project number:	24311
Calculation title:	Equipment Sound Power Levels
Date:	28.01.2025
Prepared by:	RK

Details		Octave band centre frequency								dB(A)	
		32	63	125	250	500	1k	2k	4k		8k
Daikin REYA18A - heating			90	85	83	85	77	75	76	69	85
Daikin REYA20A - heating			95	90	88	89	83	78	79	71	90
Daikin REYA24A - heating		No octave band data - mid freq assumed	80	85	85	82	82	80	77	75	87
Daikin REYA26A - heating		No octave band data - mid freq assumed	79	84	84	81	81	79	76	74	86
Daikin REYA28A - heating		No octave band data - mid freq assumed	81	86	86	83	83	81	78	76	88

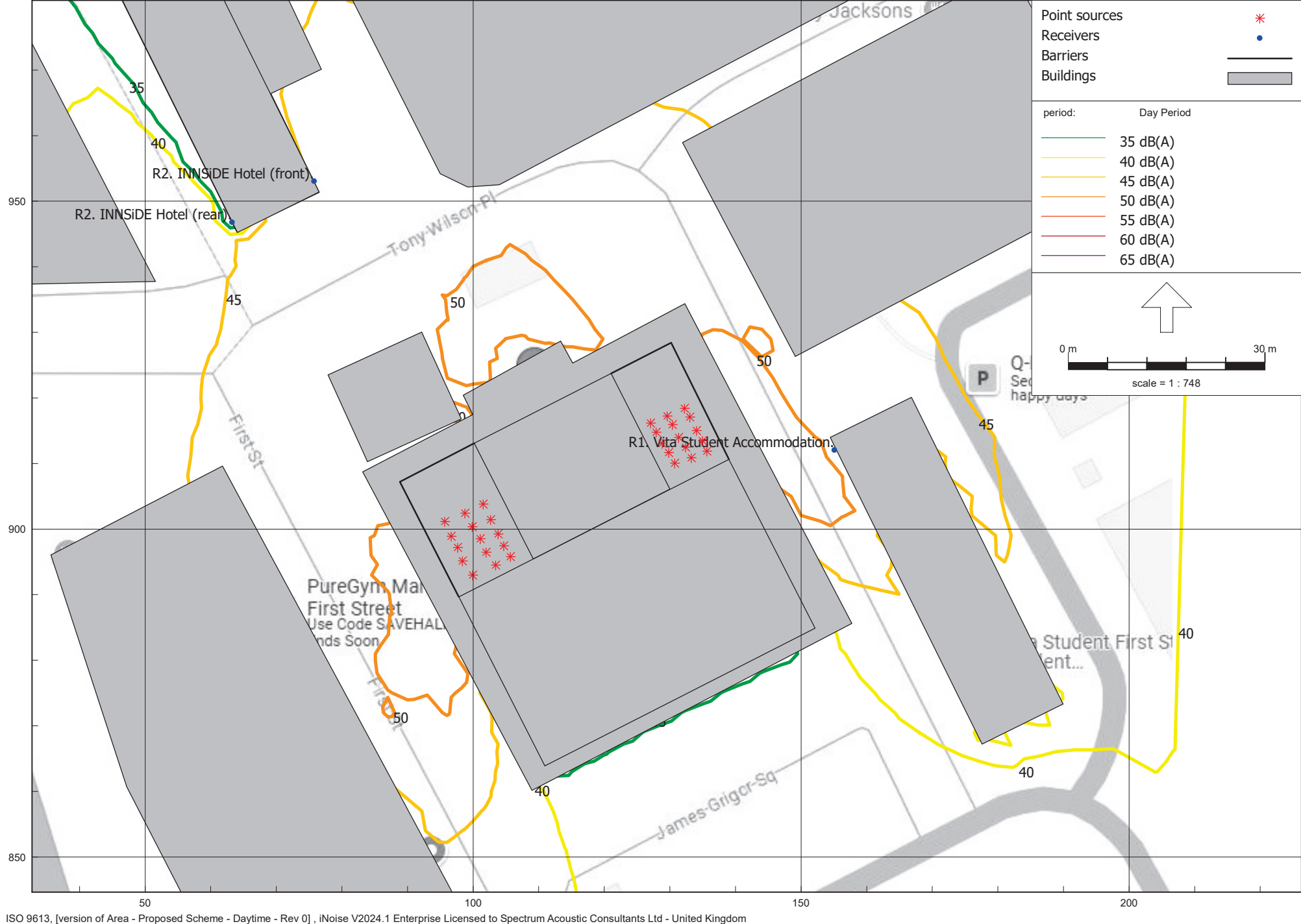


1 Tony Wilson Place, Manchester
Predicted Plant Noise Levels - Rev 0

Report: Table of Results
Model: Proposed Scheme - Daytime - Rev 0
LAeq per octave: total results for receivers
Group: (main group)
Group Reduction: Yes

Name			Day									
Receiver	Description	Height	Total	31	63	125	250	500	1000	2000	4000	8000
_A	R2. INNSiDE Hotel (front).	38.00	49	--	21	31	37	41	45	44	40	30
_B	R2. INNSiDE Hotel (front).	35.00	47	--	22	31	36	40	43	42	37	25
_C	R2. INNSiDE Hotel (front).	33.00	47	--	22	31	36	39	42	41	35	22
_A	R1. Vita Student Accommodation.	28.00	46	--	26	34	39	40	41	37	31	24
_D	R2. INNSiDE Hotel (front).	29.00	44	--	22	30	35	37	39	36	30	17
_B	R1. Vita Student Accommodation.	25.00	43	--	25	32	36	38	38	34	30	23
_E	R2. INNSiDE Hotel (front).	26.00	42	--	22	30	34	36	38	35	28	15
_A	R2. INNSiDE Hotel (rear).	38.00	42	--	18	28	32	35	38	36	30	18
_C	R1. Vita Student Accommodation.	22.00	39	--	24	30	33	33	32	29	25	18
_D	R1. Vita Student Accommodation.	19.00	37	--	22	28	31	31	30	29	25	17
_E	R1. Vita Student Accommodation.	16.00	36	--	21	27	30	29	30	28	24	16
_B	R2. INNSiDE Hotel (rear).	35.00	30	--	11	18	22	22	25	24	19	8
_C	R2. INNSiDE Hotel (rear).	33.00	30	--	10	17	20	21	25	24	19	8
_E	R2. INNSiDE Hotel (rear).	26.00	29	--	8	15	19	20	25	24	19	8
_D	R2. INNSiDE Hotel (rear).	29.00	29	--	9	16	19	20	25	24	19	8

All shown dB values are A-weighted



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