
To: Mr. Arnaldo Mercado, Sr.
Environmental Programs Administrator

Cc:

From: Tetra Tech, Grove Scientific & Engineering

Date: March 15, 2024

Subject: Task 1 – Evaluation of Sound Level Limits and Plainly Audible Standard;
Task 2 – Comparative Analysis of Noise Ordinances-Overview

Task 1 – Assessment of the Current Noise Ordinance

Tetra Tech and Grove Scientific & Engineering (GSE) were tasked with assessing the current Orange County, FL noise ordinance, as outlined in Chapter 15, Article V of the Code of Ordinances, Noise Pollution Control. Tetra Tech and GSE (The Team) have compared these limits with nationally recognized standards and best practices. The Team reviewed the application of the plainly audible standard for noise determination and the distances specified for residential and non-residential areas, as well as examined the use of others' personal hearing abilities to enforce the plainly audible standard and its potential subjectivity. The Team's findings have been summarized in this memorandum.

Orange County Noise Ordinance (Last Updated June 24, 2014)

Orange County's current noise ordinance defines "plainly audible" as the following:

Plainly audible shall mean any noise or noise disturbance produced by any source, or reproduced by a radio, tape player, television, CD player, electronic audio equipment, musical instrument, sound amplifier or other mechanical or electronic sound making device that can be clearly heard by a person using his/her normal hearing faculties, at a distance as defined in subsection 15-183 (b)(1) (See Table 2 below) from the property line or right-of-way line of the source of the noise disturbance. When the particular sound or noise involves words or phrases, sound or noise may be deemed as "clearly heard" even though the investigating officer cannot determine the specific words or phrases being uttered or produced. The detection of a rhythmic bass reverberating type of noise disturbance is sufficient to constitute a plainly audible sound or noise.

Based on our review of comparable noise ordinance's Plainly Audible definitions, the Orange County definition should be updated to consider current noise generating equipment, simplified to make it more of a "nuisance" decision by the Officer and to make the measurement distances less ambiguous, and thus more enforceable. Our recommendations to revise this definition will be presented in Phase 2 of the project.

Orange County's current noise ordinance outlines the maximum permissible sound levels; land use categories; times; and measurement descriptors are summarized in Table 1 below a sound level meter.

Table 1: Maximum Allowable Sound Level Limits

Land Use Category	Measurement	Time of Day	Sound Level Limit (dBA)
Noise Sensitive Zone*	Time Averaged	Anytime	55 dB
	Impulsive	7:00am – 10:00pm	60 dB
	Impulsive	10:01pm – 6:59am	Not allowed
Residential Area	Time Averaged	7:00am – 10:00pm	60 dB
	Time Averaged	10:01pm – 6:59am	55 dB
	Impulsive	7:00am – 10:00pm	65 dB
	Impulsive	10:01pm – 6:59am	Not allowed

*Noise-sensitive zones include schools, public libraries, churches, hospitals, nursing homes, and other areas defined as such pursuant to a resolution adopted by the Board of County Commissioners.

Table 1 displays the maximum allowable sound level limits for noise sensitive zones and residential areas. Orange County's current noise ordinance does not specifically address other land use categories (such as industrial, commercial, etc.) for maximum allowable sound level limits using a sound level meter. Based on our review of comparable ordinances, such as City of Orlando and Jacksonville, noise limits will be recommended for a broader range of land uses in Phase 2. Noise limits will also be recommended for Special zoning districts, stadiums and event venues, as identified by the County.

Orange County's current noise ordinance also outlines the distance requirements of sound that is plainly audible in underlying land use categories and times as summarized in Table 2 as an assessment of noise without the use of a sound level meter.

Table 2: Plainly Audible Sound Level Limits

Underlying Land Use Category (from which noise emanates)	Time of Day	Distance
Residential Area	7:00am – 10:00pm	500 feet or more
	10:01pm – 6:59am	150 feet or more
Nonresidential Area	7:00am – 10:00pm	500 feet or more
	10:01pm – 6:59am	300 feet or more

We will recommend revising this Table with additional land uses and to refine the sound measurement distances, which appear to be excessive, based on stakeholder and Officer enforcement input in Phase 2.

The recommended increased land use categories in the noise limit Tables should increase the focus on controlling noise from commercial or industrial developments close to residential uses. Development review policy and potential zoning ordinance revisions to focus on additional buffers, barriers, and setbacks from anticipated noise generating uses will be recommended in Phase 2.

Nationally Recognized Standards and Best Practices

In 1975, the U.S. EPA developed a performance-standard model noise ordinance which was intended to be a basic tool for the use by communities of various sizes in the development of noise control ordinances tailored to their specific local conditions and goals. In 2019, the Noise Pollution Clearinghouse (NPC), a national non-profit organization with extensive online noise related resources, revised the EPA's Model Noise Ordinance as an effort to bring noise regulation into the 21st century. The plainly audible definition in the NPC model ordinance:

Radios, Television Sets, Musical Instruments and, Similar Devices

Operating, playing or permitting the operation or playing of any radio, television, phonograph, drum, musical instrument, sound amplifier, personal sound system, vehicular sound system, or similar device which produces, reproduces, or amplifies sound:

(a) Between the hours of 8 p.m. and 8 a.m. the following day in such a manner as to be plainly audible at a distance of 50 feet or more in any direction from the device or 50 feet or more from a real property boundary if on private property. [Except for activities open to the public and for which a permit has been issued by (appropriate authority) according to criteria set forth in];

(b) Between the hours of 8 a.m. and 8 p.m. the following day in such a manner as to be plainly audible at a distance of 100 feet or more in any direction from the device or 100 feet or more from a real property boundary if on private property [Except for activities open to the public and for which a permit has been issued by (appropriate authority) according to criteria set forth in];

(c) In such a manner as to be plainly audible at a distance of 100 feet or more in any direction from such device, when operated in or on a motor vehicle on a public right-of-way or public space, or in a boat on public waters, or;

(d) In such a manner as to be plainly audible to any person other than the operator of the device, when operated by any passenger on a common carrier.

Comparing this model to the County's current plainly audible measurement distances points out the noise tolerance of the County's ordinance.

Task 2- Noise Ordinance Comparison Table

We compared the Orange County noise ordinance with seven (7) local and similar sized Florida communities, see attached Table. Although the information and details from the varying noise ordinances speak for themselves, we offer the following observations on the comparison:

- The County's ordinance is lacking noise limits from sources within the varying land uses;
- Plainly Audible noise measurement distances can be refined, and the definition simplified to ease enforcement;
- Sound level meter definition needs updating.
- Special zoning districts, stadiums, and event venues need to be defined by the County and added noise limits accordingly;
- Special districts need to be identified by the County, if any, and related noise limits added to the ordinance;
- We are assuming that airport noise zones and vehicle noise limits, regulated by other laws, are not to be considered within the County ordinance;
- Lawn, or other property maintenance, noise generating equipment limits should be added to the ordinance.

Again, the Phase 2 tasks will present a proposed draft ordinance utilizing the best language from the reviewed ordinances.