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ATTACHMENT-7-1-3-2 NOISE IMPACT ASSESSMENT FOR EPA LICENCE APPLICATION

Technical Report Prepared For
Amazon Data Services Ireland Limited

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EXECUTIVE SUMMARY

Amazon Data Services Ireland Limited ('ADSIL') operate four data storage facilities in the IDA Blanchardstown Business and Technology Park, Ballycoolin Road and Snugborough Road, Blanchardstown, Dublin 15. AWN Consulting has been commissioned to prepare a noise impact assessment for the operation of the facility to be compiled and submitted as part of the Industrial Emissions (IE) licence application process.

This technical report has been prepared to provide full details in relation to the noise impact assessment for the licence application. The assessment is based on the most up-to-date design details available for development and has been prepared with due consideration of the guidance contained within the Environmental Protection Agency (EPA) document *Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) 2016*.

Section 6 of the EPA's NG4 Guidance outlines the following assessment stages for the noise impact assessment for licence applications.

- Stage 1 – Baseline Noise Survey / Monitoring Locations;
- Stage 2 – Derivation of Noise Criteria;
- Stage 3 – Assessment of Noise Impact; and,
- Stage 4 – Reporting / Licence Application Form.

This report has been prepared with consideration of the four assessment stages outlined above.

An environmental noise survey was conducted to quantify the existing noise environment in the vicinity of nearest Noise Sensitive Receivers (NSL's) to the site. The survey was conducted in general accordance with the EPA's NG4 Guidance.

Appropriate operational noise criteria have been derived for the site following review of noise survey data and receiving environment, in accordance with the relevant NG4 Guidance. The applicable noise criteria identified are in line with the typical limit values for noise from licensed sites.

To assess the impact of noise from new mechanical plant at nearby NSL's, a detailed computer-based noise model has been prepared using proprietary noise modelling software package. Noise prediction calculations have carried out in accordance with ISO 9613-2:1996 *Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation*. The predicted noise levels at all NSL's for new mechanical plant and the levels of existing plant noise from the facility are within the day, evening and night-time noise criteria for site operations.

CONTENTS

1.0 INTRODUCTION 6

2.0 FUNDAMENTALS OF ACOUSTICS..... 8

3.0 RECEIVING ENVIRONMENT 10

 3.1 Choice of Measurement Locations..... 10

 3.2 Survey Periods 11

 3.3 Personnel & Instrumentation..... 11

 3.4 Procedure 11

 3.5 Measurement Parameters..... 13

 3.6 Survey Results..... 13

 3.7 Ecologically sensitive areas or areas of special interest..... 14

4.0 REVIEW OF RELEVANT GUIDANCE 15

 4.1 Quiet Area Screening..... 15

 4.2 Low Background Noise Area Screening..... 15

 4.3 Determining Appropriate Noise Criteria..... 16

 4.4 Compliance Noise Monitoring 17

5.0 ASSESSMENT 18

 5.1 Noise Sensitive Locations 18

 5.2 Noise Source Data..... 20

 5.3 Calculation Methodology..... 21

 5.4 Predicted Noise Levels 22

6.0 CONCLUSION 28

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1.0 INTRODUCTION

Amazon Data Services Ireland Limited ('ADSIL') operate four data storage facilities in the IDA Blanchardstown Business and Technology Park, Ballycoolin Road and Snugborough Road, Blanchardstown, Dublin 15. AWN Consulting has been commissioned to prepare a noise impact assessment for the operation of the facility to be compiled and submitted as part of the Industrial Emissions (IE) licence application process.

This assessment is based on the predicted noise emissions from the installation and the most up-to-date design details available for the development and has been prepared with due consideration to the guidance contained within the Environmental Protection Agency (EPA) document *Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) 2016*. This report has been prepared in accordance with the four noise impact assessment stages outlined in Section 6 of NG4, which are as follows:

- Stage 1 – Baseline Noise Survey / Monitoring Locations;
- Stage 2 – Derivation of Noise Criteria;
- Stage 3 – Assessment of Noise Impact; and,
- Stage 4 – Reporting / Licence Application Form.

Figure 1 illustrates the proposed site location in the context of the surrounding environment.



Figure 1 Site Location & Context

The nearest residential noise sensitive locations are located to the north of Building B along the Ballycoolin Road. There are also residential dwellings to the south-east of the site along Ballycoolin Road, to the south of the site within the Westway and Sheephill estates and to the west of the site along Blanchardstown Road North. In addition, there are a number of commercial and industrial operations located on lands to the north, east, south & west of the site.

Appendix A to this report presents a glossary of the acoustic terminology referred to in this document.

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2.0 FUNDAMENTALS OF ACOUSTICS

In order to provide a broader understanding of some of the technical discussion in this report, this section provides a brief overview of the fundamentals of acoustics and the basis for the preparation of this noise assessment.

A sound wave travelling through the air is a regular disturbance of the atmospheric pressure. These pressure fluctuations are detected by the human ear, producing the sensation of hearing. In order to take account of the vast range of pressure levels that can be detected by the ear, it is convenient to measure sound in terms of a logarithmic ratio of sound pressures. These values are expressed as Sound Pressure Levels (SPL) in decibels (dB).

The audible range of sounds expressed in terms of Sound Pressure Levels is 0dB (for the threshold of hearing) to 120dB (for the threshold of pain). In general, a subjective impression of doubling of loudness corresponds to a tenfold increase in sound energy which conveniently equates to a 10dB increase in SPL. It should be noted that a doubling in sound energy (such as may be caused by a doubling of traffic flows) increases the SPL by 3dB.

The frequency of sound is the rate at which a sound wave oscillates and is expressed in Hertz (Hz). The sensitivity of the human ear to different frequencies in the audible range is not uniform. For example, hearing sensitivity decreases markedly as frequency falls below 250Hz. In order to rank the SPL of various noise sources, the measured level has to be adjusted to give comparatively more weight to the frequencies that are readily detected by the human ear. Several weighting mechanisms have been proposed but the 'A-weighting' system has been found to provide one of the best correlations with perceived loudness. SPL's measured using 'A-weighting' are expressed in terms of dB(A). An indication of the level of some common sounds on the dB(A) scale is presented in Figure 2.

The established prediction and measurement techniques for the dB(A) parameter are well developed and widely applied. For a more detailed introduction to the basic principles of acoustics, reference should be made to an appropriate standard text¹.

¹ For example, *Woods Practical Guide to Noise Control* by Ian Sharland.

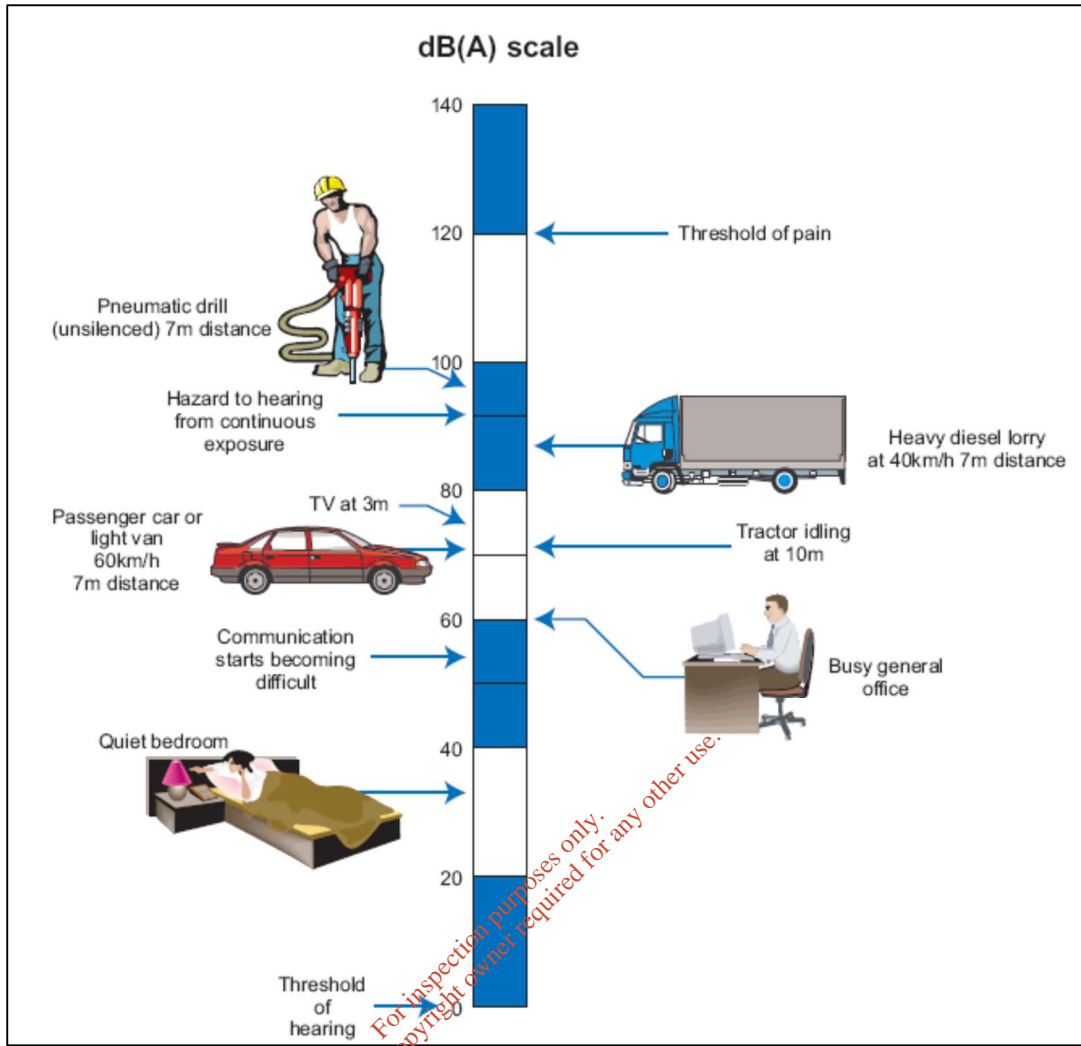


Figure 2 Level of Typical Sounds on the dB(A) Scale – (TII – Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes)

3.0 RECEIVING ENVIRONMENT




This section deals with ‘Stage 1’ of the noise impact assessment as outlined in the EPA’s NG4 Guidance. Note this section has been based on baseline noise surveys completed for the planning applications for the original buildings on the site (i.e. prior to the construction of any of the projects considered here) and is considered representative of the environment at this stage in time.

An environmental noise surveys has been conducted in order to quantify the existing noise environment. The survey was conducted in general accordance with ISO 1996: 2007: *Acoustics – Description, measurement and assessment of environmental noise*². Specific details are set out below.

3.1 Choice of Measurement Locations

Noise measurements were conducted at three positions in the vicinity of the site. The location of these measurements are shown on Figure 3.

Table 1 Measurement Locations & Descriptions

Location	Description	Photo
1	Located adjacent to the houses to the north-east of the site along Ballycoolin Road. These properties are some 160m from the north-western site boundary of the development. This location is considered to be indicative of the noise environment experienced at the rear of the properties that are the closest to the development.	
2	Located within Westway Rise to the south-west of the site. This location is considered to be indicative of the noise environment experienced at the rear of the properties in the Westway estate. These properties are some 450m from the site boundary of the development.	
3	Located along the Ballycoolin Road adjacent to the entrance to Rosemount Farm. This location is considered representative of the nearest residential dwellings to the east of the site. This property is some 550m from the north-eastern site boundary of the development.	

² Note this is the relevant version of the standard at the time of the survey being reported here.

3.2 Survey Periods

Noise measurements were conducted during a typical night-time period that represents the time of night that provides a measure of existing background noise levels during a period where people are attempting to go to sleep or are sleeping. Due to the fact that the units in question here will operate on a 24-hour basis their potential impact during night-time periods is the critical issue. The survey was conducted during the following period:

- Night-time – 23:40hrs on 4 October to 02:49hrs on 5 October 2011.

Baseline noise surveys used for the original planning associated with the development focused on the period when the potential noise impact was most significant (i.e. night-time). Day and evening night-time noise levels (in particular background noise levels) would be expected to be some 5 to 10 dB higher than those reported for night-time periods due to increased road traffic noise in with wider study areas during these periods when compared to night-time hours.

3.3 Personnel & Instrumentation

AWN Consulting conducted the noise level measurements.

The noise measurements were performed using a Brüel & Kjær Type 2260 Sound Level Analyzer. Before and after the survey the measurement apparatus was check calibrated using a Brüel & Kjær Type 4231 Sound Level Calibrator.

The weather during the night-time survey period was dry with wind speeds in the range of 2 to 4 m/s. Temperatures were of the order of 9°C.

3.4 Procedure

Measurements were conducted at the boundary location noted above. Sample periods for the noise measurements were typically 15 minutes. The results were noted onto a Survey Record Sheet immediately following each sample, and were also saved to the instrument memory for later analysis if required. Survey personnel noted the primary noise sources contributing to noise build-up.



Figure 3 Noise Monitoring Locations

3.5 Measurement Parameters

The survey results are presented in terms of the following parameters:

L_{Aeq} is the equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample period.

L_{AFmax} is the instantaneous maximum sound level measured during the sample period.

L_{A10} is the sound level that is exceeded for 10% of the sample period. It is typically used as a descriptor for traffic noise.

L_{A90} is the sound level that is exceeded for 90% of the sample period. It is typically used as a descriptor for background noise.

The “A” suffix denotes the fact that the sound levels have been “A-weighted” in order to account for the non-linear nature of human hearing. All sound levels in this report are expressed in terms of decibels (dB) relative to 2×10^{-5} Pa.

Another parameter that will be commented upon in this report is the L_{ArT} .

L_{ArT} The L_{Aeq} during a specified time interval, plus specified adjustments for tonal character and impulsiveness of the sound.

It should be noted for this assessment it has been assumed that detailed design will be carried out in order that there will be no tonal or impulsive noise emissions for the development. Therefore, in this instance L_{Aeq} is equal to L_{ArT} .

3.6 Survey Results

3.6.1 Location 1

The survey results for Location 1 are given in Table 2 below.

Table 2 Summary of Results for Location 1

Time		Measured Noise Levels (dB re. 2×10^{-5} Pa)				
		L_{Aeq}	L_{Amax}	L_{Amin}	L_{A10}	L_{A90}
Night-time	00:04 – 00:19	49	66	43	51	44
	01:08 – 01:23	48	67	41	49	43
	02:13 – 02:28	48	67	42	50	43

Night-time noise levels were influenced by road traffic movements along Ballycoolin Road, distant road traffic from the direction of the N3 / M50 and wind generated noise on nearby foliage. Ambient noise levels were in the range of 48 to 49 dB L_{Aeq} . Background noise levels were in the range 43 to 44 dB L_{A90} .

3.6.2 Location 2

The survey results for Location 2 are given in Table 3 below.

Table 3 Summary of Results for Location 2

Time		Measured Noise Levels (dB re. 2×10^{-5} Pa)				
		L _{Aeq}	L _{Amax}	L _{Amin}	L _{A10}	L _{A90}
Night-time	23:40 – 23:55	50	71	42	53	45
	00:47 – 01:02	48	62	42	50	44
	01:53 – 02:08	47	59	40	50	43

Night-time noise levels were influenced by road traffic movements along the nearby Snugborough Road and distant road traffic from the direction of the N3 / M50. Occasional estate road vehicle movements were also noted as was wind generated noise on nearby foliage. Ambient noise levels were in the range of 47 to 50dB L_{Aeq}. Background noise levels were in the range 43 to 45dB L_{A90}.

3.6.3 Location 3

The survey results for Location 3 are given in Table 4.

Table 4 Summary of Results for Location 3

Time		Measured Noise Levels (dB re. 2×10^{-5} Pa)				
		L _{Aeq}	L _{Amax}	L _{Amin}	L _{A10}	L _{A90}
Night-time	00:26 – 00:41	55	64	45	57	49
	01:31 – 01:46	48	61	41	50	44
	02:34 – 02:49	50	57	44	52	46

Night-time noise levels were influenced by road traffic movements along Ballycoolin Road, distant road traffic from the direction of the N3 / M50 and wind generated noise on nearby foliage. Ambient noise levels were in the range of 48 to 55dB L_{Aeq}. Background noise levels were in the range 44 to 49dB L_{A90}.

3.6.4 General Comment

It is considered that wind noise on nearby foliage has contributed to the measured background noise levels at all the locations assessed here. Therefore an additional 5dB correction is proposed in order to provide a margin of safety.

3.7 Ecologically sensitive areas or areas of special interest

An Appropriate Assessment (AA) Screening Report (Attachment 6-3-4) has been prepared by Moore Group and have been submitted as part of the licence application for the site.

The AA Screening identifies that the lands in which the installation is located have no formal designations, and that the nearest European site to the Installation is the nearest European sites to the Project are Glenasmole Valley SAC, approximately 3.82km to the south.

Based on the separation distance from the facility to the nearest ecologically sensitive area and European site it is highly unlikely that noise arising from the facility under any scenario would have any impact on these sites. Therefore, the noise impact on ecologically sensitive area has been scoped out of any further assessment.

4.0 REVIEW OF RELEVANT GUIDANCE

This section deals with 'Stage 2' of the noise impact assessment as outlined in the EPA's NG4 Guidance.

The discussion of appropriate IE Licence noise emission criteria for the overall facility will be conducted in accordance with the NG4 document. This approach is summarised below in accordance with guidance detailed in Section 4 of the NG4 document.

4.1 Quiet Area Screening

The proposed development is not considered a quiet area in this instance as it fails to meet all the criteria outlined in EPA's Guidance. The most stringent of these criteria are noted in bullet point and commented on below.

- At least 3km from urban area with a population >1,000 people;

The site is within the jurisdiction of Dublin City Council and is located less than 3km from a population significantly greater than 1,000.

- At least 3km away from any local industry;

Other industrial sites operate within 3km of the site.

- At least 5km away from any National Primary Route;

The site is some 1.7 km distant from sections of the M50 and M3 routes.

4.2 Low Background Noise Area Screening

In order to establish whether the noise sensitive locations in the vicinity of the site would be considered 'low background noise' areas, the noise levels measured during the environmental noise survey need to satisfy all three of the following criteria:

- Arithmetic Average of L_{A90} During Daytime Period $\leq 40\text{dB } L_{A90}$, and;
- Arithmetic Average of L_{A90} During Evening Period $\leq 35\text{dB } L_{A90}$, and;
- Arithmetic Average of L_{A90} During Night-time Period $\leq 30\text{dB } L_{A90}$.

The arithmetic average L_{A90} results at each location are compared against the criteria in Table 5. Note a 5 dB correction has been subtracted from average night-time background noise levels measured as a conservative measure to account for a degree of wind generated noise noted during the original survey.

Day and evening night-time noise levels (in particular background noise levels) would be expected to be some 5 to 10 dB higher than those reported for night-time periods due to increased road traffic noise in with wider study areas during these periods when compared to night-time hours.

Table 5 Comparison of Measurement Results with NG4 Low Background Noise Area Criteria

Location	Period	LA _{90,T} (dB)	NG4 Screening (dB LA _{90,T})	Satisfies All Criteria for Low Background Noise Area?
1	Daytime	48	≤40	No
	Evening	43	≤35	
	Night-time	38	≤30	
2	Daytime	49	≤40	No
	Evening	44	≤35	
	Night-time	39	≤30	
3	Daytime	51	≤40	No
	Evening	46	≤35	
	Night-time	41	≤30	

As outlined in Table 5, none of the locations would be considered 'Areas of Low Background Noise' as the measured noise levels do not satisfy the criteria.

4.3 Determining Appropriate Noise Criteria

Based on the EPA NG4 guidance the following noise criteria are appropriate at the nearest NSL's to the facility:

- Daytime (07:00 to 19:00hrs) 55dB L_{Ar,15min}
- Evening (19:00 to 23:00hrs) 50dB L_{Ar,15min}
- Night-time (23:00 to 07:00hrs) 45dB L_{Aeq,15min}

During the night period, no tonal or impulsive noise from the facility should be clearly audible or measurable at any NSL. The applicable noise criteria identified are in line with the typical limit values for noise from licensed sites.

There are some plant items proposed for the development site that are designed to be used in emergency situations, for example, when grid power supplies fail. It is common practice to allow a relaxation of noise limits associated with emergency plant operations. Section 4.4.1 of EPA NG4 contains the following comments in relation to emergency plant items:

"In some instances, licensed sites will have certain items of emergency equipment (e.g. standby generators) that will only operate in urgent situations (e.g. grid power failure). Depending upon the context, it may be deemed permissible for such items of equipment to give rise to exceedances in the noise criteria/limits during limited testing and emergency operation only. If such equipment is in regular use for any purposes other than intermittent testing, it is subject to the standard limit values for the site".

It is therefore considered that the proposed noise criterion of 55dB L_{Aeq,(15mins)} is appropriate in emergency scenarios for daytime, evening and night-time periods.

4.4 Compliance Noise Monitoring

See Attachment 7.5 of the Licence application for further details on the noise sensitive locations.

Given there may be potential access constraints at some noise sensitive locations and the presence of extraneous noise sources in the vicinity, it may be necessary to undertake compliance noise monitoring (if required) at the site boundary or at a suitable proxy location and assess to the nearest NSL's. Any such assessment should be undertaken in accordance with the guidance outlined in the EPA NG4 document and supported by a sufficiently detailed noise report outlining the calculation methods used to determine the noise emission levels at the NSL's.

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5.0 ASSESSMENT

This section deals with 'Stage 3' of the noise impact assessment as outlined in the EPA's NG4 Guidance.

The noise levels expected at nearest NSL's due to the operation of the facility must be considered and presented as part of the licence application.

The following sections present details of the assessment and the findings. Further information in relation to the noise prediction model, inputs, calculation settings and assessment assumptions are provided in Appendix B to this report.

It should be noted that noise impact assessment has been completed using information obtained from the design team for significant items of plant which were procured from vendors at the planning stages for the various projects.

5.1 Noise Sensitive Locations

Noise prediction calculations have been carried out at the representative nearest noise sensitive locations (NSL's) surrounding the site. Details of the NSL's used for the prediction calculations are presented in Table 6. Free field noise emission levels have been predicted at a height stated in Table 6.

Table 6 Coordinates of Noise Sensitive Receivers

Location	Co – Ordinates		Reference
	N	E	
R01	308,809	240,762	Ballycoolin Road NW of Site
R02	308,823	240,758	
R03	308,806	240,738	
R04	309,603	240,243	Ballycoolin Road East of Site
R05	309,603	240,159	
R06	309,617	240,126	
R07	309,548	240,111	
R08	308,622	240,107	Westway and Sheephill estates
R09	308,588	240,142	
R10	308,532	240,172	
R11	308,517	240,184	
R12	308,493	240,216	
R13	308,487	240,240	
R14	308,471	240,251	
R15	308,446	240,242	
R16	308,402	240,263	
R17	308,367	240,268	
R18	308,334	240,310	
R19	308,289	240,328	
R20	308,217	240,362	
R21	308,195	240,368	
R22	308,198	240,496	Blanchardstown Road North
R23	308,225	240,531	



Figure 4 Noise Assessment Locations

5.2 Noise Source Data

The noise modelling completed indicates the following limits in relation to the sound power level of various items of plant associated with the overall site development. Plant items will be selected in order to achieve the stated noise levels and or appropriate attenuation will be incorporated into the design of the plant/building in order that the plant noise emission levels are achieved on site (including any system regenerated noise).

Appendix D presents a complete schedule of noise sources assumed for the modelling presented in this assessment.

In the emergency power outage scenario, the main noise sources will be diesel back-up emergency generators.

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5.3 Calculation Methodology

A 3D computer-based prediction model has been prepared in order to quantify the noise level associated with the proposed building. This section discusses the methodology behind the noise modelling process.

5.3.1 DGMR iNoise

Proprietary noise calculation software has been used for the purposes of this modelling exercise. The selected software, DGMR iNoise, calculates noise levels in accordance with *ISO 9613: Acoustics – Attenuation of sound during propagation outdoors, Part 2: General method of calculation, 1996*.

DGMR iNoise is a proprietary noise calculation package for computing noise levels in the vicinity of noise sources. iNoise calculates noise levels in different ways depending on the selected prediction standard. In general, however, the resultant noise level is calculated taking into account a range of factors affecting the propagation of sound, including:

- the magnitude of the noise source in terms of A weighted sound power levels (L_{WA});
- the distance between the source and receiver;
- the presence of obstacles such as screens or barriers in the propagation path;
- the presence of reflecting surfaces;
- the hardness of the ground between the source and receiver;
- Attenuation due to atmospheric absorption; and
- Meteorological effects such as wind gradient, temperature gradient and humidity (these have significant impact at distances greater than approximately 400m).

5.3.2 Brief Description of ISO9613-2:1996

ISO9613-2:1996 calculates the noise level based on each of the factors discussed previously. However, the effect of meteorological conditions is significantly simplified by calculating the average downwind sound pressure level, $L_{AT}(DW)$, for the following conditions:

- wind direction at an angle of $\pm 45^\circ$ to the direction connecting the centre of the dominant sound source and the centre of the specified receiver region with the wind blowing from source to receiver, and;
- wind speed between approximately 1ms^{-1} and 5ms^{-1} , measured at a height of 3m to 11m above the ground.

The equations and calculations also hold for average propagation under a well-developed moderate ground-based temperature inversion, such as commonly occurs on clear calm nights. The basic formula for calculating $L_{AT}(DW)$ from any point source at any receiver location is given by:

$$L_{rT}(DW) = L_W + D_c - A \quad \text{Eqn. A}$$

Where:

$L_{rT}(DW)$ is an octave band centre frequency component of $L_{AT}(DW)$ in dB relative to $2 \times 10^{-5}\text{Pa}$;

L_W is the octave band sound power of the point source;

- D_c is the directivity correction for the point source;
- A is the octave band attenuation that occurs during propagation, namely attenuation due to geometric divergence, atmospheric absorption, ground effect, barriers and miscellaneous other effects.

The estimated accuracy associated with this methodology is shown in Table 7 below:

Table 7 Estimated Accuracy for Broadband Noise of $L_{AT}(DW)$

Height, h^*	Distance, d^\dagger	
	$0 < d < 100\text{m}$	$100\text{m} < d < 1,000\text{m}$
$0 < h < 5\text{m}$	$\pm 3\text{dB}$	$\pm 3\text{dB}$
$5\text{m} < h < 30\text{m}$	$\pm 1\text{dB}$	$\pm 3\text{dB}$

* h is the mean height of the source and receiver.

† d is the mean distance between the source and receiver. N.B. These estimates have been made from situations where there are no effects due to reflections or attenuation due to screening.

5.3.3 Input Data and Assumptions

The noise model has been constructed using data from various source as follows:

Site Layout The general site layout has been obtained from the drawings forwarded by CBRE and /or MCA Architects.

Local Area The location of noise sensitive locations has been obtained from a combination of site drawings provided by CBRE and /or MCA Architects and others obtained from Ordinance Survey Ireland (OSI).

Heights The heights of buildings on site have been obtained from site drawings forwarded by CBRE and /or MCA Architects. Off-site buildings have been assumed to be 8m high for houses and 16m for apartments with the exception of industrial buildings where a default height of 15m has been assumed.

Contours Site ground contours/heights have been obtained from site drawings forwarded by CBRE and /or MCA Architects where available.

5.4 Predicted Noise Levels

This section presents the predicted noise levels at the nearest noise sensitive locations. The cumulative impact of all modelled noise sources on the site has been assessed for two distinct operational scenarios.

Scenario A would be considered to be the most representative of the day to day operation.

Scenario B is representative of emergency situation; a loss, reduction or instability of grid power supply, critical maintenance to power systems, a request from the utility supplier (or third party acting on its behalf) to reduce grid electricity load. It should be noted that such an event is an extremely rare occurrence.

Figures 6 and 7 presents the predicted noise contour plot for mechanical services and process plant associated with the development for Scenarios A and B receptively.

The predicted noise levels from new mechanical plant at each NSL are tabulated in Table 8.

Table 8 Predicted Operational Noise Levels at NSL's for Mechanical Plant Items

Location	Plant Predicted Level (dB)	
	Scenario A	Scenario B
R01	38	51
R02	39	52
R03	40	52
R04	33	44
R05	32	44
R06	32	44
R07	33	45
R08	35	49
R09	35	48
R10	34	47
R11	34	47
R12	34	48
R13	34	48
R14	34	48
R15	30	48
R16	34	50
R17	34	50
R18	34	51
R19	34	51
R20	33	50
R21	32	49
R22	32	47
R23	33	49

Table 9 presents the predicted plant noise emission levels at the nearest NSL's and compares the results against the relevant criteria that have been derived for the site for Scenario A.

Table 9 Predicted Operational Noise Levels vs Criteria – Scenario A

Receptor	Predicted L _{Aeq,T}	Day (07:00 – 19:00hrs)		Evening (19:00 – 23:00hrs)		Night (23:00 – 07:00hrs)	
		Criterion dB L _{Ar,T}	Complies?	Criterion dB L _{Ar,T}	Complies?	Criterion dB L _{Aeq,T}	Complies?
R01	38	55	Yes	50	Yes	45	Yes
R02	39		Yes		Yes		Yes
R03	40		Yes		Yes		Yes
R04	33		Yes		Yes		Yes
R05	32		Yes		Yes		Yes
R06	32		Yes		Yes		Yes
R07	33		Yes		Yes		Yes
R08	35		Yes		Yes		Yes
R09	35		Yes		Yes		Yes
R10	34		Yes		Yes		Yes
R11	34		Yes		Yes		Yes
R12	34		Yes		Yes		Yes
R13	34		Yes		Yes		Yes
R14	34		Yes		Yes		Yes
R15	30		Yes		Yes		Yes
R16	34		Yes		Yes		Yes
R17	34		Yes		Yes		Yes
R18	34		Yes		Yes		Yes
R19	34		Yes		Yes		Yes
R20	33		Yes		Yes		Yes
R21	32		Yes		Yes		Yes
R22	32		Yes		Yes		Yes
R23	33		Yes		Yes		Yes

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Table 10 present the predicted plant noise emission levels at the nearest NSL's and compares the results against the relevant criteria that have been derived for the site for Scenario B.

Table 10 Predicted Operational Noise Levels vs Criteria – Scenario B

Receptor	Predicted L _{Aeq,T}	Day (07:00 – 19:00hrs)		Evening (19:00 – 23:00hrs)		Night (23:00 – 07:00hrs)	
		Criterion dB L _{Ar,T}	Complies?	Criterion dB L _{Ar,T}	Complies?	Criterion dB L _{Aeq,T}	Complies?
R01	51	55	Yes	55	Yes	55	Yes
R02	52		Yes		Yes		Yes
R03	52		Yes		Yes		Yes
R04	44		Yes		Yes		Yes
R05	44		Yes		Yes		Yes
R06	44		Yes		Yes		Yes
R07	45		Yes		Yes		Yes
R08	49		Yes		Yes		Yes
R09	48		Yes		Yes		Yes
R10	47		Yes		Yes		Yes
R11	47		Yes		Yes		Yes
R12	48		Yes		Yes		Yes
R13	48		Yes		Yes		Yes
R14	48		Yes		Yes		Yes
R15	48		Yes		Yes		Yes
R16	50		Yes		Yes		Yes
R17	50		Yes		Yes		Yes
R18	51		Yes		Yes		Yes
R19	51		Yes		Yes		Yes
R20	50		Yes		Yes		Yes
R21	49		Yes		Yes		Yes
R22	47		Yes		Yes		Yes
R23	49		Yes		Yes		Yes

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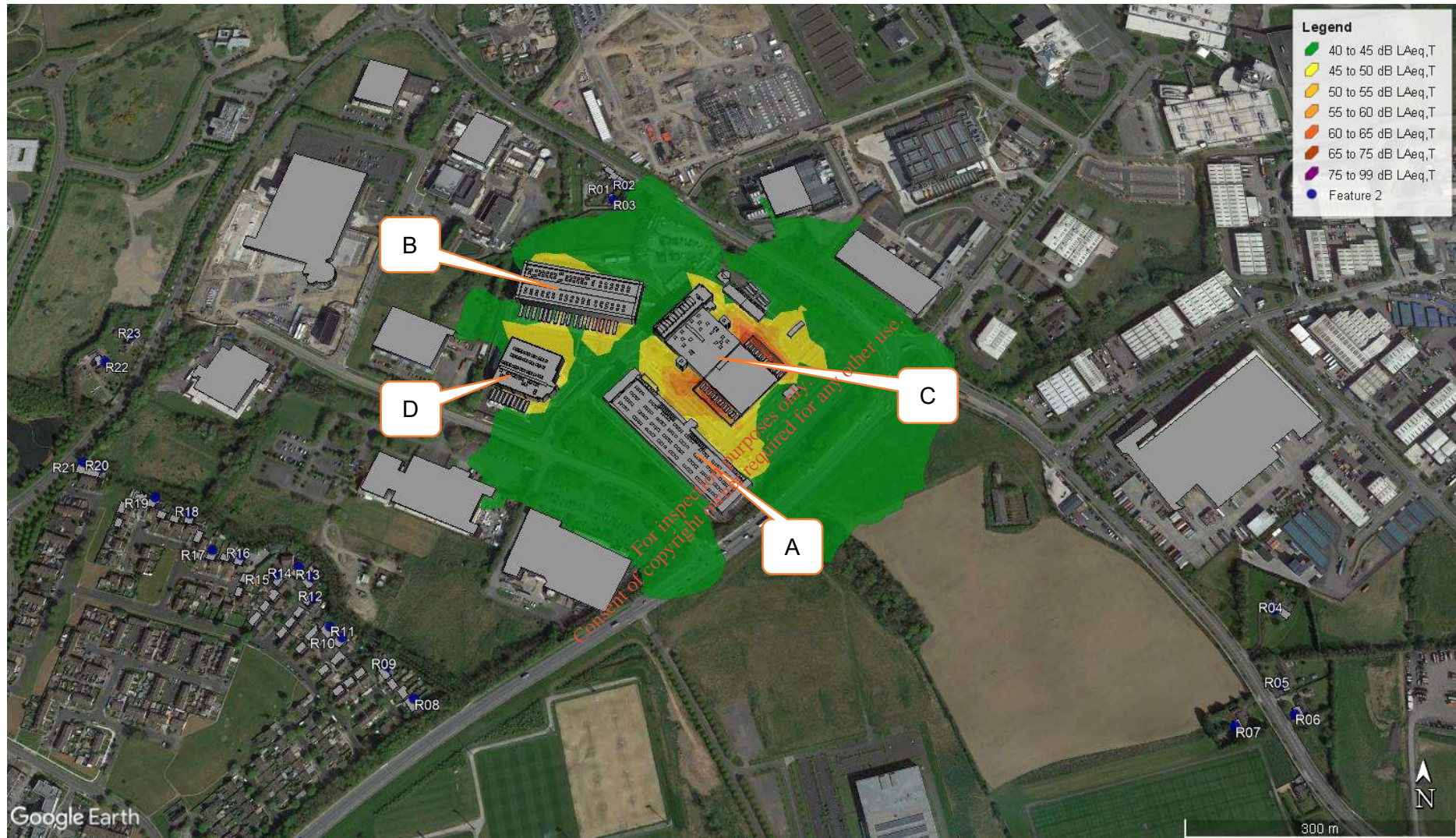


Figure 5 Operational Noise Prediction Contours – Scenario A

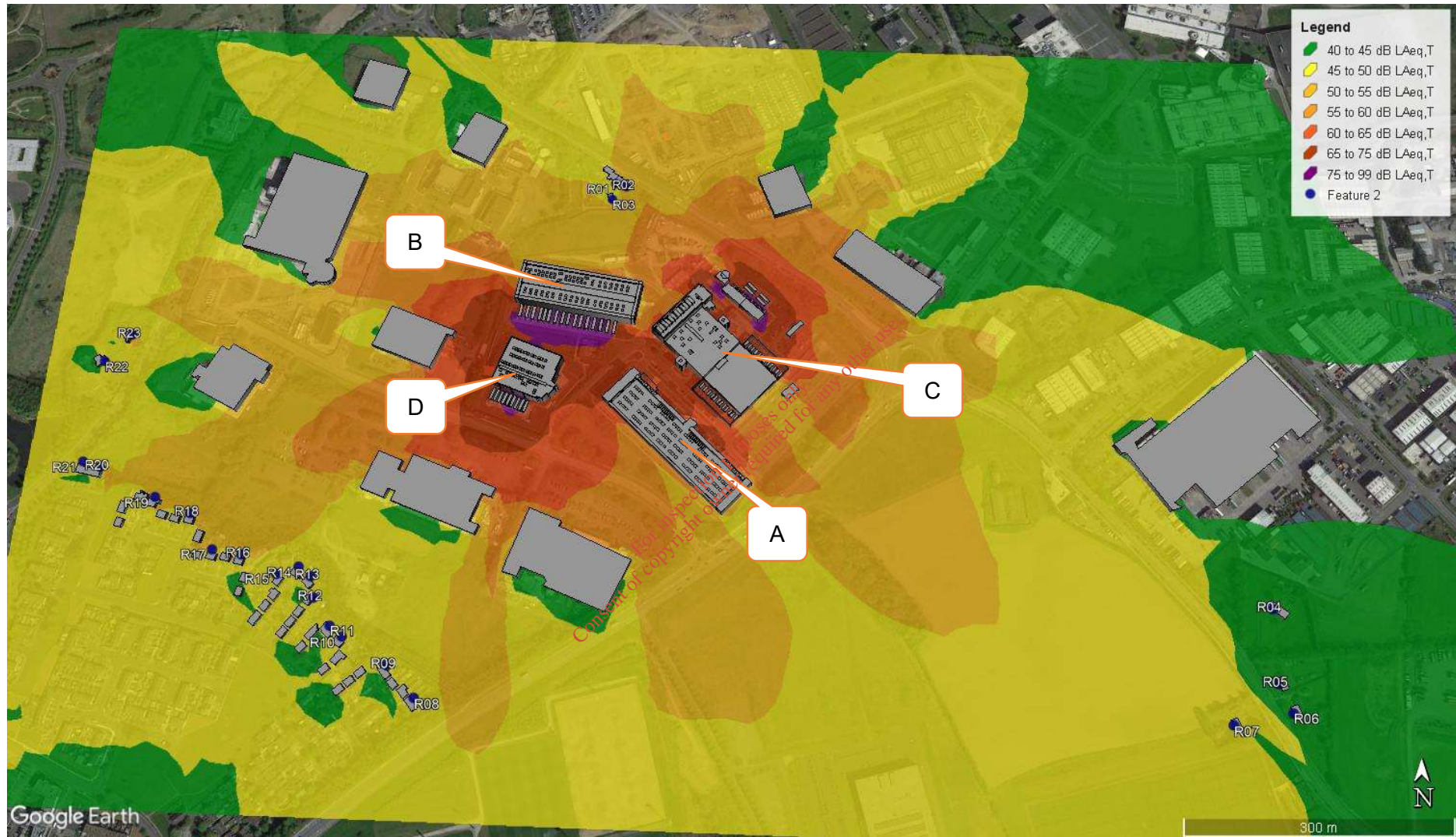


Figure 6 Operational Noise Prediction Contours – Scenario B

6.0 CONCLUSION

A detailed noise survey has been completed at a sample of noise sensitive locations surrounding the site to establish the pre-development noise environment. This work has demonstrated that the pre-development noise environment is dictated by road traffic noise and noise associated with aircraft movements and some existing industry plant noise.

In accordance with the relevant NG4 Guidance, appropriate operational noise criteria have been derived for the site which are based on consideration of the existing licence noise conditions and the existing noise environment at the nearest NSL's.

A noise impact assessment has been completed using information obtained from the design team for significant items of new mechanical plant. A detailed computer-based noise model has been prepared using proprietary noise modelling software in accordance with the calculation method outlined in ISO 9613-2:1996.

The predicted noise levels at all NSL's are below the day, evening and night-time noise criteria that are applicable to the site operations.

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APPENDIX A

GLOSSARY OF ACOUSTIC TERMINOLOGY

ambient noise	The totally encompassing sound in a given situation at a given time, usually composed of sound from many sources, near and far.
background noise	The steady existing noise level present without contribution from any intermittent sources. The A-weighted sound pressure level of the residual noise at the assessment position that is exceeded for 90 per cent of a given time interval, T ($L_{AF90,T}$).
broadband	Sounds that contain energy distributed across a wide range of frequencies.
dB	Decibel - The scale in which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the RMS pressure of the sound field and the reference pressure of 20 micro-pascals (20 μ Pa).
dB L_{pA}	An 'A-weighted decibel' - a measure of the overall noise level of sound across the audible frequency range (20 Hz – 20 kHz) with A-frequency weighting (i.e. 'A'-weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
Hertz (Hz)	The unit of sound frequency in cycles per second.
impulsive noise	A noise that is of short duration (typically less than one second), the sound pressure level of which is significantly higher than the background.
$L_{Aeq,T}$	This is the equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample period (T). The closer the L_{Aeq} value is to either the L_{AF10} or L_{AF90} value indicates the relative impact of the intermittent sources and their contribution. The relative spread between the values determines the impact of intermittent sources such as traffic on the background.
L_{AFN}	The A-weighted noise level exceeded for N% of the sampling interval. Measured using the "Fast" time weighting.
L_{AFmax}	is the instantaneous slow time weighted maximum sound level measured during the sample period (usually referred to in relation to construction noise levels).
$L_{Ar,T}$	The Rated Noise Level, equal to the L_{Aeq} during a specified time interval (T), plus specified adjustments for tonal character and impulsiveness of the sound.
L_{AF90}	Refers to those A-weighted noise levels in the lower 90 percentile of the sampling interval; it is the level which is exceeded for 90% of the measurement period. It will therefore exclude the intermittent features of traffic and is used to estimate a background level. Measured using the "Fast" time weighting.

APPENDIX A

GLOSSARY OF ACOUSTIC TERMINOLOGY (Continued)

L_{AT}(DW)	equivalent continuous downwind sound pressure level.
L_{FT}(DW)	equivalent continuous downwind octave-band sound pressure level.
low frequency noise	LFN - noise which is dominated by frequency components towards the lower end of the frequency spectrum.
noise	Any sound, that has the potential to cause disturbance, discomfort or psychological stress to a person exposed to it, or any sound that could cause actual physiological harm to a person exposed to it, or physical damage to any structure exposed to it, is known as noise.
noise sensitive location	NSL – Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or other area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
octave band	A frequency interval, the upper limit of which is twice that of the lower limit. For example, the 1,000Hz octave band contains acoustical energy between 707Hz and 1,414Hz. The centre frequencies used for the designation of octave bands are defined in ISO and ANSI standards.
rating level	See L _{A,r,T} .
sound power level	The logarithmic measure of sound power in comparison to a referenced sound intensity level of one picowatt (1pW) per m ² where:
	$L_w = 10 \text{Log} \frac{P}{P_0} \text{ dB}$
	Where p is the rms value of sound power in pascals; and P ₀ is 1 pW.
sound pressure level	The sound pressure level at a point is defined as:
	$L_p = 20 \text{Log} \frac{P}{P_0} \text{ dB}$
specific noise level	A component of the ambient noise which can be specifically identified by acoustical means and may be associated with a specific source. In BS 4142, there is a more precise definition as follows: 'the equivalent continuous A-weighted sound pressure level at the assessment position produced by the specific noise source over a given reference time interval (L _{Aeq, T})'.

APPENDIX A**GLOSSARY OF ACOUSTIC TERMINOLOGY (Continued)**

tonal	Sounds which cover a range of only a few Hz which contains a clearly audible tone i.e. distinguishable, discrete or continuous noise (whine, hiss, screech, or hum etc.) are referred to as being 'tonal'.
$\frac{1}{3}$ octave analysis	Frequency analysis of sound such that the frequency spectrum is subdivided into bands of one-third of an octave each.

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APPENDIX B

NOISE MODELLING DETAILS

Noise Model

A 3D computer-based prediction model has been prepared in order to quantify the noise level associated with the proposed building. This section discusses the methodology behind the noise modelling process.

DGMR iNoise

Proprietary noise calculation software has been used for the purposes of this modelling exercise. The selected software, DGMR iNoise, calculates noise levels in accordance with *ISO 9613: Acoustics – Attenuation of sound during propagation outdoors, Part 2: General method of calculation, 1996*.

DGMR iNoise is a proprietary noise calculation package for computing noise levels in the vicinity of noise sources. DGMR iNoise calculates noise levels in different ways depending on the selected prediction standard. In general, however, the resultant noise level is calculated taking into account a range of factors affecting the propagation of sound, including:

- the magnitude of the noise source in terms of A weighted sound power levels (L_{WA});
- the distance between the source and receiver;
- the presence of obstacles such as screens or barriers in the propagation path;
- the presence of reflecting surfaces;
- the hardness of the ground between the source and receiver;
- Attenuation due to atmospheric absorption; and
- Meteorological effects such as wind gradient, temperature gradient and humidity (these have significant impact at distances greater than approximately 400m).

Brief Description of ISO9613-2: 1996

ISO9613-2:1996 calculates the noise level based on each of the factors discussed previously. However, the effect of meteorological conditions is significantly simplified by calculating the average downwind sound pressure level, $L_{AT}(DW)$, for the following conditions:

- wind direction at an angle of $\pm 45^\circ$ to the direction connecting the centre of the dominant sound source and the centre of the specified receiver region with the wind blowing from source to receiver, and;
- wind speed between approximately 1ms^{-1} and 5ms^{-1} , measured at a height of 3m to 11m above the ground.

The equations and calculations also hold for average propagation under a well-developed moderate ground-based temperature inversion, such as commonly occurs on clear calm nights.

The basic formula for calculating $L_{AT}(DW)$ from any point source at any receiver location is given by:

$$L_{fT}(DW) = LW + Dc - A \quad \text{Eqn. A}$$

Where:

$L_{fT}(DW)$ is an octave band centre frequency component of $L_{AT}(DW)$ in dB relative to $2 \times 10^{-5}\text{Pa}$;

- L_w is the octave band sound power of the point source;
- D_c is the directivity correction for the point source;
- A is the octave band attenuation that occurs during propagation, namely attenuation due to geometric divergence, atmospheric absorption, ground effect, barriers and miscellaneous other effects.

The estimated accuracy associated with this methodology is shown in Table B.1 below:

Table B.1 Estimated Accuracy for Broadband Noise of $L_{AT}(DW)$

Height, h^*	Distance, d^\dagger	
	$0 < d < 100m$	$100m < d < 1,000m$
$0 < h < 5m$	$\pm 3dB$	$\pm 3dB$
$5m < h < 30m$	$\pm 1dB$	$\pm 3dB$

* h is the mean height of the source and receiver. $\dagger d$ is the mean distance between the source and receiver.

N.B. These estimates have been made from situations where there are no effects due to reflections or attenuation due to screening.

Input Data and Assumptions

The noise model has been constructed using data from various source as follows:

Site Layout The general site layout has been obtained from the drawings forwarded by Kavanagh Tuite Architects.

Local Area The location of noise sensitive locations has been obtained from a combination of site drawings provided by Kavanagh Tuite Architects and others obtained from Ordinance Survey Ireland (OSI).

Heights The heights of buildings on site have been obtained from site drawings forwarded by Kavanagh Tuite Architects. Off-site buildings have been assumed to be 8m high for houses and 16m for apartments with the exception of industrial buildings where a default height of 15m has been assumed.

Contours Site ground contours/heights have been obtained from site drawings forwarded by Kavanagh Tuite Architects where available.

Figure B1 presents a 3D render of the developed site noise model for the current proposals.

Modelling Calculation Parameters³

Prediction calculations for plant noise have been conducted in accordance with *ISO 9613: Acoustics – Attenuation of sound during propagation outdoors, Part 2: General method of calculation, 1996*.

Ground attenuation factors of 1.0 have been assumed. No metrological corrections were assumed for the calculations. The atmospheric attenuation outlined in Table B.3 has been assumed for all calculations.

³ See Appendix C for further discussion of calculation parameters.

Table B.3 Atmospheric Attenuation Assumed for Noise Calculations (dB per km)

Temp (°C)	% Humidity	Octave Band Centre Frequencies (Hz)							
		63	125	250	500	1k	2k	4k	8k
10	70	0.12	0.41	1.04	1.92	3.66	9.70	33.06	118.4

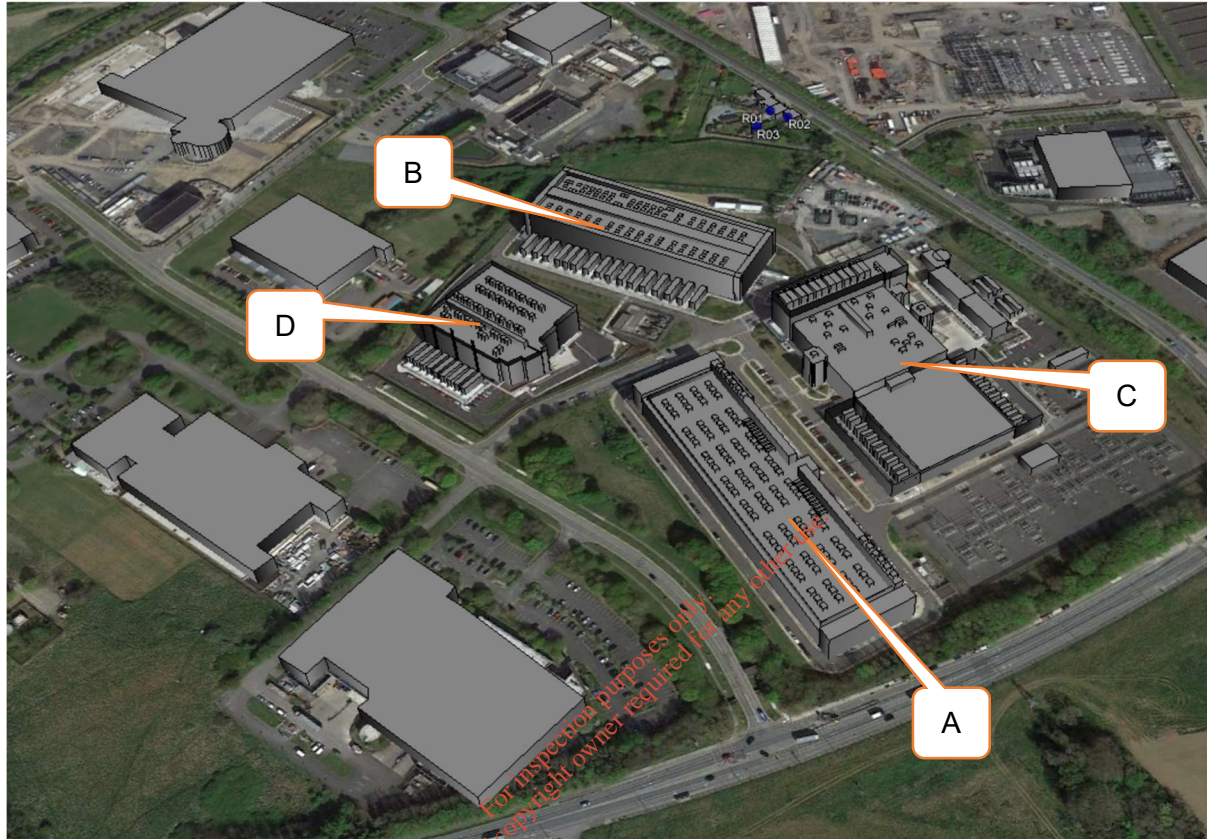


Figure B1 Images of Developed Noise Model – View of Site

APPENDIX C – NOISE MODELLING PARAMETERS

Prediction calculations for noise emissions have been conducted in accordance with *ISO 9613: Acoustics – Attenuation of sound during propagation outdoors, Part 2: General method of calculation, 1996*. The following are the main aspects that have been considered in terms of the noise predictions presented in this instance.

Directivity Factor: The directivity factor (D) allows for an adjustment to be made where the sound radiated in the direction of interest is higher than that for which the sound power level is specified. In this case the sound power level is measured in a down wind direction, corresponding to the worst-case propagation conditions and needs no further adjustment.

Ground Effect: Ground effect is the result of sound reflected by the ground interfering with the sound propagating directly from source to receiver. The prediction of ground effects is inherently complex and depend on source height receiver height propagation height between the source and receiver and the ground conditions. The ground conditions are described according to a variable defined as G, which varies between 0.0 for hard ground (including paving, ice concrete) and 1.0 for soft ground (includes ground covered by grass trees or other vegetation) Our predictions have been carried out using various source height specific to each plant item, a receiver heights of 1.6m for single storey properties and 4m for double. An assumed ground factor of G = 1.0 has been applied off site. Noise contours presented in the assessment have been predicted to a height of 4m in all instances. For construction noise predictions have been made at a level of 1.6m as these activities will not occur at night.

Geometrical Divergence This term relates to the spherical spreading in the free-field from a point sound source resulting in attenuation depending on distance according to the following equation:

$$A_{\text{geo}} = 20 \times \log (\text{distance from source in meters}) + 11$$

Atmospheric Absorption Sound propagation through the atmosphere is attenuated by the conversion of the sound energy into heat. This attenuation is dependent on the temperature and relative humidity of the air through which the sound is travelling and is frequency dependent with increasing attenuation towards higher frequencies. In these predictions a temperature of 10°C and a relative humidity of 70% have been used, which give relatively low levels of atmosphere attenuation and corresponding worst case noise predictions.

Table 10.6.1 Atmospheric Attenuation Assumed for Noise Calculations (dB per km)

Temp (°C)	% Humidity	Octave Band Centre Frequencies (Hz)							
		63	125	250	500	1k	2k	4k	8k
10	70	0.12	0.41	1.04	1.92	3.66	9.70	33.06	118.4

Barrier Attenuation The effect of any barrier between the noise source and the receiver position is that noise will be reduced according to the relative heights of the source, receiver and barrier and the frequency spectrum of the noise.

APPENDIX D SCHEDULE OF NOISE SOURCES

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Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	Building C	D8FF01	308921	240609	18.5	42	54	63	77	71	79	74	65	82
Building C	Building C	D8FF02	308923	240607	18.5	42	54	63	77	71	79	74	65	82
Building C	Building C	D8FF03	308926	240605	18.5	42	54	63	77	71	79	74	65	82
Building C	Building C	D8FF04	308927	240603	18.5	42	54	63	77	71	79	74	65	82
Building C	Building C	DBCR01	308929	240617	5	39	59	67	68	63	61	54	47	72
Building C	Building C	DBCR03	308937	240610	5	39	59	67	68	63	61	54	47	72
Building C	Building C	DBCR05	308933	240614	10	39	59	67	68	63	61	54	47	72
Building C	AHU Exhaust	Building C E01	308873	240562	23.5	52	66	70	71	72	69	62	51	77
Building C	AHU Exhaust	Building C E02	308876	240565	23.5	52	66	70	71	72	69	62	51	77
Building C	AHU Exhaust	Building C E03	308880	240569	23.5	52	66	70	71	72	69	62	51	77
Building C	AHU Exhaust	Building C E04	308883	240572	23.5	52	66	70	71	72	69	62	51	77
Building C	AHU Exhaust	Building C E05	308887	240576	23.5	52	66	70	71	72	69	62	51	77
Building C	AHU Exhaust	Building C E06	308890	240580	23.5	52	66	70	71	72	69	62	51	77
Building C	AHU Exhaust	Building C E07	308894	240584	23.5	52	66	70	71	72	69	62	51	77
Building C	AHU Exhaust	Building C E08	308897	240587	23.5	52	66	70	71	72	69	62	51	77
Building C	AHU Exhaust	Building C E09	308901	240591	23.5	52	66	70	71	72	69	62	51	77
Building C	AHU Exhaust	Building C E10	308904	240595	23.5	52	66	70	71	72	69	62	51	77
Building C	AHU Exhaust	Building C E11	308907	240599	23.5	52	66	70	71	72	69	62	51	77
Building C	AHU Exhaust	Building C E12	308910	240602	23.5	52	66	70	71	72	69	62	51	77
Building C	AHU Intake	Building C Int1	308875	240557	21.5	57	71	75	76	77	74	67	56	82
Building C	AHU Intake	Building C Int2	308881	240564	21.5	57	71	75	76	77	74	67	56	82
Building C	AHU Intake	Building C Int3	308881	240565	21.5	57	71	75	76	77	74	67	56	82
Building C	AHU Intake	Building C Int4	308887	240571	21.5	57	71	75	76	77	74	67	56	82
Building C	AHU Intake	Building C Int5	308888	240572	21.5	57	71	75	76	77	74	67	56	82
Building C	AHU Intake	Building C Int6	308894	240579	21.5	57	71	75	76	77	74	67	56	82
Building C	AHU Intake	Building C Int7	308895	240579	21.5	57	71	75	76	77	74	67	56	82
Building C	AHU Intake	Building C Int8	308901	240586	21.5	57	71	75	76	77	74	67	56	82
Building C	AHU Intake	Building C Int9	308902	240587	21.5	57	71	75	76	77	74	67	56	82
Building C	AHU Intake	Building C In10	308908	240593	21.5	57	71	75	76	77	74	67	56	82

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	AHU Intake	Building C In11	308909	240594	21.5	57	71	75	76	77	74	67	56	82
Building C	AHU Intake	Building C In12	308915	240601	21.5	57	71	75	76	77	74	67	56	82
Building A	Roof Fans	7	308852	240487	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308854	240486	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308846	240481	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308848	240479	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308840	240474	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308842	240472	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308834	240467	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308836	240465	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308856	240484	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308858	240482	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308850	240477	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308852	240475	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308844	240470	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308846	240469	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308838	240463	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308840	240462	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308860	240480	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308862	240479	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308854	240473	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308856	240472	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308848	240467	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308850	240465	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308842	240460	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308844	240458	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308870	240470	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308872	240469	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308864	240464	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308866	240462	13	63	70	74	73	71	68	59	51	79

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building A	Roof Fans	7	308858	240457	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308860	240455	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308852	240450	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308854	240448	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308874	240467	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308876	240465	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308868	240460	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308870	240458	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308862	240453	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308863	240452	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308856	240446	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308858	240445	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308878	240463	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308880	240462	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308872	240456	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308874	240455	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308866	240450	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308867	240448	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308860	240443	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308862	240441	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308886	240456	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308887	240454	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308880	240449	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308881	240448	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308873	240442	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308875	240441	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308867	240435	14.8	62	68	73	72	69	67	57	50	78
Building A	Roof Fans	7	308890	240452	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308891	240451	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308884	240446	14.8	63	69	74	73	70	68	58	51	79

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building A	Roof Fans	2	308885	240444	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308877	240439	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308879	240437	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308871	240432	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308873	240430	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308894	240449	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308895	240447	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308888	240442	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308889	240440	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308881	240435	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308883	240434	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308875	240428	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308877	240427	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308901	240442	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308903	240441	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308895	240435	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308897	240434	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308889	240429	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308890	240427	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308883	240422	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308884	240420	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308905	240439	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308907	240437	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308899	240432	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308900	240430	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308893	240425	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308894	240423	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308887	240418	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308888	240416	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308909	240435	14.8	63	69	74	73	70	68	58	51	79

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building A	Roof Fans	2	308911	240433	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308903	240428	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308904	240427	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308896	240422	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308898	240420	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308891	240415	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308892	240413	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	2	308869	240434	14.8	62	68	73	72	70	67	58	50	78
Building A	Roof Fans	7	308915	240429	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308917	240428	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308909	240423	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308911	240421	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308903	240416	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308905	240414	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308897	240409	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308899	240407	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308919	240426	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308921	240424	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308913	240419	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308915	240417	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308907	240412	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308909	240411	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308901	240405	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308903	240404	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308923	240422	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308925	240421	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308917	240415	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308919	240414	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308911	240409	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308913	240407	13	63	70	74	73	71	68	59	51	79

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building A	Roof Fans	7	308905	240402	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308907	240400	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308933	240412	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308935	240411	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308927	240406	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308929	240404	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308921	240399	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308922	240397	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308915	240392	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308916	240390	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308937	240409	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308939	240407	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308931	240402	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308933	240400	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308925	240395	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308926	240394	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308919	240388	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308920	240387	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308941	240405	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308943	240404	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308935	240398	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308937	240397	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308929	240392	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308930	240390	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308923	240385	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308924	240383	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308949	240398	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308950	240396	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308943	240391	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308944	240390	13	63	70	74	73	71	68	59	51	79

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building A	Roof Fans	7	308936	240384	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308938	240383	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308930	240377	14.8	62	68	73	72	70	67	58	50	78
Building A	Roof Fans	7	308953	240394	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308954	240393	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308946	240388	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308948	240386	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308940	240381	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308942	240379	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308934	240374	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308936	240372	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308957	240391	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308958	240389	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308950	240384	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308952	240382	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308944	240377	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308946	240376	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308938	240370	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308940	240369	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308964	240384	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308966	240383	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308958	240377	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308959	240376	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308951	240371	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308953	240369	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308946	240364	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308947	240362	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308968	240381	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308970	240379	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308962	240374	14.8	63	69	74	73	70	68	58	51	79

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building A	Roof Fans	2	308963	240372	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308955	240367	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308957	240365	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308949	240360	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308951	240358	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308972	240377	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308974	240375	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308966	240370	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308967	240369	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308959	240363	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308961	240362	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308953	240357	14.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308955	240355	13	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	2	308932	240376	14.8	63	69	73	73	70	67	58	50	78
Building A	Roof Fans	11	308953	240574	18.64	63	69	74	73	70	67	58	50	78
Building A	Roof Fans	12	308954	240576	18.64	64	70	74	74	71	68	59	51	79
Building A	Roof Fans	11	308903	240519	18.64	63	69	74	73	70	67	58	50	78
Building A	Roof Fans	12	308904	240521	18.64	64	70	74	74	71	68	59	51	79
Building A	Roof Fans	7	308857	240496	21.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308858	240494	20	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308861	240492	21.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308862	240490	20	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308865	240489	21.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308866	240487	20	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308868	240486	21.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308870	240484	20	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308872	240482	21.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308874	240480	20	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308876	240478	21.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308878	240477	21.8	63	70	74	73	71	68	59	51	79

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building A	Roof Fans	7	308963	240397	21.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308965	240396	20	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308967	240394	21.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308969	240392	20	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308971	240390	21.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308973	240388	20	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308975	240387	21.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308977	240385	20	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308979	240383	21.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308981	240382	20	63	70	74	73	71	68	59	51	79
Building A	Roof Fans	7	308983	240380	21.8	63	69	74	73	70	68	58	51	79
Building A	Roof Fans	2	308985	240378	20	63	70	74	73	71	68	59	51	79
Building B	Roof Extract Fans	Building B EF01	308707	240604	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF02	308714	240603	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF03	308721	240602	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF04	308728	240601	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF05	308735	240599	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF06	308742	240598	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF07	308751	240597	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF08	308758	240596	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF09	308765	240595	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF10	308772	240593	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF11	308779	240592	16.6	53	65	75	78	77	73	69	63	83

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building B	Roof Extract Fans	Building B EF12	308786	240591	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF13	308795	240590	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF14	308802	240589	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF15	308809	240588	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF16	308816	240587	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF17	308823	240585	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF18	308830	240584	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF19	308708	240608	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF20	308715	240607	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF21	308722	240606	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF22	308729	240605	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF23	308736	240604	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF24	308743	240603	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF25	308752	240601	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF26	308759	240600	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF27	308766	240599	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF28	308773	240598	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF29	308780	240597	16.6	53	65	75	78	77	73	69	63	83

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building B	Roof Extract Fans	Building B EF30	308787	240596	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF31	308796	240594	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF32	308803	240593	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF33	308810	240592	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF34	308817	240591	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF35	308824	240590	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF36	308831	240589	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF37	308710	240630	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF38	308715	240627	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF39	308718	240626	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF40	308722	240628	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF41	308727	240627	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF42	308732	240626	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF43	308737	240625	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF44	308742	240625	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF45	308748	240621	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF46	308750	240621	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF47	308757	240622	16.6	53	65	75	78	77	73	69	63	83

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building B	Roof Extract Fans	Building B EF48	308762	240622	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF49	308766	240621	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF50	308771	240620	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF51	308776	240619	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF52	308781	240618	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF53	308790	240617	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF54	308799	240616	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF55	308806	240615	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF56	308813	240613	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF57	308820	240612	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF58	308827	240611	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF59	308834	240610	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF60	308710	240635	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF61	308712	240634	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF62	308718	240633	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF63	308723	240632	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF64	308728	240632	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF65	308733	240631	16.6	53	65	75	78	77	73	69	63	83

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building B	Roof Extract Fans	Building B EF66	308738	240630	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF67	308743	240629	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF68	308749	240631	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF69	308751	240630	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF70	308757	240627	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF71	308762	240626	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF72	308767	240626	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF73	308772	240625	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF74	308777	240624	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF75	308781	240625	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF76	308784	240625	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF77	308791	240622	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF78	308800	240620	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF79	308807	240619	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF80	308814	240618	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF81	308821	240617	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF82	308828	240616	16.6	53	65	75	78	77	73	69	63	83
Building B	Roof Extract Fans	Building B EF83	308835	240615	16.6	53	65	75	78	77	73	69	63	83
Building B	ER CRAH	B EREX01	308699	240594	4.5	62	68	72	74	69	75	75	73	81

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building B	ER CRAH	B EREX02	308722	240590	4.5	62	68	72	74	69	75	75	73	81
Building B	ER CRAH	B EREX03	308727	240589	4.5	62	68	72	74	69	75	75	73	81
Building B	ER CRAH	B EREX04	308741	240587	4.5	62	68	72	74	69	75	75	73	81
Building B	ER CRAH	B EREX05	308761	240584	4.5	62	68	72	74	69	75	75	73	81
Building B	ER CRAH	B EREX06	308764	240584	4.5	62	68	72	74	69	75	75	73	81
Building B	ER CRAH	B EREX07	308798	240578	4.5	62	68	72	74	69	75	75	73	81
Building B	ER CRAH	B EREX08	308803	240577	4.5	62	68	72	74	69	75	75	73	81
Building B	ER CRAH	B EREX09	308811	240576	4.5	62	68	72	74	69	75	75	73	81
Building B	DH Supply	B DHSU01	308711	240646	4.5	50	60	65	69	67	59	52	47	72
Building B	DH Supply	B DHSU02	308716	240645	4.5	50	60	65	69	67	59	52	47	72
Building B	DH Supply	B DHSU03	308722	240644	4.5	50	60	65	69	67	59	52	47	72
Building B	DH Supply	B DHSU04	308728	240643	4.5	50	60	65	69	67	59	52	47	72
Building B	DH Supply	B DHSU05	308734	240642	4.5	50	60	65	69	67	59	52	47	72
Building B	DH Supply	B DHSU06	308739	240641	4.5	50	60	65	69	67	59	52	47	72
Building B	DH Supply	B DHSU07	308744	240641	4.5	50	60	65	69	67	59	52	47	72
Building B	DH Supply	B DHSU08	308748	240640	4.5	50	60	65	69	67	59	52	47	72
Building B	DH Supply	B DHSU09	308752	240639	4.5	50	60	65	69	67	59	52	47	72
Building B	DH Supply	B DHSU10	308756	240639	4.5	50	60	65	69	67	59	52	47	72
Building B	DH Supply	B DHSU11	308760	240638	4.5	50	60	65	69	67	59	52	47	72
Building B	DH Supply	B DHSU12	308764	240637	4.5	50	60	65	69	67	59	52	47	72
Building B	DH Supply	B DHSU13	308768	240637	4.5	50	60	65	69	67	59	52	47	72
Building B	DH Supply	B DHSU14	308772	240636	4.5	50	60	65	69	67	59	52	47	72
Building B	DH Supply	B DHSU15	308708	240624	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU16	308716	240623	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU17	308722	240622	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU18	308727	240622	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU19	308734	240620	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU20	308741	240619	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU21	308747	240618	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU22	308754	240617	17	56	65	71	76	76	72	66	60	80

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building B	DH Supply	B DHSU23	308761	240616	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU24	308769	240615	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU25	308776	240614	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU26	308782	240613	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU27	308788	240612	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU28	308797	240611	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU29	308802	240610	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU30	308808	240609	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU31	308813	240608	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU32	308820	240607	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU33	308825	240606	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU34	308831	240605	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU35	308837	240604	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU36	308707	240614	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU37	308714	240613	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU38	308721	240612	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU39	308726	240611	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU40	308732	240610	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU41	308739	240609	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU42	308745	240608	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU43	308752	240607	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU44	308760	240606	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU45	308767	240605	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU46	308775	240603	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU47	308781	240602	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU48	308787	240601	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU49	308795	240600	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU50	308801	240599	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU51	308806	240598	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU52	308812	240597	17	56	65	71	76	76	72	66	60	80

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building B	DH Supply	B DHSU53	308819	240596	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU54	308824	240596	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU55	308829	240595	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU56	308835	240594	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU57	308704	240599	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU58	308711	240598	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU59	308718	240597	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU60	308723	240596	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU61	308730	240595	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU62	308737	240594	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU63	308743	240593	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU64	308750	240592	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU65	308758	240591	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU66	308765	240589	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU67	308772	240588	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU68	308779	240587	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU69	308786	240586	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU70	308793	240585	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU71	308799	240584	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU72	308805	240583	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU73	308810	240582	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU74	308816	240581	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU75	308822	240580	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU76	308827	240580	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU77	308833	240579	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU78	308711	240640	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU79	308718	240639	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU80	308724	240638	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU81	308729	240637	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU82	308735	240636	17	56	65	71	76	76	72	66	60	80

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building B	DH Supply	B DHSU83	308743	240635	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU84	308749	240634	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU85	308756	240632	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU86	308763	240631	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU87	308771	240630	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU88	308779	240629	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU89	308785	240628	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU90	308791	240627	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU91	308800	240626	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU92	308804	240625	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU93	308809	240624	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU94	308816	240623	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU95	308822	240622	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU96	308828	240621	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU97	308834	240620	17	56	65	71	76	76	72	66	60	80
Building B	DH Supply	B DHSU98	308839	240619	17	56	65	71	76	76	72	66	60	80
Building B	Pumps	Pump	308910	240658	0.5	37	48	55	65	64	65	61	52	70
Building B	Pumps	Pump	308908	240656	0.5	37	48	55	65	64	65	61	52	70
Building B	Pumps	Pump	308907	240654	0.5	37	48	55	65	64	65	61	52	70
Building D	AHU	DAHU01	308702	240542	4	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU02	308707	240540	4	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU03	308711	240538	4	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU04	308715	240537	4	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU05	308719	240536	4	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU06	308723	240534	4	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU07	308728	240532	4	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU08	308732	240531	4	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU09	308736	240529	4	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU10	308740	240528	4	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU11	308745	240526	4	46	60	66	57	39	42	42	39	67

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building D	AHU	DAHU12	308703	240541	10	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU13	308708	240540	10	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU14	308712	240538	10	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU15	308716	240537	10	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU16	308720	240535	10	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU17	308724	240534	10	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU18	308729	240532	10	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU19	308733	240531	10	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU20	308737	240529	10	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU21	308741	240528	10	46	60	66	57	39	42	42	39	67
Building D	AHU	DAHU22	308745	240526	10	46	60	66	57	39	42	42	39	67
Building D	CRAH	DCRAH01	308681	240485	4	40	62	67	68	65	61	54	46	72
Building D	CRAH	DCRAH02	308684	240484	4	40	62	67	68	65	61	54	46	72
Building D	CRAH	DCRAH03	308696	240480	4	40	62	67	68	65	61	54	46	72
Building D	CRAH	DCRAH04	308699	240479	4	40	62	67	68	65	61	54	46	72
Building D	CRAH	DCRAH05	308709	240475	4	40	62	67	68	65	61	54	46	72
Building D	CRAH	DCRAH06	308712	240474	4	40	62	67	68	65	61	54	46	72
Building D	CRAH	DCRAH07	308680	240485	10	40	62	67	68	65	61	54	46	72
Building D	CRAH	DCRAH08	308684	240484	10	40	62	67	68	65	61	54	46	72
Building D	CRAH	DCRAH09	308695	240480	10	40	62	67	68	65	61	54	46	72
Building D	CRAH	DCRAH10	308698	240479	10	40	62	67	68	65	61	54	46	72
Building D	CRAH	DCRAH11	308708	240475	10	40	62	67	68	65	61	54	46	72
Building D	CRAH	DCRAH12	308711	240474	10	40	62	67	68	65	61	54	46	72
Building D	CRAH	DCRAH13	308719	240471	10	40	62	67	68	65	61	54	46	72
Building D	CRAH	DCRAH14	308722	240470	10	40	62	67	68	65	61	54	46	72
Building D	Roof Fans	DEF001	308702	240530	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF002	308705	240528	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF003	308709	240527	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF004	308712	240526	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF005	308717	240524	20	52	64	71	66	49	53	57	52	73

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building D	Roof Fans	DEF006	308720	240523	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF007	308725	240521	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF008	308728	240520	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF009	308733	240518	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF010	308737	240517	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF011	308742	240515	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF012	308699	240521	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF013	308702	240520	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF014	308707	240518	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF015	308709	240517	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF016	308714	240516	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF017	308717	240515	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF018	308722	240513	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF019	308725	240511	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF020	308731	240510	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF021	308734	240508	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF022	308739	240507	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF023	308689	240512	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF024	308692	240510	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF025	308696	240509	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF026	308699	240508	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF027	308704	240506	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF028	308707	240505	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF029	308712	240503	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF030	308715	240502	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF031	308721	240500	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF032	308724	240499	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF033	308729	240497	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF034	308735	240495	20	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF035	308738	240494	20	52	64	71	66	49	53	57	52	73

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building D	Roof Fans	DEF036	308687	240498	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF037	308695	240495	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF038	308698	240494	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF039	308702	240492	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF040	308705	240491	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF041	308711	240489	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF042	308713	240488	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF043	308722	240486	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF044	308724	240485	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF045	308729	240483	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF046	308732	240482	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF047	308688	240492	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF048	308690	240491	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF049	308715	240483	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF050	308718	240482	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF051	308732	240475	19	52	64	71	66	49	53	57	52	73
Building D	Roof Fans	DEF052	308731	240472	19	52	64	71	66	49	53	57	52	73
Building C	Intake	AHU 09 INT	308987	240553	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 01 INT	308929	240491	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 10 INT	308991	240549	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 11 INT	308995	240546	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 12 INT	308999	240542	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 13 INT	309003	240538	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 14 INT	309007	240534	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 15 INT	309010	240531	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 16 INT	309015	240527	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 02 INT	308934	240487	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 03 INT	308939	240482	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 04 INT	308943	240478	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 05 INT	308946	240475	3	47	61	78	81	68	62	68	57	83

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	Intake	AHU 06 INT	308950	240471	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 07 INT	308953	240468	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 08 INT	308957	240464	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 17 INT	309018	240524	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 18 INT	309022	240520	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 19 INT	309025	240517	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 20 INT	309030	240514	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 21 INT	308961	240462	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 22 INT	308965	240458	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 23 INT	308968	240455	3	47	61	78	81	68	62	68	57	83
Building C	Intake	AHU 24 INT	308972	240451	3	47	61	78	81	68	62	68	57	83
Building C	Exhaust	AHU09 EX 1	308985	240552	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU09 EX 2	308987	240551	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU01 EX 2	308932	240491	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU01 EX 1	308929	240493	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU10 EX1	308989	240549	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU10 EX 2	308991	240547	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU11 EX 1	308992	240545	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU11 EX 2	308995	240543	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU12 EX 1	308997	240541	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU12 EX 2	308999	240539	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU13 EX 1	309001	240538	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU13 EX 2	309003	240536	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU14 EX 1	309005	240534	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU14 EX 2	309007	240532	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU15 EX 1	309008	240531	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU15 EX 2	309010	240529	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU16 EX 2	309012	240527	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU16 EX 1	309015	240525	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU02 EX 2	308936	240487	6.5	58	73	77	82	82	77	72	61	87

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	Exhaust	AHU02 EX 1	308934	240489	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU03 EX 2	308941	240482	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU03 EX 1	308939	240484	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU04 EX 2	308945	240478	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU04 EX 1	308943	240480	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU05 EX 2	308948	240475	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU05 EX 1	308946	240477	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU06 EX 2	308953	240471	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU6 EX 1	308950	240473	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU07 EX 2	308956	240469	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU07 EX 1	308953	240470	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU08 EX 2	308960	240465	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU08 EX 1	308958	240467	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU17 EX 2	309015	240524	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU17 EX 1	309018	240522	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU18 EX 1	309020	240520	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU18 EX 2	309022	240518	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU19 EX 2	309023	240517	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU19 EX 1	309025	240515	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU20 EX 2	309027	240513	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU20 EX 1	309030	240511	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU21 EX 2	308963	240462	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU21 EX 1	308961	240464	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU22 EX2	308967	240458	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU22 EX1	308965	240460	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU23 EX 1	308970	240455	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU23 EX 2	308968	240457	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU24 EX 2	308974	240451	6.5	58	73	77	82	82	77	72	61	87
Building C	Exhaust	AHU24 EX 1	308972	240453	6.5	58	73	77	82	82	77	72	61	87
Building C	Louvres	C Louv	308951	240579	16	67	67	66	64	64	60	57	44	73

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	Louvres	C Louv	308960	240571	16	71	75	82	90	88	81	75	62	93
Building C	Louvres	C Louv	308909	240516	16	71	75	82	90	88	81	75	62	93
Building C	Louvres	C Louv	308901	240524	16	67	67	66	64	64	60	57	44	73
Building C	New Roof Fans	H Add EF01	308911	240564	16.5	72	73	70	72	60	53	52	48	78
Building C	New Roof Fans	H Add EF02	308915	240560	16.5	65	66	63	66	54	49	51	44	71
Building C	New Roof Fans	H Add EF03	308919	240556	16.5	72	72	70	72	59	53	52	49	78
Building C	New Roof Fans	H Add EF04	308923	240552	16.5	54	60	55	59	49	40	40	36	64
Building C	New Roof Fans	H Add EF05	308927	240549	16.5	70	71	68	72	60	51	50	43	77
Building C	New Roof Fans	H Add EF06	308928	240553	16.5	78	78	76	78	65	57	57	53	84
Building C	New Roof Fans	H Add EF07	308924	240556	16.5	78	79	76	78	67	58	57	53	84
Building C	New Roof Fans	H Add EF08	308920	240560	16.5	77	77	75	78	65	56	56	52	83
Building C	New Roof Fans	H Add EF09	308915	240565	16.5	65	72	73	76	65	58	56	53	79
Building C	New Roof Fans	H Add EF10	308911	240568	16.5	77	76	73	77	67	56	56	51	82
Building C	Roof Fans	11	308901	240559	14.55	63	69	74	73	70	67	58	50	78
Building C	Roof Fans	12	308903	240561	14.55	64	70	74	74	71	68	59	51	79
Building C	Roof Fans	13	308913	240549	16.3	63	69	74	73	70	68	58	50	79
Building C	Roof Fans	6	308914	240551	14.55	64	70	74	74	71	68	59	51	79
Building C	Roof Fans	5	308903	240550	16.3	63	69	74	73	70	68	58	51	79
Building C	Roof Fans	10	308905	240551	16.3	63	69	74	73	71	68	59	51	79
Building C	Roof Fans	7	308893	240551	16.3	63	69	74	73	70	68	58	51	79
Building C	Roof Fans	2	308895	240553	14.55	63	70	74	73	71	68	59	51	79
Building C	Roof Fans	1	308905	240541	16.3	63	70	74	73	71	68	59	51	79
Building C	Roof Fans	4	308906	240543	16.3	63	69	74	73	70	68	58	50	79
Building C	Roof Fans	11	308921	240581	14.55	63	69	74	73	70	67	58	50	78

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	Roof Fans	12	308923	240583	14.55	64	70	74	74	71	68	59	51	79
Building C	Roof Fans	13	308932	240571	16.3	63	69	74	73	70	68	58	50	79
Building C	Roof Fans	6	308934	240573	14.55	64	70	74	74	71	68	59	51	79
Building C	Roof Fans	5	308923	240572	16.3	63	69	74	73	70	68	58	51	79
Building C	Roof Fans	10	308924	240573	16.3	63	69	74	73	71	68	59	51	79
Building C	Roof Fans	7	308913	240573	16.3	63	69	74	73	70	68	58	51	79
Building C	Roof Fans	2	308915	240575	14.55	63	70	74	73	71	68	59	51	79
Building C	Roof Fans	1	308924	240563	16.3	63	70	74	73	71	68	59	51	79
Building C	Roof Fans	4	308926	240565	16.3	63	69	74	73	70	67	58	50	78
Building C	Roof Fans	11	308952	240554	14.55	63	69	74	73	70	67	58	50	78
Building C	Roof Fans	12	308953	240556	14.55	64	70	74	74	71	68	59	51	79
Building C	Roof Fans	13	308958	240548	16.3	63	69	74	73	70	68	58	50	79
Building C	Roof Fans	6	308959	240550	14.55	64	70	74	74	71	68	59	51	79
Building C	Roof Fans	5	308950	240547	16.3	63	69	74	73	70	68	58	51	79
Building C	Roof Fans	10	308952	240549	16.3	63	69	74	73	71	68	59	51	79
Building C	Roof Fans	7	308944	240546	16.3	63	69	74	73	70	68	58	51	79
Building C	Roof Fans	2	308945	240548	14.55	63	70	74	73	71	68	59	51	79
Building C	Roof Fans	1	308950	240541	16.3	63	70	74	73	71	68	59	51	79
Building C	Roof Fans	4	308951	240543	16.3	63	69	74	73	70	68	58	50	79

Table D1 Day to Day Operational Noise Sources

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
A	Generators	A GINT	308887	240470	1	69	84	89	79	80	86	87	93	96
A	Generators	A GINT	308936	240425	1	69	84	89	79	80	86	87	93	96
Building C	Generator Buildings	PH1 wall	308951	240620	0	60	84	94	92	98	91	72	69	101
Building C	Generator Buildings	PH1 Louvre	308951	240620	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	PH2 wall	308998	240580	0	60	84	94	92	98	91	72	69	101

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	Generator Buildings	Ph1 Louvre	308954	240617	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	Ph1 Louvre	308956	240615	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	Ph1 Louvre	308959	240613	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	Ph1 Louvre	308961	240611	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	Ph1 Louvre	308964	240609	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	Ph1 Louvre	308966	240607	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	Ph1 Louvre	308969	240604	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	Ph1 Louvre	308971	240602	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	ph2 Louvre	308974	240600	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	ph2 Louvre	308977	240598	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	ph2 Louvre	308979	240595	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	ph2 Louvre	308982	240593	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	ph2 Louvre	308984	240591	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	ph2 Louvre	308987	240589	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	ph2 Louvre	308990	240587	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	ph2 Louvre	308992	240585	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	ph2 Louvre	308995	240582	1	60	75	80	70	71	77	78	84	88
Building C	Generator Buildings	PH1 Roof	308951	240620	9.1	67	88	99	98	103	95	80	75	106
Building C	Generator Buildings	PH2 Roof	308974	240600	9.1	67	88	99	98	103	95	80	75	106
Building D	Top	D GRf01	308673	240468	0.1	88	88	90	93	90	89	82	--	98

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	Top	D GRf07	308678	240466	0.1	88	88	90	93	90	89	82	--	98
Building C	Top	D GRf06	308684	240464	0.1	88	88	90	93	90	89	82	--	98
Building C	Top	D GRf09	308689	240462	0.1	88	88	90	93	90	89	82	--	98
Building C	Top	D GRf08	308694	240461	0.1	88	88	90	93	90	89	82	--	98
Building C	Top	D GRf03	308699	240459	0.1	88	88	90	93	90	89	82	--	98
Building C	Top	D GRf02	308704	240457	0.1	88	88	90	93	90	89	82	--	98
Building C	Top	D GRf05	308710	240455	0.1	88	88	90	93	90	89	82	--	98
Building C	Top	D GRf04	308715	240453	0.1	88	88	90	93	90	89	82	--	98
Building A	Generators Exhaust	Building A Cond	308881	240463	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308882	240464	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308883	240465	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308881	240465	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308882	240463	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308883	240461	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308884	240462	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308885	240463	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308883	240463	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308884	240462	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308884	240459	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308886	240461	14.9	56	64	71	75	75	70	62	53	79

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building A	Generators Exhaust	Building A Cond	308887	240462	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308885	240461	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308886	240460	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308886	240458	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308887	240459	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308888	240460	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308887	240460	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308888	240458	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308888	240456	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308889	240457	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308890	240458	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308888	240458	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308890	240457	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308890	240454	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308891	240456	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308892	240457	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308890	240456	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308891	240455	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308892	240453	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308893	240454	14.9	56	64	71	75	75	70	62	53	79

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building A	Generators Exhaust	Building A Cond	308894	240455	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308892	240454	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308893	240453	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308893	240451	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308895	240452	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308896	240453	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308894	240453	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308895	240451	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308895	240449	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308897	240450	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308898	240451	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308896	240451	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308897	240450	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308897	240447	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308898	240449	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308899	240450	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308898	240449	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308899	240448	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308899	240446	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308900	240447	14.9	56	64	71	75	75	70	62	53	79

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building A	Generators Exhaust	Building A Cond	308901	240448	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308900	240447	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308901	240446	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308919	240428	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308920	240429	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308921	240430	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308919	240430	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308921	240428	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308921	240426	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308922	240427	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308923	240428	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308921	240428	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308922	240426	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308923	240424	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308924	240426	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308925	240427	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308923	240426	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308924	240425	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308924	240423	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308925	240424	14.9	56	64	71	75	75	70	62	53	79

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building A	Generators Exhaust	Building A Cond	308927	240425	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308925	240424	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308926	240423	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308926	240421	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308927	240422	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308928	240423	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308927	240423	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308928	240421	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308928	240419	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308929	240420	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308930	240422	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308928	240421	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308930	240420	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308930	240418	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308931	240419	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308932	240420	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308930	240419	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308932	240418	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308932	240416	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308933	240417	14.9	56	64	71	75	75	70	62	53	79

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building A	Generators Exhaust	Building A Cond	308934	240418	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308932	240418	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308933	240416	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308934	240414	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308935	240415	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308936	240416	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308934	240416	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308935	240415	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308935	240412	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308937	240413	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308938	240415	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308936	240414	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308937	240413	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	Building A Cond	308937	240411	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308938	240412	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308940	240413	14.9	56	64	71	75	75	70	62	53	79
Building A	Generators Exhaust	Building A Cond	308938	240412	14.9	61	74	81	84	80	74	68	65	87
Building A	Generators Exhaust	Building A Cond	308939	240411	14.9	57	70	80	86	86	81	74	65	90
Building A	Generators Exhaust	AEXT01	308888	240469	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH01	308888	240469	18.6	65	76	73	69	70	74	80	68	83

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building A	Generators Exhaust	AEXT02	308890	240467	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH02	308890	240467	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT03	308891	240466	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH03	308892	240465	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT04	308894	240464	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH04	308894	240463	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT05	308896	240461	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH05	308896	240461	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT06	308899	240459	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH06	308899	240459	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT07	308901	240457	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH07	308901	240456	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT08	308904	240454	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH08	308904	240454	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT09	308906	240452	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH09	308906	240452	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT10	308908	240450	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH10	308909	240450	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT11	308910	240448	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH11	308911	240448	18.6	65	76	73	69	70	74	80	68	83

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building A	Generators Exhaust	AEXT12	308937	240424	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH12	308937	240423	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT13	308939	240422	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH13	308939	240422	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT14	308940	240421	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH14	308940	240420	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT15	308942	240418	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH15	308943	240418	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT16	308945	240416	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH16	308945	240416	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT17	308948	240414	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH17	308948	240414	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT18	308950	240411	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH18	308950	240411	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT19	308953	240409	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH19	308953	240409	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT20	308955	240407	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH20	308955	240407	18.6	65	76	73	69	70	74	80	68	83
Building A	Generators Exhaust	AEXT21	308957	240405	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	AEXH21	308957	240405	18.6	65	76	73	69	70	74	80	68	83

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building A	Generators Exhaust	AEXT22	308959	240403	18.6	73	81	81	81	81	78	82	80	89
Building A	Generators Exhaust	EXH22	308959	240403	18.6	65	76	73	69	70	74	80	68	83
Building C	Generators Exhaust	Building C Cond	308914	240533	16.45	56	64	71	75	75	70	62	53	79
Building C	Generators Exhaust	Building C Cond	308915	240534	16.45	56	64	71	75	75	70	62	53	79
Building C	Generators Exhaust	Building C Cond	308916	240535	16.45	56	64	71	75	75	70	62	53	79
Building C	Generators Exhaust	Building C Cond	308915	240535	15.55	61	74	81	84	80	74	68	65	87
Building C	Generators Exhaust	Building C Cond	308916	240533	15.55	57	70	80	86	86	81	74	65	90
Building C	Generators Exhaust	Building C Cond	308917	240530	16.45	56	64	71	75	75	70	62	53	79
Building C	Generators Exhaust	Building C Cond	308918	240531	16.45	56	64	71	75	75	70	62	53	79
Building C	Generators Exhaust	Building C Cond	308919	240533	16.45	56	64	71	75	75	70	62	53	79
Building C	Generators Exhaust	Building C Cond	308917	240532	15.55	61	74	81	84	80	74	68	65	87
Building C	Generators Exhaust	Building C Cond	308918	240531	15.55	57	70	80	86	86	81	74	65	90
Building C	Generators Exhaust	Building C Cond	308943	240564	16.45	56	64	71	75	75	70	62	53	79
Building C	Generators Exhaust	Building C Cond	308944	240566	16.45	56	64	71	75	75	70	62	53	79
Building C	Generators Exhaust	Building C Cond	308945	240567	16.45	56	64	71	75	75	70	62	53	79
Building C	Generators Exhaust	Building C Cond	308944	240566	15.55	61	74	81	84	80	74	68	65	87
Building C	Generators Exhaust	Building C Cond	308945	240565	15.55	57	70	80	86	86	81	74	65	90
Building C	Generators Exhaust	Building C Cond	308946	240562	16.45	56	64	71	75	75	70	62	53	79
Building C	Generators Exhaust	Building C Cond	308947	240563	16.45	56	64	71	75	75	70	62	53	79
Building C	Generators Exhaust	Building C Cond	308948	240564	16.45	56	64	71	75	75	70	62	53	79

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	Generators Exhaust	Building C Cond	308946	240564	15.55	61	74	81	84	80	74	68	65	87
Building C	Generators Exhaust	Building C Cond	308947	240562	15.55	57	70	80	86	86	81	74	65	90
Building C	Generators Exhaust	Building C Cond	308940	240559	16.45	56	64	71	75	75	70	62	53	79
Building C	Generators Exhaust	Building C Cond	308941	240560	16.45	56	64	71	75	75	70	62	53	79
Building C	Generators Exhaust	Building C Cond	308942	240561	16.45	56	64	71	75	75	70	62	53	79
Building C	Generators Exhaust	Building C Cond	308940	240560	15.55	61	74	81	84	80	74	68	65	87
Building C	Generators Exhaust	Building C Cond	308941	240559	15.55	57	70	80	86	86	81	74	65	90
Building C	Generator Buildings	PH1 EXT	308961	240626	2.8	73	81	81	81	81	78	82	80	89
Building C	Generator Buildings	PH1 EXH	308962	240627	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH1 EXT	308964	240624	2.8	73	81	81	81	81	78	82	80	89
Building C	Generator Buildings	PH1 EXH	308964	240625	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH1 EXT	308966	240622	2.8	73	81	81	81	81	78	82	80	89
Building C	Generator Buildings	PH1 EXH	308967	240623	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH1 EXT	308969	240620	2.8	73	81	81	81	81	78	82	80	89
Building C	Generator Buildings	PH1 EXH	308969	240621	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH1 EXT	308971	240618	2.8	73	81	81	81	81	78	82	80	89
Building C	Generator Buildings	PH1 EXH	308971	240619	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH1 EXT	308973	240616	2.8	73	81	81	81	81	78	82	80	89
Building C	Generator Buildings	PH1 EXH	308974	240617	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH1 EXT	308976	240615	2.8	73	81	81	81	81	78	82	80	89

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	Generator Buildings	PH1 EXH	308976	240614	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH1 EXT	308978	240612	2.8	73	81	81	81	81	78	82	80	89
Building C	Generator Buildings	PH1 EXH	308978	240613	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH1 EXT	308980	240611	2.8	73	81	81	81	81	78	82	80	89
Building C	Generator Buildings	PH1 EXH	308980	240611	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH2 EXT	308984	240607	2.8	73	81	81	81	84	78	82	80	90
Building C	Generator Buildings	PH2 EXH	308984	240608	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH2 EXT	308986	240605	2.8	73	81	81	81	84	78	82	80	90
Building C	Generator Buildings	PH2 EXH	308987	240606	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH2 EXT	308989	240603	2.8	73	81	81	81	84	78	82	80	90
Building C	Generator Buildings	PH2 EXH	308989	240604	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH2 EXT	308991	240601	2.8	73	81	81	81	84	78	82	80	90
Building C	Generator Buildings	PH2 EXH	308991	240602	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH2 EXT	308993	240599	2.8	73	81	81	81	84	78	82	80	90
Building C	Generator Buildings	PH2 EXH	308994	240600	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH2 EXT	308995	240597	2.8	73	81	81	81	84	78	82	80	90
Building C	Generator Buildings	PH2 EXH	308996	240598	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH2 EXT	308998	240595	2.8	73	81	81	81	84	78	82	80	90
Building C	Generator Buildings	PH2 EXH	308998	240596	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH2 EXT	309000	240594	2.8	73	81	81	81	84	78	82	80	90

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	Generator Buildings	PH2 EXH	309000	240594	4	65	76	73	69	70	74	80	68	83
Building C	Generator Buildings	PH2 EXT	309002	240592	2.8	73	81	81	81	84	78	82	80	90
Building C	Generator Buildings	PH2 EXH	309003	240592	4	65	76	73	69	70	74	80	68	83
Building C	Generator Stacks	G Ex 01	308767	240569	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 02	308773	240568	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 01	308782	240566	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 02	308788	240565	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 01	308808	240562	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 02	308814	240561	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 01	308791	240565	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 02	308797	240564	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 01	308799	240564	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 02	308805	240563	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 01	308698	240580	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 02	308704	240578	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 01	308707	240578	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 02	308713	240577	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 01	308715	240577	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 02	308721	240576	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 01	308723	240576	2.5	74	93	89	91	92	91	87	75	99

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	Generator Stacks	G Ex 02	308729	240574	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 01	308734	240574	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 02	308740	240573	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 01	308743	240572	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 02	308749	240571	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 01	308751	240571	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 02	308757	240570	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 01	308758	240570	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 02	308764	240569	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 01	308774	240567	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 02	308780	240566	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 01	308729	240575	2.5	74	93	89	91	92	91	87	75	99
Building C	Generator Stacks	G Ex 02	308735	240574	2.5	74	93	89	91	92	91	87	75	99
Building C	Intake & Exhaust	Gen Front	308769	240564	1.5	88	90	82	83	83	80	78	76	94
Building C	Intake & Exhaust	G Eng Exh	308777	240582	4	65	74	82	87	85	82	77	65	91
Building C	Intake & Exhaust	Gen Front	308784	240562	1.5	88	90	82	83	83	80	78	76	94
Building C	Intake & Exhaust	G Eng Exh	308778	240582	4	65	74	82	87	85	82	77	65	91
Building C	Intake & Exhaust	Gen Front	308810	240558	1.5	88	90	82	83	83	80	78	76	94
Building C	Intake & Exhaust	G Eng Exh	308817	240576	4	65	74	82	87	85	82	77	65	91
Building C	Intake & Exhaust	Gen Front	308793	240561	1.5	88	90	82	83	83	80	78	76	94

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	Intake & Exhaust	G Eng Exh	308800	240578	4	65	74	82	87	85	82	77	65	91
Building C	Intake & Exhaust	Gen Front	308801	240559	1.5	88	90	82	83	83	80	78	76	94
Building C	Intake & Exhaust	G Eng Exh	308801	240578	4	65	74	82	87	85	82	77	65	91
Building C	Intake & Exhaust	Gen Front	308701	240575	1.5	88	90	82	83	83	80	78	76	94
Building C	Intake & Exhaust	G Eng Exh	308707	240593	4	65	74	82	87	85	82	77	65	91
Building C	Intake & Exhaust	Gen Front	308709	240574	1.5	88	90	82	83	83	80	78	76	94
Building C	Intake & Exhaust	G Eng Exh	308708	240593	4	65	74	82	87	85	82	77	65	91
Building C	Intake & Exhaust	Gen Front	308717	240573	1.5	88	90	82	83	83	80	78	76	94
Building C	Intake & Exhaust	G Eng Exh	308724	240590	4	65	74	82	87	85	82	77	65	91
Building C	Intake & Exhaust	Gen Front	308725	240571	1.5	88	90	82	83	83	80	78	76	94
Building C	Intake & Exhaust	G Eng Exh	308725	240590	4	65	74	82	87	85	82	77	65	91
Building C	Intake & Exhaust	Gen Front	308737	240569	1.5	88	90	82	83	83	80	78	76	94
Building C	Intake & Exhaust	G Eng Exh	308743	240587	4	65	74	82	87	85	82	77	65	91
Building C	Intake & Exhaust	Gen Front	308745	240568	1.5	88	90	82	83	83	80	78	76	94
Building C	Intake & Exhaust	G Eng Exh	308744	240587	4	65	74	82	87	85	82	77	65	91
Building C	Intake & Exhaust	Gen Front	308754	240567	1.5	88	90	82	83	83	80	78	76	94
Building C	Intake & Exhaust	G Eng Exh	308758	240585	4	65	74	82	87	85	82	77	65	91
Building C	Intake & Exhaust	Gen Front	308761	240566	1.5	88	90	82	83	83	80	78	76	94
Building C	Intake & Exhaust	G Eng Exh	308759	240585	4	65	74	82	87	85	82	77	65	91
Building C	Intake & Exhaust	Gen Front	308776	240563	1.5	88	90	82	83	83	80	78	76	94

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	Intake & Exhaust	Gen Front	308731	240570	1.5	88	90	82	83	83	80	78	76	94
Building C	Intake & Exhaust	Rear	308704	240594	0	80	91	86	87	84	81	78	68	94
Building C	Intake & Exhaust	Rear	308712	240592	0	80	91	86	87	84	81	78	68	94
Building C	Intake & Exhaust	Rear	308720	240591	0	80	91	86	87	84	81	78	68	94
Building C	Intake & Exhaust	Rear	308729	240590	0	80	91	86	87	84	81	78	68	94
Building C	Intake & Exhaust	Rear	308734	240589	0	80	91	86	87	84	81	78	68	94
Building C	Intake & Exhaust	Rear	308739	240588	0	80	91	86	87	84	81	78	68	94
Building C	Intake & Exhaust	Rear	308748	240586	0	80	91	86	87	84	81	78	68	94
Building C	Intake & Exhaust	Rear	308757	240585	0	80	91	86	87	84	81	78	68	94
Building C	Intake & Exhaust	Rear	308763	240584	0	80	91	86	87	84	81	78	68	94
Building C	Intake & Exhaust	Rear	308772	240583	0	80	91	86	87	84	81	78	68	94
Building C	Intake & Exhaust	Rear	308779	240582	0	80	91	86	87	84	81	78	68	94
Building C	Intake & Exhaust	Rear	308787	240580	0	80	91	86	87	84	81	78	68	94
Building C	Intake & Exhaust	Rear	308796	240579	0	80	91	86	87	84	81	78	68	94
Building C	Intake & Exhaust	Rear	308805	240578	0	80	91	86	87	84	81	78	68	94
Building C	Intake & Exhaust	Rear	308813	240576	0	80	91	86	87	84	81	78	68	94
Building C	Intake & Exhaust	Top	308702	240584	5.2	83	96	99	102	102	100	96	88	108
Building C	Intake & Exhaust	Top	308711	240583	5.2	83	96	99	102	102	100	96	88	108
Building C	Intake & Exhaust	Top	308718	240581	5.2	83	96	99	102	102	100	96	88	108
Building C	Intake & Exhaust	Top	308727	240580	5.2	83	96	99	102	102	100	96	88	108

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	Intake & Exhaust	Top	308732	240579	5.2	83	96	99	102	102	100	96	88	108
Building C	Intake & Exhaust	Top	308738	240578	5.2	83	96	99	102	102	100	96	88	108
Building C	Intake & Exhaust	Top	308746	240576	5.2	83	96	99	102	102	100	96	88	108
Building C	Intake & Exhaust	Top	308755	240575	5.2	83	96	99	102	102	100	96	88	108
Building C	Intake & Exhaust	Top	308762	240574	5.2	83	96	99	102	102	100	96	88	108
Building C	Intake & Exhaust	Top	308770	240572	5.2	83	96	99	102	102	100	96	88	108
Building C	Intake & Exhaust	Top	308777	240571	5.2	83	96	99	102	102	100	96	88	108
Building C	Intake & Exhaust	Top	308786	240570	5.2	83	96	99	102	102	100	96	88	108
Building C	Intake & Exhaust	Top	308794	240568	5.2	83	96	99	102	102	100	96	88	108
Building C	Intake & Exhaust	Top	308803	240567	5.2	83	96	99	102	102	100	96	88	108
Building C	Intake & Exhaust	Top	308811	240565	5.2	83	96	99	102	102	100	96	88	108
Building C	Building C	Top	308985	240622	4.2	67	70	82	82	83	86	81	76	90
Building C	Building C	Gen Front	308995	240621	2	64	67	80	80	80	83	77	69	88
Building C	Building C	G Ex 01	308993	240621	2	69	73	86	85	86	89	82	74	93
Building C	Building C	G Ex 02	308995	240624	2	69	73	86	85	86	89	82	74	93
Building C	Building C	Rear	308984	240632	2	64	67	80	80	80	83	77	69	88
Building C	Building C	Top	308990	240626	4.2	67	70	82	82	83	86	81	76	90
Building C	Building C	Gen Front	309006	240603	2	64	67	80	80	80	83	77	69	88
Building C	Building C	G Ex 01	309004	240602	2	69	73	86	85	86	89	82	74	93
Building C	Building C	G Ex 02	309006	240605	2	69	73	86	85	86	89	82	74	93

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building C	Building C	Rear	308995	240613	2	64	67	80	80	80	83	77	69	88
Building C	Building C	Top	309001	240607	4.2	67	70	82	82	83	86	81	76	90
Building C	Building C	Gen Front	309010	240607	2	64	67	80	80	80	83	77	69	88
Building C	Building C	G Ex 01	309008	240607	2	69	73	86	85	86	89	82	74	93
Building C	Building C	G Ex 02	309011	240610	2	69	73	86	85	86	89	82	74	93
Building C	Building C	Rear	308999	240618	2	64	67	80	80	80	83	77	69	88
Building C	Building C	Top	309005	240612	4.2	67	70	82	82	83	86	81	76	90
Building D	Front	DGF07	308675	240467	1.5	88	90	82	83	83	80	78	76	94
Building D	Front	DGF08	308680	240466	1.5	88	90	82	83	83	80	78	76	94
Building D	Front	DGF09	308685	240464	1.5	88	90	82	83	83	80	78	76	94
Building D	Front	DGF03	308690	240462	1.5	88	90	82	83	83	80	78	76	94
Building D	Front	DGF02	308695	240460	1.5	88	90	82	83	83	80	78	76	94
Building D	Front	DGF01	308700	240458	1.5	88	90	82	83	83	80	78	76	94
Building D	Front	DGF06	308706	240456	1.5	88	90	82	83	83	80	78	76	94
Building D	Front	DGF05	308711	240454	1.5	88	90	82	83	83	80	78	76	94
Building D	Front	DGF04	308716	240452	1.5	88	90	82	83	83	80	78	76	94
Building D	LHS	DGLS07	308674	240472	2.5	74	93	89	91	92	91	87	75	99
Building D	LHS	DGR08	308680	240482	2.5	80	91	86	87	84	81	78	68	94
Building D	LHS	DGR09	308685	240480	2.5	80	91	86	87	84	81	78	68	94
Building D	LHS	DGR07	308690	240478	2.5	80	91	86	87	84	81	78	68	94

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building D	LHS	DGR03	308696	240476	2.5	80	91	86	87	84	81	78	68	94
Building D	LHS	DGR02	308701	240474	2.5	80	91	86	87	84	81	78	68	94
Building D	LHS	DGR01	308706	240472	2.5	80	91	86	87	84	81	78	68	94
Building D	LHS	DGR06	308711	240470	2.5	80	91	86	87	84	81	78	68	94
Building D	LHS	DGR05	308716	240468	2.5	80	91	86	87	84	81	78	68	94
Building D	LHS	DGR04	308721	240467	2.5	80	91	86	87	84	81	78	68	94
Building D	LHS	DGLS06	308679	240470	2.5	74	93	89	91	92	91	87	75	99
Building D	LHS	DGLS09	308685	240468	2.5	74	93	89	91	92	91	87	75	99
Building D	LHS	DGLS08	308690	240466	2.5	74	93	89	91	92	91	87	75	99
Building D	LHS	DGLS05	308695	240464	2.5	74	93	89	91	92	91	87	75	99
Building D	LHS	DGLS02	308698	240463	2.5	74	93	89	91	92	91	87	75	99
Building D	LHS	DGLS01	308705	240460	2.5	74	93	89	91	92	91	87	75	99
Building D	LHS	DGLS04	308715	240456	2.5	74	93	89	91	92	91	87	75	99
Building D	LHS	DGLS03	308710	240457	2.5	74	93	89	91	92	91	87	75	99
Building D	RHS	DGRS07	308678	240470	2.5	74	93	89	91	92	91	87	75	99
Building D	RHS	DGRS06	308683	240468	2.5	74	93	89	91	92	91	87	75	99
Building D	RHS	DGRS09	308688	240466	2.5	74	93	89	91	92	91	87	75	99
Building D	RHS	DGRS08	308693	240465	2.5	74	93	89	91	92	91	87	75	99
Building D	RHS	DGRS05	308700	240462	2.5	74	93	89	91	92	91	87	75	99
Building D	RHS	DGRS02	308704	240461	2.5	74	93	89	91	92	91	87	75	99

Site	Group	Name	Co-Ordinate		Height (m)	A Weighted Sound Power Level (dB)								dB(A)
			X	Y		63	125	250	500	1k	2k	4k	8k	
Building D	RHS	DGRS01	308709	240458	2.5	74	93	89	91	92	91	87	75	99
Building D	RHS	DGRS04	308714	240456	2.5	74	93	89	91	92	91	87	75	99
Building D	RHS	DGRS03	308719	240454	2.5	74	93	89	91	92	91	87	75	99
Building D	Stacks	DGS07	308686	240482	25.1	84	77	77	74	70	75	72	72	87
Building D	Stacks	DGS06	308685	240483	25.1	84	77	77	74	70	75	72	72	87
Building D	Stacks	DGS09	308687	240482	25.1	84	77	77	74	70	75	72	72	87
Building D	Stacks	DGS08	308702	240476	25.1	84	77	77	74	70	75	72	72	87
Building D	Stacks	DGS05	308701	240476	25.1	84	77	77	74	70	75	72	72	87
Building D	Stacks	DGS02	308701	240477	25.1	84	77	77	74	70	75	72	72	87
Building D	Stacks	DGS01	308718	240471	25.1	84	77	77	74	70	75	72	72	87
Building D	Stacks	DGS04	308717	240471	25.1	84	77	77	74	70	75	72	72	87
Building D	Stacks	DGS03	308717	240471	25.1	84	77	77	74	70	75	72	72	87

Table D2 Generator Noise Source Data

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