

APPENDIX

STATIONARY NOISE SOURCE STANDARDS

Most noise ordinances, such as those currently enacted by Montgomery County (Chapter 31B) and the State of Maryland (COMAR 10.20.01), control stationary sources of noise that emanate from within a single parcel. These regulations generally limit the maximum level of noise allowed to cross shared property lines, and are appropriately called "property line" standards. These standards are enforced by County and State noise control offices, respectively.

a. Montgomery County Noise Ordinance (Chapter 31B)

31B-5. Maximum Permissible Sound Levels - General

- 1) If the sound emanates from sources located within a commercial or industrial zone, the maximum permissible sound level is:
 - a) 62 dBA at any point on the property line;
 - b) 55 dBA at any point on a boundary separating a commercial zone or industrial zone from a residential zone.
- 2) If the sound emanates from sources located within a residential use zone, the maximum permissible sound level is 55 dBA at any point on the property line of the residential use.

b. State of Maryland Control of Noise Pollution (Chapter 10.20.01)

1) Goals

<u>Zoning District</u>	<u>Level</u>	<u>Measure</u>
Industrial	70 dBA	L _{eq} (24)
Commercial	64 dBA	L _{dn}
Residential	55 dBA	L _{dn}

2) Regulatory Standards

Maximum Allowable Noise Levels by Zoning Category (dBA)

<u>Day/Night</u>	<u>Industrial</u>	<u>Commercial</u>	<u>Residential</u>
Day	75 dBA	67 dBA	60 dBA
Night	75 dBA	62 dBA	50 dBA

APPENDIX
NOISE REDUCTION

Building and Site Design

The following are recommended techniques to achieve noise level performance criteria through building and site design. The techniques are listed in order of effectiveness.

- a) Buildings should be set back the maximum feasible distance from noise and vibration sources.
- b) Use of landscape berms designed to intercept the line-of-sight, should be placed between the noise source and receiver.
- c) Barriers should be considered where room for berms is not available. Barriers can effectively reduce noise levels, but have little effect on vibration.
- d) Site designs, especially for multi-family housing, should show noise-compatible uses (such as parking lots, open space, or garages) in noise impacted areas.
- e) A year round vegetative (preferably evergreen) visual buffer should be established between the source and receiver, as a psychological barrier.

Use of setbacks, berms, structure orientation and layout is designed to directly reduce noise levels on a site to criteria levels by placing a barrier between the source and receiver. Housing orientation can help protect private outdoor spaces from intruding noise.

In high noise locations (above 65 dBA L_{dn} or 75 dBA peak) structures should be designed to reduce interior noise levels. Bedrooms could be placed away from the noise source. In addition, the design should attempt to minimize windows and doors facing the source.

Home Renovation and Remodeling

Existing residents within the noise impacted area may consider noise reduction measures during renovations or remodeling. The objective is to reduce interior noise exposure levels to 45 dBA L_{dn} .

Interior noise abatement can be achieved by the following measures:

- . On existing windows facing the noise source, install two to three panels of 1/4 inch thick or thicker plate glass, separated by 2 to 4 inches of air space. Windows should be sealed by caulking around the frame and glass. Alternately install operable acoustical windows with a minimum sound transmission coefficient.
- . In addition to the above, install acoustical ceiling tile, carpeting, and/or insulated draperies in rooms facing the noise source.

These measures can reduce by half the perceived loudness on the interior of the structure. Retrofitting for acoustical purposes may also conserve energy thus providing a double benefit.