Clark County Department of Building & Fire Prevention

4701 West Russell Road, Las Vegas, NV 89118 ~ (702) 455-3000

35 Decibel Noise Level Reduction Standard Building Permit Guide

Samuel D. Palmer, Acting Director/Building & Fire Official • Girard Page, Fire Marshal

Part I. Clark County Code Section 22.22.040

Compliance with the following standards may be accomplished by one of three methods:

A. Design requirements for the total building system by a recognized **acoustical designer**.

B. Compliance with the **performance standard** for the particular building component (i.e. exterior wall at least an STC of 40).

C. Compliance with the **prescriptive standard** for the particular building component (i.e. double glazed windows shall be at least 3/16" thick).

Proof of compliance submitted to show that the proposed structure meets one of these standards shall be deemed as meeting the minimum noise level reduction (NLR) of 35 decibels.

Part II. General

All structures subject to the noise level reduction requirements must conform to this section unless it can be shown by documented tests or other appropriate information acceptable to the Building Official, that equivalent performance can be accomplished by other means or methods.

1. Brick veneer, masonry blocks or stucco exterior walls shall be constructed airtight. All joints shall be grouted or caulked airtight.
2. At the penetration of exterior walls by pipes, ducts or conduits, the space between the wall and pipes, ducts or conduits shall be caulked or filled with mortar.
3. Window and/or through-the-wall ventilation units shall not be used.
4. Fireplaces shall not be used.
5. All sleeping spaces shall be provided with a carpeted floor.
6. Through-the-wall or door mailboxes shall not be used.

Part III. Exterior Walls

1. **Performance Standard**
   a. Exterior walls shall have a laboratory sound transmission class (STC) rating of at least 40.

2. **Prescriptive Standard**
   a. Masonry walls having weight of at least 75 pounds per square foot do not require a furred (stud) interior wall. At least one surface of concrete block walls shall be of ½" gypsum board or plastered.
   b. Stud walls shall be at least 4" in nominal depth and shall be of gypsum board or plaster at least ½" thick, installed on the studs.
      a) The interior surface of the exterior walls shall be of gypsum board or plaster at least 5/8" thick, installed on the studs. The gypsum board or plaster may be fastened rigidly to the studs, if the exterior is brick veneer. If the exterior is stucco or siding-on-sheathing, the interior gypsum board or plaster must be fastened resiliently to the studs.

b) In addition to exterior wall covering, continuous composition board, plywood or gypsum board sheathing at least 1" thick shall cover the exterior side of the wall studs.
c) Sheathing panels shall be covered on the exterior with overlapping building paper.
d) Insulation material of at least R-19 shall be installed throughout the cavity space behind the exterior

Part IV. Windows

1. **Performance Standard**
   a. Windows shall have a laboratory sound transmission class (STC) rating of at least 38.

2. **Prescriptive Standard**
   a. Each pane of glass of doubled-glazed windows shall be at least 1/8" thick. Panes of glass shall be separated by a minimum ½" air space and shall not be equal in thickness.
   b. Double-glazed windows shall employ fixed sash or an efficient weather-stripped operable sash.
   c. The glass of fixed sash windows shall be sealed in an airtight manner with a non-hardening sealant or a soft elastomer gasket or glazing tape.
   d. The perimeter of window frames shall be sealed to the exterior wall construction with a weather-resistant sealant.
   e. The total are of glass shall not exceed 20% of the total exterior wall area.

Part V. Doors

1. **Performance Standard**
   a. Doors shall have a laboratory sound transmission class (STC) rating of at least 38.

2. **Prescriptive Standard**
   a. Double door construction is required for all door openings to the exterior. The doors shall be side-hinged and shall be solid-core wood or insulated hollow metal, at least 1 ¾" thick separated by a vestibule or enclosed porch at least 3 feet in length. Both doors shall be weather-stripped.
   b. The glass of double-glazed sliding doors shall be separated by a minimum ½" air space. Each sliding frame shall be weather-stripped.
   c. The perimeter of door frames shall be sealed to the exterior wall construction with a weather-resistant sealant.
   d. The glass of all doors shall be at least 3/16" total thickness. The glass of double sliding doors shall not be of equal thickness.
   e. The glass of doors shall be set and sealed in a non-hardening sealant or a soft elastomer gasket or glazing tape.

Part VI. Roofs

1. **Performance Standard**
   a. Combined roof and ceiling construction, other than described in this section and the following section (Ceilings), shall have a laboratory sound transmission class (STC) rating of at least 49.

2. **Prescriptive Standard**
   a. With an attic or rafter space at least 6" deep and with a ceiling below, the roof shall consist of 1" composition board, plywood or gypsum board sheathing topped by roofing, as required.

b. Open beam roof construction shall follow the energy insulation standard method for batt insulation, except use 1" plywood or gypsum board sheathing in place of ½" plywood. Use clay or concrete tiles.
c. No skylights shall be used.

Part VII. Ceilings

1. **Performance Standard**
   a. Gypsum board or plaster ceilings at least 5/8" thick shall be provided. The ceiling shall be mounted on resilient channels.
   b. Fiber glass or mineral wool insulation at least R-30 shall be provided above the ceiling between joists.

Part VIII. Floors

1. **Performance and Prescriptive Standards**
   a. The floors of the lowest occupied rooms shall be slab-on-grade.

Part IX. Ventilation

1. **Performance and Prescriptive Standards**
   a. A mechanical ventilation system shall be installed that will provide the minimum air circulation and fresh air supply requirements for various uses in occupied rooms, without the need to open any windows, doors or other openings to the exterior. The supply and return ducts serving all conditioned air equipment shall have the first 5 feet from the exterior of 20 gauge steel duct, including one 90 degree bend, and shall be lined with 1" thick coated fiber glass insulation. (This includes attic-mounted equipment.)
   b. Gravity vent openings in attics shall not exceed code minimums in size and number. The openings shall be fitted with transfer ducts of at least 20 gauge steel 6 feet in length, containing internal sound absorbing duct lining. Each duct shall have a lined 90-degree bend in the duct, such that there is no direct line of sight from the exterior through the duct into the attic.
   c. Listed factory-made duct, specifically designed to meet the 35 decibel noise/sound attenuation requirement, may be substituted for 20 gauge steel duct in items (a) and (b) above.
   d. Domestic range exhaust ducts connecting the interior space to the outdoors shall contain a back draft damper.
   e. Building heating units with flues or combustion air vents shall be located in a closet or room closed off from the occupied space by doors. Doors between occupied space and mechanical equipment areas shall be solid-core wood or 20 gauge steel hollow metal at least 1¾" thick and shall be weather-stripped.

Department Of Building Locations & Services

MAIN OFFICE 4701 W. Russell Road Las Vegas, NV 89118 (702)455-3000	On-Site Plan Submittals All "Walk-Through" Plan Review / Permitting Functions Residential Tract Submittal / Permitting All Sub-Trade (Electrical, Plumbing & Mechanical) Permitting Building Inspection Scheduling Functions Fire Prevention Inspection Services Records	Temporary Certificate of Occupancy Submittals Building Inspections Building Inspector Inquiries Amusement / Transportation Systems Operation Certificates Approved Fabricators Quality Assurance Agency Listing
LAUGHLIN OFFICE Regional Government Center 101 Civic Way Laughlin, NV 89029 (702)298-2436	Building Inspection Services Fire Prevention Inspection Services	
OVERTON OFFICE 320 North Moapa Valley Blvd. Overton, NV 89040 (702)397-8089	Building Inspection Services Fire Prevention Inspection Services	

Automated Phone System (702) 455-3000

Option 1: For all Inspection services or to report a building code violation.
Option 2: For information regarding on-site permits or new plan submittals.
Option 3: For the Building Plans Examination division or QAA information.
Option 4: For the Zoning Plans Examination division.
Option 5: For information or copies regarding land development, construction documents, plans or permits.
Option 6: To speak with Management staff.
Option #: For hours of operation, Office location and website information.

Other Clark County Departments/Divisions/Districts

Air Quality & Environmental Management	500 S. Grand Central Parkway, Las Vegas NV	(702) 455-5942
Public Works, Development Review Services	500 S. Grand Central Parkway, Las Vegas NV	(702) 455-6000
Comprehensive Planning	500 S. Grand Central Parkway, Las Vegas NV	(702) 455-4314
Fire Department	575 E. Flamingo Road, Las Vegas NV	(702) 455-7316
Las Vegas Valley Water District	1001 S. Valley View Boulevard, Las Vegas NV	(702) 870-2011
Southern Nevada Health District	625 Shadow Lane, Las Vegas NV	(702) 759-1000
Water Reclamation District	5857 E. Flamingo Road, Las Vegas NV	(702) 668-8888

State of Nevada

Division of Water Resources	400 Shadow Lane, Suite 201, Las Vegas NV	(702) 486-2770
Nevada State Contractors Board	2310 Corporate Circle, Suite 200, Henderson NV	(702) 486-1100

Utilities

Nevada Power	6226 W. Sahara Avenue, Las Vegas NV	(702) 402-5555
Southwest Gas	5241 Spring Mountain Road, Las Vegas NV	(877) 860-6020

http://www.clarkcountynv.gov/building