PROPOSED ANAEROBIC DIGESTION FACILITY AT THREE MAIDS HILL, WINCHESTER

Noise Impact Assessment

Prepared for: Acorn Bioenergy Ltd

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1.0 Executive Summary

This report presents a noise impact assessment for a proposed anaerobic digestion (AD) facility at Three Maids Hill, Winchester, SO21 2QG (the Site).

A survey has been carried out to establish pre-development sound levels about the Site, including baseline sound levels representative of the nearest identified noise-sensitive receptors.

Noise emissions from the proposed development have been predicted using computer modelling techniques based on a preliminary plant selection and associated sound levels as agreed with the client. The assumptions in the noise model and sound data are conservative as to not under-predict the noise emissions; the assessment is generally considered to tend towards a worst-case. Mitigation has been included in the noise emissions predictions to include integral CHP stack silencers.

An assessment of impact has been formed following industry standard assessment methodology from BS 4142 and overarching national planning policy guidance. The results of the numerical and contextual components of the assessment methodology support the notion of a low impact development.

Following industry standard methodology and national planning policy guidance, it is concluded that noise from the proposed development would have a low impact in that it is not expected to cause any change in behaviour or attitude at the noise-sensitive receptors; that there would be no adverse impact on health or the quality of life.

2.0 Introduction

Acorn Bioenergy Ltd has appointed SLR Consulting Ltd (SLR) to undertake a noise assessment for a proposed Anaerobic Digestion (AD) facility at Three Maids Hill, Winchester, SO21 2QG (the Site). The noise assessment is provided in support of a full planning application to Winchester City Council.

The assessment is based on the results of a noise survey carried out at locations representative of the nearest noise-sensitive receptors (NSRs) to the site over representative daytime and night-time periods.

The following assessment is presented:

- An assessment undertaken to BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound.*
- Assessment of impact following national planning guidance.

The report is structured as follows:

- Site and Development Description.
- Consultation and Guidance.
- Baseline Noise Survey Results.
- BS 4142 Assessment.
- Predicted Impacts and Planning.
- Conclusions.

Whilst reasonable effort has been made to make this report easily understandable, it is technical in nature; to assist the reader, a glossary of terminology is included in Appendix 01.

3.0 Site and Development Description

3.1 Existing Site

The Site comprises a parcel of greenfield land located between the A34 and A272 carriageways.

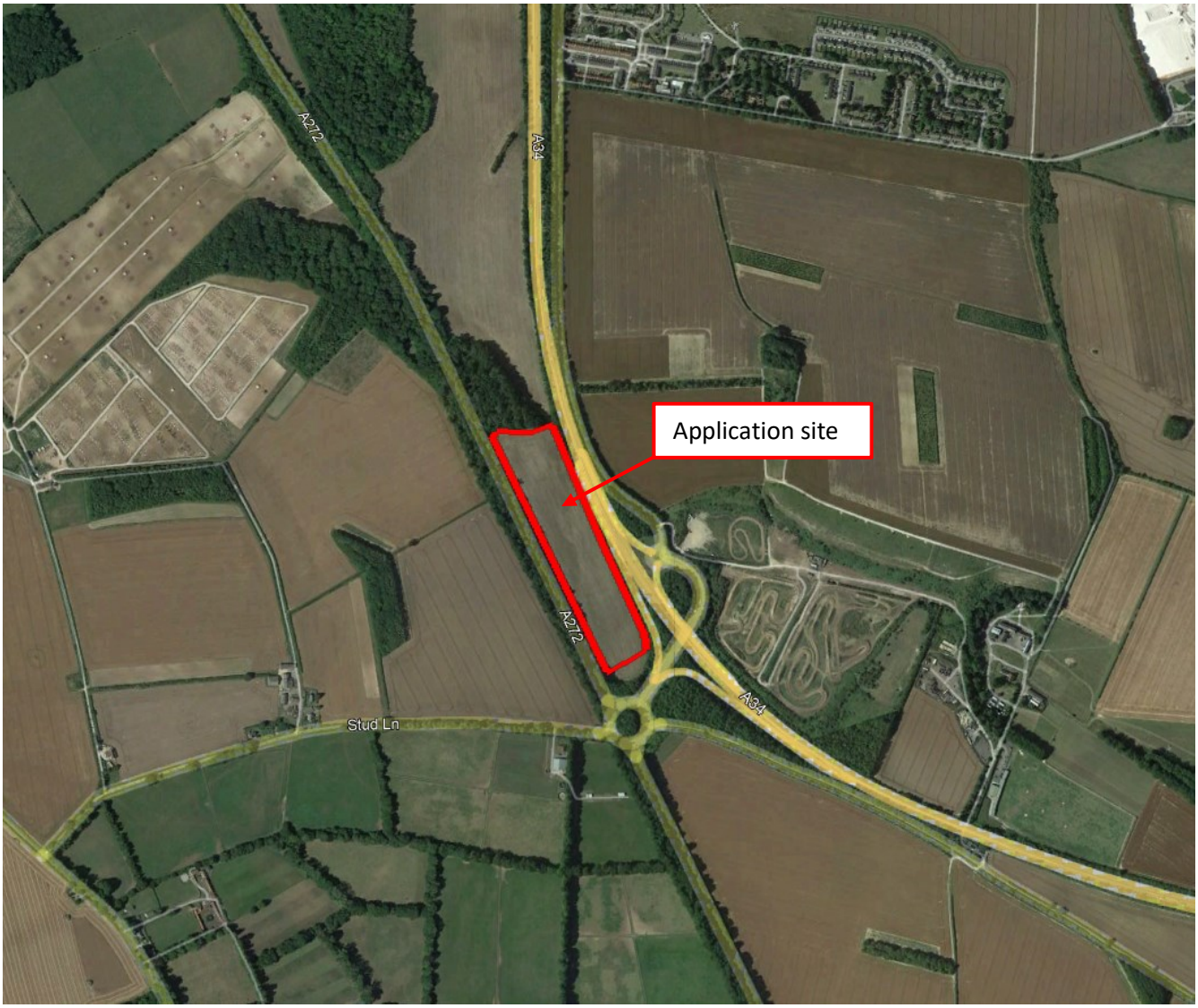
The Site is bounded:

- To the east by the A34 dual carriageway.
- The west by the A272 carriageway.
- To the south by a wooded corridor and The Three Maids roundabout. It is noted that this area to the south of the Site has received planning permission for an industrial inert recycling facility at *Land off A272, Three Maids Hill, Winchester SO21 2QU* planning reference *APP/Q1770/W/21/3279319*.
- To the north by woodland/greenfield land.

An off-road racetrack site has been noted adjacent to the east of the A34 nominally 300 m from the application site.

The location of the Site is shown in Figure 3-1.

Figure 3-1
Site Location



3.2 Proposed Development

The proposed development would import and treat in the region of 83,000 tonnes of feedstock per annum from the applicant's landholding and local farms, which would undergo a process of controlled decomposition (anaerobic digestion) within the Anaerobic Digestion (AD) facility. This anaerobic digestion generates biogas which is upgraded on site into biomethane, before being removed by tanker to a central facility for injection into the national grid. The AD facility would have the capacity to produce approximately **9,000,000** m^3 of biogas per annum.

The proposed layout is provided in Appendix 02.

4.0 Consultation and Guidance

4.1 Consultation

Prior to undertaking the assessment, email correspondence was attempted between SLR and Hampshire County Council.

Within the correspondences SLR requested confirmation that the following methodology was acceptable:

- A baseline noise survey to be completed from a Friday to a Monday.
- Survey monitoring positions representative of identified noise-sensitive receptors.
- An assessment in accordance with BS4142:2014+A1:209 with a rating level of 5dB(A) above background being acceptable depending upon the context.

The Development Management Officer suggested in response (by email on 23/02/2022) that the locations and assessment approach are suitable.

Direct contact with the Winchester Environment Health Officer (EHO) was recommended but has not been established.

Sensitivity of The Three Maids Bungalow and surrounding area (including horse racing stables Little Studs Farm) has also been noted from the correspondence.

Relevant sections of Council Guidance and British Standards have been detailed below.

4.2 Local Council Guidance

4.2.1 Winchester City Council – The Local Plan Part 1 Joint Core Strategy

The Local Plan Part 1 is the long-term strategic plan for development within Winchester District, and includes the strategic vision, objectives and the key policies needed to achieve sustainable development in Winchester District to 2031.

There are no known formal local policy guidance documents in relation to industrial noise; this assessment has therefore been based on standard industry guidance for assessment of industrial noise impact (BS 4142 methodology) and national planning guidance.

4.3 National Planning Policy Framework

The National Planning Policy Framework (NPPF) was introduced by The Department for Communities and Local Government in March 2012, with its latest revision dated July 2021.

The NPPF defines the Government's planning policies for England and sets out the framework, within which local authorities must prepare their local and neighbourhood plans, reflecting the needs and priorities of their communities. The Government's stated purpose in producing the NPPF was to streamline policy, so the planning process is less restrictive, to give a more easily understood framework for delivering sustainable development.

Under the heading of conserving and enhancing the natural environment and Paragraph 174 e), one aim of the NPPF is *"preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of … noise pollution…".*

Paragraph 185 requires planning policies and decision to ensure that new development is appropriate for its location. It stipulates a need to account for the likely effects of pollution on health and other matters, requiring the planning process to *"mitigate and reduce to a minimum, potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life"*.

The NPPF acknowledges that there is a host of existing sources of national and international guidance which can be used, in conjunction with the Framework, to inform the production of Local Plans and decision making.

4.4 Noise Policy Statement for England

The Noise Policy Statement for England (NPSE) was published in March 2010. It sets out the long-term vision of government noise policy, which is fundamentally to: "*Promote good health and good quality of life through the effective management and control of noise within the context of Government policy on sustainable development*". The vision is supported by three key aims:

- Avoid significant adverse impacts on health and quality of life;
- Mitigate and reduce to a minimum, other adverse impacts on health; and
- Where possible, contribute to the improvement of health and quality of life.

The NPSE should apply to all forms of noise including environmental noise, neighbour noise and neighbourhood noise but does not apply to noise in the workplace. The NPSE has adopted the following concepts, to help consider whether noise is likely to have "significant adverse" or "adverse" effects on health and quality of life:

SOAEL – Significant Observed Adverse Effect Level. This is the level above which significant adverse effects on health and quality of life occur.

LOAEL – Lowest Observed Adverse Effect Level. This is the level above which adverse effects on health and quality of life can be detected.

NOEL – No Observed Effect Level. This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

"It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available" (Defra, 2010).

4.5 National Planning Practice Guidance

Revised Planning Practice Guidance was released in March 2014 to support the NPPF and last updated in July 2019. The Guidance stipulates that local planning authorities' plan making and decision making should take account of the acoustic environment and in doing so consider:

- Whether or not a significant adverse effect is occurring or likely to occur;
- Whether or not an adverse effect is occurring or likely to occur; and
- Whether or not a good standard of amenity can be achieved.

The guidance has also provided the following noise exposure hierarchy table, describing *"when noise could be a concern"*.

Table 4-1
Planning Practice Guidance Noise Exposure Hierarchy Table

Response	Example of Outcomes	Increasing Effect Level	Action
NOEL – No observed effect level			
Not present	No effect	No Observed Effect Level	No specific measures required
No observed adverse effect level			
Present and not intrusive	Noise can be heard but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
LOAEL – Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for sleep disturbance. Affects acoustic character of the area and creates a perceived change in quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
SOAEL – Significant Observed Adverse Effect Level			
Present and disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

4.6 British Standard BS 4142:2014 +A1:2019

The British Standard BS 4142:2014 +A1:2019 Methods for Rating and Assessing Industrial and Commercial Sound (BS 4142) notably describes methods for rating and assessing sound of an industrial or commercial nature. It has been referenced where required in policy and guidance documents to assess the potential impact of sound of an industrial and/or commercial nature, at existing and proposed noise-sensitive receptor locations within the context of the existing sound environment.

Certain acoustic features can increase the significance of impact from a comparison of the specific sound level to the background sound level where these features are likely to affect perception and response. Where such features are present at the assessment location, a character correction (or penalty) to the specific sound level is made to obtain the rating level. This can be approached from subjective, objective and reference methods.

- Tonality: A correction of 0 dB to + 6 dB for sound ranging from not tonal to prominently tonal.
- Impulsivity: A correction of up to + 9 dB can be applied for sound that is impulsive.
- Intermittency: A penalty of + 3 dB can be applied if on/off conditions are readily distinctive within the reference time interval over the period of the greatest amount of on-time.
- Other characteristics: A penalty of + 3 dB can be applied in the absence of all other defined characteristics, where the specific sound contains a distinctive feature in the residual acoustic environment.
- The rating sound level is equal to the specific sound level if there are no acoustic features present or expected to be present.

The significance of sound depends upon both the margin by which the rating level exceeds the background sound level and the context in which the sound occurs. An initial estimate of the impact of the specific sound is made by subtracting the measured background sound level from the rating level.

- Typically, the greater the difference, the greater the magnitude of the impact;
- A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context;
- A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context; and
- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. It is an indication that the specific sound source has a low impact, depending on the context.

To account for the acoustic character of proposed sound sources, BS4142:2014+A1:2019 provides the following with respect to the application of penalties to account for *"the subjective prominence of the character of the specific sound at the noise-sensitive locations and the extent to which such acoustically distinguishing characteristics will attract attention".*

- **Tonality** – *"For sound ranging from not tonal to predominantly tonal the Joint Nordic Method gives a correction of between 0dB and +6dB for tonality. Subjectively, this can be converted to a penalty of 2dB for a tone which is just perceptible at the noise receptor, 4dB where it is clearly perceptible and 6dB where it is highly perceptible;*
- **Impulsivity** – *A correction of up to +9dB can be applied for sound that is highly impulsive, considering both the rapidity of the change in sound level and the overall change in sound level. Subjectively, this can be converted to a penalty of 3dB for impulsivity which is just perceptible at the noise receptor, 6dB where it is clearly perceptible, and 9dB where it is highly perceptible;*
- **Intermittency** – *When the specific sound has identifiable on/off conditions, the specific sound level ought to be representative of the time period of length equal to the reference time interval which contains the greatest total amount of on time. If the intermittency is readily distinctive against the residual acoustic environment, a penalty of 3dB can be applied; and*
- **Other Sound Characteristics** – *Where the specific sound features characteristics that are neither tonal nor impulsive, though otherwise are readily distinctive against the residual acoustic environment, a penalty of 3dB can be applied."*

BS 4142 stipulates that context is important when assessing the impact of sound of a commercial and/or industrial nature. Amongst a range of advocated considerations, this can include mitigation, residual sound levels, location and absolute sound levels in the consideration of context.

The scope of BS 4142 recognises that human response to sound can be subjective as affected by many factors, both acoustic and non-acoustic. The significance of its impact can depend on various factors such as the exceedance to the background level, its absolute level, time of day and change in environment, as well as local attitudes to the source of sound and character of the neighbourhood.

5.0 Baseline Survey Results

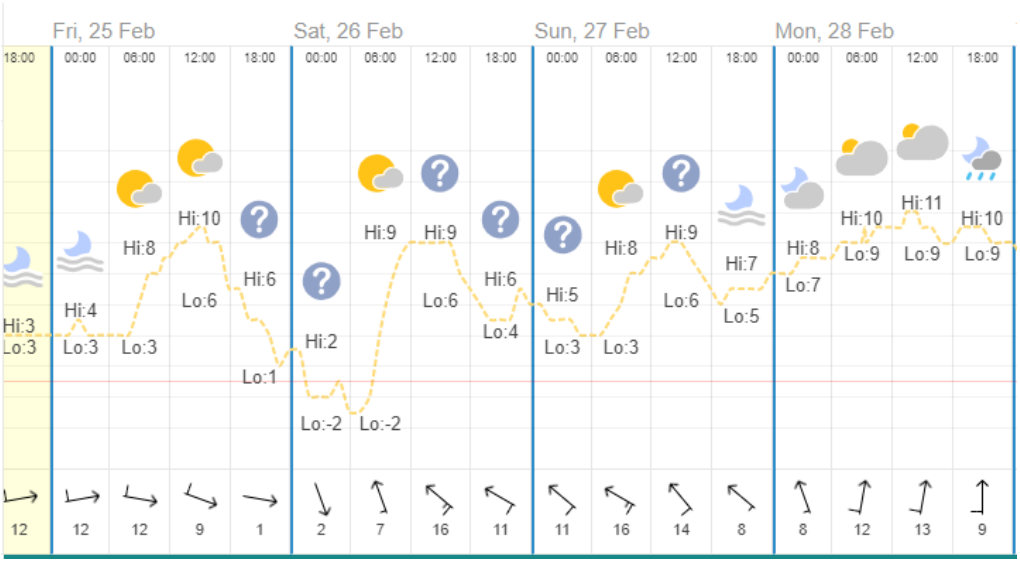
5.1 Survey Date

To determine baseline sound levels in the vicinity of the Site, a noise survey was undertaken between Friday 25th and Monday 28th February 2022.

5.2 Weather Conditions

Weather conditions and forecast were noted as suitable for noise monitoring work; the measured wind speed was noted at less than 5 m/s during site attendance. The forecast is as shown in Figure 5-1 below.

Figure 5-1
Weather Forecast



5.2.1 Equipment

The noise survey equipment used during the survey is detailed in Table 5-1. All measurement instrumentation was calibrated before and after the measurements. No significant drift was observed. The calibration chain is traceable via the United Kingdom Accreditation Service to National Standards held at the National Physical Laboratory.

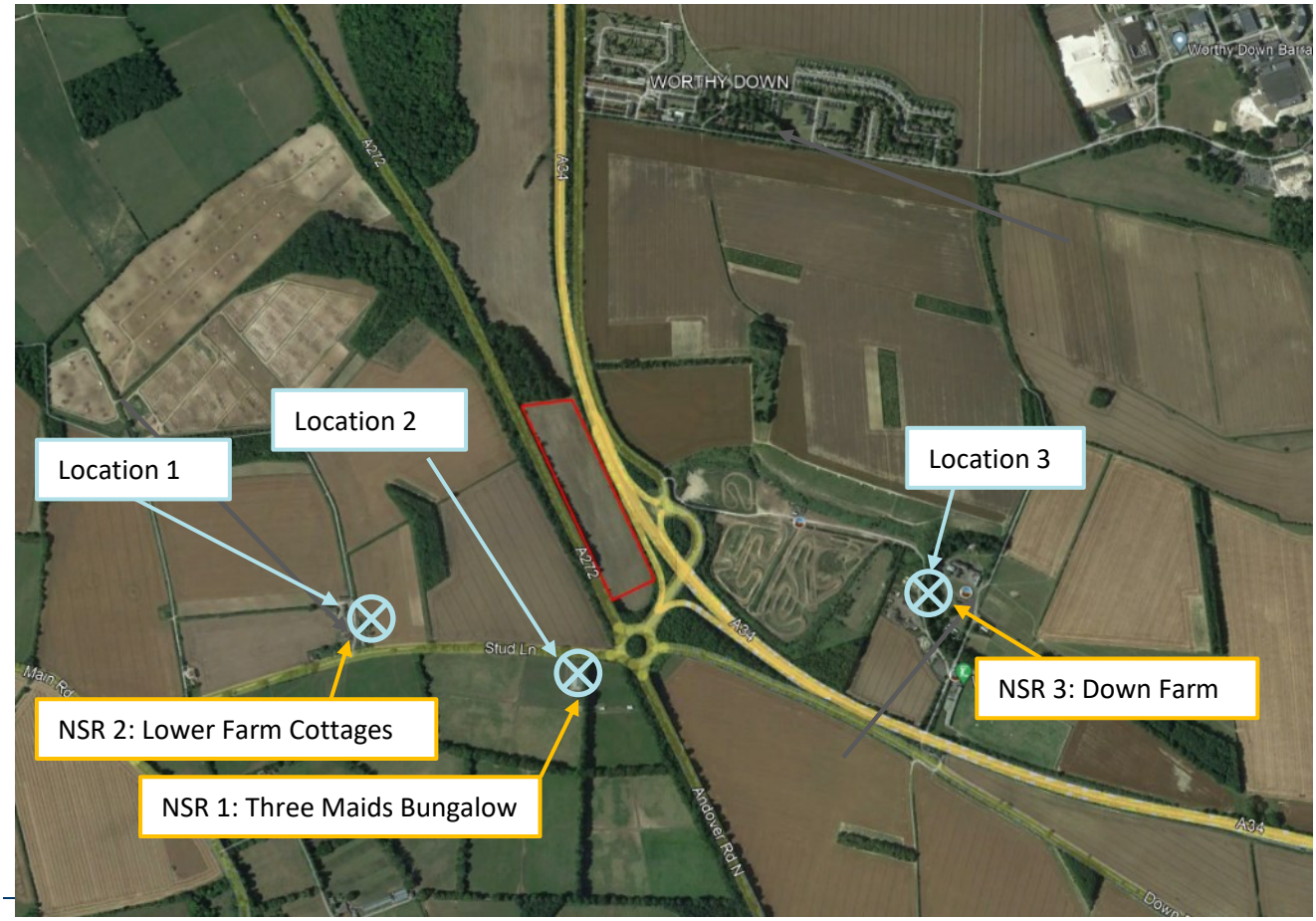
Table 5-1
Survey Equipment

Location	Equipment	Serial Number
Location 1	Cirrus CR:171B Class 1 Sound Level Meter	G303390
	Cirrus CR:515 Acoustic Calibrator	97661
Location 2	Norsonic Nor140 Class 1 Sound Level Meter	1403010
	Norsonic 1251 Acoustic Calibrator	31875

5.3 Survey Locations

Sound levels were measured at three locations around the Site as shown on Figure 5-2. Photographs of each monitoring position can be seen in Appendix 03.

Figure 5-2
Monitoring Locations and Noise-Sensitive Receptors



At the survey locations, the microphone was placed 1.5m above the local ground level in free-field conditions, i.e. at least 3.5m from the nearest vertical, reflecting surface.

Due to equipment malfunction, there has been no data retrievable at Location 3. This has not been consequential for the assessment, where Locations 1 and 2 have been used to form assessment at the nearest / worst-affected identified receptor locations. Measurements from Location 1 have been used for assessment at Down Farm, which have been considered to represent a worst-case (lower background sound levels further from the A34).

The following noise level indices were recorded:

- $L_{Aeq,T}$: The A-weighted equivalent continuous noise level over the measurement period.
- L_{A90}: The A-weighted noise level exceeded for 90% of the measurement period. This parameter is often used to describe background noise.
- L_{A10}: The A-weighted noise level exceeded for 10% of the measurement period. This parameter is often used to describe road traffic noise.
- L_{Amax}: The maximum A-weighted noise level during the measurement period.

5.4 Baseline Sound Level Results

A summary of the survey results at Location One is shown in Table 5-2. The full survey results are in Appendix 04.

Table 5-2
Location 1 - Summary of Measured Sound Levels, free-field, dB

Date	Period	$L_{Aeq,T}$	$L_{A90,\ 15min}$ (median)	$L_{A10,15min}$ (median)	L_{Amax} (range)
25/02/22; 25-26/02/22	Daytime (11:30 – 23:00)	46	40	48	49 – 79
	Night-Time (23:00 – 07:00)	44	38	45	48 – 73
26/02/22; 26-27/02/22	Daytime (07:00 – 23:00)	48	45	50	53 – 88
	Night-Time (23:00 – 07:00)	41	35	41	46 – 67
27/02/22; 27-28/02/22	Daytime (07:00 – 23:00)	49	44	49	51 – 88
	Night-Time (23:00 – 07:00)	38	31	37	39 – 66
28/02/22	Daytime (07:00 – 11:00)	49	40	50	57 – 77

A summary of the survey results at Location Two is shown in Table 5-3. The full survey results are in Appendix 04.

Table 5-3
Location 2 - Summary of Measured Sound Levels, free-field, dB

Date	Period	$L_{Aeq,T}$	$L_{A90,\ 15min}$ (median)	$L_{A10,15min}$ (median)	L_{Amax} (range)
25/02/22; 25-26/02/22	Daytime (11:30 – 23:00)	64	59	67	68 – 87
	Night-Time (23:00 – 07:00)	57	49	58	61 – 79
26/02/22; 26-27/02/22	Daytime (07:00 – 23:00)	63	59	66	68 – 96
	Night-Time (23:00 – 07:00)	53	43	54	58 – 73
27/02/22; 27-28/02/22	Daytime (07:00 – 23:00)	64	60	66	67 – 96
	Night-Time (23:00 – 07:00)	55	44	54	56 – 79
28/02/22	Daytime (07:00 – 11:00)	63	58	67	72 – 79

5.5 Baseline Background Sound Levels to use in the Assessment

Histograms of the daytime and night-time baseline background sound levels can be seen in Appendix 05. From analysis of the histogram sound level data, the following representative background sound levels have been used in the BS 4142 numerical assessment for each noise-sensitive receptor location.

Table 5-4
Baseline Background Sound Levels for Assessment

Monitoring Location	NSR	Period	$L_{A90,\ 15\ min}$ (range)	$L_{A90,15\ min}$ (selected)
Location 1	Lower Farm Cottages	Daytime (07:00 – 23:00)	33 – 48	46
		Night-Time (23:00 – 07:00)	26 – 45	35
Location 2	Three Maids Bungalow	Daytime (07:00 – 23:00)	50 – 62	60
		Night-Time (23:00 – 07:00)	35 – 59	48
Location 1*	Down Farm Lane	Daytime (07:00 – 23:00)	33 – 48	46
		Night-Time (23:00 – 07:00)	26 – 45	35

**Location 1 used as representative for Down Farm Lane. As Location 1 is further from the main road junction relative to Down Farm Lane, this has been considered a worst-case position for assessment.*

In accordance with BS 4142, the uncertainty associated with the measured baseline sound levels has been considered and described in the statement of uncertainty, Section 5.8.

6.0 BS 4142 Assessment

The impact of the proposals upon the noise environment at the nearest Noise-Sensitive Receptors (NSRs) to the Site has been assessed based on a preliminary plant selection, as agreed with the client.

6.1 Noise Sources

The assessment has been based on the following noise sources as confirmed by the client.

Table 6-1
Plant Noise Sources

Noise source	Daytime operation (Yes/No)	Night-time operation (Yes/No)
Combined Heat and Power plant (2 no. CHP)	Y	Y
Chiller	Y	Y
Compressors 1 and 2	Y	Y
Biogas Upgrading and CO2 recovery unit	Y	Y
Extracting Station	Y	Y
Separation	Y	Y
28 no. Tank mixers	Y	Y
Straw Process Building	Y	N
Grid Entry Unit	Y	Y
Pump Container	Y	Y
Pumps for heat system	Y	Y
Emergency Gas Flare	Y	Y
Boiler	Y	Y
Dozer to compact biomaterial into the clamps	Y	N

In addition to the above plant, heavy goods vehicle (HGV) movements have been included in the model based on an estimated quantity of up to 2 no. HGV loads (or 4 no. HGV movements) during the 1-hour daytime assessment period and 1 no. HGV movements (as a worst-case) during the 15-minute night-time assessment period, for the purposes of BS 4142 assessment. This has been based on initial traffic estimates provided by the client for average HGV movements including 3 no. daily biomethane gas or CO2 tankers (which may occur during the day or night) and other feedstock / digestate deliveries typically occurring during daylight hours. Other agricultural traffic into the plant is understood to typically take place during daytime hours and has not been included in the noise model.

6.2 Noise Model Assumptions

The sound predictions in this assessment have been undertaken using a proprietary software-based noise model, CadnaA, which implements the full range of UK calculation methods. The calculation algorithms set out in ISO 9613-2:1996 *Acoustics – Attenuation of sound during propagation outdoors – Part 2 General method of calculation* have been used and the model assumes:

- A ground absorption factor of 1.
- A reflection factor of 2.
- A daytime receiver height of 1.5m.
- A night-time receiver height of 4m.

The following assumptions and caveats must be acknowledged when considering the noise model and sound data used for assessment:

- The exact specification of the AD plant components may vary depending on the final supplier(s) selected.
- The CHP has been confirmed by the client as operating with a sound level of 65 dB (A-weighted) at 10 m; the stack has been modelled as a point source at 9 m high and 1 m above the chimney height with a sound power level of 93dB(A).
- Motorised mixers in the model have been assumed as point noise sources external to the tank walls at high level. The final design may incorporate mixers located within a concrete roof, with reduced noise emissions.
- The process building construction has been assumed lightweight single ply metal.
- The following fixed plant items have been given a sound pressure level of nominally 85 dB (A-weighted) at 1 m as a likely worst-case as confirmed by the client. Actual noise emissions from these items may be lower.
    - Extracting station (potential alternative tanker with pump configuration would be low noise).
    - Grid Entry Unit
    - Chiller
    - Pumps for heat systems
- All noise sources have been considered operating continuously and simultaneously for the proposed day and night-time plant operations described in Table 6-1, thereby tending toward a worst-case.

The noise levels of each item of plant used in the computer model are presented in Table 6-1 below. The lagoon is understood to be a passive system with no significant noise generating plant associated.

Table 6-2
Noise Sources – dB

Plant (No. of)	Description	31.5 Hz	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	LwA	hours / day
CHP (2)	Container	94.1	100.8	92.7	84.1	78.7	75.1	72.8	71.0	67.7	84	24
	Container Stack End	93.6	97.0	94.0	83.0	74.3	70.8	68.1	66.1	63.1	82	24
	Container Non-Stack End	92.5	92.0	84.6	76.8	74.0	73.7	69.7	69.2	71.3	79	24
	Cooling Fan	83.2	77.6	78.2	70.2	70.1	67.6	64.0	58.4	49.9	73	24
	Stack	-									93	24
Pumps (1)	Pumps for heat system	-									93	24
Pumps (1)	Pump container	-									94	24
Chiller (1)	Chiller unit	-									93	24
Compressor (2)	Biomethane compressor	-									90	24
Upgrade plant (1)	Biogas Upgrading and CO2 recovery unit	-									96	24
Extracting Station (1)	Digestate Separator	-									93	24
Separation (1)	Separation building	-									80	24
Large Tank Mixers (20)	Fermentation Tanks	-									86	24
Small Tanks Mixers (12)	Fermentation Tanks	-									86	24

Plant (No. of)	Description	31.5 Hz	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	LwA	hours / day
Process Building (1)	Straw Process Building, conveyors (daytime only)	-									99	12
Grid Entry Unit (1)	Grid Entry Unit	-									93	24
Gas Flare (1)	Occasional flare.	-									83	0.25
Boiler (1)	20 ft container next to CHP	-									89	2
Blower/Scrubber (2)	Ground level around Tanks	-									91	24
Mobile Equipment – Dozer (1)	Dozer to push and compact biomaterial into Clamps. 10 movements per hour (daytime only).	-									90	-
HGV	Site Entrance to Bays. 2 loads (4 movements) per hour daytime. 1 movement per 15-minutes at night.	-									95	-

6.3 Mitigation

The following embedded mitigation has been included in the Assessment:

- Plant to be installed with all proprietary attenuation / enclosures.
- CHP stack duct silencers.

6.4 Specific Sound Level

The cumulative predicted sound levels of the noise sources associated with the proposed development are shown in Table 6-3 below.

Daytime sound levels have been predicted at 1.5 m above local ground level, which is the approximate height of a ground floor window. Night-Time sound levels have been predicted at 4m above local ground level, which is the approximate height of a first-floor window.

Table 6-3
Predicted Specific Sound Levels

Noise-Sensitive Receptor	Period	Predicted Sound Level, $L_{Aeq,T}$
Lower Farm Cottages	Daytime	31
	Night-Time	33
Three Maids Bungalow	Daytime	32
	Night-Time	33
Down Farm Lane	Daytime	25
	Night-Time	27

A graphical image of the predicted specific sound level during the daytime can be seen in Figure 6-1. A graphical image of the predicted specific sound level during the night-time can be seen in Figure 6-2.

Figure 6-1
Specific Sound Level at a Grid Height of 1.5m – dB(A)

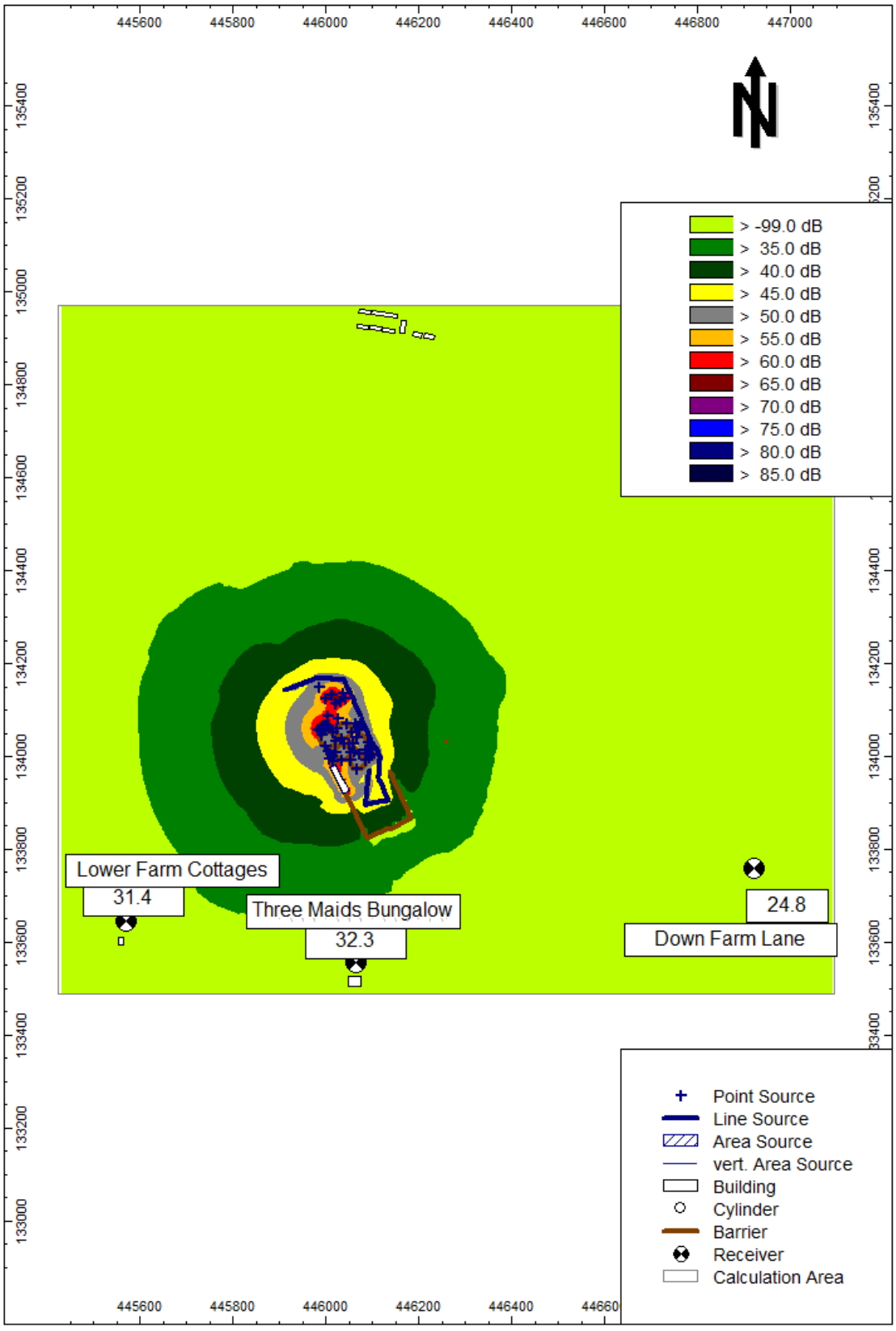
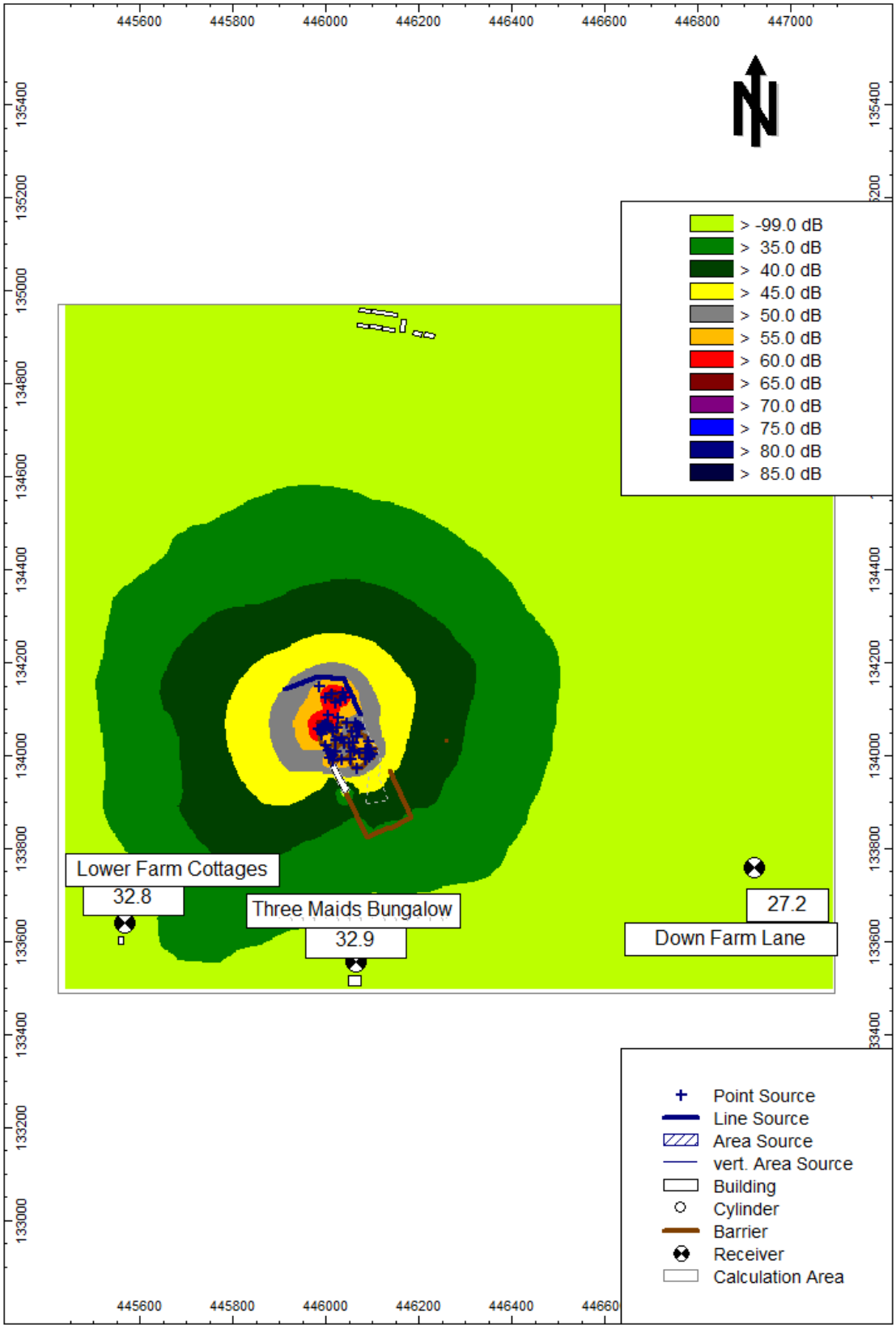


Figure 6-2
Night-Time Specific Sound Level at a Height of 4m – dB(A)



6.5 Character Correction

The character of each noise source, and the correction that have been applied in the BS 4142 assessment are as follows:

- Tonality: It is not known if tonality is likely to be attributable to the proposed preliminary plant selection. Where the overall level at the receptor has been predicted to be very low, it has been considered unlikely for tonality to be perceptible in the residual sound climate. Therefore, no penalty has been applied.
- Impulsivity: The noise sources are not known to exhibit significant impulsive characteristics based on well-maintained equipment.
- Intermittency: Although noise sources at the site may operate intermittently, it is understood that the process plant would generally operate continuously. No correction has been included in the assessment.
- Where the specific sound features characteristics that are neither tonal nor impulsive, nor intermittent, though otherwise are readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied. Although it has not been considered that the plant emissions will be easily distinguishable in the residual sound climate dominated by road traffic, a precautionary penalty of +3 dB has been applied for robust assessment tending towards a worst-case.

In total a +3 dB character correction has been added to the calculated specific sound level at each receptor.

6.6 BS 4142 Numerical Assessment

The character corrections described in Section 6.5 have been added to the predicted sound levels and the results of the BS4142 numerical assessment have been shown in Table 6-4 below for each receptor. In accordance with the Standard, the rating levels and the representative background sound levels have been rounded to the nearest decibel.

Based on the accuracy of the prediction methodology, i.e. ISO9613-2, the uncertainty of the CadnaA model accuracy, i.e. barrier corrections for buildings, etc., it is considered that the results of the assessment are as accurate as reasonably practicable and considered to be within +/-3dB.

Table 6-4
BS 4142 Assessment

Noise-Sensitive Receptor	Assessment	Predicted Specific Sound Level, $L_{Aeq,T}$	Predicted Rating Level, $L_{Ar,T}$	Derived Background Sound Level L_{A90}	Difference between Background Sound Level and Rating Level
Lower Farm Cottages	Daytime (07:00 – 23:00)	31	34	46	-12
	Night-Time (23:00 – 07:00)	33	36	35	+1
Three Maids Bungalow	Daytime (07:00 – 23:00)	32	35	60	-25
	Night-Time (23:00 – 07:00)	33	36	48	-12
Down Farm Lane	Daytime (07:00 – 23:00)	25	28	46	-18
	Night-Time (23:00 – 07:00)	27	30	35	-5

It can be seen from the numerical assessment in Table 6-4 above that:

- During the daytime, the predicted plant emissions rating level lies significantly below the representative background sound level. Where the rating level has been predicted to be in the order of 12 dB below the background sound level (in the worst case) during the daytime, this is an indication of the sound source having a low or negligible impact.
- During the night-time, the plant emissions rating level has been predicted to be 12 dB and 5 dB below the background sound level at Three Maids Bungalow and Down Farm Lane respectively, indicating a low or negligible impact. At Lower Farm Cottages, the predicted rating level has been predicted to be comparable to the background sound level at night (within 1 dB), an indication of the sound having a low impact, depending on the context.
- It is noted that at the *closest* receptor to the Site, Three Maids Bungalow, the rating level has been predicted in the order of 12 dB below the background sound level at night, where traffic levels are high due to close proximity to the road network.

6.7 BS 4142 Assessment in Context

The concept of "context" has been notably emphasised in Section 11 of BS 4142 when considering numerical impacts established from applying the Standard. The numerical assessment has indicated a low or negligible impact beyond any reasonable uncertainty inherent in the assessment. The following contextual considerations have been given to further inform the numerical assessment.

- The absolute level of the predicted plant emissions has been considered.
    - The predicted Site emissions are unlikely to be perceptible outside of the identified noise-sensitive receptors, where the absolute plant emissions levels are very low and where the underlying sound climate is dominated by road traffic.
    - When considering residents sleeping with windows open during the summer months, a 13 dB reduction would be expected inside the dwelling through a partially open window. A specific sound level of around 20 dB $L_{Aeq,T}$ is therefore predicted inside the receptor property (in the worst case) which in absolute terms may be considered very low, or below the range of subjective audibility in the context of the residual sound climate.
- The predicted plant noise emissions have been considered in context with the residual sound climate:
    - Daytime residual sound levels, dominated by road traffic, have been measured in the range 46 – 49 dB $L_{Aeq,16\ hour}$ as representative of Lower Farm Cottages and 63 – 64 $L_{Aeq,16\ hour}$ as representative of Three Maids Bungalow.
    - Night-time residual sound levels, dominated by road traffic, have been measured in the range 38 – 44 dB $L_{Aeq,8\ hour}$ as representative of Lower Farm Cottages and 53– 57 $L_{Aeq,8\ hour}$ as representative of Three Maids Bungalow.
    - The worst-case rating level relative to the residual climate has been considered at Lower Farm Cottages, farthest from the A34 / A272 and the Site. The rating level at this receptor has been predicted to be very low at night (36 dB $L_{Ar,Tr}$), at least 3 dB dB below the residual sound at night. For receptors closer to the Site, the residual sound climate is increasingly dominated by road traffic from the A34 and Three Maids roundabout during the day and night periods, represented by measurements at Location 2.
- The character of the source sound has been considered unlikely to be distinguishable at the receptors based on the relatively low predicted rating level and a residual sound climate which is dominated by road traffic during the day and night-time periods.
- It has been acknowledged that the model and reference data are preliminary and where assumptions have been made they have tended towards a worst-case prediction. Reasonable embedded mitigation measures have been assumed as part of the plant design including CHP stack attenuators.

6.8 Cumulative Effects

The future climate of the surrounding area will include the permitted inert recycling facility adjacent to the south of the Site (planning reference *APP/Q1770/W/21/3279319*). It is understood that the recycling facility will operate during the daytime only, and therefore there will be no significant cumulative noise effects during the most noise-sensitive periods of proposed operation during the evening and night.

6.9 Statement of Uncertainty

Uncertainty inevitably limits the accuracy associated with all steps of any noise assessment, including measurement, calculation, or prediction. Factors include, but are not limited to:

- The inherent accuracy limitation of methodology in Standards and guidance.
- Variability in meteorological conditions.
- The accuracy of sound source input data of a calculation.

It is imperative to minimise the uncertainty to a level commensurate with the intention of the assessment objective. Measures taken in this assessment to minimise uncertainty are:

- Baseline sound levels have been measured over a reasonably long period and therefore provide a good indication of representative background and residual sound levels.
- Measurements were undertaken using a suitable logging period considered to provide representative background sound levels.
- Sound level measurements were undertaken in accordance with recognised Standards, using a tall environmental windshield and were undertaken during reasonable weather conditions e.g. acceptably low wind speeds and precipitation.
- A direct measurement location or appropriate proxy location was used and is considered to provide a representative basis for background noise levels at the nearest noise-sensitive receptor locations to the development.
- Field calibration checks were undertaken before and after measurements to record very low levels of equipment drift. Instrumentation was appropriate and in accordance with Section 5 of BS 4142:2014+A1:2019.
- Measurements were rounded to the nearest one decimal place before the final calculations.
- The calculations have been conservative as not to under-predict the resulting impacts.
- Noise model assumptions have been conservative so as not to under-predict the resultant levels, including unfavourable wind vector.

The aforementioned measures have been considered to reduce uncertainty to a level considered not to have any significance to the outcome of this assessment.

7.0 Predicted Noise Impacts and Planning

The evaluated noise impacts in this report should be considered by Winchester City Council mindful of the National Planning Policy Framework and Noise Policy Statement for England, which currently define the policy and decision-making requirements for planning and noise.

The NPSE refers to established concepts from toxicology that are currently being applied to noise impacts and suggests that noise levels above the SOAEL should be avoided and that if noise levels fall between the LOAEL and SOAEL all reasonable steps should be taken to minimise and mitigate adverse effects while also considering the guiding principles of sustainable development. This does not mean that adverse effects cannot occur from a noise-generating development.

The range of noise impacts reviewed for the proposed development are deemed acceptable with respect to overarching requirements for planning and noise, where resulting impacts are anticipated around the 'no observed-adverse-effect level' NOAEL and the 'lowest-observed-adverse-effect level', (LOAEL) threshold of the NPSE.

It is expected that the sound resulting from the proposed development would be largely unnoticeable at the noise-sensitive receptors. The development may marginally affect the acoustic character of the area during the most sensitive periods of the evening and night-time of proposed operation, but not to the extent that there is a perceived change in quality of life.

In accordance with overarching planning requirements, measures have been satisfactorily considered to "*mitigate and minimise adverse impacts on health and quality of life*" which can be secured on the development by conditional approval, if necessary, to include:

- All reasonable mitigation of plant including using proprietary attenuation measures, suitable enclosures, and CHP stack silencers.

8.0 Summary and Conclusion

Acorn Bioenergy Ltd, the applicant, has appointed SLR to undertake a noise assessment for a proposed anaerobic digestion facility on land at Three Maids Hill, Winchester, SO21 2QG. The noise assessment has been provided in support of a full planning application to Winchester City Council.

The assessment has been based on the results of a noise survey carried out at locations representative of the nearest noise-sensitive receptors to the site over representative daytime and night-time periods.

The assessment has been presented in accordance with industry guidance BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound* and overarching national planning policy guidance.

It has been acknowledged that the noise model assumptions and provisional plant data represent a noise impact assessment tending towards a worst-case and which may change depending on the final plant supplier specification.

The report has found that:

- The numerical assessment during the daytime has concluded a negligible impact at the noise-sensitive receptors, where the emissions rating level resulting from the proposed development has been predicted to lie significantly below the representative background sound level, in the order of at least 12 dB below in the worst case.
- The numerical assessment during the night-time has concluded a low impact at the noise-sensitive receptors, where the emissions rating level resulting from the proposed development has been predicted comparable to the representative background sound level in the worst case and 5 to 12 dB below the representative background sound level at the closest receptors.
- The impact from the proposed development has been considered in context in accordance with BS 4142 guidance; the contextual considerations have been shown to support an assessment of a low impact development.

It is concluded that noise should not present reasonable grounds for planning refusal. The likely acoustic effects have been established about the NOAEL and LOAEL thresholds of the NPSE, such that noise is not expected to cause any change in behaviour or attitude. Mitigation has been included in the noise emissions predictions, to include proprietary plant equipment attenuation including CHP stack silencers.

APPENDIX 01
Glossary of Terminology

In order to assist the understanding of acoustic terminology and the relative change in noise, the following background information is provided.

The human ear can detect a very wide range of pressure fluctuations, which are perceived as sound. In order to express these fluctuations in a manageable way, a logarithmic scale called the decibel, or dB scale is used. The decibel scale typically ranges from 0dB (the threshold of hearing) to over 120dB. An indication of the range of sound levels commonly found in the environment is given in the following table.

Table 01-1
Sound Levels Commonly Found in the Environment

Sound Level	Location
0dB(A)	Threshold of hearing
20 to 30dB(A)	Quiet bedroom at night
30 to 40dB(A)	Living room during the day
40 to 50dB(A)	Typical office
50 to 60dB(A)	Inside a car
60 to 70dB(A)	Typical high street
70 to 90dB(A)	Inside factory
100 to 110dB(A)	Burglar alarm at 1m away
110 to 130dB(A)	Jet aircraft on take off
140dB(A)	Threshold of Pain

Acoustic Terminology

dB (decibel) — The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure ($2x10^{-5}$Pa).

dB(A) — A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.

L_{Aeq} — L_{Aeq} is defined as the notional steady sound level which, over a stated period of time, would contain the same amount of acoustical energy as the A - weighted fluctuating sound measured over that period.

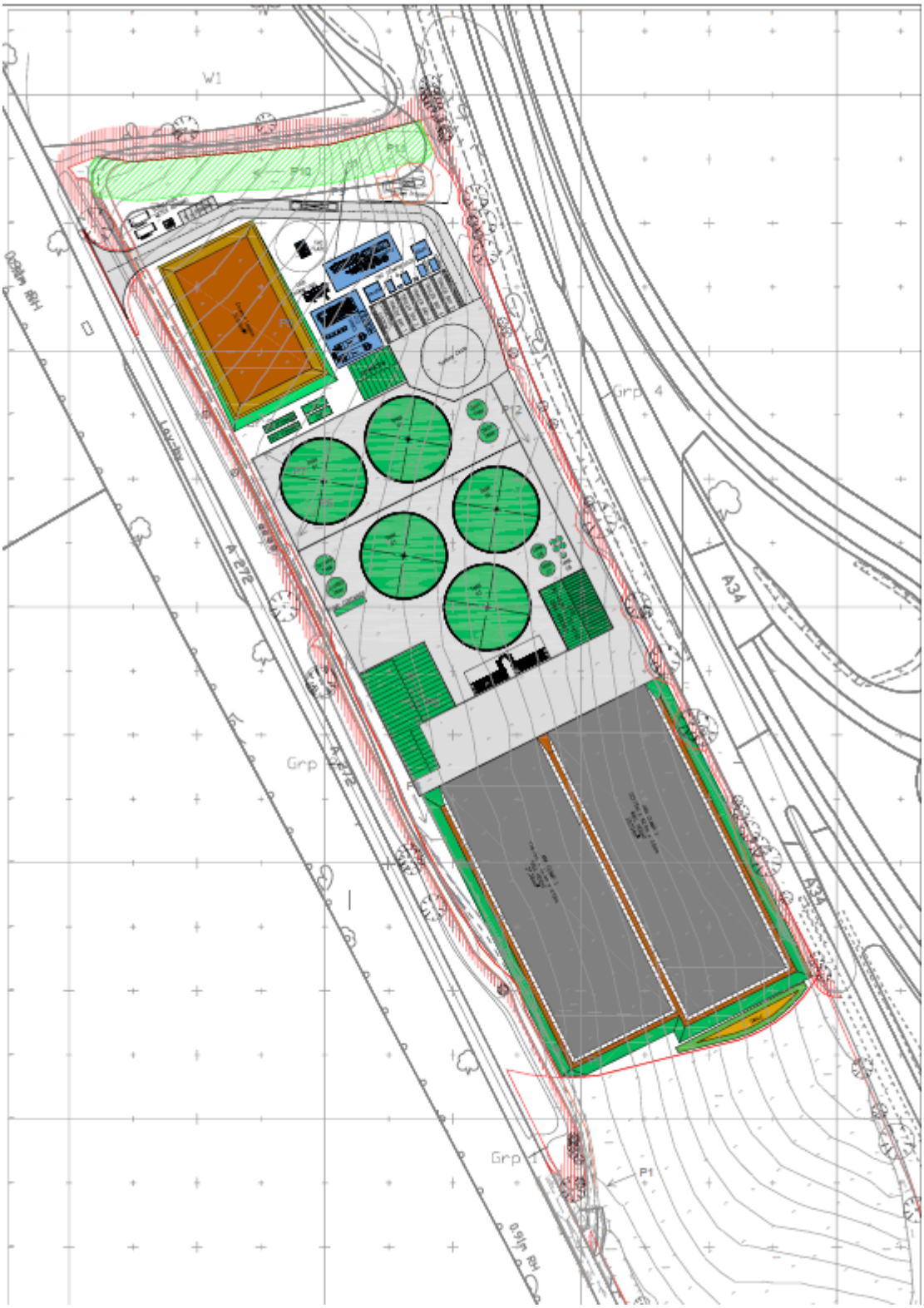
L_{10} & L_{90} — If a non-steady noise is to be described it is necessary to know both its level and the degree of fluctuation. The L_n indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence L_{10} is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, L_{90} is the 'average minimum level' and is often used to describe the background noise. It is common practice to use the L_{10} index to describe traffic noise.

L_{Amax} — L_{Amax} is the maximum A - weighted sound pressure level recorded over the period stated. L_{Amax} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.

APPENDIX 02

Site Plan

Figure 02-1
Proposed site layout



APPENDIX 03

Survey Location Photos

Figure 03-01
Location One

Figure 03-02
Location Two

APPENDIX 04

Survey Results

Table 04-01
Location One Survey Results

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
25/02/2022 11:30	47.9	72.2	49.6	43.8
25/02/2022 11:45	47.1	70.8	48.8	43.3
25/02/2022 12:00	47.3	69.8	48.6	44.0
25/02/2022 12:15	47.2	67.0	48.8	43.5
25/02/2022 12:30	47.7	58.3	49.3	45.0
25/02/2022 12:45	46.8	69.8	48.3	43.3
25/02/2022 13:00	46.3	58.5	48.2	41.7
25/02/2022 13:15	46.3	69.1	48.0	42.5
25/02/2022 13:30	43.5	66.7	45.5	39.4
25/02/2022 13:45	44.5	68.4	46.4	40.2
25/02/2022 14:00	46.4	67.1	47.7	42.0
25/02/2022 14:15	46.5	73.1	46.8	39.9
25/02/2022 14:30	46.0	62.4	48.3	41.8
25/02/2022 14:45	48.0	68.3	50.6	39.5
25/02/2022 15:00	44.5	59.5	46.6	40.1
25/02/2022 15:15	44.5	69.3	44.9	37.4
25/02/2022 15:30	45.7	69.3	47.1	37.0
25/02/2022 15:45	43.5	70.0	46.0	37.4
25/02/2022 16:00	43.2	67.5	46.1	35.9
25/02/2022 16:15	48.8	68.9	50.5	40.3
25/02/2022 16:30	45.2	68.8	47.7	41.0
25/02/2022 16:45	45.9	69.0	48.1	37.1
25/02/2022 17:00	51.2	78.6	48.2	39.6
25/02/2022 17:15	51.7	73.1	49.4	38.1
25/02/2022 17:30	46.0	56.8	49.2	37.6
25/02/2022 17:45	45.2	58.0	49.0	36.4
25/02/2022 18:00	44.9	57.4	48.7	35.9
25/02/2022 18:15	42.7	52.7	45.9	37.5
25/02/2022 18:30	42.9	56.2	46.5	36.7
25/02/2022 18:45	44.2	58.7	47.2	38.5
25/02/2022 19:00	43.9	56.1	47.1	38.5
25/02/2022 19:15	44.8	57.4	48.2	37.7

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
25/02/2022 19:30	43.2	53.8	46.5	37.1
25/02/2022 19:45	40.9	53.6	44.7	34.4
25/02/2022 20:00	41.3	54.1	45.6	33.2
25/02/2022 20:15	41.8	50.1	43.9	38.7
25/02/2022 20:30	40.0	49.8	41.9	37.2
25/02/2022 20:45	42.9	54.7	46.1	38.0
25/02/2022 21:00	42.0	55.3	44.2	38.2
25/02/2022 21:15	45.1	53.8	48.2	40.8
25/02/2022 21:30	47.6	53.1	49.7	44.8
25/02/2022 21:45	47.2	53.6	49.2	43.4
25/02/2022 22:00	42.7	48.5	44.5	40.2
25/02/2022 22:15	46.0	56.0	48.2	43.0
25/02/2022 22:30	45.1	53.3	47.2	41.9
25/02/2022 22:45	45.2	53.6	46.9	41.9
25/02/2022 23:00	44.8	56.8	46.5	41.8
25/02/2022 23:15	44.8	57.7	46.8	40.9
25/02/2022 23:30	42.5	51.9	45.4	38.6
25/02/2022 23:45	41.5	53.1	44.0	37.8
26/02/2022 00:00	42.5	50.7	45.0	38.7
26/02/2022 00:15	41.0	51.7	43.3	36.9
26/02/2022 00:30	42.2	53.0	45.1	35.8
26/02/2022 00:45	42.6	50.0	45.0	38.5
26/02/2022 01:00	42.2	52.9	45.7	36.5
26/02/2022 01:15	47.9	72.5	48.7	40.9
26/02/2022 01:30	43.3	54.4	46.3	38.0
26/02/2022 01:45	40.7	52.5	43.3	36.3
26/02/2022 02:00	39.9	48.1	42.6	34.3
26/02/2022 02:15	41.3	50.1	44.1	35.4
26/02/2022 02:30	41.5	50.8	44.1	35.4
26/02/2022 02:45	41.9	50.6	44.6	35.4
26/02/2022 03:00	40.8	54.8	43.5	36.2
26/02/2022 03:15	41.1	47.8	43.3	37.1
26/02/2022 03:30	40.3	48.5	42.7	36.7
26/02/2022 03:45	39.4	49.7	42.0	33.9

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
26/02/2022 04:00	42.0	49.8	45.2	36.7
26/02/2022 04:15	41.3	49.3	44.9	31.3
26/02/2022 04:30	42.0	49.3	44.5	37.8
26/02/2022 04:45	42.5	52.6	44.5	39.3
26/02/2022 05:00	42.4	51.7	44.8	37.9
26/02/2022 05:15	43.6	53.0	45.9	39.4
26/02/2022 05:30	45.1	53.5	47.2	42.0
26/02/2022 05:45	45.0	53.5	47.2	41.3
26/02/2022 06:00	45.9	52.9	47.7	43.3
26/02/2022 06:15	46.8	52.7	48.7	44.3
26/02/2022 06:30	46.8	56.6	48.8	43.8
26/02/2022 06:45	47.0	66.4	48.6	44.7
26/02/2022 07:00	47.4	58.8	49.0	44.8
26/02/2022 07:15	48.5	61.1	50.4	45.4
26/02/2022 07:30	49.0	63.0	50.7	46.5
26/02/2022 07:45	48.8	66.8	50.2	46.5
26/02/2022 08:00	48.4	64.1	49.8	46.1
26/02/2022 08:15	50.5	73.6	50.7	45.4
26/02/2022 08:30	48.3	61.8	50.4	45.6
26/02/2022 08:45	50.0	81.1	50.6	44.8
26/02/2022 09:00	48.3	63.2	50.7	44.1
26/02/2022 09:15	48.6	76.2	49.6	44.4
26/02/2022 09:30	48.0	74.2	49.4	44.6
26/02/2022 09:45	48.6	63.8	51.1	44.9
26/02/2022 10:00	49.3	73.4	50.9	44.3
26/02/2022 10:15	49.6	66.7	51.8	45.8
26/02/2022 10:30	49.1	64.1	51.3	45.9
26/02/2022 10:45	49.5	63.3	51.7	46.3
26/02/2022 11:00	48.7	59.6	51.2	45.1
26/02/2022 11:15	47.9	59.9	50.4	44.0
26/02/2022 11:30	47.8	61.6	50.4	43.8
26/02/2022 11:45	49.0	61.6	51.4	45.5
26/02/2022 12:00	48.0	57.9	50.5	44.8
26/02/2022 12:15	48.8	72.3	50.8	45.2

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
26/02/2022 12:30	49.0	63.0	51.3	45.7
26/02/2022 12:45	47.9	60.7	50.2	43.9
26/02/2022 13:00	46.9	64.7	49.4	42.7
26/02/2022 13:15	48.2	59.5	50.4	45.1
26/02/2022 13:30	48.6	61.3	51.2	44.4
26/02/2022 13:45	46.7	66.5	48.8	43.5
26/02/2022 14:00	48.2	59.8	50.7	44.1
26/02/2022 14:15	50.0	71.0	52.0	44.2
26/02/2022 14:30	50.6	62.7	53.4	46.3
26/02/2022 14:45	49.7	67.8	52.4	44.9
26/02/2022 15:00	48.6	64.0	50.9	44.6
26/02/2022 15:15	47.6	63.5	49.8	44.0
26/02/2022 15:30	47.9	57.2	50.1	44.8
26/02/2022 15:45	48.6	63.0	50.8	45.2
26/02/2022 16:00	53.6	88.4	51.1	46.5
26/02/2022 16:15	48.6	74.6	50.4	45.4
26/02/2022 16:30	49.4	59.7	51.5	46.3
26/02/2022 16:45	48.2	63.8	50.5	45.2
26/02/2022 17:00	49.1	59.8	51.2	45.9
26/02/2022 17:15	48.0	66.4	49.4	45.3
26/02/2022 17:30	48.5	57.8	50.5	46.0
26/02/2022 17:45	48.3	56.9	50.2	46.0
26/02/2022 18:00	48.6	55.0	50.2	46.6
26/02/2022 18:15	48.4	58.9	50.3	46.1
26/02/2022 18:30	48.5	55.7	50.1	46.5
26/02/2022 18:45	48.5	56.3	50.1	46.2
26/02/2022 19:00	48.6	57.2	50.0	46.4
26/02/2022 19:15	48.5	55.2	50.4	46.4
26/02/2022 19:30	48.1	56.3	49.8	46.2
26/02/2022 19:45	48.8	56.4	50.7	46.4
26/02/2022 20:00	47.7	56.5	49.2	45.7
26/02/2022 20:15	48.0	56.0	49.5	45.7
26/02/2022 20:30	47.2	54.5	48.7	45.2
26/02/2022 20:45	47.4	58.6	48.7	45.3

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
26/02/2022 21:00	47.0	56.8	48.4	45.1
26/02/2022 21:15	45.8	52.6	47.7	43.1
26/02/2022 21:30	46.3	53.5	47.9	44.0
26/02/2022 21:45	45.9	52.8	47.9	42.9
26/02/2022 22:00	45.6	56.0	47.7	41.9
26/02/2022 22:15	45.7	54.4	47.4	43.4
26/02/2022 22:30	46.0	56.1	48.3	42.8
26/02/2022 22:45	44.4	57.1	46.6	41.3
26/02/2022 23:00	44.4	54.9	46.9	39.5
26/02/2022 23:15	44.4	55.0	46.5	40.9
26/02/2022 23:30	42.5	51.6	44.2	39.3
26/02/2022 23:45	42.6	54.1	44.7	38.7
27/02/2022 00:00	43.0	58.6	44.5	38.0
27/02/2022 00:15	40.1	49.6	41.9	36.5
27/02/2022 00:30	41.6	56.1	43.7	35.8
27/02/2022 00:45	38.2	51.6	40.6	34.5
27/02/2022 01:00	36.8	46.2	39.2	32.1
27/02/2022 01:15	37.7	49.4	40.2	33.6
27/02/2022 01:30	38.0	50.7	40.2	33.8
27/02/2022 01:45	38.1	51.4	40.5	34.6
27/02/2022 02:00	45.0	65.9	42.3	33.2
27/02/2022 02:15	37.3	52.2	39.5	33.1
27/02/2022 02:30	37.2	51.8	39.6	32.8
27/02/2022 02:45	35.9	52.2	38.4	31.9
27/02/2022 03:00	36.9	47.3	39.6	32.3
27/02/2022 03:15	35.4	48.8	38.0	30.0
27/02/2022 03:30	35.1	45.5	37.4	31.5
27/02/2022 03:45	35.5	46.2	38.0	30.8
27/02/2022 04:00	35.4	53.3	38.3	28.1
27/02/2022 04:15	38.4	49.4	41.1	32.5
27/02/2022 04:30	37.0	47.2	39.7	32.7
27/02/2022 04:45	37.8	48.2	40.2	32.9
27/02/2022 05:00	39.3	49.9	41.5	35.4
27/02/2022 05:15	39.4	49.5	41.9	35.0

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
27/02/2022 05:30	40.3	50.1	42.4	37.3
27/02/2022 05:45	41.3	51.8	43.5	37.5
27/02/2022 06:00	41.4	51.9	43.5	38.0
27/02/2022 06:15	44.1	66.9	45.4	40.0
27/02/2022 06:30	44.5	67.1	46.3	39.4
27/02/2022 06:45	44.5	64.4	46.2	41.3
27/02/2022 07:00	45.0	55.4	46.6	42.5
27/02/2022 07:15	44.6	56.4	46.4	42.0
27/02/2022 07:30	47.1	59.8	49.2	43.3
27/02/2022 07:45	56.4	88.0	47.4	42.9
27/02/2022 08:00	46.7	63.5	48.3	43.8
27/02/2022 08:15	47.7	70.2	49.1	45.1
27/02/2022 08:30	48.2	62.2	50.2	45.4
27/02/2022 08:45	48.3	62.8	50.2	45.6
27/02/2022 09:00	50.6	67.4	52.5	47.1
27/02/2022 09:15	49.3	66.1	51.1	46.9
27/02/2022 09:30	49.9	65.1	51.6	46.9
27/02/2022 09:45	49.4	69.2	50.2	46.7
27/02/2022 10:00	49.6	61.1	51.3	47.0
27/02/2022 10:15	50.1	60.0	51.8	47.8
27/02/2022 10:30	50.1	59.2	51.8	47.6
27/02/2022 10:45	50.8	66.9	52.8	46.9
27/02/2022 11:00	50.1	60.4	52.8	46.5
27/02/2022 11:15	50.3	64.6	53.4	46.2
27/02/2022 11:30	48.9	59.3	51.1	46.2
27/02/2022 11:45	49.4	62.4	51.3	46.4
27/02/2022 12:00	48.5	58.5	50.9	45.4
27/02/2022 12:15	48.5	62.7	50.5	45.7
27/02/2022 12:30	47.8	61.3	50.1	44.8
27/02/2022 12:45	48.7	59.4	50.7	46.1
27/02/2022 13:00	48.5	62.1	50.3	45.8
27/02/2022 13:15	48.6	65.9	50.6	45.8
27/02/2022 13:30	48.8	57.7	50.7	46.1
27/02/2022 13:45	47.9	65.0	49.9	45.4

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
27/02/2022 14:00	49.4	66.5	51.1	44.3
27/02/2022 14:15	49.4	67.1	51.1	44.7
27/02/2022 14:30	51.8	73.9	51.4	45.3
27/02/2022 14:45	49.2	69.9	50.3	45.4
27/02/2022 15:00	50.3	76.3	51.0	46.2
27/02/2022 15:15	50.8	75.3	50.8	45.7
27/02/2022 15:30	49.0	55.8	50.6	46.9
27/02/2022 15:45	49.5	63.3	51.1	47.2
27/02/2022 16:00	50.9	73.1	51.6	47.1
27/02/2022 16:15	49.9	69.1	50.8	47.4
27/02/2022 16:30	50.3	56.3	52.0	48.1
27/02/2022 16:45	50.4	66.7	51.9	48.1
27/02/2022 17:00	50.7	68.1	51.4	47.7
27/02/2022 17:15	50.6	65.7	52.4	48.4
27/02/2022 17:30	50.0	58.5	51.9	47.4
27/02/2022 17:45	49.7	66.9	51.0	47.1
27/02/2022 18:00	48.6	55.4	50.2	46.7
27/02/2022 18:15	48.8	59.0	50.2	47.0
27/02/2022 18:30	48.8	57.1	50.1	47.0
27/02/2022 18:45	48.3	57.1	49.5	46.7
27/02/2022 19:00	48.2	54.7	49.4	46.8
27/02/2022 19:15	48.3	54.8	50.0	46.2
27/02/2022 19:30	48.3	56.0	49.6	46.5
27/02/2022 19:45	48.7	72.0	49.3	45.7
27/02/2022 20:00	47.8	54.7	49.5	45.6
27/02/2022 20:15	46.6	53.8	48.4	43.9
27/02/2022 20:30	46.0	55.4	47.5	43.4
27/02/2022 20:45	45.1	55.8	47.4	42.2
27/02/2022 21:00	44.7	53.3	46.8	42.5
27/02/2022 21:15	43.8	52.7	45.7	41.2
27/02/2022 21:30	44.0	52.5	45.8	41.5
27/02/2022 21:45	44.8	57.7	46.8	41.6
27/02/2022 22:00	43.5	53.7	45.4	41.0
27/02/2022 22:15	44.1	57.9	45.8	40.8

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
27/02/2022 22:30	42.3	51.2	44.4	39.2
27/02/2022 22:45	41.8	52.2	43.8	38.4
27/02/2022 23:00	39.8	50.4	41.8	36.6
27/02/2022 23:15	40.0	48.3	42.2	36.7
27/02/2022 23:30	39.4	47.9	41.5	35.7
27/02/2022 23:45	39.8	50.5	42.0	35.5
28/02/2022 00:00	38.5	49.8	40.9	33.4
28/02/2022 00:15	36.6	48.7	39.0	32.7
28/02/2022 00:30	37.6	47.8	40.0	33.5
28/02/2022 00:45	36.1	45.7	38.5	31.4
28/02/2022 01:00	34.5	48.1	37.1	29.6
28/02/2022 01:15	34.5	46.1	37.1	30.0
28/02/2022 01:30	33.5	46.4	36.3	25.8
28/02/2022 01:45	35.8	54.9	37.2	26.8
28/02/2022 02:00	32.3	47.0	35.3	26.5
28/02/2022 02:15	33.6	53.5	34.8	27.7
28/02/2022 02:30	32.5	39.7	35.2	28.8
28/02/2022 02:45	31.7	41.9	34.1	28.0
28/02/2022 03:00	32.8	43.3	35.0	28.1
28/02/2022 03:15	32.4	44.5	34.5	29.0
28/02/2022 03:30	33.3	41.7	35.9	29.4
28/02/2022 03:45	32.6	41.6	34.7	29.2
28/02/2022 04:00	33.9	47.3	36.5	28.7
28/02/2022 04:15	31.6	39.4	33.3	28.5
28/02/2022 04:30	32.9	48.5	34.6	29.6
28/02/2022 04:45	34.0	51.6	33.5	30.6
28/02/2022 05:00	32.4	38.7	33.5	31.1
28/02/2022 05:15	35.5	50.3	37.1	31.6
28/02/2022 05:30	38.1	54.2	40.2	33.4
28/02/2022 05:45	41.8	62.7	43.5	34.3
28/02/2022 06:00	40.6	53.6	42.7	36.4
28/02/2022 06:15	41.5	59.1	43.1	37.6
28/02/2022 06:30	43.3	66.3	45.0	37.4
28/02/2022 06:45	44.6	57.2	48.1	38.3

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
28/02/2022 07:00	45.3	59.9	48.9	38.7
28/02/2022 07:15	45.4	64.9	48.2	40.1
28/02/2022 07:30	45.8	63.5	49.1	40.8
28/02/2022 07:45	46.9	63.4	50.1	41.0
28/02/2022 08:00	47.7	70.9	51.2	40.3
28/02/2022 08:15	46.6	60.0	50.1	39.2
28/02/2022 08:30	47.0	57.5	50.0	41.0
28/02/2022 08:45	46.9	59.2	50.3	41.1
28/02/2022 09:00	53.1	75.1	51.9	40.9
28/02/2022 09:15	51.2	74.3	50.4	42.2
28/02/2022 09:30	53.0	76.8	51.1	39.9
28/02/2022 09:45	52.0	76.1	50.5	40.4
28/02/2022 10:00	45.5	56.8	48.7	40.0
28/02/2022 10:15	46.6	61.0	49.3	41.1
28/02/2022 10:30	46.0	56.8	49.2	40.3
28/02/2022 10:45	44.1	60.6	46.9	38.9

Table 04-02
Location Two Survey Results

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
25/02/2022 14:00	63.9	80.4	67.0	59.6
25/02/2022 14:15	63.5	76.1	67.2	58.2
25/02/2022 14:30	63.8	80.7	67.1	58.0
25/02/2022 14:45	64.5	86.6	67.7	58.2
25/02/2022 15:00	63.3	74.3	66.7	58.9
25/02/2022 15:15	64.8	83.9	67.6	59.3
25/02/2022 15:30	64.2	73.2	67.7	58.7
25/02/2022 15:45	64.2	78.9	67.7	59.3
25/02/2022 16:00	66.1	85.6	68.8	59.4
25/02/2022 16:15	65.4	82.4	68.7	60.8
25/02/2022 16:30	65.6	73.0	68.3	61.9

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
25/02/2022 16:45	65.4	79.4	68.5	60.1
25/02/2022 17:00	66.0	79.3	69.2	61.5
25/02/2022 17:15	65.1	73.3	68.4	60.8
25/02/2022 17:30	65.7	81.6	68.3	61.9
25/02/2022 17:45	65.7	81.0	68.2	61.8
25/02/2022 18:00	64.7	73.3	67.6	61.4
25/02/2022 18:15	64.5	77.5	67.1	60.4
25/02/2022 18:30	64.9	80.3	67.1	61.7
25/02/2022 18:45	64.1	73.3	66.4	60.4
25/02/2022 19:00	64.2	76.1	66.0	61.0
25/02/2022 19:15	64.0	77.5	66.1	59.9
25/02/2022 19:30	63.1	71.0	65.5	59.5
25/02/2022 19:45	62.3	76.0	64.1	58.3
25/02/2022 20:00	62.9	74.8	65.8	59.2
25/02/2022 20:15	63.3	81.6	65.0	59.5
25/02/2022 20:30	62.1	73.1	64.1	58.1
25/02/2022 20:45	61.5	72.7	63.7	57.0
25/02/2022 21:00	63.4	78.4	65.4	58.2
25/02/2022 21:15	61.5	71.4	63.3	58.1
25/02/2022 21:30	59.9	71.2	61.7	56.7
25/02/2022 21:45	59.3	71.6	61.1	54.9
25/02/2022 22:00	58.1	68.1	60.3	53.3
25/02/2022 22:15	60.9	72.5	62.6	56.3
25/02/2022 22:30	60.0	74.1	62.0	55.5
25/02/2022 22:45	61.2	72.5	63.0	57.1
25/02/2022 23:00	60.4	71.3	63.2	54.9
25/02/2022 23:15	60.5	74.0	62.5	55.8
25/02/2022 23:30	58.3	70.9	60.7	52.2
25/02/2022 23:45	55.5	70.3	57.3	50.2
26/02/2022 00:00	55.5	69.2	57.4	49.4
26/02/2022 00:15	54.9	70.6	57.0	48.8
26/02/2022 00:30	55.5	73.0	57.7	47.9
26/02/2022 00:45	55.7	69.2	58.7	48.4
26/02/2022 01:00	53.8	70.1	56.1	46.1

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
26/02/2022 01:15	56.2	79.3	57.5	48.2
26/02/2022 01:30	53.6	61.4	57.0	44.8
26/02/2022 01:45	54.6	74.0	56.6	46.2
26/02/2022 02:00	53.4	67.9	56.1	45.2
26/02/2022 02:15	54.9	69.5	58.2	46.1
26/02/2022 02:30	54.5	72.3	57.5	45.5
26/02/2022 02:45	54.1	66.9	57.4	45.9
26/02/2022 03:00	54.8	67.5	57.8	46.7
26/02/2022 03:15	53.4	60.6	56.3	47.7
26/02/2022 03:30	53.9	67.8	56.6	47.7
26/02/2022 03:45	52.9	68.5	55.9	44.3
26/02/2022 04:00	55.4	63.2	58.8	48.4
26/02/2022 04:15	54.3	65.4	58.4	41.2
26/02/2022 04:30	56.2	66.1	59.2	48.9
26/02/2022 04:45	57.2	63.6	59.9	52.1
26/02/2022 05:00	57.1	68.2	60.2	50.2
26/02/2022 05:15	58.7	70.7	61.1	53.8
26/02/2022 05:30	58.9	71.3	61.0	53.8
26/02/2022 05:45	58.1	69.2	60.6	52.9
26/02/2022 06:00	59.9	69.8	62.3	54.8
26/02/2022 06:15	61.2	72.5	63.1	57.5
26/02/2022 06:30	62.4	75.0	64.8	58.5
26/02/2022 06:45	62.1	71.9	64.3	57.8
26/02/2022 07:00	61.9	74.8	63.8	58.2
26/02/2022 07:15	62.5	74.9	64.5	58.4
26/02/2022 07:30	64.3	85.8	65.6	59.7
26/02/2022 07:45	64.2	84.8	65.4	59.9
26/02/2022 08:00	63.2	72.6	65.7	59.2
26/02/2022 08:15	63.7	82.3	66.1	59.5
26/02/2022 08:30	63.0	73.1	65.9	59.4
26/02/2022 08:45	63.2	73.7	66.9	58.9
26/02/2022 09:00	63.1	74.2	66.6	58.6
26/02/2022 09:15	62.1	73.1	64.7	58.8
26/02/2022 09:30	63.5	74.9	66.8	59.6

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
26/02/2022 09:45	63.6	74.4	66.6	60.0
26/02/2022 10:00	63.8	74.8	66.7	59.6
26/02/2022 10:15	64.1	76.9	67.2	60.3
26/02/2022 10:30	64.4	72.7	67.7	60.5
26/02/2022 10:45	65.0	73.2	68.5	60.5
26/02/2022 11:00	64.5	73.0	67.7	60.7
26/02/2022 11:15	63.4	76.4	66.8	59.2
26/02/2022 11:30	64.5	76.2	67.4	60.7
26/02/2022 11:45	65.0	84.6	67.5	60.0
26/02/2022 12:00	64.4	80.7	67.4	59.3
26/02/2022 12:15	64.2	78.3	67.4	59.6
26/02/2022 12:30	63.6	71.8	67.0	59.3
26/02/2022 12:45	63.8	76.4	67.3	58.6
26/02/2022 13:00	63.2	77.0	65.9	59.1
26/02/2022 13:15	64.5	82.8	67.0	59.8
26/02/2022 13:30	68.0	95.4	67.5	59.3
26/02/2022 13:45	63.7	77.3	66.7	59.1
26/02/2022 14:00	64.8	84.2	67.5	59.6
26/02/2022 14:15	64.3	82.4	67.3	59.8
26/02/2022 14:30	67.4	95.5	67.0	59.7
26/02/2022 14:45	64.4	75.0	67.4	60.4
26/02/2022 15:00	64.7	81.9	67.5	59.4
26/02/2022 15:15	63.4	73.7	66.6	59.4
26/02/2022 15:30	64.6	83.7	67.2	59.9
26/02/2022 15:45	64.4	84.6	66.3	59.8
26/02/2022 16:00	63.5	75.6	66.5	59.9
26/02/2022 16:15	64.5	79.4	67.3	60.3
26/02/2022 16:30	64.2	81.1	66.9	60.1
26/02/2022 16:45	64.0	76.4	67.0	60.0
26/02/2022 17:00	63.7	78.0	66.5	60.0
26/02/2022 17:15	63.6	72.4	66.4	60.3
26/02/2022 17:30	63.2	72.1	65.7	60.0
26/02/2022 17:45	63.2	72.9	66.0	60.0
26/02/2022 18:00	63.0	76.7	65.1	59.4

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
26/02/2022 18:15	62.6	76.1	65.1	59.3
26/02/2022 18:30	61.6	71.3	63.1	58.9
26/02/2022 18:45	62.0	72.4	64.4	58.4
26/02/2022 19:00	62.0	76.1	63.7	58.0
26/02/2022 19:15	61.4	73.2	64.0	58.0
26/02/2022 19:30	60.9	74.2	62.4	57.7
26/02/2022 19:45	60.8	72.5	62.9	56.9
26/02/2022 20:00	59.3	73.2	60.5	56.4
26/02/2022 20:15	59.9	72.2	61.2	56.0
26/02/2022 20:30	59.3	70.3	60.9	55.3
26/02/2022 20:45	59.7	73.2	61.2	55.2
26/02/2022 21:00	59.6	74.7	61.0	55.6
26/02/2022 21:15	58.2	70.2	59.7	53.2
26/02/2022 21:30	59.1	75.7	59.8	54.7
26/02/2022 21:45	57.6	69.1	59.6	52.9
26/02/2022 22:00	57.1	68.2	59.2	52.6
26/02/2022 22:15	57.7	70.8	59.1	53.6
26/02/2022 22:30	58.1	71.2	59.6	53.2
26/02/2022 22:45	57.7	72.5	59.3	52.5
26/02/2022 23:00	55.9	69.5	58.2	49.5
26/02/2022 23:15	56.1	69.3	57.8	51.5
26/02/2022 23:30	56.3	71.2	57.4	49.0
26/02/2022 23:45	53.8	61.8	56.7	47.9
27/02/2022 00:00	55.6	69.5	57.8	47.2
27/02/2022 00:15	52.2	61.3	55.1	44.4
27/02/2022 00:30	52.7	67.2	55.6	45.8
27/02/2022 00:45	51.4	63.1	54.9	43.8
27/02/2022 01:00	52.5	72.7	53.5	40.4
27/02/2022 01:15	50.4	60.5	54.1	40.9
27/02/2022 01:30	50.2	66.8	53.3	39.9
27/02/2022 01:45	50.3	61.6	53.6	42.4
27/02/2022 02:00	49.5	66.6	52.5	38.8
27/02/2022 02:15	50.1	65.4	52.8	40.9
27/02/2022 02:30	48.4	60.9	52.3	38.0

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
27/02/2022 02:45	47.8	58.3	51.7	38.4
27/02/2022 03:00	49.4	59.8	53.2	39.2
27/02/2022 03:15	47.7	59.1	52.0	35.5
27/02/2022 03:30	47.5	59.4	51.4	38.4
27/02/2022 03:45	48.7	65.2	52.1	38.6
27/02/2022 04:00	47.3	58.4	51.5	34.6
27/02/2022 04:15	50.4	60.1	54.1	41.0
27/02/2022 04:30	50.1	64.7	53.4	40.0
27/02/2022 04:45	51.4	69.2	53.9	38.8
27/02/2022 05:00	51.8	66.3	54.4	44.5
27/02/2022 05:15	51.2	62.6	54.4	44.5
27/02/2022 05:30	52.8	69.3	55.0	47.5
27/02/2022 05:45	55.1	70.7	56.8	47.5
27/02/2022 06:00	54.1	66.7	56.4	47.4
27/02/2022 06:15	55.8	70.9	58.0	50.2
27/02/2022 06:30	55.5	70.7	57.9	48.3
27/02/2022 06:45	56.6	69.2	58.6	51.6
27/02/2022 07:00	58.1	72.7	59.5	53.3
27/02/2022 07:15	58.1	69.7	59.9	52.7
27/02/2022 07:30	59.4	71.3	61.4	54.7
27/02/2022 07:45	59.2	70.5	61.1	55.0
27/02/2022 08:00	60.0	71.9	62.0	55.7
27/02/2022 08:15	61.2	72.0	62.9	57.3
27/02/2022 08:30	61.7	73.2	63.9	58.0
27/02/2022 08:45	63.4	86.5	64.1	58.0
27/02/2022 09:00	62.8	75.8	65.6	59.0
27/02/2022 09:15	62.4	71.4	64.4	59.3
27/02/2022 09:30	63.2	75.8	65.4	60.1
27/02/2022 09:45	63.6	77.6	65.8	59.8
27/02/2022 10:00	65.5	88.7	66.5	59.9
27/02/2022 10:15	64.8	80.7	67.2	60.9
27/02/2022 10:30	68.5	94.8	67.3	61.6
27/02/2022 10:45	64.2	78.6	66.5	60.3
27/02/2022 11:00	65.6	90.8	68.0	60.3

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
27/02/2022 11:15	63.7	71.4	66.5	60.2
27/02/2022 11:30	64.2	78.9	67.1	60.5
27/02/2022 11:45	63.9	72.3	66.6	60.6
27/02/2022 12:00	69.6	95.7	67.2	59.9
27/02/2022 12:15	68.5	94.3	67.2	60.8
27/02/2022 12:30	64.5	82.2	67.1	60.0
27/02/2022 12:45	64.9	86.2	67.1	60.2
27/02/2022 13:00	64.0	78.6	66.5	60.6
27/02/2022 13:15	63.8	83.9	66.1	60.1
27/02/2022 13:30	64.1	77.3	66.5	61.0
27/02/2022 13:45	64.3	84.1	65.9	60.3
27/02/2022 14:00	63.1	73.3	65.7	59.8
27/02/2022 14:15	63.8	75.0	66.6	60.4
27/02/2022 14:30	64.4	79.6	66.7	61.0
27/02/2022 14:45	64.2	74.7	67.3	60.6
27/02/2022 15:00	64.7	85.1	66.8	60.7
27/02/2022 15:15	64.2	75.8	66.7	61.0
27/02/2022 15:30	64.0	72.6	66.7	60.7
27/02/2022 15:45	65.7	85.6	66.8	61.5
27/02/2022 16:00	64.5	74.0	66.9	61.3
27/02/2022 16:15	64.7	74.4	67.4	61.7
27/02/2022 16:30	64.8	72.4	66.9	62.2
27/02/2022 16:45	65.0	73.9	67.3	62.4
27/02/2022 17:00	64.5	72.4	66.7	61.7
27/02/2022 17:15	64.8	73.6	67.0	61.9
27/02/2022 17:30	64.2	73.2	66.6	61.7
27/02/2022 17:45	64.2	78.1	66.9	61.1
27/02/2022 18:00	63.7	72.7	65.6	61.4
27/02/2022 18:15	63.2	72.1	65.0	60.8
27/02/2022 18:30	62.8	71.3	64.5	60.5
27/02/2022 18:45	62.6	74.3	64.1	59.9
27/02/2022 19:00	62.5	76.6	64.3	59.6
27/02/2022 19:15	62.8	83.4	63.4	59.0
27/02/2022 19:30	62.2	72.7	63.5	59.1

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
27/02/2022 19:45	62.0	74.3	63.4	58.9
27/02/2022 20:00	61.0	70.5	62.6	57.8
27/02/2022 20:15	60.1	71.5	61.3	56.9
27/02/2022 20:30	59.6	70.3	61.3	56.2
27/02/2022 20:45	59.1	71.7	60.7	55.3
27/02/2022 21:00	58.7	69.2	60.2	55.7
27/02/2022 21:15	58.6	70.0	59.8	55.2
27/02/2022 21:30	58.0	71.2	59.8	54.7
27/02/2022 21:45	58.1	71.6	60.2	53.8
27/02/2022 22:00	58.1	76.7	59.2	53.3
27/02/2022 22:15	57.9	71.3	59.2	53.1
27/02/2022 22:30	55.0	67.2	57.2	51.3
27/02/2022 22:45	54.8	68.9	57.1	50.1
27/02/2022 23:00	53.7	67.0	56.3	47.4
27/02/2022 23:15	55.3	72.4	56.5	48.4
27/02/2022 23:30	52.5	64.1	55.0	47.6
27/02/2022 23:45	52.6	67.4	55.2	46.5
28/02/2022 00:00	51.3	66.0	54.1	42.6
28/02/2022 00:15	51.0	66.0	53.6	44.0
28/02/2022 00:30	51.2	65.2	54.2	43.8
28/02/2022 00:45	49.4	59.3	52.7	41.6
28/02/2022 01:00	48.0	60.9	51.4	38.7
28/02/2022 01:15	48.9	64.5	52.2	39.2
28/02/2022 01:30	47.1	57.5	51.5	34.6
28/02/2022 01:45	47.9	58.7	51.9	37.3
28/02/2022 02:00	48.4	67.8	51.2	35.2
28/02/2022 02:15	47.5	59.7	51.2	37.5
28/02/2022 02:30	49.2	66.9	52.2	39.5
28/02/2022 02:45	49.5	66.7	52.9	38.2
28/02/2022 03:00	48.3	56.1	51.9	39.7
28/02/2022 03:15	49.9	59.6	53.2	40.6
28/02/2022 03:30	50.3	59.3	53.3	43.5
28/02/2022 03:45	49.4	58.5	52.6	41.6
28/02/2022 04:00	50.5	65.1	53.3	43.5

Date/Time	$L_{Aeq,T}$	L_{Amax}	Median L_{A10}	Median L_{A90}
28/02/2022 04:15	51.5	66.7	53.8	46.0
28/02/2022 04:30	51.8	65.7	54.4	45.9
28/02/2022 04:45	53.1	69.2	55.0	47.7
28/02/2022 05:00	54.7	72.0	56.1	49.6
28/02/2022 05:15	55.6	70.6	57.3	51.2
28/02/2022 05:30	57.7	71.9	58.6	53.0
28/02/2022 05:45	59.5	78.8	60.8	54.7
28/02/2022 06:00	58.6	73.2	59.5	55.1
28/02/2022 06:15	59.7	70.2	61.0	56.4
28/02/2022 06:30	60.7	73.3	62.2	56.9
28/02/2022 06:45	62.5	71.7	66.4	58.0
28/02/2022 07:00	63.7	78.9	67.3	58.6
28/02/2022 07:15	63.7	75.3	67.1	59.6
28/02/2022 07:30	63.7	72.3	67.4	59.5
28/02/2022 07:45	65.1	75.6	69.0	59.7
28/02/2022 08:00	64.5	78.7	68.5	58.7
28/02/2022 08:15	64.0	78.2	68.1	58.3
28/02/2022 08:30	63.6	73.9	67.5	57.9
28/02/2022 08:45	63.9	76.1	67.7	58.1
28/02/2022 09:00	62.8	75.6	66.6	57.6
28/02/2022 09:15	62.8	74.2	66.7	57.2
28/02/2022 09:30	62.7	73.1	66.7	57.1
28/02/2022 09:45	63.2	76.2	67.1	57.4
28/02/2022 10:00	62.8	77.6	66.4	57.6
28/02/2022 10:15	63.3	74.0	67.2	57.6
28/02/2022 10:30	62.6	77.3	66.7	57.3
28/02/2022 10:45	62.6	73.4	66.7	56.6
28/02/2022 11:00	62.1	74.0	66.1	56.7
28/02/2022 11:15	64.2	77.1	67.6	57.1

APPENDIX 05

Histograms

Figure 05-01
Location One $L_{A90,15min}$ Histogram

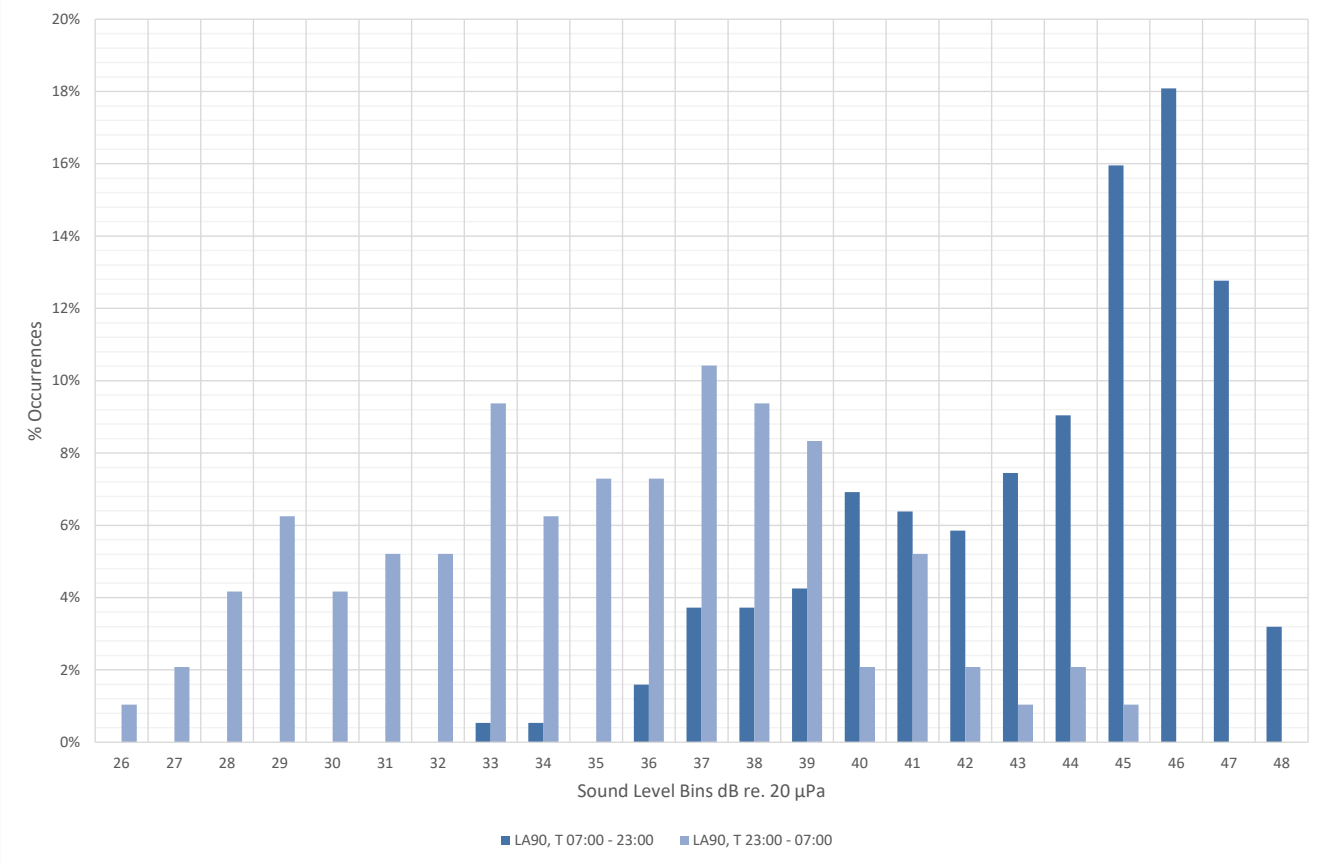
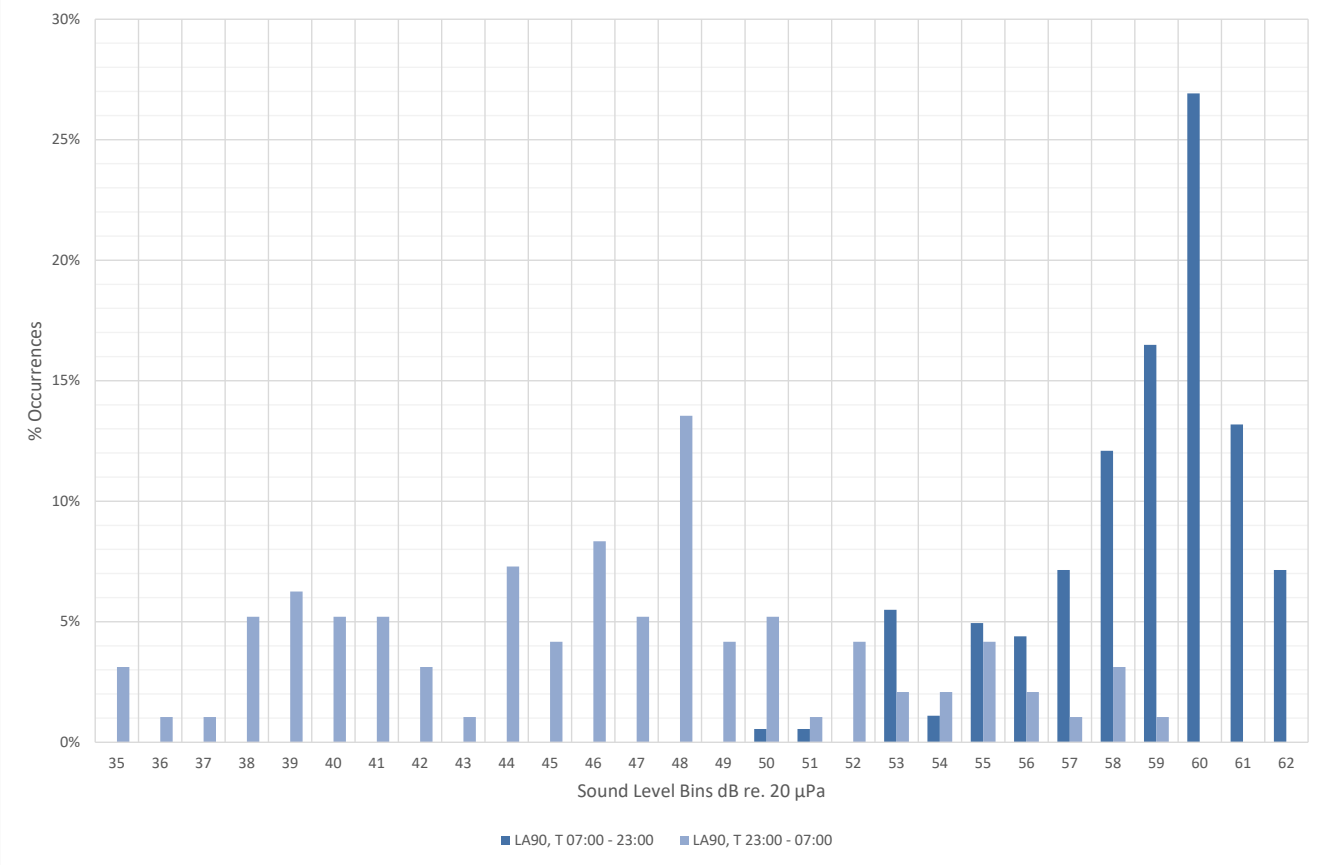


Figure 05-02
Location Two $L_{A90,15\ min}$ Histogram



APPENDIX 06

Time-history charts

Figure 06-01
Location One 15-minute Time-history

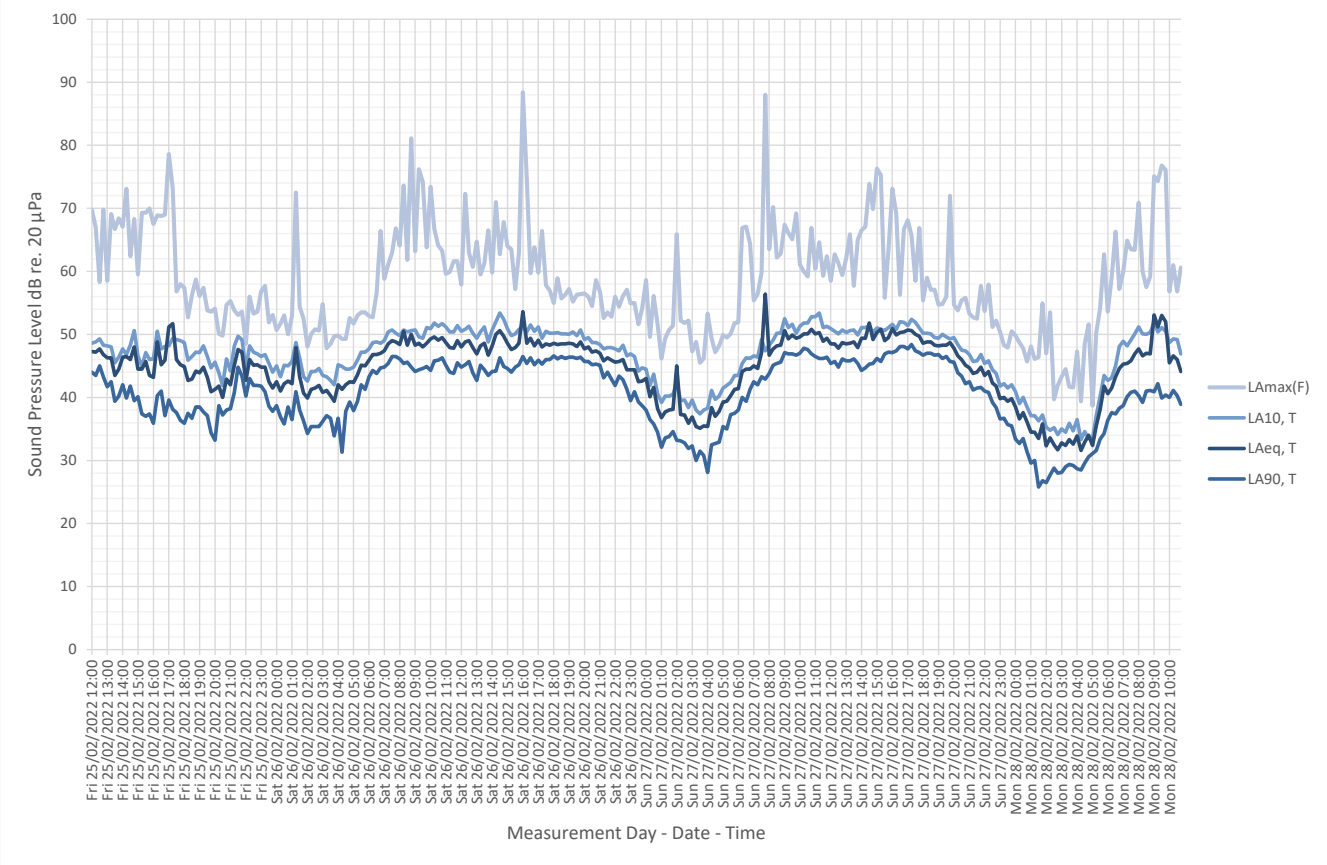
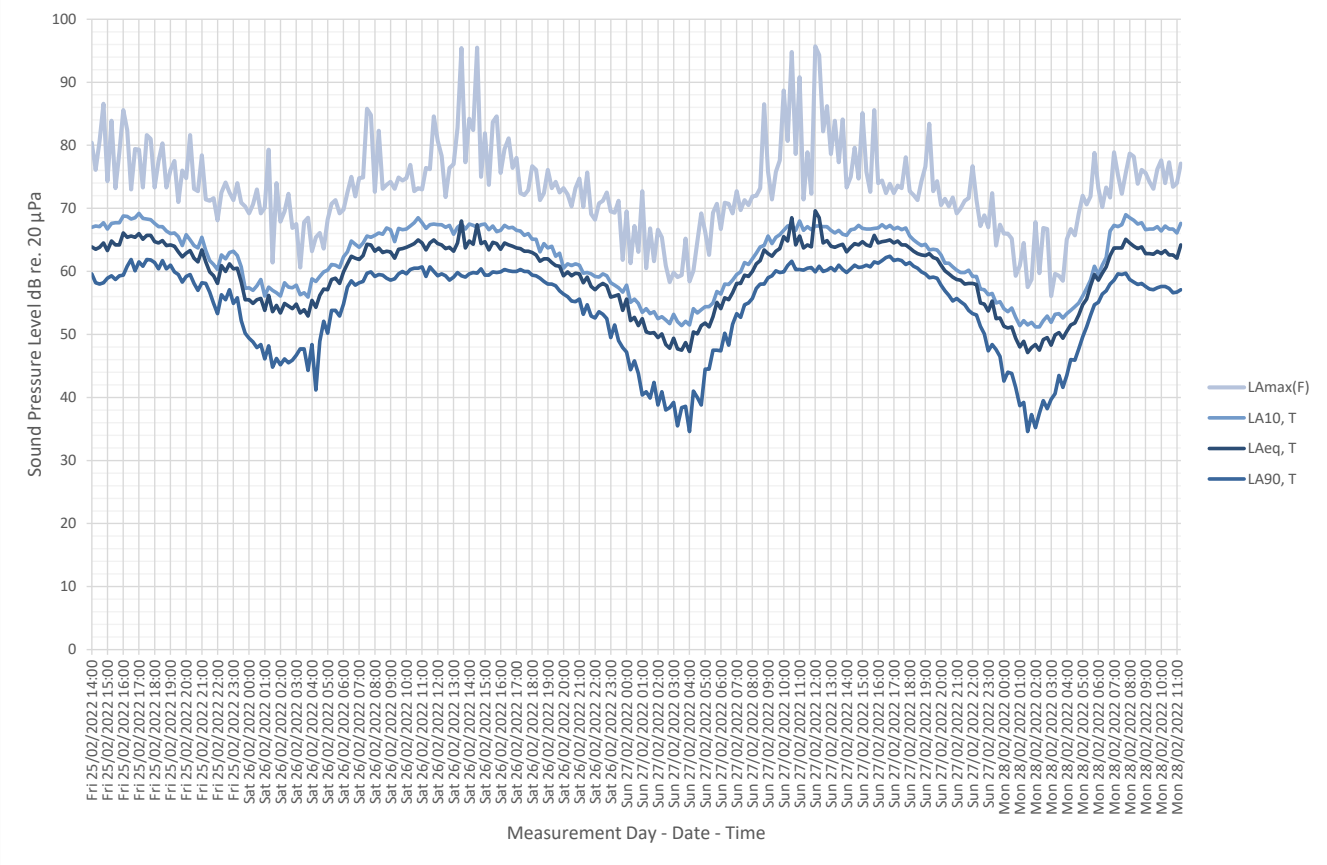


Figure 06-02
Location Two 15-minute Time-history



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