

Seattle Permits

— part of a multi-departmental City of Seattle series on getting a permit

Making Sure Your Commercial Project Meets Seattle's Noise Ordinance Requirements

Updated May 19, 2005

All commercial projects in Seattle must meet the requirements of the Noise Ordinance (Chapter 25.08 of the Seattle Municipal Code), which establishes acceptable noise levels for each land use zone. The stated intent of the Noise Ordinance is to “control the level of the noise in a manner which promotes commerce; the use, value, and enjoyment of property; sleep and repose; and the quality of environment.”

Noise Abatement Program

Staff in the Noise Abatement Program at the Seattle Department of Construction and Inspections (SDCI) are responsible for enforcing the Noise Ordinance. Projects are screened during plan or permit review for potential noise issues, particularly those projects located on the edge of a commercial zone that abuts a residential zone, where noise concerns are more likely to occur. Mitigation measures for major noise generators are required for such projects.

Major Noise Generators Defined

Section 23.47.018 of the Seattle Land Use Code defines the following uses or devices as major noise generators:

- Light and general manufacturing
- Major vessel repair
- Aircraft repair shops
- Major vehicle repair
- Exterior heat exchangers, and other similar devices (e.g., ventilation, air-conditioning, refrigeration)
- Cargo terminals
- Recycling centers
- Other similar uses

Acoustical Consultant Report Required

Section 23.47.018 also states that when a major noise generator is proposed, or when an existing major noise generator is proposed to be expanded, a report from an acoustical consultant is required to describe the measures to be taken by the applicant to reduce the noise impact so that noise standards are met.

All plans submitted with applications for a permit in which a major noise generator is proposed must clearly show any mitigation measures that are required to meet noise standards. Examples of mitigation measures include the provision of buffers, reduction in hours of operation, relocation of mechanical equipment, increased setbacks and use of specified construction techniques or building materials. After a permit has been issued, any measure required by the permit to limit noise must be maintained.

Guidelines for Preparing an Acoustical Report

- **ZONING:** The zoning of adjacent properties is key to determining when an acoustical report is required by SDCI. When a commercial project is proposed to be adjacent to a residentially zoned property, a report is required.
- **APPLICABLE NOISE LIMITS:** The applicable noise limits should be identified and/or presented in a table, including nighttime noise limits. Documentation should be provided when the pure-tone component rule pertains to a noise source.
- **SCALE DRAWINGS:** For new projects or existing structures, prepare a scale drawing to illustrate the relative locations of the noise sources, and the receivers of concern. Indicate the zoning designation of the property of the source(s) and of the receiver(s).
- **ACOUSTICAL MEASUREMENTS NOT REQUIRED:** Acoustical measurements may not be necessary to complete an assessment of compliance with noise standards. Where there are no adjacent sensitive receptors, or when a new source will clearly meet the allowed decibel limit(s) for the daytime hours by a wide margin of safety, acoustical mea-

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surements would not be required. Any noise/sound measurements that are pertinent to the evaluation, however, should be presented and explained.

- **AMBIENT MEASUREMENTS REQUIRED:** Where ambient measurements are required, specify the start time, duration, weighting filter employed, type of instrument (Type I or Type II), and all appropriate sound level information (L_{eq} and L_{ns}). The distance to known or suspected sources and the operating conditions of the source(s) should be clearly stated. When taking measurements to characterize typical and worst case sound levels from specific pieces of equipment, the distance to an operational mode(s) of a source is critical.
- **METHOD OF MEASUREMENT:** In measurements taken to assess compliance with a noise limit, state how the compliance determination was made. One method might be a direct measurement. Another technique can be used in which 1-second L_{eq}s are tabulated and manipulated to remove periods (seconds) with extraneous sources before calculating L_{ns} corresponding to the regulatory limits. This may be accomplished by dumping data in to a computer and then doing the calculations.

Using either method described, a 15 minute measurement will indicate whether a source exceeds a sound level limit, assuming the maximum source noise level is captured. Determining compliance takes at least 60 minutes of sound levels exclusive of intrusions from other sources. A statement of whether a noise source does or will comply with the applicable noise limit(s) should be stated as clearly as possible, accompanied by a professional verification of accuracy and code compliance.

- **CALCULATED ASSESSMENT:** When assessments are based on calculations, describe the methods or models with particular attention to any attenuation mechanisms, for example distance, barriers, etc. employed or assumed.
- **PURE-TONE COMPONENT:** In an existing commercial project, when a pure-tone component is suspected, it must be verified by a qualified acoustical engineer, based on a frequency spectrum measurement of the source noise.

This can be accomplished using a meter that captures an instantaneous snapshot of the 1/3 octave spectrum, or using a real time frequency spectrum analyzer.

Related Resources

The following noise-related resources are available on the SDCI Noise Abatement Program website at [www.seattle.gov/sdci/codes/codes-we-enforce-\(a-z\)/noise-code](http://www.seattle.gov/sdci/codes/codes-we-enforce-(a-z)/noise-code):

- text of the Seattle Noise Ordinance
- information on sound and maximum permissible noise levels
- instructions on applying for a temporary noise variance
- tips on mitigating noise in commercial projects
- instructions on filing a noise complaint

Questions?

Questions regarding noise impact review and enforcement may be directed to the SDCI Noise Abatement staff at:

Phone: (206) 684-7843 or (206) 615-1760

Office Location: 22nd floor, Seattle Municipal Tower
700 Fifth Ave., downtown Seattle

Access to Information

Links to SDCI Tips, Director's Rules, and the Seattle Land Use Code are available on our website at www.seattle.gov/sdci.