

Appendix J5 Commercial Miscellaneous Noise

Appendices

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The Ontario Regional Sports Complex EIR Commercial/Miscellaneous Noise

Technical Report

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1. Summary

This technical appendix presents an inventory of potential miscellaneous noise sources and applicable regulations associated with The Ontario Regional Sports Complex (ORSC). The noise analysis was prepared in support of the Environmental Impact Report (EIR), pursuant to the requirements of the California Environmental Quality Act (CEQA).

The ORSC will include several on-site buildings and amenities that may produce miscellaneous sources of noise, including heating ventilation and air conditioning (HVAC) systems/cooling towers, emergency generators, small loading docks/delivery areas to accept deliveries at the proposed hotel, stadium, and retail spaces, and facility landscape maintenance activities.

In the current stage of design, the types, quantities, and locations of mechanical equipment for heating and cooling, loading docks, and emergency generators are unknown. Impulsive noise associated with loading docks, such as truck doors slamming, will be intermittent. Testing of emergency generators will be periodic, occurring for no more than one hour per week. However, noise studies will need to be performed for these sources before finalizing site plans and product selections to ensure compliance with the City's noise code limits.

Other sources of noise, such as landscape maintenance activities are exempt from the City of Ontario's noise code but are expected to be performed during weekday daytime hours, whenever feasible, particularly in areas closest to noise-sensitive land use where it would be difficult to comply with the City's noise level limits. The ORSC will not include public address systems or other sound amplification devices, other than at the proposed minor league baseball stadium and potential amplified music at the Chicken N Pickle entertainment complex. Amplified music would be limited to time of day and audibility restrictions established in the City's noise code, and the Chicken N Pickle would be required to demonstrate compliance with the City's noise limits by performing a comprehensive noise study.

Miscellaneous noise sources are not anticipated to generate noise levels in excess of noise level limits in the City's general plan or noise ordinance or cause permanent substantial noise increases, relative to ambient noise levels.

2. Environmental Setting

2.1 Noise

2.1.1 Noise Descriptors

Noise levels are presented on a logarithmic scale to account for the large pressure response range of the human ear. This logarithmic scale is expressed in units of decibels (dB). A decibel is defined as the ratio between a measured value and a reference value usually corresponding to the lower threshold of human hearing. The lower threshold of human hearing is defined as 20 micropascals. Typically, a noise analysis examines 11 octave (or 33 1/3 octave) bands ranging from 16 hertz (low) to 16,000 hertz (high). This octave band encompasses the human audible frequency range. The human ear does not perceive every frequency with equal loudness; therefore, spectrally varying sounds are often adjusted with a weighting filter. The A weighted filter is applied to compensate for the frequency response of the human auditory system, known as a dBA. The A-weighted sound level is commonly used when measuring environmental noise and is widely accepted by acousticians as a proper unit for describing environmental noise.

An inherent property of the logarithmic dB scale is that the sound pressure levels of two separate sources are not directly additive. For example, if a sound of 50 dBA is added to another sound of 50 dBA in the proximity, the result is a 3 dB increase, which is a total of 53 dBA and not an arithmetic doubling to 100 dBA. The human ear perceives changes in sound pressure level relative to changes in “loudness.” Scientific research demonstrates the following general relationships between sound level and human perception for two sound levels with the same or very similar frequency characteristics:

- One dBA is the practical limit of accuracy for sound measurement systems and corresponds to an approximate 10 percent variation in the sound pressure level. A 1-dBA increase or decrease is a non-perceptible change in sound.
- A 3-dBA increase or decrease is a doubling (or halving) of acoustic pressure level, and it corresponds to the threshold of change in loudness perceptible in a laboratory environment. In practice, the average person is not able to distinguish a 3-dBA difference in environmental sound outdoors.
- A 5-dBA increase or decrease is described as a perceptible change in sound level and is a discernible change in an outdoor environment.
- A 10-dBA increase or decrease is a tenfold increase or decrease in acoustic pressure level but is perceived as a doubling or halving in loudness (e.g., the average person would judge a 10-dBA change in sound level to be twice or half as loud).

Some common sounds on the dBA scale are listed in Table 1Error! Reference source not found.. As shown, the relative perceived loudness of a sound doubles for each increase of 10 dBA, and a 10 dBA change in the sound level corresponds to a factor of 10 increase or decrease in relative sound energy. **Figure 1** depicts the estimations of common noise sources and outdoor acoustic environments and provides a comparison of relative loudness for each of these sources.

Table 1. Common Sounds on the A-Weighted Decibel Scale

Sound	Sound Level (dBA)	Relative Loudness (approximate)	Relative Sound Energy
Rock music, with amplifier	120	64	1,000,000
Thunder, snowmobile (operator)	110	32	100,000
Boiler shop, power mower	100	16	10,000
Orchestral crescendo at 25 feet, noisy kitchen	90	8	1,000
Busy street	80	4	100
Interior of department store	70	2	10
Ordinary conversation, 3 feet away	60	1	1
Quiet automobiles at low speed	50	½	.1
Average office	40	¼	.01
City residence	30	1/8	.001
Quiet country residence	20	1/16	.0001
Rustle of leaves	10	1/32	.00001
Threshold of hearing	0	1/64	.000001

Source: U.S. Department of Housing and Urban Development. Aircraft Noise Impact--Planning Guidelines for Local Agencies, Figure 2-2. 1972.

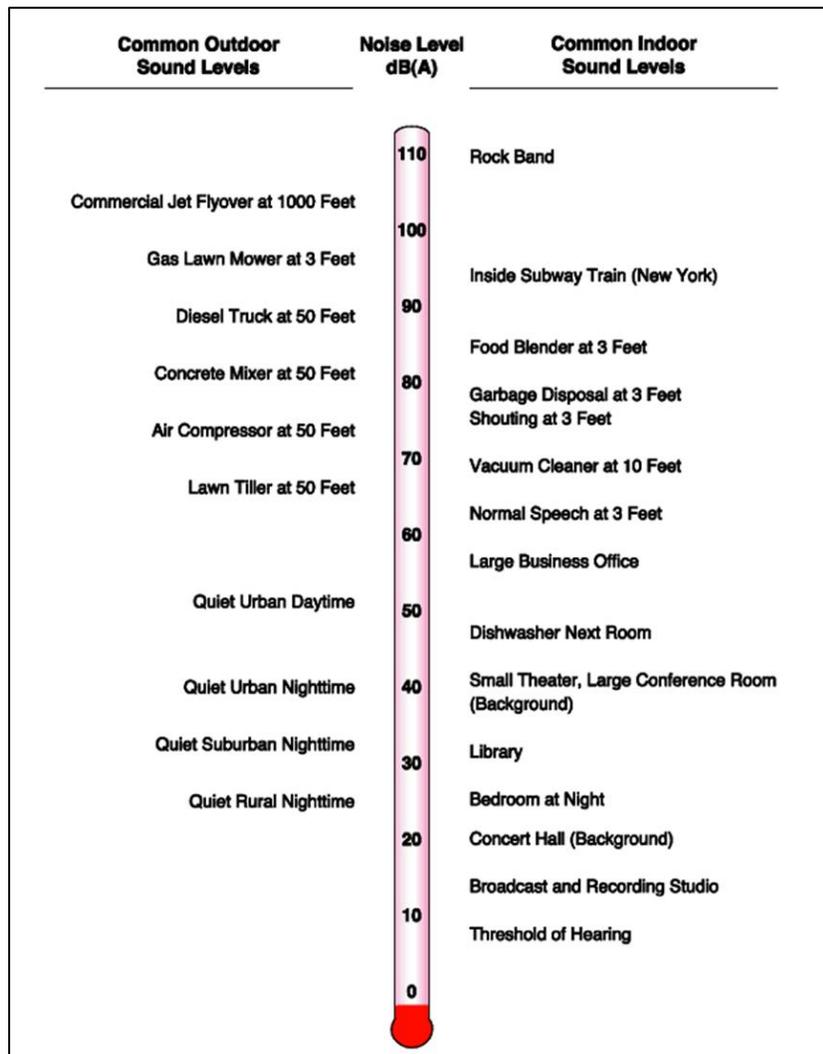


Figure 1. Sound Levels

Source: HMMH 2023

Noise levels can be measured, modeled, and presented in various formats. The noise metrics that were employed in this analysis have the following definitions:

- L_{eq} : Most environmental noise fluctuates from moment to moment, and it is common practice to characterize the fluctuating level by a single number, L_{eq} . Conventionally expressed in dBA, the L_{eq} is the energy-averaged, A-weighted sound level. It is defined as the steady, continuous sound level over a specified time, which has the same acoustic energy as the actual varying sound levels over the specified period. The daytime L_{eq} is the energy-averaged sound level for the daytime period (7:00 a.m. to 10:00 p.m.), and the nighttime L_{eq} is the energy averaged sound level for the nighttime period (10:00 p.m. to 7:00 a.m.). For traffic noise assessment, L_{eq} is typically evaluated over a one-hour period and may be denoted as $L_{eq(h)}$.
- L_{dn} : The L_{dn} is the average, hourly A-weighted L_{eq} for a 24-hour period, with a 10-dB penalty added to sound levels occurring during the nighttime hours (10:00 p.m. to 7:00 a.m.) to account for individuals' increased sensitivity to noise levels during nighttime hours.

- Community noise equivalent level: The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the sound levels occurring during evening hours (7:00 p.m. to 10:00 p.m.) and 10 dB added to noise levels occurring during nighttime hours (10:00 p.m. to 7:00 a.m.).
- L_{90} : The L_{90} is often used to describe the quieter background sound levels that occurred, since it represents the level exceeded 90 percent of the period.

2.1.2 Noise Attenuation

Construction noise typically dissipates at a rate of approximately 6.0 dB for each doubling of distance (between the noise source and the receptor). As an example, construction equipment with mufflers (independent of background ambient noise levels) during excavation and grading may generate a noise level of approximately 86 dBA L_{eq} at 50 feet from the noise source. Based on a sound dissipation rate of 6 dB per doubling of distance, a sound level of 86 dBA at 50 feet from the noise source would be approximately 80 dBA at a distance of 100 feet, 74 dBA at a distance of 200 feet, and so on. That sound drop-off rate does not take into account any intervening shielding (including landscaping or trees) or barriers, such as structures or hills between the noise source and noise receptor. A barrier that breaks the line-of-sight between a source and a receiver will typically result in at least 5 dB of noise reduction. A higher barrier may provide as much as 20 dB of noise reduction.

2.1.3 Effects of Noise on Humans

The effects of noise on humans can be grouped into three general categories (U.S. EPA, 1979, p. 3-1):

- Subjective effects of annoyance, nuisance, dissatisfaction;
- Physiological effects such as starting hearing loss; and,
- Interference with activities such as speech, sleep, and learning.

With respect to annoyance, human response to sound is highly individualized. Many factors influence the response to noise including the character of the noise, the variability of the sound level, the presence of tones or impulses, and the time of day of the occurrence. Additionally, non-acoustical factors, such as individual opinion of the noise source, the ability to adapt to the noise, the attitude towards the source and those associated with it, and the predictability of the noise, all influence the response to noise. These factors result in the reaction to noise being highly subjective, with the perceived effect of a particular noise varying widely among individuals in a community.

Noise-induced hearing loss usually takes years to develop. Hearing loss is one of the most obvious and easily quantifiable effects of excessive exposure to noise. While the loss may be temporary at first, it can become permanent after continued exposure. When combined with hearing loss associated with aging, the amount of hearing loss directly due to the environment is difficult to quantify. Although the major cause of noise-induced hearing loss is occupational, nonoccupational sources may also be a factor.

Noise can mask important sounds and disrupt communication between individuals in a variety of settings. This process can cause anything from a slight irritation to a serious safety hazard, depending on the circumstance. Noise can disrupt face-to-face communication and telephone communication, and the enjoyment of music and television in the home. Interference with communication has proved to be one of the most important components of noise-related annoyance.

3. Methodology

The proposed ORSC will include several on-site buildings and amenities that may produce miscellaneous sources of noise, including the Chicken N Pickle indoor/outdoor entertainment complex, a two-story hotel, retail shopping, and community recreation center. These structures will be mechanically heated and cooled via heating ventilation and air conditioning (HVAC) systems/cooling towers and may include interior equipment vented to the exterior via louvres. The proposed stadium will also include approximately 110,000 square feet of mechanically conditioned space. Additional miscellaneous noise sources may include small loading docks/designated delivery areas to accept deliveries at the proposed hotel, stadium, and retail spaces. The hotel, stadium, recreation center, and Chicken N Pickle may each have emergency generators for use during main power failures. Routine testing is typically required for generators, which results in a temporary increase in noise. On-site landscape maintenance equipment will also generate occasional noise. The Chicken N Pickle will include pickleball courts, outdoor seating and yard game areas, and outdoor amplified music. Additionally, the stadium will include an amplification system for music and announcements.

The potential for these miscellaneous noise sources to have a significant effect on the existing environment was evaluated. Publicly available studies with reference noise levels for each source were obtained, and approximate minimum distances between noise sources and noise-sensitive land uses surrounding the project site were identified. To approximate noise levels from miscellaneous noise sources at existing noise-sensitive land uses, simple geometric spherical spreading was assumed, as described in Section 2. This concept assumes each noise source is a point source, whereby noise levels decrease at a rate of 6 decibels per distance doubling. Conservatively, direct lines of sight from all land use to all noise sources were assumed, and no additional attenuation from ground effects was assumed.

4. Regulatory Framework

Several federal, state, and local regulations, ordinances, and guidelines have been established to control noise and vibration and minimize effects on humans. The Noise Control Act of 1972 (42 United States Code Section 4901) was the first comprehensive statement of national noise policy. It declared that “it is the policy of the United States to promote an environment for all Americans free from noise that jeopardizes their health or welfare” (GSA, 1972). The below sections summarize applicable noise and vibration criteria.

The State of California and the City of Ontario have adopted a number of policies that are based in part on federal and state regulations and are directed at controlling or mitigating environmental noise effects. Policies, standards and codes relevant to the control of commercial and industrial noise sources for the ORSC are discussed below.

4.1 State

CEQA Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would result in:

- **Threshold A:** Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- **Threshold B:** Would the project result in generation of excessive groundborne vibration or groundborne noise levels?
- **Threshold C:** For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Applicable thresholds of significance are considered in the noise impact assessment. For commercial and miscellaneous noise sources, Threshold A is applicable and used to evaluate the potential for the project to have a significant effect on the environment. Threshold B does not apply to commercial/miscellaneous noise sources, as none of those sources would generate groundborne vibration or noise. Threshold B is applicable to construction noise and therefore discussed within the *ORSC EIR Construction Noise and Vibration Technical Report*. It should be noted that Threshold C does not apply to the project because no noise-sensitive land uses would be located within an airport land use plan or in the vicinity of a private airstrip.

General Plan Guidelines

The Governor’s Office of Planning and Research (OPR) is required to adopt and periodically revise the State of California’s General Plan Guidelines (GPG), which establishes the framework for the development of general plans for cities and counties. With respect to noise, the GPG provides a basis for the control and abatement of environmental noise and limiting excessive noise exposure for California residents. The GPG focuses on land use compatibility with the existing ambient environment and establishes CNEL and L_{dn} thresholds for community noise exposure by land use category that define normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable conditions. The recommended thresholds within the GPG may be adopted by cities or modified based on site-specific conditions (State of California, 2023).

4.2 Local

The Ontario Plan

The Ontario Plan (TOP) 2050 includes a “Safety Element” designed to limit excessive community noise exposure through effective and guided land use compatible planning. **Table 2** summarizes the City of Ontario’s land use compatibility standards to facilitate land use compatibility, relative to existing and future noise levels (City of Ontario, 2022).

Table 2. Ontario Noise Level Exposure and Land Use Compatibility Guidelines

Categories	Uses	CNEL (dBA)			
		Clearly Acceptable ¹	Normally Acceptable ²	Normally Unacceptable ³	Clearly Unacceptable ⁴
Residential	Single Family/Duplex	<60	60-65	65-70	70-85
	Multifamily	<60	60-65	65-75	75-85
	Mobile Homes	<60	60-65	-	65-85
	Hotel/Motel	<65	65-70	70-80	80-85
Public/Institutional	Schools/Hospitals	<60	60-65	65-70	70-85
	Churches/Libraries	<60	60-65	65-70	70-85
	Auditoriums/Concert Halls	<55	55-60	60-70	70-85
Commercial	Offices	<65	65-75	75-80	80-85
	Retail	<70	70-75	75-80	80-85
Industrial	Manufacturing	<70	70-75	75-85	-
	Warehousing	<70	70-80	80-85	-
Recreational/ Open Space	Parks/Playgrounds	<65	65-70	70-75	75-85
	Golf Course/Riding Stables	<65	65-70	70-75	75-85
	Outdoor Spectator Sports	<60	60-65	65-70	
	Outdoor Music Shells/Amphitheaters	-	<60	60-65	65-85
	Livestock/Wildlife Preserves	<70	-	70-75	75-85
	Crop Agriculture	<55-85	-	-	-

Notes:

1. No special noise insulation required, assuming buildings of normal conventional construction.
2. Acoustical reports will be required for major new residential construction. Conventional construction with closed windows and fresh air supply systems of air conditioning will normally suffice.
3. New construction should be discouraged. Noise/aviation easements required for all new construction. If new construction does proceed, a detailed analysis of noise reduction requirements must be made, and necessary noise insulation features included.
4. No new construction should be permitted.

Source: Ontario 2022.

City of Ontario Municipal Code

The City of Ontario Municipal Code, Chapter 29: Noise (hereafter referred to as “the City’s noise code”), establishes both exterior and interior noise standards for various land use types grouped into “noise zones.” Maximum permissible noise level limits are established for each noise zone from 7:00 a.m. to 10:00 p.m. and 10:00 p.m. to 7:00 a.m., based on the L_{eq} metric and a duration of 15 minutes. Pursuant to §5-29.04 Exterior noise standards, the ambient noise level shall be the standard if ambient exceeds the established permissible limit at any time in any zone. The code also establishes a maximum

instantaneous (L_{max}) permissible noise level limit of the established noise standard for the applicable zone plus 20 dBA during any period, measured in A-weighting on slow response. The limits established for Noise Zone I shall also apply to the exterior of schools, daycare centers, hospitals or other similar healthcare institutions, churches, libraries, or museums during hours of use, pursuant to §5-29.11 (City of Ontario, 2023). **Table 3** summarizes the allowable exterior noise level limits pursuant to §5-29.04(a).

Table 3. Exterior Noise Standards

Noise Zone	Land Use	Allowable Equivalent Noise Level, L_{eq} (dBA)	
		7:00 a.m. – 10:00 p.m.	10:00 p.m. – 7:00 a.m.
I	Single-Family Residential	65	45
II	Multi-Family Residential, Mobile Home Parks	65	50
III	Commercial Property	65	60
IV	Residential Portion of Mixed Use	70	70
V	Manufacturing and Industrial, Other Uses	70	70

Notes:

1. If the ambient level exceeds the standard, the ambient noise level shall be the standard.
 2. Compliance is determined on the affected property.
 3. Noise standards are based on a 15-min L_{eq} .
 4. Maximum instantaneous noise levels (L_{max}) equal to the noise standard limit plus 20 dBA shall not be exceeded at any time, measured using A-weighted with the meter set to slow response. However, if ambient exceeds the standard, the standard shall be increased to reflect the maximum ambient noise level.
 5. Noise Zone I noise standards also apply to the exterior of schools, daycare centers, hospitals or other similar healthcare institutions, churches, libraries, or museums during hours of use.
 6. Noise Zone IV applies to the portion of the residential property within 100 feet of a commercial property or use, if the noise originates from the commercial property or use.
 7. If the compliance location is on the boundary of two different noise zones, the lower noise level standard shall apply.
- Source: Ontario 2023.

The City’s noise code exempts various sources of noise, pursuant to §5-29.06 Exemptions, which are applicable to the control of commercial and industrial noise, include:

- Activities on public or private property conducted by any public entity or its authorized representatives including sporting and recreational activities that are sponsored, co-sponsored, permitted, or allowed by the City. This also includes sporting and entertainment events conducted pursuant to an approval, authorization, contract, lease, permit, or sublease by the appropriate public entity, specifically the planning commission or City Council.
- Noise sources associated with construction, repair, remodeling, demolition, or grading of any real property, as construction activities are instead subject to the provisions of §5-29.09.
- Noise sources associated with the maintenance of real property. Such activities shall instead be subject to the provisions of §5-29.08.
- Activities regulated by state or federal law.

Pursuant to §5-29.08 of the City’s noise code, noise from maintenance of property shall not produce a disturbance to those who work or reside in the vicinity of the source, except between the hours of 8:00 a.m. and 6:00 p.m. In addition, landscaping and maintenance activities are generally restricted to specific times during weekdays and on weekends. These provisions do not apply to any maintenance

that meets the noise limits established in §5-29.04. In addition, the maintenance, repair, or improvement of any public work or facility by public employees is exempt as long as the City Manager determines maintenance and repair is immediately necessary, cannot be feasibly conducted during normal business hours, or the City Council has an approved project specification or an environmental document authorizing maintenance during hours otherwise prohibited by §5-29.08.

The City's noise code also includes a provision regarding sound-amplification via loudspeakers, sound amplifiers, public address systems or similar devices. Use of said devices for providing instructions, giving speeches, lectures, etc. requires a permit from the Police Chief, pursuant to §5-29.13(b). Using sound amplification equipment on public or private property at public or private events attended by 100 or more people where sound would be audible at the property line is also subject to the amplified sound provisions. However, activities on public or private property conducted by a public entity or lessees authorized by the public entity are exempt from provisions of the City's noise code, including those related to amplified sound.

Pursuant to the City's noise code, use of sound-amplifying equipment and sound trucks in the City of Ontario shall be subject to the following:

- The only sounds permitted are music and human speech.
- Sound shall not be emitted within one hundred (100) yards of hospitals, churches, schools and City Hall.
- The volume of sound shall be controlled so that it will not be audible for a distance in excess of one hundred (100) feet from the sound amplifying equipment or sound truck, and so that the volume is not unreasonably loud, raucous, jarring, disturbing or a nuisance to persons within the range of allowed audibility.
- The sound amplifying equipment or sound truck shall not be used between the hours of 8:00 p.m. and 8:00 a.m.

5. Impact Analysis

In the current stage of design, the types, quantities, and locations of mechanical equipment for heating and cooling, small loading docks/delivery areas, and emergency generators are unknown. These noise sources are not specifically exempted by the City's code except for the use of mechanical devices in connection with an emergency. Noise associated with maintenance operations and the Chicken N Pickle are regulated by the City's municipal code. The impacts of all miscellaneous noise sources are described below with approximate noise source levels and anticipated noise levels at the closest noise-sensitive land uses.

HVAC Equipment

It is assumed that noise associated with operation of heating and cooling equipment will be minimized by the design and strategic placement of equipment. Noise levels from HVAC equipment can vary widely depending on the manufacturer and size of equipment required for a site's heating and cooling needs. The minimum distance from any structure that would include rooftop mechanical equipment to any noise-sensitive land use is approximately 260 feet (from the proposed indoor athletic facility along the southern boundary of the site to a residential structure along Chino Avenue). To ensure compliance with the more stringent overnight noise levels in the City's municipal code (45 dBA at single-family residences from 10:00 p.m. to 7:00 a.m.), HVAC equipment for the indoor athletic facility should be designed and/or placed to yield a sound level less than 58 dBA at 50 feet. Limiting HVAC equipment noise levels to 58 dBA at 50 feet would result in a noise level of approximately 44 dBA at residential land use along Chino Avenue. HVAC equipment noise levels on all other structures, including the proposed hotel, retail spaces, Chicken N Pickle, community center, and pool building should be limited to 65 dBA at 50 feet to ensure compliance with nighttime limits at residences along South Plymouth Avenue. Noise from mechanical equipment would not result in a significant effect on the existing environment due to the distances between potential equipment and noise sensitive land use.

Loading Docks

Activities at small loading docks/delivery areas for the hotel, stadium, Chicken N Pickle, and retail spaces may result in intermittent increases in noise levels from truck door slams and pure tone backup alarms on delivery vehicles, for example. Deliveries are anticipated to be infrequent, estimated at no more than once per week. Based on a study conducted for the Walmart Supercenter in Ontario, California, truck unloading activities may be as loud as approximately 67 dBA (L_{eq}) at 50 feet (David Evans and Associates, 2007). The closest distance to any noise-sensitive land use from potential loading docks is approximately 545 feet (from proposed retail space to a residence along South Plymouth Avenue). Assuming a direct line of sight and spherical spreading (see Section 3), noise levels from loading/unloading operations would thereby decrease to approximately 46 dBA along South Plymouth Avenue.

According to a study conducted by the Rensselaer Polytechnic Institute for the New York State Energy Research and Development Authority and the New York State Department of Transportation, "slamming doors" during delivery operations may result in a peak noise level of 74 dBA (Wang et al., 2013). Since a reference distance for this peak noise level was not provided within the study, conservatively assuming a reference distance of 50 feet yields a peak sound level of 53 dBA along South Plymouth Avenue. Therefore, peak noise levels from intermittent truck door slamming would not result in an increase of the municipal limits by 20 dBA or more.

Movement alarms on trucks may be as loud as 80 dBA at 50 feet,¹ which would equate to approximately 59 dBA along South Plymouth Avenue. Potential loading docks/areas can be located behind proposed on-site structures that provide shielding between loading/unloading activities and noise-sensitive land use. Additionally, all deliveries will occur during daytime hours (7:00 a.m. to 10:00 p.m.) to minimize disturbance during more sensitive hours. Intermittent noise increases from deliveries at small loading docks/areas are not anticipated to be significant or result in an exceedance of the City's daytime noise level limits. Therefore, loading/unloading activities would not result in a significant effect on the existing environment.

Emergency Generators

Manufacturer's specifications typically require routine testing of emergency generators, which is generally not exempted by municipal noise ordinances. However, testing would be periodic, assuming a total of 50 hours per year, translating to one hour per week. Depending on the size of emergency generators, maximum sound levels may range from 86 to 88 dBA at a distance of 23 feet for open generator sets (i.e., without weather or acoustical enclosures). Weather-proof enclosures would reduce maximum noise levels to approximately 81 dBA at a distance of 23 feet. With sound-attenuating enclosures, maximum sound levels at a distance of 23 feet may range between 72 to 75 dBA, depending on the level of enclosure (i.e., most manufacturers provide various levels of enclosures depending on sound-attenuation needs) (Carpenter et al., 2017). The minimum distance from any structure that would utilize an emergency generator to any noise-sensitive land use is approximately 260 feet (from the proposed indoor athletic facility along the southern boundary of the site to a residential structure along Chino Avenue). Assuming all emergency generators are equipped with weather-proof enclosures at a minimum, and assuming a direct line of sight between generators and noise-sensitive land use, a maximum noise level of approximately 60 dBA at the closest residence along Chino Avenue is feasible during weekly routine generator testing of a single generator. This noise level is below the City's daytime (7:00 a.m. to 10:00 p.m.) 15-min L_{eq} limit at residential land use. To ensure compliance with the City's noise level limits during routine testing, all emergency generators would be equipped with sound-attenuating enclosures, testing would only occur during daytime hours (7:00 a.m. to 10:00 p.m.) when noise limits are less stringent, and each emergency generator would be tested individually to preclude a cumulative noise level that exceeds the City's municipal limits. A substantial permanent increase in ambient noise levels above limits established in the City's noise code is thereby not anticipated. Therefore, periodic testing of emergency generators would not result in a significant effect on the existing environment.

Maintenance Equipment

As discussed within Section 4, maintenance of property can occur between 8:00 a.m. and 6:00 p.m., unless the equipment and activities comply with the noise level limits specified in the code. However, maintenance of public facilities is exempt from provisions of §5-29.08 of the City's noise code, as long as these activities are immediately necessary (i.e., repair and improvements necessary to maintain public service) or cannot be conducted during normal business hours. As shown in Figure 1, approximate noise levels associated with a gas lawn mower may be as high as 95 dBA at a distance of 3 feet. Residences along East Riverside Drive are closest to areas that would require lawn maintenance, at an approximate distance of 100 feet, equating to approximately 65 dBA at the closest residences. It is assumed that landscape maintenance activities can be performed between 8:00 a.m. and 6:00 p.m. whenever feasible, particularly in areas closest to noise-sensitive land use where it would be more difficult to otherwise comply with the City's noise level limits. Lawn maintenance is anticipated to be periodic, occurring two

¹ https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm2/

times per week, and lawn maintenance equipment would only result in temporary increases in noise levels. Therefore, periodic lawn maintenance would not result in a significant effect on the existing environment.

Chicken N Pickle

The Chicken N Pickle will include both indoor and outdoor entertainment areas with amplified music, a sports bar, pickleball courts, and yard games as well as outdoor dining and lounging areas. Based on hours of operation from other existing Chicken N Pickle locations, the entertainment complex opens as early as 8:00 a.m. on weekdays and weekends, and closes at 11:00 p.m. on Monday through Thursday, midnight on Fridays, and 10:00 p.m. or 11:00 p.m. on Sundays. Amplified music will be subject to provisions of the City's noise code, including audibility and time of day restrictions.

The analysis of concert events at the proposed stadium was used as a conservative proxy for the impact of amplified music from the Chicken N Pickle. As presented in Figure 5 in the *ORSC EIR Stadium Noise Technical Report*, noise levels from concerts held at the proposed stadium would be less than 40 dBA within all surrounding residential neighborhoods. Therefore, amplified music from the outdoor bar areas associated with the Chicken N Pickle is also likely to be less than 40 dBA within adjacent residential neighborhoods due to its location on-site and distance to adjacent neighborhoods (closest residence along South Plymouth Avenue is approximately 875 feet from the Chicken N Pickle site, while closest residence to the stadium is approximately 970 feet). Amplified music would rarely be audible within the adjacent communities, as it is anticipated to be below background (L_{90}) noise levels (refer to Table 4 and Table 5 in the *ORSC EIR Traffic Noise Technical Report* for average background noise levels).

Noise generated from pickle ball games and mechanical equipment associated with the facility's HVAC system will also be subject to the City's noise level limits. The minimum distance from any structure that would include rooftop mechanical equipment on the Chicken N Pickle to any noise-sensitive land use is approximately 592 feet (i.e., to residences along Plymouth Avenue). HVAC equipment noise levels associated with the Chicken N Pickle should thereby be limited to 65 dBA at 50 feet to ensure compliance with the nighttime limit in the City's municipal code at residences along South Plymouth Avenue. Limiting HVAC equipment noise levels at the Chicken N Pickle to 65 dBA at 50 feet would result in a noise level of approximately 44 dBA at residential land use along Plymouth Avenue.

Reference sound levels for pickleball are identified in a noise study conducted in Arizona (Woo, 2012). Based on that study, pickleball noise from 32 players at a distance of 10 feet from the edge of the court was measured at 66.9 dBA. Assuming a minimum distance of 875 feet from the Chicken N Pickle to the nearest residence and direct line of sight, pickleball noise levels would be reduced to approximately 28 dBA. Therefore, pickleball noise is not anticipated to result in a significant effect on the existing environment.

Other sources of noise would include a public address system and/or other sound amplification devices at the proposed minor league baseball stadium, which is addressed in the *ORSC EIR Stadium Noise Technical Report*.

6. Mitigation

In the current stage of design, the types, quantities, and locations of mechanical equipment for heating and cooling, loading docks/delivery areas, and emergency generators are unknown. However, these sources of noise are not specifically exempt from the City's noise level limits. Therefore, noise studies will need to be conducted before finalizing site designs and once mechanical equipment is sized and specified to ensure compliance with the City's noise code.

Other sources of noise, such as landscape maintenance activities are expected to be performed during weekday daytime hours, whenever feasible, which will minimize disturbance to adjacent residents. The ORSC will not include public address systems or other sound amplification devices, other than at the proposed minor league baseball stadium and potential amplified music at the Chicken N Pickle entertainment complex. To ensure compliance with the City's noise code, the privately-owned Chicken N Pickle entertainment complex will be required to prepare a noise study documenting all anticipated noise sources and predicted noise levels within the existing community. Amplified music at the Chicken N Pickle will be limited to time of day and audibility restrictions established in the City's noise code to avoid elevated noise levels during more sensitive times of day for adjacent residents.

In general, miscellaneous noise sources are not anticipated to generate noise levels in excess of standards in the City's general plan or noise ordinance or cause permanent substantial noise increases, relative to ambient noise levels.

7. References

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