**Noise Complaint Investigation Standard Operating Guide**

| **Created** | **Last Edited** | **Director Approval** |
| --- | --- | --- |
| *March 4, 2024* | *May 28, 2024* |  |

1. **Purpose**

This document outlines the steps to be used in obtaining noise background data for determining compliance with local, state and federal noise requirements. It is intended to be used by all Middlesex-Essex Public Health Collaborative members who request the Larson Davis 821 noise meter.

The Larson Davis 821 noise meter is stored securely at the North Andover Health Department. Request the noise meter by e-mailing the Shared Services Coordinator ([agarcia@northandoverma.gov](mailto:agarcia@northandoverma.gov))

1. **Relevant Regulations**

* [310 CMR 7.00: Air pollution control](https://www.mass.gov/regulations/310-CMR-700-air-pollution-control-0#:~:text=310%20CMR%207.00%20prevents%20the,compatible%20with%20needs%20of%20society.)
* [M.G.L. c. 111, § 142B](https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXVI/Chapter111/Section142B)
* [M.G.L. Chapter 111, Section 122](https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXVI/Chapter111/Section122)
* [DAQC Policy 90-001](https://www.mass.gov/doc/massdep-noise-policy/download)
* Local Noise Bylaws

1. **Complaint Intake**

Follow your local municipality's procedures for complaint intake. Be sure to collect the following information:

* Complainant Location
* Noise Source Location
* Is the noise worse under certain conditions? (i.e. at night, in the rain, only during the heating season)

1. **Choice of Monitoring Locations**

Monitoring locations should be chosen to be representative of receptors likely to experience the worst-case noise situation. A monitoring location should be on the properly line of the complainant and in the most direct path to the noise source.

Permission shall be obtained from the property owner to access the location. The property owner should be provided with the date, time and location measurements are to be made. If the property owner does not provide permission, measurements should be taken from the nearest legally accessible location.

All monitoring locations should be clearly labeled on the Noise Complaint Inspection form found in Appendix 1.

1. **Choice of Monitoring Times and Conditions**

Measurement times should be chosen to be typical of those occurring under the quietest background conditions under which the equipment would operate with winds at less than 10 mph. Monitoring should also not occur during or directly after a rainstorm as rain on the microphone and tire noise on wet pavement will affect the measured sounds levels. The time of day should be chosen to be the quietest time under which the equipment would be audible at each relevant monitoring position.

1. **Measurement Collection**

* Perform field calibration before and after all measurements
* Under “settings” confirm the following measurement settings:
  + Measurement History – 15 minutes
  + Octave Band (OBA) – 1/3
  + OBA Frequency Weight – A
  + OBA Min/Max Detector – Slow
  + OBA in Time History – Green Check Mark
  + Time History – 10 Second

The meter should be tripod mounted, where possible, at a height of 1.5 meters, with the microphone aimed towards the sound source at an angle of 20 degrees, and fitted with an appropriate windscreen. It should be 25 feet away from walls and other reflecting surfaces, more than 2 feet from larger trees, and not located above driveways or other paved surfaces is possible (or typical).

Complete the inspection form found in Appendix 1. In addition, take site photos from at least three angles (if possible) showing the meter and relevant background features.

During the measurements, notes should be taken concerning the timing and location of any anomalous noise occurrences. If these occurrences appear to last a long time (lawn mowing, leaf blowing) the measurement will be halted and redone to ensure that the L90 level is correct. Notes should also be taken of weather conditions, including temperature and windspeed and direction during the measurement. The start time, duration, and meter speed setting (“slow”) should also be recorded during the measurement.

*Appendix 1: Inspection Form*

**Noise Complaint Inspection Form**

| **Complaint Address:** | | | |
| --- | --- | --- | --- |
| **Noise Source Address:** | | | |
| **Noise Source Description:** | | | |
| **Inspection Date:** | **Measurement Start:**  AM/PM | **Measurement End:**  AM/PM | **Inspector:** |

**FIELD OBSERVATIONS**

| Weather: |
| --- |
| Wind Direction/ Speed: |
| Background Noise (ie. Birds, nearby roads): |

I**nspection Diagram:**

|  |
| --- |

Pre-Measurement Field Calibration: \_\_\_\_ Pass \_\_\_\_ Fail

Post-Measurement Field Calibration: \_\_\_\_ Pass \_\_\_\_ Fail

**Extraneous Noise Observations (continue on back as necessary)**

| **Time Start** | **Time End** | **Description** |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |