# ACS HILLINGDON MULTI-USE HALL

Baseline Noise Survey Report

Acoustics Report: A2011 R02a

23rd May 2023

Report for:
ACS International Schools

Report to:
IID Architects — Attention: Gareth Box
HDC Construction Consultant — Attention: Paul Lewis

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~~19/05/2023~~
23/05/2023

# Contents

# 1 Introduction

Ion Acoustics has been appointed by ACS Hillingdon to carry out a baseline noise survey and set plant emissions limits in response to the planning conditions imposed in the planning permission for a new multi use hall at ACS Hillingdon School. Currently the school is applying for a Section 73 Minor-Material Amendment to the consented permission. The original scheme (application number 2393/APP/2015/1146) was granted permission in August 2015 with the provision of a schedule of conditions. In terms of noise, Planning Condition 11 states:

*'11 The rating level of the noise emitted from the site by any Air Conditioner or other mechanical plant shall be at least 5dB below the existing background noise level. the noise level shall be determined at the boundary of the nearest noise sensitive premises. The measurement and assessment shall be made in accordance to the latest British Standard 4142.*

*Reason:*

*To safeguard the amenity of the surrounding area in accordance with policy OE1 of the Hillingdon Local Plan: Part Two Saved UDP Policies (November 2012)'*

Ion Acoustics had previously prepared an acoustics report in 2015 which detailed the baseline noise levels at that time and plant noise limits. Given that was eight years ago, it is possible that the environmental noise levels may have changed. This report has been prepared to provide supplementary information following the original report in respect of the Multi-Use hall to document the current baseline noise climate and update the plant noise limits if required.

These limits will apply to the contractor as an Employer's Requirement and they will be obliged to develop their plant scheme to meet the limits set out herein at the boundaries of the residential properties.

An environmental noise survey has been undertaken to determine the existing background noise levels at a location on the boundary of one of the closest noise sensitive receptors.

# 2 Scheme Details

## 2.1 Site Location

The site, is located in the London Borough of Hillingdon. The existing school comprises the original building also known as "Mansion House," along with several stages of newer building work developed between 1970 & 2008 specifically for the school. Figure 1 details the site location, along with the noise measurement location and the boundary of the closest noise sensitive receptors.

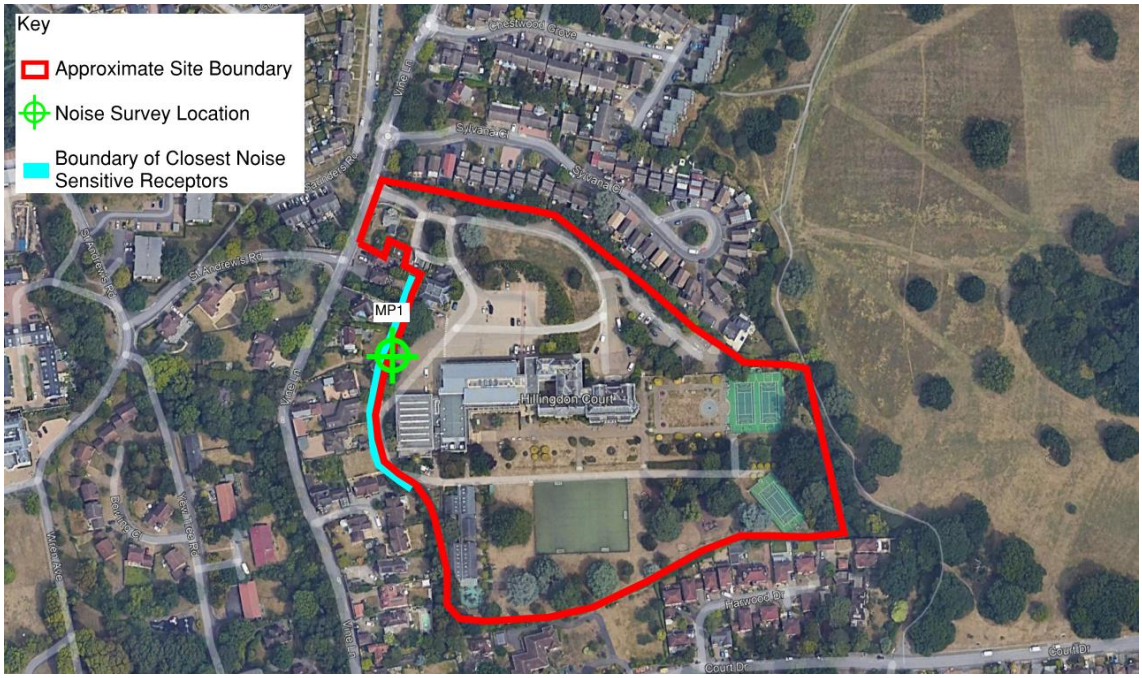



*Figure 1: Site Location and Boundary Plan (Google Earth)*

## 2.2 Proposed Scheme

The proposed scheme is the construction of a new extension to the existing sports hall comprising a multipurpose sports hall, a fitness suite, office, climbing wall and foyer adjoining the north-west façade of the school. Figure 2 below provides an approximate location of proposed building.

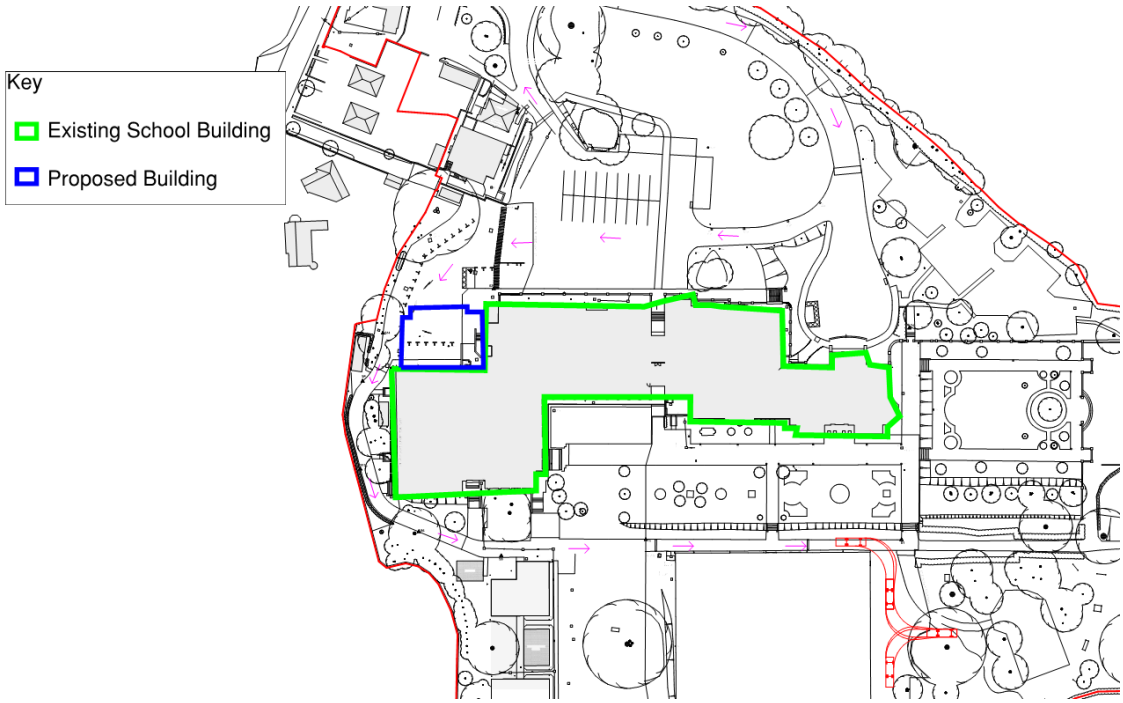



*Figure 2 – Location of Proposed Development*

The operational hours of any associated plant will be between 08:00 and 18:00.

# 3 Noise Survey

## 3.1 Survey details

A logging sound level meter was installed on site on Thursday 11th May 2023, however due to less than ideal weather conditions the measurements from Thursday and Friday have been excluded, only measured data from Monday 15th May to Wednesday 17th May 2023 have been considered in order to determine the existing typical external noise levels at the boundary of the closest noise sensitive receptors. The meter was set up on the Thursday for convenience regarding staff availability.

Measurements were made over consecutive 15-minute periods of the $L_{Aeq}$, $L_{A90}$ and $L_{AFMax}$ sound levels in line with BS4142:2014 guidance.

The instrumentation used in the survey (including calibration information) is presented in Table 1 below. The meter was set up by Janec Lillis James BSc MSc PgDip MIOA and collected by David O'Neill BEng CEng MSc MIOA, both of Ion Acoustics Ltd.

**Table 1 Environmental Sound Survey Instrumentation**

| Description | Manufacturer | Type | Serial Number | Laboratory Calibration Date | Next Calibration Date |
|---|---|---|---|---|---|
| Sound Level Meter | Rion | NL-52 | 921174 | 22/06/2022 | 22/06/2024 |
| Pre-amplifier | | UC-59 | 14746 | | |
| Calibrator | B&K | Type 4231 | | 07/12/2022 | 01/12/2023 |

Field calibrations were performed before and after the measurements with 0.1dB fluctuation recorded. This is not significant and within normal tolerances. Third party calibration certificates for the equipment are available upon request.

## 3.2 Measurement Locations

The logging sound level meter was left unattended in an environmental case on the west boundary of the site. The microphone was mounted on a pole approximately 2 m above ground level and above the top of the boundary fence in a free field environment at the measurement location. The microphone was connected to the meter via an extension cable and fitted with the manufacturer's environmental windshield.

The measurement positions are detailed in Figure 1 and photos of the noise monitoring position are provided in Appendix A.

## 3.3 Meteorological Conditions

Due to the nature of the unattended survey, we cannot accurately comment on the full meteorological conditions throughout the entire survey period. Based on review of publicly available weather forecasts, and site observations at the beginning of the survey, the sky was overcast with periods of rain from Thursday 11th to Sunday 14th May. Therefor these days have been excluded from the assessment of the survey results. The weather conditions from Monday 15th to Thursday 17th May were dry with low windspeeds and considered to be acceptable. Only these results have been considered in this report.

## 3.4 Assumptions/Limitations

The engineer noticed nothing unusual in terms of the sound climate at the time of the survey. This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections.

## 3.5 Environmental Sound Climate

Based on observations made at the beginning and end of the survey period, and analysis of sample audio recordings undertaken during the survey period the dominant noise source across the site was from vehicle movements on the surrounding road network, with contributions from the local residential roads and the A40/M40 approximately 1 km to the north. The measurement

position was close to a car park, which is also used for coaches dropping off and picking up pupils; these were heard in the morning and afternoon. Aircraft were also occasionally heard; presumed to be primarily from RAF Northolt, but potentially also Heathrow. These activities however do not affect the general underlying background noise levels.

## 3.6 Survey Results

A Time History Graph of each 15 min period measured at the noise survey position MP1 is provided in Appendix B. A summary of the background noise level at position MP1 is presented in **Table 2** below. The table presents the full daytime period, the operational hours period and night time period. Histograms showing the statistical distribution of the background noise levels during the measurement periods is provided in Appendix C. Full tabulated data of the noise survey results is provided in Appendix D.

**Table 2 Summary of Environmental Noise Survey Results**

| Location | Date | Period, T | Measured Background Sound Level |
|---|---|---|---|
| | | | Typical* $L_{A90,\,T}$ |
| MP1 | 15/05/2023 – 17/05/2023 | Daytime (07:00 – 23:00) | 46 dB |
| | | Plant Operation Hours (08:00 – 18:00) | 46 dB |
| | | Night-time (23:00 – 07:00) | 41 dB |

*Calculated based on the statistical distribution of background sound levels during the measurement period in general accordance with guidance in BS 4142:2014 +A1:2019.

# 4 External Plant Noise Limits

The plant noise limits at the nearby housing are based on the London Borough of Hillingdon standard plant noise criteria. Specifically, that the rating level of the plant should be 5dB(A) or more below the underlying background noise levels, $L_{A90}$.

The plant is expected to operate only during the school main teaching hours, and the main noise limit is set over the evening time period 08.00 to 18.00 hrs. It is noted that the same limit would apply for any plant operating within the period 07.00-23.00 hrs. However, if any plant needing to run over night, then there is a separate limit given for that, although it is not currently expected this would be required. Table 3 presents the noise limits at the boundary of the closest noise sensitive receptors derived from the results of the baseline noise survey.

**Table 3:** Plant Noise Limits at Residential Receptors

| Assessment Point | Time | Background Level – $L_{A90}$ | Plant Noise Limit – Rating level $L_{Ar}$ |
|---|---|---|---|
| Boundary of Closest Noise Sensitive Receptor | Operational Period (08:00 – 18:00) | 46 dB | 41 dB |
| | Overnight (23:00 – 07:00) | 41 dB | 36 dB |

The contractor is required to meet the plant noise limits in Table 3 at the boundary of the residential properties and also at windows of residential properties. The limit is set as a free field rating level and any appropriate corrections as defined in BS4142:2014 would need to be included in the assessment. A report will be required to be provided to the client team which sets out the details of the plant, the plant noise assessment, plant emissions calculations, details of any noise control measures and evidence of compliance.

## 4.1 Summary

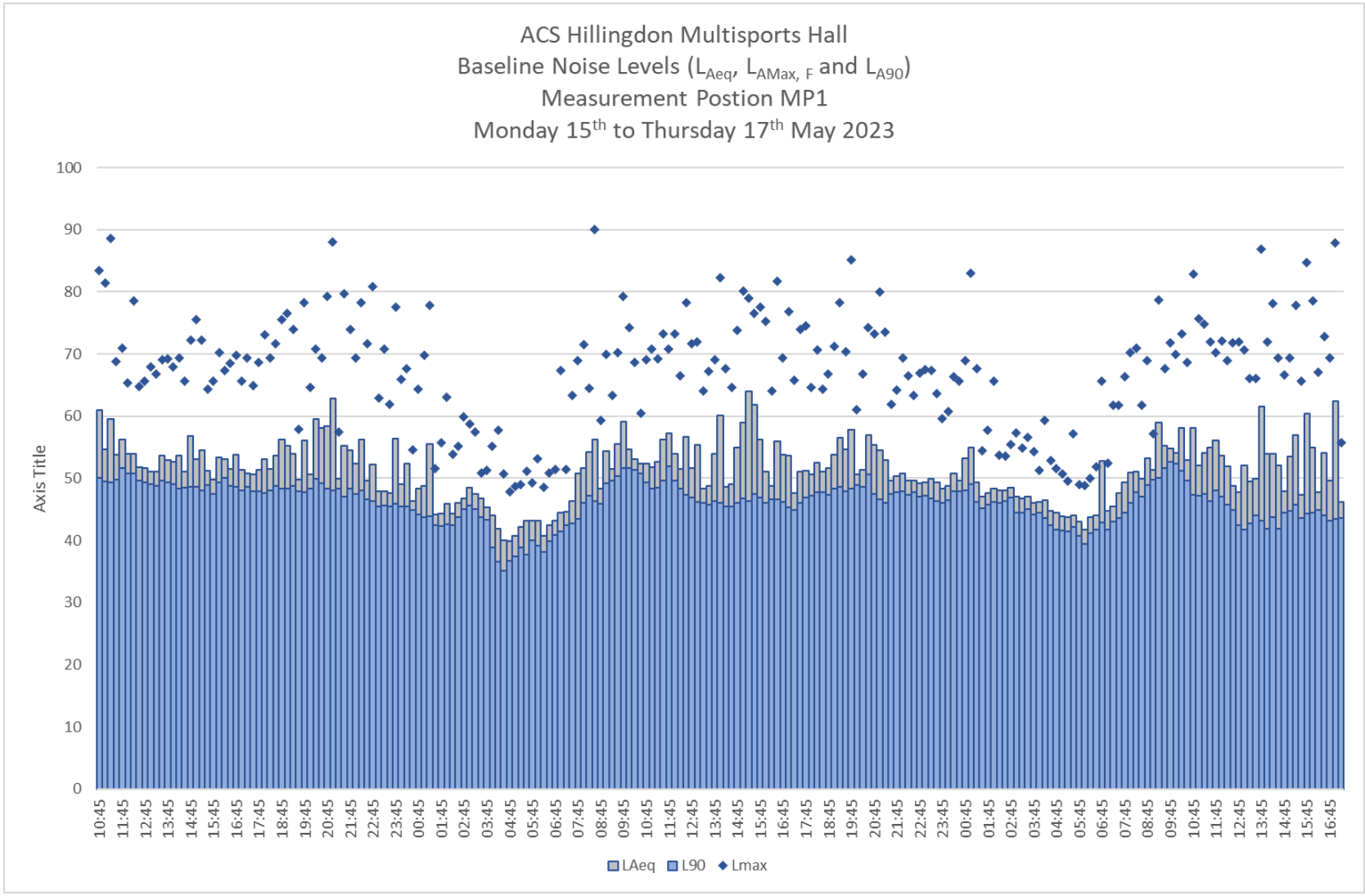
Ion Acoustics has been appointed by ACS International Schools to carry out a baseline noise survey and determine plant noise emissions limits in respect of planning condition 11 for a new multi-use facility at the ACS Hillingdon International School.

An environmental noise survey has been undertaken to determine the existing background noise levels at locations considered representative of the boundary of the closest noise sensitive receptor.

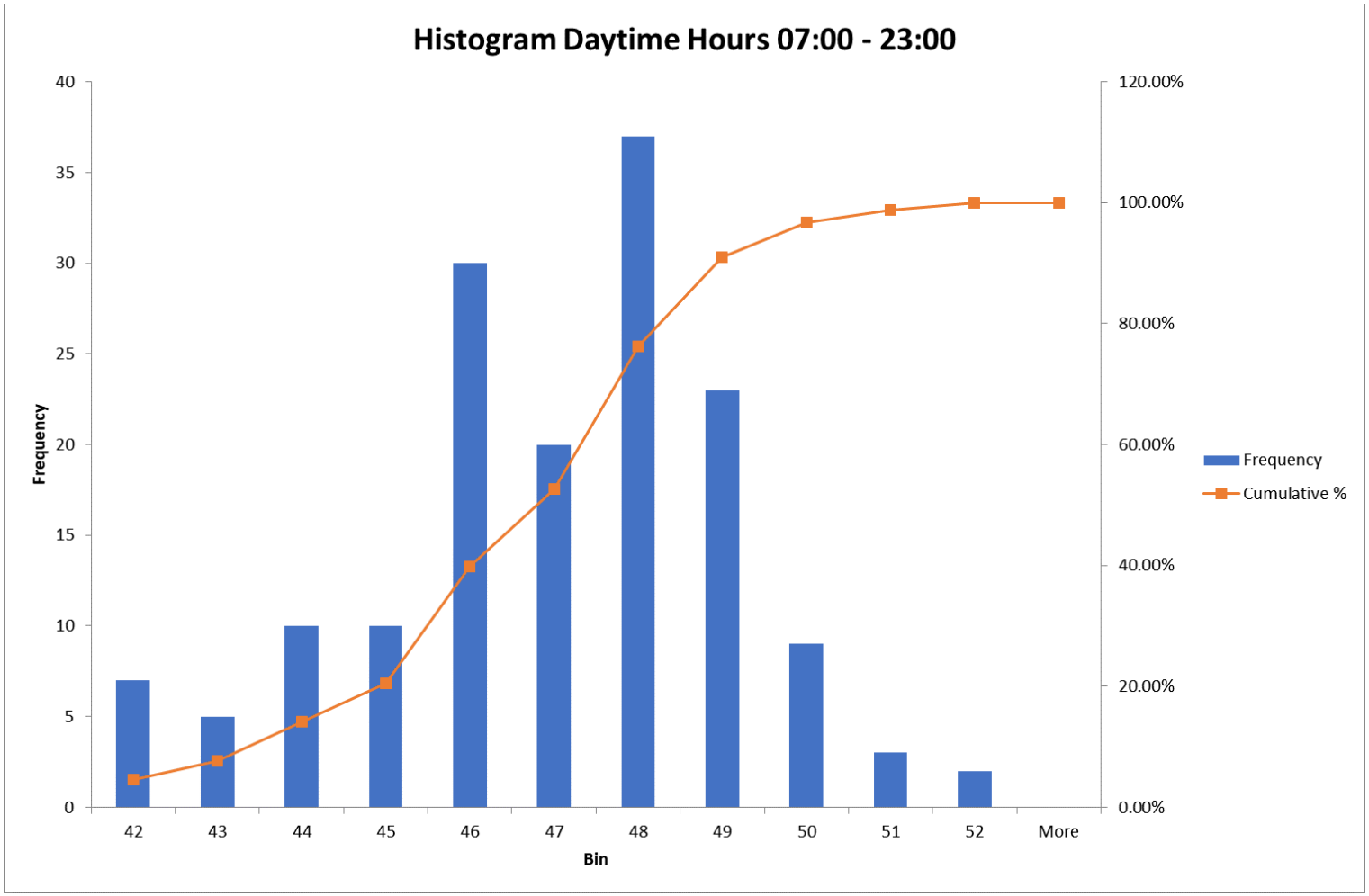
Noise Limits have been determined and report based on the results of the environmental sound survey and the criteria stated in planning condition 11. The contractor will be required to meet these limits and provide any noise control measures required to meet the limits.

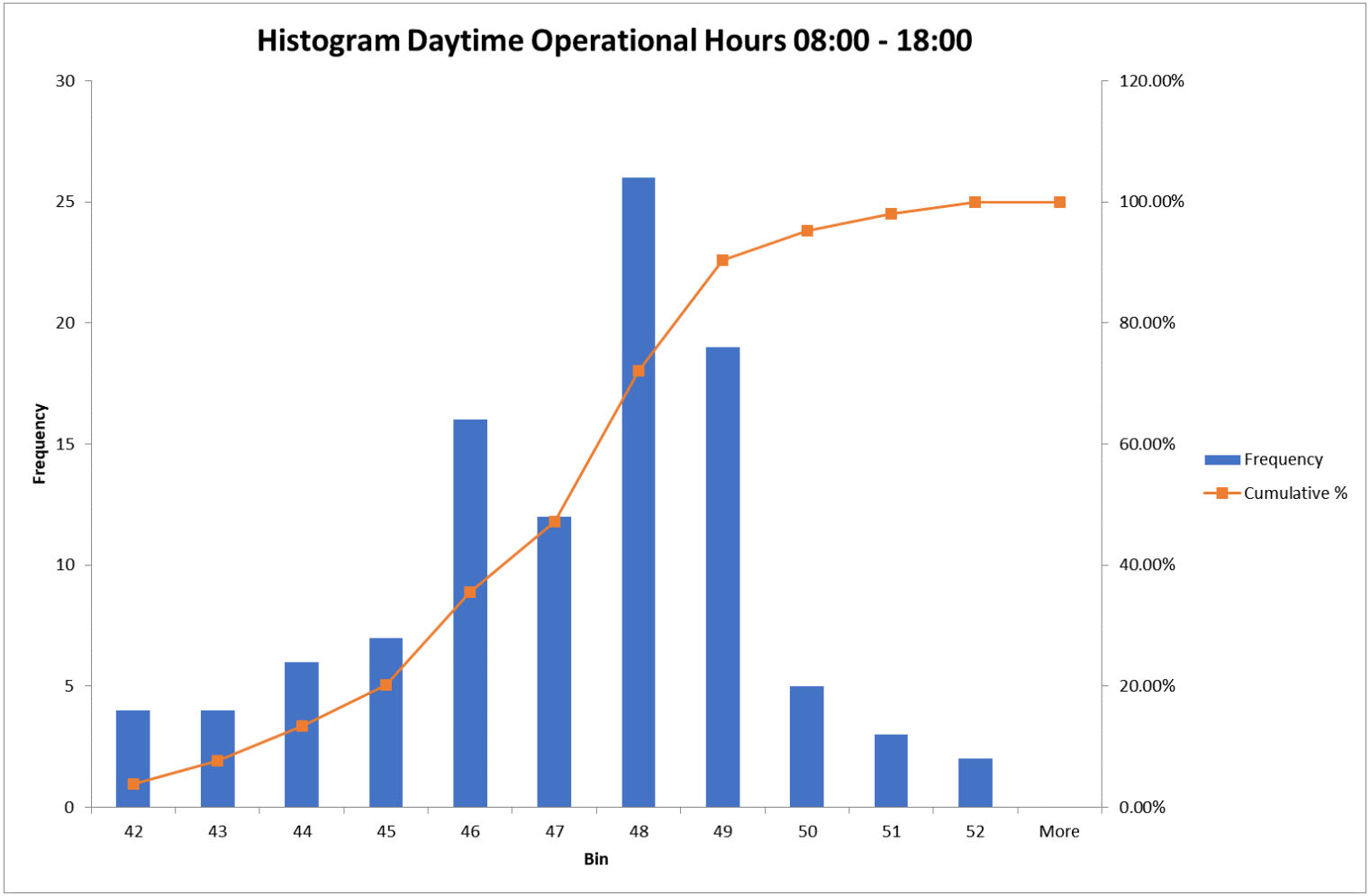
**Appendix A – Photos of Noise Monitoring Position – MP1**

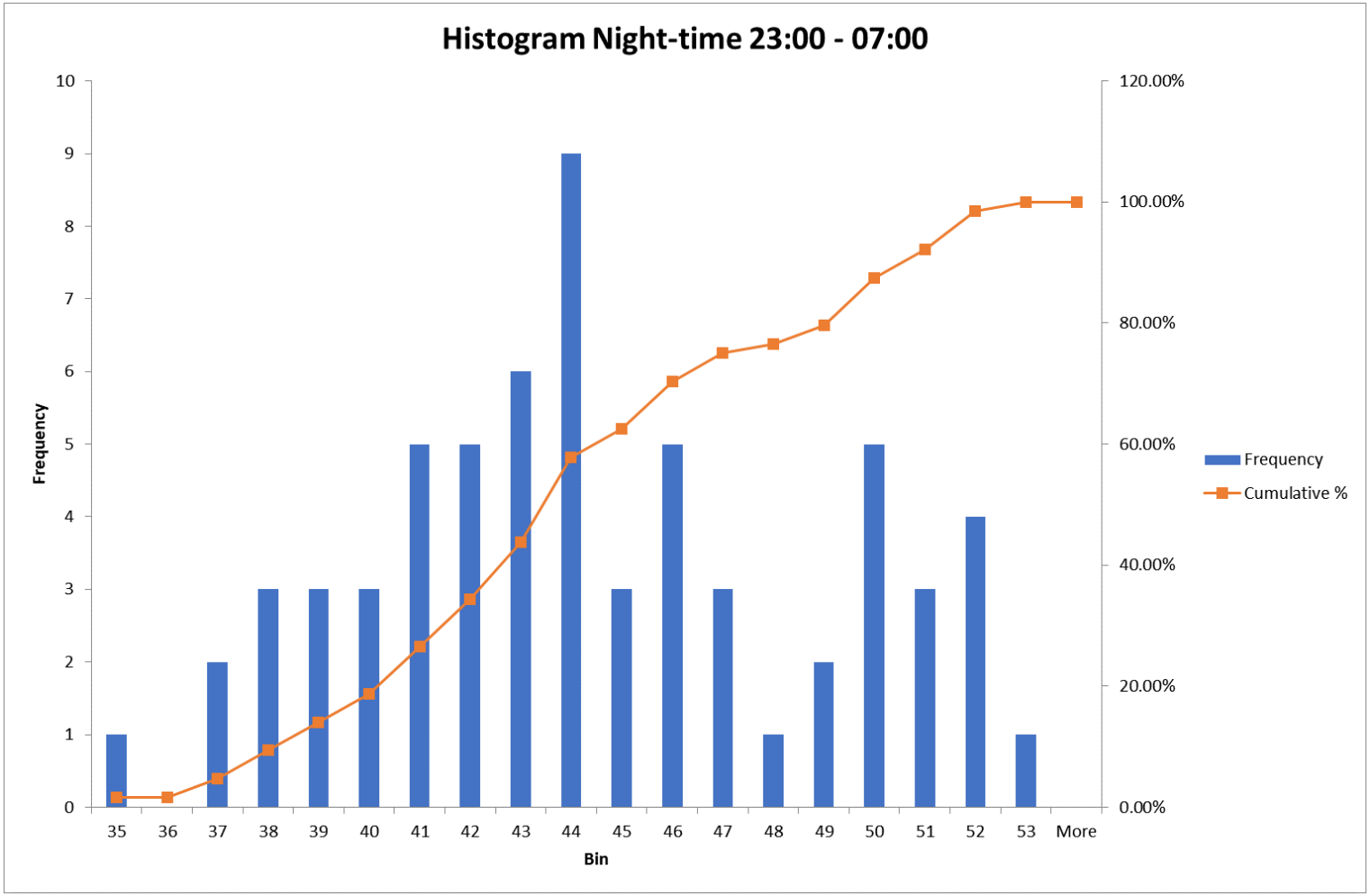
Appendix B – Time History Graph



Appendix C – Background Noise Level Histograms




Histogram Daytime Operational Hours 08:00 - 18:00
Frequency
Bin
0
5
10
15
20
25
30
120.00%
100.00%
80.00%
60.00%
40.00%
20.00%
0.00%
42
43
44
45
46
47
48
49
50
51
52
More
Frequency
Cumulative %


Histogram Night-time 23:00 - 07:00
Frequency
Bin
Frequency
Cumulative %
0
1
2
3
4
5
6
7
8
9
10
0.00%
20.00%
40.00%
60.00%
80.00%
100.00%
120.00%
35
36
37
38
39
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41
42
43
44
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46
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50
51
52
53
More

## Appendix D – Tabulated Noise Survey Data

| Time | $L_{Aeq}$ dB | $L_{Amax,F}$ dB | $L_{AF90}$ dB | Time | $L_{Aeq}$ dB | $L_{Amax,F}$ dB | $L_{AF90}$ dB | Time | $L_{Aeq}$ dB | $L_{Amax,F}$ dB | $L_{AF90}$ dB |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15/05/2023 07:00:01 | 61 | 83.4 | 50.1 | 15/05/2023 19:15:01 | 47.9 | 62.9 | 45.5 | 16/05/2023 07:30:01 | 52.7 | 69.2 | 48.5 |
| 15/05/2023 07:15:01 | 54.7 | 81.4 | 49.5 | 15/05/2023 19:30:01 | 47.9 | 70.8 | 45.6 | 16/05/2023 07:45:01 | 56.2 | 73.3 | 49.6 |
| 15/05/2023 07:30:01 | 59.6 | 88.6 | 49.4 | 15/05/2023 19:45:01 | 47.6 | 61.9 | 45.5 | 16/05/2023 08:00:01 | 57.3 | 70.8 | 51.9 |
| 15/05/2023 07:45:01 | 53.8 | 68.8 | 49.8 | 15/05/2023 20:00:01 | 56.4 | 77.5 | 45.9 | 16/05/2023 08:15:01 | 54 | 73.2 | 49.7 |
| 15/05/2023 08:00:01 | 56.3 | 70.9 | 51.6 | 15/05/2023 20:15:01 | 49 | 65.9 | 45.4 | 16/05/2023 08:30:01 | 51.5 | 66.5 | 48.3 |
| 15/05/2023 08:15:01 | 53.9 | 65.3 | 50.8 | 15/05/2023 20:30:01 | 52.3 | 67.6 | 45.5 | 16/05/2023 08:45:01 | 56.6 | 78.2 | 47.3 |
| 15/05/2023 08:30:01 | 53.9 | 78.5 | 50.8 | 15/05/2023 20:45:01 | 46.3 | 54.6 | 44.9 | 16/05/2023 09:00:01 | 51.6 | 71.7 | 46.9 |
| 15/05/2023 08:45:01 | 51.8 | 64.8 | 49.7 | 15/05/2023 21:00:01 | 48.3 | 64.3 | 44.2 | 16/05/2023 09:15:01 | 55.4 | 71.9 | 46.2 |
| 15/05/2023 09:00:01 | 51.6 | 65.6 | 49.3 | 15/05/2023 21:15:01 | 48.7 | 69.8 | 43.8 | 16/05/2023 09:30:01 | 48.3 | 64 | 46.1 |
| 15/05/2023 09:15:01 | 51 | 68 | 49 | 15/05/2023 21:30:01 | 55.5 | 77.9 | 43.9 | 16/05/2023 09:45:01 | 48.8 | 67.2 | 45.8 |
| 15/05/2023 09:30:01 | 51.1 | 66.8 | 48.7 | 15/05/2023 21:45:01 | 44.2 | 51.6 | 42.4 | 16/05/2023 10:00:01 | 54 | 69.1 | 46.4 |
| 15/05/2023 09:45:01 | 53.7 | 69.1 | 49.7 | 15/05/2023 22:00:01 | 44.3 | 55.8 | 42.3 | 16/05/2023 10:15:01 | 60.1 | 82.3 | 46.1 |
| 15/05/2023 10:00:01 | 52.9 | 69.2 | 49.4 | 15/05/2023 22:15:01 | 45.9 | 63.1 | 42.6 | 16/05/2023 10:30:01 | 48.6 | 67.7 | 45.5 |
| 15/05/2023 10:15:01 | 52.7 | 67.9 | 49 | 15/05/2023 22:30:01 | 44.3 | 53.9 | 42.4 | 16/05/2023 10:45:01 | 49.1 | 64.6 | 45.5 |
| 15/05/2023 10:30:01 | 53.7 | 69.3 | 48.4 | 15/05/2023 22:45:01 | 46 | 55.1 | 43.8 | 16/05/2023 11:00:01 | 54.9 | 73.8 | 46 |
| 15/05/2023 10:45:01 | 51.1 | 65.7 | 48.5 | 15/05/2023 23:00:01 | 46.7 | 59.9 | 45 | 16/05/2023 11:15:01 | 58.9 | 80.2 | 46.7 |
| 15/05/2023 11:00:01 | 56.8 | 72.3 | 48.6 | 15/05/2023 23:15:01 | 48.5 | 58.7 | 45.6 | 16/05/2023 11:30:01 | 64 | 79 | 46.3 |
| 15/05/2023 11:15:01 | 53.1 | 75.6 | 48.6 | 15/05/2023 23:30:01 | 47.5 | 57.5 | 45 | 16/05/2023 11:45:01 | 61.9 | 76.6 | 47.5 |
| 15/05/2023 11:30:01 | 54.5 | 72.3 | 48 | 15/05/2023 23:45:01 | 46.7 | 50.8 | 43.8 | 16/05/2023 12:00:01 | 56.3 | 77.5 | 46.9 |
| 15/05/2023 11:45:01 | 51.2 | 64.4 | 48.9 | 16/05/2023 00:00:01 | 45.3 | 51.3 | 43.3 | 16/05/2023 12:15:01 | 51.1 | 75.2 | 46.1 |
| 15/05/2023 12:00:01 | 49.8 | 65.7 | 47.5 | 16/05/2023 00:15:01 | 44.1 | 55.1 | 38.9 | 16/05/2023 12:30:01 | 48.8 | 64 | 46.6 |
| 15/05/2023 12:15:01 | 53.4 | 70.2 | 49.3 | 16/05/2023 00:30:01 | 41.9 | 57.7 | 36.5 | 16/05/2023 12:45:01 | 56 | 81.7 | 46.6 |
| 15/05/2023 12:30:01 | 53.1 | 67.3 | 50.1 | 16/05/2023 00:45:01 | 40 | 50.7 | 35.1 | 16/05/2023 13:00:01 | 53.8 | 69.3 | 46.2 |
| 15/05/2023 12:45:01 | 51.5 | 68.5 | 48.8 | 16/05/2023 01:00:01 | 39.9 | 47.8 | 36.7 | 16/05/2023 13:15:01 | 53.7 | 76.8 | 45.3 |
| 15/05/2023 13:00:01 | 53.8 | 69.8 | 48.6 | 16/05/2023 01:15:01 | 40.7 | 48.7 | 37.5 | 16/05/2023 13:30:01 | 47.6 | 65.8 | 44.9 |
| 15/05/2023 13:15:01 | 51.4 | 65.7 | 48 | 16/05/2023 01:30:01 | 42.1 | 49 | 38.8 | 16/05/2023 13:45:01 | 51 | 74 | 46.1 |
| 15/05/2023 13:30:01 | 50.8 | 69.3 | 48.6 | 16/05/2023 01:45:01 | 43.2 | 51.1 | 37.7 | 16/05/2023 14:00:01 | 51.2 | 74.6 | 46.9 |
| 15/05/2023 13:45:01 | 50.7 | 64.9 | 47.9 | 16/05/2023 02:00:01 | 43.2 | 49.3 | 40 | 16/05/2023 14:15:01 | 50.6 | 64.7 | 47.2 |
| 15/05/2023 14:00:01 | 51.3 | 68.7 | 47.9 | 16/05/2023 02:15:01 | 43.2 | 53.2 | 39.1 | 16/05/2023 14:30:01 | 52.5 | 70.6 | 47.7 |
| 15/05/2023 14:15:01 | 53.1 | 73.1 | 47.6 | 16/05/2023 02:30:01 | 40.7 | 48.5 | 38.2 | 16/05/2023 14:45:01 | 51.1 | 64.4 | 47.8 |
| 15/05/2023 14:30:01 | 51.5 | 69.3 | 48.1 | 16/05/2023 02:45:01 | 42.4 | 50.9 | 39.8 | 16/05/2023 15:00:01 | 51.6 | 66.8 | 47.4 |
| 15/05/2023 14:45:01 | 53.6 | 71.6 | 48.8 | 16/05/2023 03:00:01 | 43.2 | 51.4 | 40.9 | 16/05/2023 15:15:01 | 53.8 | 71.3 | 48.3 |
| 15/05/2023 15:00:01 | 56.3 | 75.5 | 48.4 | 16/05/2023 03:15:01 | 44.5 | 67.4 | 41.4 | 16/05/2023 15:30:01 | 56.5 | 78.3 | 48.6 |
| 15/05/2023 15:15:01 | 55.2 | 76.6 | 48.3 | 16/05/2023 03:30:01 | 44.6 | 51.4 | 42.5 | 16/05/2023 15:45:01 | 54.7 | 70.4 | 47.9 |
| 15/05/2023 15:30:01 | 54 | 73.9 | 48.8 | 16/05/2023 03:45:01 | 46.4 | 63.4 | 42.7 | 16/05/2023 16:00:01 | 57.8 | 85.1 | 48.3 |
| 15/05/2023 15:45:01 | 49.8 | 57.9 | 47.9 | 16/05/2023 04:00:01 | 50.8 | 68.9 | 43.5 | 16/05/2023 16:15:01 | 50.6 | 61 | 48.9 |
| 15/05/2023 16:00:01 | 56.1 | 78.2 | 47.8 | 16/05/2023 04:15:01 | 51.6 | 71.5 | 46.1 | 16/05/2023 16:30:01 | 51.3 | 66.8 | 48.6 |
| 15/05/2023 16:15:01 | 50.7 | 64.7 | 48.4 | 16/05/2023 04:30:01 | 54.2 | 64.5 | 47.2 | 16/05/2023 16:45:01 | 56.9 | 74.2 | 50.6 |
| 15/05/2023 16:30:01 | 59.5 | 70.8 | 49.9 | 16/05/2023 04:45:01 | 56.3 | 90 | 46.3 | 16/05/2023 17:00:01 | 55.4 | 73.3 | 47.5 |
| 15/05/2023 16:45:01 | 58.1 | 69.4 | 49.2 | 16/05/2023 05:00:01 | 48.3 | 59.3 | 45.9 | 16/05/2023 17:15:01 | 54.5 | 80 | 46.6 |
| 15/05/2023 17:00:01 | 58.4 | 79.3 | 48.4 | 16/05/2023 05:15:01 | 54.3 | 69.9 | 49.2 | 16/05/2023 17:30:01 | 52.9 | 73.5 | 46.1 |
| 15/05/2023 17:15:01 | 62.9 | 88 | 48.1 | 16/05/2023 05:30:01 | 51.5 | 63.3 | 49.6 | 16/05/2023 17:45:01 | 49.6 | 61.9 | 47.5 |
| 15/05/2023 17:30:01 | 49.9 | 57.4 | 48.3 | 16/05/2023 05:45:01 | 55.5 | 70.3 | 50.4 | 16/05/2023 18:00:01 | 50.3 | 64.2 | 47.7 |
| 15/05/2023 17:45:01 | 55.2 | 79.7 | 47.1 | 16/05/2023 06:00:01 | 59.1 | 79.2 | 51.7 | 16/05/2023 18:15:01 | 50.8 | 69.4 | 47.9 |
| 15/05/2023 18:00:01 | 54.5 | 74 | 48.3 | 16/05/2023 06:15:01 | 54.6 | 74.3 | 51.7 | 16/05/2023 18:30:01 | 49.6 | 66.5 | 47.3 |
| 15/05/2023 18:15:01 | 52.4 | 69.4 | 47.5 | 16/05/2023 06:30:01 | 53.1 | 68.7 | 51.3 | 16/05/2023 18:45:01 | 49.6 | 63.3 | 47.7 |
| 15/05/2023 18:30:01 | 56.2 | 78.3 | 48 | 16/05/2023 06:45:01 | 52.3 | 60.4 | 50.8 | 16/05/2023 19:00:01 | 49.2 | 66.9 | 47.1 |
| 15/05/2023 18:45:01 | 49.6 | 71.7 | 46.6 | 16/05/2023 07:00:01 | 52.3 | 69.1 | 49.4 | 16/05/2023 19:15:01 | 49.3 | 67.5 | 47.2 |
| 15/05/2023 19:00:01 | 52.2 | 80.8 | 46.4 | 16/05/2023 07:15:01 | 51.8 | 70.8 | 48.4 | 16/05/2023 19:30:01 | 49.9 | 67.4 | 46.7 |

| Time | $L_{Aeq}$ dB | $L_{Amax,F}$ dB | $L_{AF90}$ dB | Time | $L_{Aeq}$ dB | $L_{Amax,F}$ dB | $L_{AF90}$ dB |
|---|---|---|---|---|---|---|---|
| 16/05/2023 19:45:01 | 49.4 | 63.6 | 46.4 | 17/05/2023 04:45:01 | 49.9 | 61.8 | 47 |
| 16/05/2023 20:00:01 | 48.3 | 59.6 | 46 | 17/05/2023 05:00:01 | 53.2 | 69 | 48.9 |
| 16/05/2023 20:15:01 | 48.8 | 60.8 | 46.5 | 17/05/2023 05:15:01 | 51.3 | 57.2 | 49.8 |
| 16/05/2023 20:30:01 | 50.8 | 66.3 | 47.9 | 17/05/2023 05:30:01 | 59 | 78.7 | 50 |
| 16/05/2023 20:45:01 | 49.7 | 65.6 | 47.9 | 17/05/2023 05:45:01 | 55.3 | 67.7 | 51.6 |
| 16/05/2023 21:00:01 | 53.2 | 68.9 | 48.1 | 17/05/2023 06:00:01 | 54.8 | 71.8 | 52.6 |
| 16/05/2023 21:15:01 | 54.9 | 83 | 49.1 | 17/05/2023 06:15:01 | 54.1 | 70 | 52.4 |
| 16/05/2023 21:30:01 | 49.4 | 67.6 | 46.2 | 17/05/2023 06:30:01 | 58.1 | 73.2 | 51.2 |
| 16/05/2023 21:45:01 | 47 | 54.4 | 45.2 | 17/05/2023 06:45:01 | 52.9 | 68.6 | 49.7 |
| 16/05/2023 22:00:01 | 47.6 | 57.7 | 45.8 | 17/05/2023 07:00:01 | 58.1 | 82.8 | 47.3 |
| 16/05/2023 22:15:01 | 48.3 | 65.7 | 46.2 | 17/05/2023 07:15:01 | 52 | 75.7 | 47.2 |
| 16/05/2023 22:30:01 | 48 | 53.7 | 46.1 | 17/05/2023 07:30:01 | 54.1 | 74.8 | 47.5 |
| 16/05/2023 22:45:01 | 48.1 | 53.6 | 46.3 | 17/05/2023 07:45:01 | 54.9 | 71.9 | 46.3 |
| 16/05/2023 23:00:01 | 48.5 | 55.5 | 46.9 | 17/05/2023 08:00:01 | 56.1 | 70.3 | 48 |
| 16/05/2023 23:15:01 | 47.1 | 57.3 | 44.4 | 17/05/2023 08:15:01 | 53.6 | 72.1 | 47.1 |
| 16/05/2023 23:30:01 | 46.7 | 54.9 | 44.4 | 17/05/2023 08:30:01 | 51.9 | 68.9 | 45.7 |
| 16/05/2023 23:45:01 | 47 | 56.6 | 45 | 17/05/2023 08:45:01 | 48.7 | 71.8 | 44.9 |
| 17/05/2023 00:00:01 | 46 | 54.3 | 44.2 | 17/05/2023 09:00:01 | 47.8 | 72 | 42.4 |
| 17/05/2023 00:15:01 | 46.2 | 51.3 | 44.4 | 17/05/2023 09:15:01 | 52.1 | 70.6 | 41.8 |
| 17/05/2023 00:30:01 | 46.5 | 59.3 | 43.6 | 17/05/2023 09:30:01 | 49.5 | 66 | 42.8 |
| 17/05/2023 00:45:01 | 44.8 | 52.9 | 42.5 | 17/05/2023 09:45:01 | 49.9 | 66 | 44 |
| 17/05/2023 01:00:01 | 44.4 | 51.6 | 41.8 | 17/05/2023 10:00:01 | 61.5 | 86.9 | 43.2 |
| 17/05/2023 01:15:01 | 43.9 | 50.7 | 41.6 | 17/05/2023 10:15:01 | 53.9 | 72 | 41.9 |
| 17/05/2023 01:30:01 | 43.7 | 49.5 | 41.4 | 17/05/2023 10:30:01 | 54 | 78.1 | 43.7 |
| 17/05/2023 01:45:01 | 44.1 | 57.2 | 42.1 | 17/05/2023 10:45:01 | 52 | 69.4 | 41.9 |
| 17/05/2023 02:00:01 | 43.1 | 49 | 40.8 | 17/05/2023 11:00:01 | 47.9 | 66.6 | 44.5 |
| 17/05/2023 02:15:01 | 41.8 | 48.8 | 39.5 | 17/05/2023 11:15:01 | 53.5 | 69.4 | 44.8 |
| 17/05/2023 02:30:01 | 43.8 | 50 | 41.1 | 17/05/2023 11:30:01 | 56.9 | 77.9 | 45.7 |
| 17/05/2023 02:45:01 | 44 | 51.9 | 41.7 | 17/05/2023 11:45:01 | 47.4 | 65.7 | 43.6 |
| 17/05/2023 03:00:01 | 52.8 | 65.7 | 42.9 | 17/05/2023 12:00:01 | 60.4 | 84.7 | 44.3 |
| 17/05/2023 03:15:01 | 44.8 | 52.4 | 41.8 | 17/05/2023 12:15:01 | 55 | 78.5 | 44.5 |
| 17/05/2023 03:30:01 | 45.5 | 61.7 | 43.1 | 17/05/2023 12:30:01 | 47.7 | 67 | 44.9 |
| 17/05/2023 03:45:01 | 47.6 | 61.7 | 43.6 | 17/05/2023 12:45:01 | 54.1 | 72.8 | 44.1 |
| 17/05/2023 04:00:01 | 49.4 | 66.4 | 44.4 | 17/05/2023 13:00:01 | 49.6 | 69.4 | 43.2 |
| 17/05/2023 04:15:01 | 50.9 | 70.2 | 46.1 | 17/05/2023 13:15:01 | 62.4 | 87.9 | 43.4 |
| 17/05/2023 04:30:01 | 51.1 | 71 | 47.7 | 17/05/2023 13:30:01 | 46.2 | 55.8 | 43.6 |
| | | | | 17/05/2023 13:45:01 | 76.6 | 106 | 45.8 |