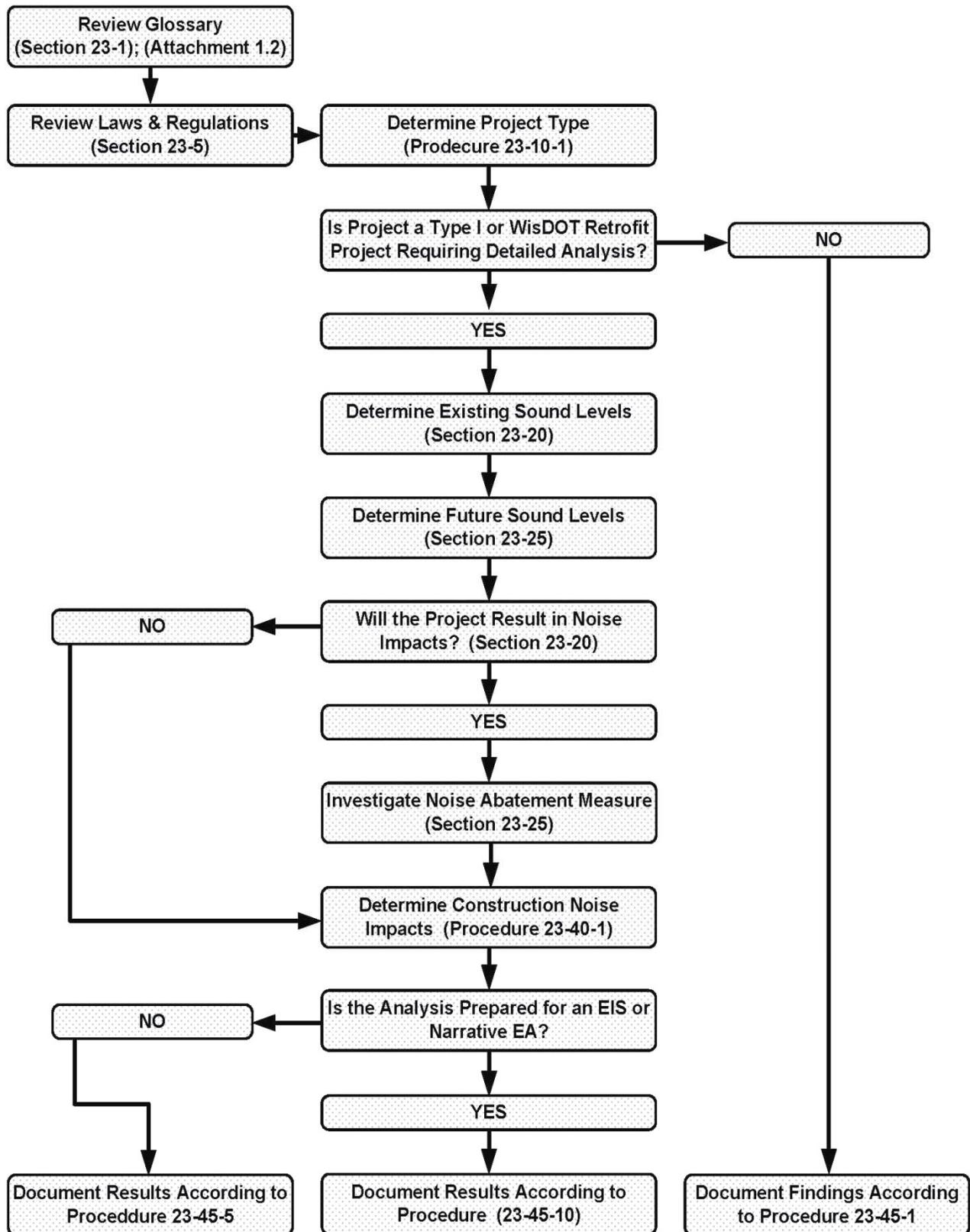


### PROCEDURE FOR PREPARING A HIGHWAY NOISE ANALYSIS



## Abbreviations, Acronyms and Definitions

**A-Scale**: A weighting system which best approximates the frequency response of the average human ear.

**ADT**: Average Daily Traffic

**AADT**: Annual Average Daily Traffic

**Approach**: Means one (1) decibel less than the levels in the Noise Level Criteria For Considering Barriers Table in [FDM 23-30-2](#).

**Benefited Receptor**: A receptor or common use area receiving a minimum eight (8) decibels reduction in sound level as a result of the proposed abatement measure.

**CE**: Categorical Exclusion

**Common Noise Environment**: A group of receptors within the same Land Use Category listed in the Noise Level Criteria For Considering Barriers, Table 2.1 (see [FDM 23-30-2](#)) that are exposed to similar noise sources and levels; traffic volumes, traffic mix, and speed; and topographic features. Generally, common noise environments occur between two secondary noise sources such as interchanges, intersections and cross-roads.

**Common Use Area**: An outdoor place in a multi-unit residential complex where frequent human use by all complex residents occurs and a lowered noise level would be of benefit.

**dB/DD**: Decibel reduction per doubling of distance

**DHV**: Design Hour Volume

**Date of Public Knowledge**: The date of approval of the Categorical Exclusion (CE), the Finding of No Significant Impact (FONSI), or Record of Decision (ROD), as defined in 23 CFR 771.

**Decibel (dB)**: The unit of measure of sound intensity. The decibel scale audible to humans spans approximately 140 dBs.

**Design Year**: Means 20 years after the completion of construction of the highway facility.

**EA**: Environmental Assessment

**EIS**: Environmental Impact Statement

**Existing Noise Level**: The highest hourly traffic noise level caused by existing conditions in a particular area.

**FHPM 7-7-3**: Federal Aid Highway Program Manual, Volume 7, Chapter 7, Section 3

**FONSI**: Finding of No Significant Impact

**Feasibility**: The combination of acoustical and engineering factors considered in the evaluation of a noise abatement measure.

**Future Noise Level**: The highest hourly traffic noise level based on estimated design year traffic volumes.

**Impacted Receptor**: The recipient that has a traffic noise impact.

**Leq**: The equivalent steady-state noise level, as measured in decibels on the A-weighted scale (dBA), which in a stated period of time contains the same acoustic energy as the time-varying noise level during the same period.

**Leq(h)**: The hourly value of Leq

**L/S**: Line of Sight - The shortest distance between the noise source and receiver.

**Multifamily Dwelling**: A residential structure containing more than one residence. Each residence in a multifamily dwelling shall be counted as one receptor when determining impacted and benefited receptors.

**NAC**: FHWA Noise Abatement Criteria

**NLC**: WisDOT Noise Level Criteria

**Noise**: Unwanted sound

**Noise Barrier**: A physical obstruction that is constructed between the highway noise source and the noise sensitive receptor(s) that lowers the noise level, including stand alone noise walls, noise berms (earth or other materials), and combination berm/wall systems.

**Noise Level**: The sound level obtained through use of A-weighting characteristics. The unit of measure is the decibel (dB), commonly referred to as dBA when A-weighting is used.

**Noise Reduction Design Goal:** The department's criteria of a nine (9) decibel sound level reduction required at one (1) receptor or common use area as a result of the proposed abatement measure before a reasonableness determination can be made.

**PHV:** Peak Hour Volume

**Permitted:** A definite commitment to develop land with an approved specific design of land use activities as evidenced by the issuance of a building permit.

**Property Owner:** An individual or group of individuals that holds a title, deed, or other legal documentation of ownership of a property or residence.

**ROD:** Record of Decision

**Reasonableness:** The combination of social, economic, and environmental factors considered in the evaluation of a noise abatement measure.

**Receptor:** A discrete or representative location of a noise sensitive area(s) for any of the land uses listed in [FDM 23-30, Table 2.1](#) where frequent human use occurs and a lowered noise level would be of benefit.

**Residence:** The official location of a household.

**Retrofit project:** A proposed project for the construction of noise barriers along an existing highway.

**Substantial Noise Increase:** An increase of 15 dB(A) or more in the design year over the existing noise level.

**Traffic Noise Impacts:** Design year build conditions that approach or exceed the Noise Level Criteria For Considering Barriers Table for the applicable Land Use Category in [FDM 23-30-2](#) or a substantial noise increase in the design year over the existing noise level.

**WisDOT Retrofit Project:** A state-funded, stand-alone noise abatement project on an existing highway proposed and constructed as identified in the Wisconsin Noise Barrier Study, Summary Report, May 29, 1990. Also known as the WisDOT Retrofit Noise Barrier Program.

**23 CFR 771:** Title 23, Section 771 of the Code of Federal Regulations

**23 CFR 772:** Title 23, Section 772 of the Code of Federal Regulations