

ORDINANCE NO. 2230 NEW SERIES

AN ORDINANCE OF THE COUNCIL OF THE CITY OF GLENDALE, MARICOPA COUNTY, ARIZONA, AMENDING GLENDALE CITY CODE, CHAPTER 9, ARTICLE II, REGARDING THE ADOPTION OF AND AMENDMENTS TO THE BUILDINGS AND BUILDING REGULATIONS TECHNICAL CODES ON SOUND ATTENUATION STANDARDS; AND SETTING FORTH AN EFFECTIVE DATE.

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF GLENDALE as follows:

SECTION 1. That the Glendale City Code Chapter 9, Article II, Sec. 9-16 is hereby amended as follows:

Sec. 9-16. Adopted by reference; violation.

(a) The following publications, three (3) copies of which are on file in the office of the city clerk, are hereby adopted by reference as if set out at length in this Code.

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(13) **CITY OF GLENDALE REVISED** Sound Attenuation Standards ~~Adopted by MAG Building Codes Committee on April 17, 1996~~ **EFFECTIVE DECEMBER 31, 2001;**

...

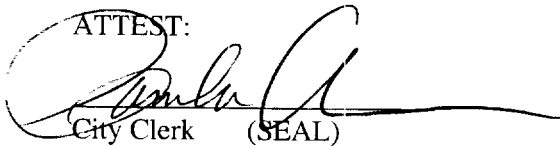
(b) Any person violating any of the provisions of the publications adopted in subsection (a) shall be guilty of a misdemeanor.

SECTION 2. Pursuant to the Charter of the City of Glendale, this ordinance shall be effective thirty (30) days after the date of its passage. The City of Glendale Revised Sound Attenuation Standards shall be enforced retroactively as of January 1, 2002.

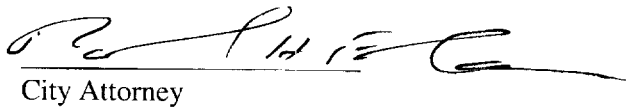
PASSED, ADOPTED AND APPROVED by the Mayor and Council of the City of Glendale, Maricopa County, Arizona, this 11<sup>th</sup> day of December, 2001.

  
MAYOR

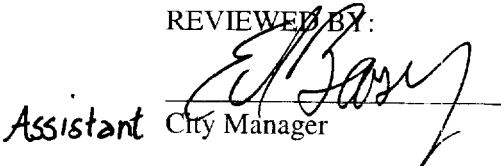
ATTEST:

  
City Clerk (SEAL)

APPROVED AS TO FORM:

  
City Attorney

REVIEWED BY:

  
Assistant City Manager

## **SOUND TRANSMISSION CONTROL**

Adopted by MAG Building Codes Committee on April 17, 1996

Revised by City of Glendale on December 31, 2001

Sound Transmission Control near Luke Air Force Base

### **SECTION 1215. DEFINITIONS**

In this ordinance, unless the context otherwise requires:

“ASTM (American Society for Testing and Materials)” means an organization which develops and publishes recommended practices and standards for a broad range of testing and material properties issues.

“A-WEIGHTED SOUND LEVEL” means a quantity, in decibels, read from a standard sound level meter which discriminates against the lower frequencies to which the ear is less sensitive. The A-weighted scale attempts to approximate the auditory sensitivity of the human ear.

“DAY-NIGHT AVERAGE SOUND LEVEL (DNL)” means the A-weighted equivalent continuous sound exposure for a 24-hour period with a 10 dB adjustment adds to sound levels occurring during nighttime hours (10 p.m. to 7 a.m.)

“HIGH NOISE OR ACCIDENT POTENTIAL ZONE” means any property located in the following zones: In a political subdivision located in a county with a population of two million or more persons. Within the 1988 Noise Contours developed and recognized by the regional planning agency in that county that includes the Accident Potential Zone One and Accident Potential Zone Two plus the land area described as follows: Starting two hundred feet from the south end of the westernmost runway at a width of one thousand five hundred feet west and two thousand five hundred feet east. Measured perpendicular to the centerline of the runway, and extending southwesterly parallel to the runway for a distance of thirty thousand feet.

“INTERIOR NOISE LEVEL” means the sound level of noise in any habitable room with windows and doors closed.

“NOISE CONTOURS” means lines which connect points subject to equal noise levels expressed in terms of average daily noise over a 24-hour period.

“R-VALUE” means insulation properties of an assembly. Insulation properties are further defined as the ability to reduce the factor of heat transmission or loss.

“SOUND TRANSMISSION CLASS (STC)” means a single-number rating for describing sound transmission loss of a wall, roof, floor, window, door, partition, or other individual building components or assemblies.

“TERRITORY IN THE VICINITY OF A MILITARY AIRPORT” means any property located in the following zones: In counties that have a population of two million or more persons the zone is ten miles to the north, south and west, and four miles to the east parallel from the center of the main runway of a military airport.

### **SECTION 1217. APPLICATION TO NEW BUILDINGS**

The criteria of this ordinance establish the minimum requirements for acoustic design of the exterior envelope of buildings and for through-the-wall ventilation (HVAC) units and their parts. These requirements shall apply to ANY RESIDENTIAL BUILDING OR PORTIONS OF BUILDINGS WHERE THE PUBLIC IS RECEIVED, OFFICE AREAS, OR WHERE NORMAL NOISE LEVEL IS LOW ~~to all new buildings and alterations~~ for the first occupancy after ~~October 1, 1996~~ DECEMBER 31, 2001 that are located IN TERRITORY IN THE VICINITY OF A MILITARY AIRPORT ~~on property on which average sound level is sixty-five decibels or greater.~~ This noise-level AREA is defined by the noise contours for Luke Air Force base prepared as a part of the 1988 Maricopa Association of Governments Westside Joint Land Use Study (see Exhibit 1) AND INCLUDES THE HIGH NOISE OR ACCIDENT POTENTIAL ZONE (SEE EXHIBIT 2). The criteria of this ordinance do not apply to ancillary buildings used in agricultural land use. ALL RESIDENTIAL BUILDINGS BE CONSTRUCTED WITH R-19 EXTERIOR WALLS, R-30 ROOFS, DUAL-GLAZED WINDOWS, AND SOLID WOOD, FOAM-FILLED FIBERGLASS OR METAL DOORS TO THE EXTERIOR.

### **SECTION 1219. APPLICATION TO EXISTING BUILDINGS**

- A. Additions may be made to existing buildings without making the entire building comply with all the requirements of this ordinance for new construction.
- B. If the gross floor area of a building is expanded by less than fifty percent, the requirements of this section apply only to the area of expansion. If the gross floor area of a non-residential building is expanded by fifty percent or more, the requirements of this section apply to the entire building.
- C. Any change in occupancy or use of a building shall not be permitted unless the building or portion of the building complies with this ordinance.

### **SECTION 1221. PLANS AND SPECIFICATIONS**

The plans and specifications shall show in sufficient detail all pertinent data and features of the building and the equipment and systems, as herein governed, including, but not limited to: exterior envelope component materials; STC ratings of applicable component assemblies; R-values of applicable insulation materials; size and type of apparatus and equipment; equipment

and system controls and other pertinent data to indicate conformance with the requirements herein.

### **SECTION 1223. ALTERNATE MATERIALS AND METHODS OF CONSTRUCTION**

- A. The provisions of this ordinance are not intended to prevent the use of any material or method of construction not specifically prescribed by this ordinance, provided any alternate has been approved and its use authorized by the Building Official.
- B. The Building Official may approve any such alternate, provided the Building Official finds that the proposed design is satisfactory and complies with the provisions of this ordinance and that the material or method of construction is, for the purpose intended, at least the equivalent of that prescribed in this ordinance in noise level reduction.
- C. The Building Official shall require that sufficient evidence or proof be submitted by a licensed architect or engineer to substantiate any claims that may be made regarding the use of alternative materials and methods. The details of any action granting approval of an alternate shall be recorded and entered in the files of the county, city, or town.

### **SECTION 1225. BUILDING REQUIREMENTS FOR A NOISE LEVEL REDUCTION OF 25 dB**

Compliance with Section 1231 through Section 1239 in Appendix A shall be deemed to meet requirements for a minimum noise level reduction (NLR) of 25 decibels. This noise level reduction is required within the 65-70 DNL noise contours as depicted in Exhibit 1.

### **SECTION 1227. BUILDING REQUIREMENTS FOR A NOISE LEVEL REDUCTION OF 30 dB**

Compliance with Section 1241 through Section 1249 in Appendix A shall be deemed to meet requirements for a minimum noise level reduction (NLR) of 30 decibels. This noise level reduction is required within the 70-75 DNL noise contours as depicted in Exhibit 1.

### **SECTION 1229. BUILDING REQUIREMENTS FOR A NOISE LEVEL REDUCTION OF 35 dB**

Compliance with Section 1251 through Section 1259 in Appendix A shall be deemed to meet requirements for a minimum noise level reduction (NLR) of 35 decibels. This noise level reduction is required within the 75-80 DNL noise contours as depicted in Exhibit 1.

APPENDIX A

SOUND ATTENUATION STANDARDS

Adopted by MAG Building Codes Committee on April 17, 1996  
 Revised by the City of Glendale on December 31, 2001

	25db Reduction (Required Within 65-70 DLN Noise Contours in Exhibit 1).	30db Reduction (Required within 70-75 DNL Noise Contour in Exhibit 1).	35db Reduction (Required within 75-80 DNL Noise Contour in Exhibit 1).
General	<p>Section 1231</p> <p>a. Brick veneer, masonry blocks, or stucco exterior walls shall be constructed airtight. All joints shall be grouted or caulked airtight.</p> <p>b. 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.</p> <p>c. Window and/or through-the-wall ventilation units (HVAC) shall not be used.</p> <p>d. Through-the wall/door mail boxes shall not be used.</p> <p>e. All sleeping spaces shall be provided with a sound-absorbing ceiling system and carpeted floors.</p>	<p>Section 1241</p> <p>a. Brick veneer, masonry blocks, or stucco exterior walls shall be constructed airtight. All joints shall be grouted or caulked airtight.</p> <p>b. 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.</p> <p>c. Window and/or through-the-wall ventilation (HVAC) units shall not be used.</p> <p>d. Through-the wall/door mail boxes shall not be used.</p> <p>e. All sleeping spaces shall be provided with a sound-absorbing ceiling system and a carpeted floor.</p> <p>f. Operational vented fireplaces shall</p>	<p>Section 1251</p> <p>a. Brick veneer, masonry blocks, or stucco exterior walls shall be constructed airtight. All joints shall be grouted or caulked airtight.</p> <p>b. 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.</p> <p>c. Window and/or through-the-wall ventilation units shall not be used.</p> <p>d. Through-the wall/door mail boxes shall not be used.</p> <p>e. All sleeping spaces shall be provided with a sound-absorbing ceiling system and a carpeted floor.</p> <p>f. Operational vented fireplaces shall not be used.</p> <p>g. No glass or plastic skylight shall be used.</p>

<p>Exterior Walls All residential to comply with R-19 requirements</p>	<p>25db Reduction (Required Within 65-70 DLN Noise Contours in Exhibit 1).</p>	<p>30db Reduction (Required within 70-75 DNL Noise Contour in Exhibit 1).</p>	<p>35db Reduction (Required within 75-80 DNL Noise Contour in Exhibit 1).</p>
<p>Section 1233</p>	<p>a. Exterior walls, other than as described in this section, shall have a laboratory sound transmission class rating of at least 5TC 39;</p> <p>b. Masonry walls having a weight of at least 25 pounds per square foot do not require a furred (stud) interior wall. At least one surface of concrete block walls shall be plastered or painted with heavy "bridging" paint.</p> <p>c. Stud walls shall be at least 4 inches in nominal depth and shall be finished on the outside with solid sheathing under an approved exterior wall finish: siding-on-sheathing, stucco or brick veneer.</p> <p>1. Interior surface of the exterior walls shall be of gypsum board or plaster at least 1/2 inch thick, installed on the studs.</p>	<p>Section 1243</p> <p>a. Exterior walls, other than as described in this section, shall have laboratory sound transmission class rating of at least 5TC 44;</p> <p>b. Masonry walls having a weight of at least 40 pounds per square foot do not require a furred (stud) interior wall. At least one surface of concrete block walls shall be plastered or painted with heavy "bridging" paint.</p> <p>c. Stud walls shall be at least 4 inches in nominal depth and shall be finished on the outside with solid sheathing under an approved exterior wall finish: siding on sheathing, stucco or brick veneer.</p> <p>1. Interior surface of the exterior walls shall be of gypsum board or plaster at least 1/2 inch thick, installed on the studs. The gypsum board or plaster may be fastened rigidly to the studs if the exterior is brick veneer or stucco. If the exterior is siding-on-sheathing, the interior gypsum board or plaster must be fastened resiliently to the studs.</p>	<p>Section 1253</p> <p>a. Exterior walls, other than as described in this section shall have a laboratory sound transmission class rating of at least 5TC 49;</p> <p>b. Masonry walls having a 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 plastered or painted with heavy "bridging" paint.</p> <p>c. Stud walls shall be at least 4 inches in nominal depth and shall be finished on the outside with solid sheathing under an approved exterior wall finish: siding-on-sheathing, stucco, or brick veneer.</p> <p>1. Interior surface of the exterior walls shall be of gypsum board or plaster at least 5/8 inch thick installed on the studs. The gypsum board or plaster may be fastened rigidly to the studs if the exterior is brick veneer or stucco. If the exterior is siding on sheathing, the interior gypsum board or plaster must be fastened resiliently to the studs or double thickness must be used.</p>

	25db Reduction (Required Within 65-70 DLN Noise Contours in Exhibit 1).	30db Reduction (Required within 70-75 DNL Noise Contour in Exhibit 1).	35db Reduction (Required within 75-80 DNL Noise Contour in Exhibit 1).
	<p>2. Continuous composition board, plywood or gypsum board sheathing at least 1/2 inch thick shall cover the exterior side of the wall studs behind wood or metal siding. Asphaltic or wood shake shingles are acceptable in lieu of siding.</p> <p>3. Sheathing panels shall be butted tightly and covered on the exterior with overlapping building paper. The top and bottom edges of the sheathing shall be sealed.</p> <p>4. Insulation material at least R-11 shall be installed continuously throughout the cavity space behind the exterior sheathing and between wall studs. Insulation shall be glass fiber or mineral wool.</p>	<p>2. Continuous composition board, plywood, or gypsum board sheathing at least 3/4 inch thick shall cover the exterior side of the wall studs behind wood, or metal siding. The sheathing and facing shall weigh at least 4 pounds per square foot.</p> <p>3. Sheathing panels shall be butted tightly and covered on the exterior with overlapping building paper. The top and bottom edges of the sheathing shall be sealed.</p> <p>4. Insulation material at least R-15 shall be installed continuously throughout the cavity space behind the exterior sheathing and between wall studs. Insulation shall be glass fiber or mineral wool.</p>	<p>2. Continuous composition board, plywood, or gypsum board sheathing at least 1 inch thick shall cover the exterior side of the wall studs. The sheathing and facing shall weigh at least 4 pounds per square foot.</p> <p>3. Sheathing panels shall be butted tightly and covered on the exterior with overlapping building paper. The top and bottom edges of the sheathing shall be sealed.</p> <p>4. Insulation material at least R-19 shall be installed continuously throughout the cavity space behind the exterior sheathing and between wall studs. Insulation shall be glass fiber or mineral wool.</p>
Exterior Windows	<p>Section 1234</p> <p>a. Windows other than as described in this section shall have a laboratory sound transmission class rating of at least STC-28;</p> <p>b. Glass shall be at least 3/16 inch thick, double glazed.</p>	<p>Section 1244</p> <p>a. Windows other than as described in this section shall have a laboratory sound transmission class rating of at least STC-33;</p> <p>b. Windows shall be double glazed with panes at least 3/16 inch thick. Panes of glass shall be separated by a minimum 1/2 inch airspace.</p>	<p>Section 1254</p> <p>a. Windows other than as described in this section shall have a laboratory sound transmission class rating of at least STC-38;</p> <p>b. Glass of double glazed windows shall be at least 3/16 inch thick. Panes of glass shall be separated by a minimum 1/2 inch airspace and shall not be equal in thickness.</p>

	25db Reduction (Required Within 65-70 DLN Noise Contours in Exhibit 1).	30db Reduction (Required within 70-75 DNL Noise Contour in Exhibit 1).	35db Reduction (Required within 75-80 DNL Noise Contour in Exhibit 1).
	<p>c. All operable windows shall be weatherstripped and airtight when closed so as to conform to an air infiltration test not to exceed 0.5 cubic foot per minute per foot of crack length in accordance with ASTM E-283-65-T.</p>	<p>c. Double-glazed windows shall employ fixed sash or efficiently weatherstripped, operable sash. The sash shall be rigid and weatherstripped with material that is compressed airtight when the window is closed so as to conform to an infiltration test not to exceed 0.5 cubic foot per minute per foot of crack length in accordance with ASTM E-283-65-T.</p>	<p>c. Double-glazed windows shall employ fixed sash or efficiently weatherstripped, operable sash. The sash shall be rigid and weatherstripped with material that is compressed airtight when the window is closed so as to conform to an infiltration test not to exceed 0.5 cubic foot per minute per foot of crack length in accordance with ASTM E-283-65-T.</p>
	<p>d. Glass of fixed sash windows shall be sealed in an airtight manner with a nonhardening sealant or a soft elastomer gasket or glazing tape.</p>	<p>d. Glass of fixed sash windows shall be sealed in an airtight manner with a nonhardening sealant or a soft elastomer gasket or gasket tape.</p>	<p>d. Glass of windows shall be sealed in an airtight manner with a nonhardening sealant or a soft elastomer gasket or glazing tape.</p>
	<p>e. The perimeter of window frames shall be sealed airtight to the exterior wall construction with a sealant conforming to one of the following Federal specifications: TT-S-00227, TT-S-00230 or TT-S-00153.</p>	<p>e. The perimeter of window frames shall be sealed airtight to the exterior wall construction with a sealant conforming to one of the following Federal specifications: TT-S-0027, TT-S-00230 or TT-S-00153.</p>	<p>e. The perimeter of window frames shall be sealed airtight to the exterior wall construction with a sealant conforming to one of the following Federal specifications: TT-S-00227, TT-S-00230 or TT-S-00153.</p>
	<p>f. The total area of glass in both windows and doors in sleeping spaces shall not exceed 20% of the floor area.</p>	<p>f. The total area of glass of both windows and exterior doors in sleeping spaces shall not exceed 20% of the floor area.</p>	<p>f. The total area of glass of both windows and exterior doors in sleeping spaces shall not exceed 20% of the floor area.</p>
Exterior Doors All residential to include foam-filled fiberglass doors	<p>Section 1235 a. Doors other than as described in this section shall have a laboratory sound transmission class rating of at least STC-28.</p>	<p>Section 1245 a. Doors other than as described in this section shall have a laboratory sound transmission class rating of at least STC-33;</p>	<p>Section 1255 a. Doors other than as described in this section shall have a laboratory sound transmission class rating of at least STC 38;</p>



	<p>25db Reduction (Required Within 65-70 DLN Noise Contours in Exhibit 1).</p> <p>b. All exterior side-hinged doors shall be solid-core wood or insulated hollow metal at least 1-3/4 inches thick and shall be fully weatherstripped.</p>	<p>30db Reduction (Required within 70-75 DNL Noise Contour in Exhibit 1).</p> <p>b. Double door construction is required for all door openings to the exterior. Openings fitted with side-hinged doors shall have one solid core wood or insulated hollow metal door at least 1-3/4 inches thick separated by an airspace of at least 4 inches from another door, which can be a storm door. Both doors shall be tightly fitted and weatherstripped.</p>	<p>35db Reduction (Required within 75-80 DNL Noise Contour in Exhibit 1).</p> <p>b. 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 door at least 1-3/4 inches thick, separated by a vestibule or enclosed porch at least 3 feet in length. Both doors shall be tightly fitted and weatherstripped.</p>
	<p>c. Exterior sliding doors shall be weatherstripped with an efficient airtight gasket system with performance as specified in Section 1234 (c). The glass in the sliding doors shall be at least 3/16 inch thick.</p>	<p>c. The glass of double glazed sliding doors shall be separated by a minimum 1/2 inch airspace. Each sliding frame shall be provided with an efficiently airtight weatherstripping material as specified in Section 1244 (c).</p>	<p>c. The glass of double glazed sliding doors shall be separated by a minimum 1/2 inch airspace. Each sliding frame shall be provided with an efficiently airtight weatherstripping material as specified in Section 1254 (c).</p>
	<p>d. Glass in doors shall be sealed in an airtight nonhardening sealant or in a soft elastomer gasket or glazing tape.</p>	<p>d. Glass in all doors shall be at least 3/16 inch thick. Glass in double sliding doors shall not be equal in thickness.</p>	<p>d. Glass of all doors shall be at least 3/16 inch thick. Glass in double sliding doors shall not be equal in thickness.</p>
	<p>e. The perimeter of door frames shall be sealed airtight to the exterior wall construction (framing) as described in Section 1234 (e).</p>	<p>e. The perimeter of door frames shall be sealed airtight to the exterior wall construction (framing) as indicated in Section 1244 (e).</p>	<p>e. The perimeter of door frames shall be sealed airtight to the exterior wall construction (framing) as indicated in Section 1254 (e).</p>
		<p>f. Glass in doors shall be sealed in an airtight nonhardening sealant or in a soft elastomer gasket or glazing tape.</p>	<p>f. Glass in doors shall be sealed in an airtight nonhardening sealant or in a soft elastomer gasket or glazing tape.</p>

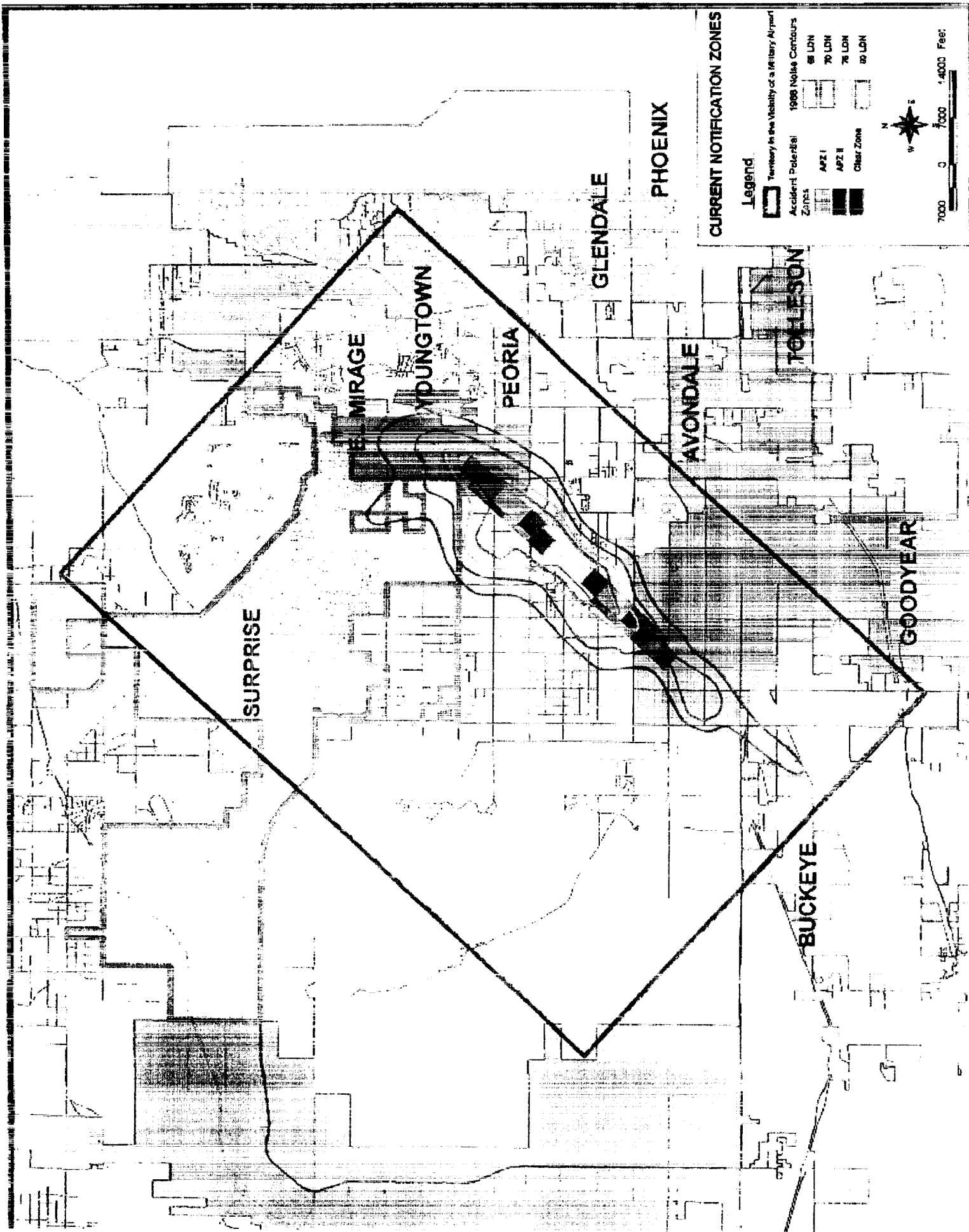
Roofs All residential to comply with R 30 requirements	25db Reduction (Required Within 65-70 DLN Noise Contours in Exhibit 1).	30db Reduction (Required within 70-75 DNL Noise Contour in Exhibit 1).	35db Reduction (Required within 75-80 DNL Noise Contour in Exhibit 1).
	<p>Section 1236</p> <p>a. Combined roof and ceiling construction other than described in this section and Section 1237 shall have a laboratory sound transmission class rating of at least STC-39;</p> <p>b. With an attic or rafter space at least 6 inches deep, and with a ceiling below, the roof shall consist of 1/2 inch composition board, plywood or gypsum board sheathing topped by roofing as required.</p> <p>c. Open beam roof construction shall follow the energy insulation standard method for batt insulation.</p> <p>d. If the underside of the roof is exposed, or if the attic or rafter spacing is less than 6 inches, the roof construction shall have a surface weight of at least 6 pounds per square foot. Rafters, joists, or other framing may not be included in the surface weight calculation</p> <p>e. Window or dome skylights shall have a laboratory sound transmission class rating of at least STC-28.</p>	<p>Section 1246</p> <p>a. Combined roof and ceiling construction other than described in this section and Section 1247 shall have a laboratory sound transmission class rating of at least STC-44;</p> <p>b. With an attic or rafter space at least 6 inches deep, and with a ceiling below, the roof shall consist of 3/4 inch closely butted composition board, plywood or gypsum board sheathing topped by roofing as required.</p> <p>c. Open beam roof construction shall follow the energy insulation standard method for batt insulation, except use 1 inch plywood decking with shakes or other suitable roofing material.</p> <p>d. If the underside of the roof is exposed, or if the attic or rafter spacing is less than 6 inches, the roof construction shall have a surface weight of at least 9 pounds per square foot. Rafters, joists or other framing may not be included in the surface weight calculations.</p> <p>e. Window or dome skylights shall have a laboratory sound transmission class rating of at least STC-33.</p>	<p>Section 1256</p> <p>a. Combined roof and ceiling construction other than described in this section and Section 1257 shall have a laboratory sound transmission class rating of at least STC-49;</p> <p>b. With an attic or rafter space at least 6 inches deep, and with a ceiling below, the roof shall consist of 1 inch composition board, plywood or gypsum board sheathing topped by roofing as required.</p> <p>c. Open beam roof construction shall follow the energy insulation standard method for batt insulation, except use 1 inch plywood decking with concrete or clay tiles as roofing material.</p> <p>d. If the underside of the roof is exposed, or if the attic or rafter spacing is less than 6 inches, the roof construction shall have a surface weight of 9 pounds per square foot. Rafters, joists or other framing may not be included in the surface weight calculation.</p>

	25db Reduction (Required Within 65-70 DLN Noise Contours in Exhibit 1).	30db Reduction (Required within 70-75 DNL Noise Contour in Exhibit 1).	35db Reduction (Required within 75-80 DNL Noise Contour in Exhibit 1).
Ceiling	<p>Section 1237</p> <p>a. Gypsum board or plaster ceilings at least 1/2 inch thick shall be provided where required by Section 1236 (b). Ceilings shall be substantially airtight with a minimum of penetrations.</p> <p>b. Glass fiber or mineral wool insulation at least R-19 shall be provided above the ceiling between joists.</p>	<p>Section 1247</p> <p>a. Gypsum board or plaster ceilings at least 5/8 inch thick shall be provided where required by Section 1246 (b), above. Ceilings shall be substantially airtight with a minimum of penetrations.</p> <p>b. Glass fiber or mineral wool insulation at least R-25 shall be provided above the ceiling between joists.</p>	<p>Section 1257</p> <p>a. Gypsum board or plaster ceilings at least 5/8 inch thick shall be provided where required by Section 1256, above. Ceilings shall be substantially airtight with a minimum of penetrations. The ceiling panels shall be mounted on resilient clips or channels.</p> <p>b. Glass fiber or mineral wool insulation at least R-30 shall be provided above the ceiling between joists.</p>
Floors	<p>Section 1238</p> <p>Openings to any crawl spaces below the floor of the lowest occupied rooms shall not exceed 2% of the floor area of the occupied rooms.</p>	<p>Section 1248</p> <p>The floor of the lowest occupied rooms shall be slab on fill, below grade, or over a fully enclosed basement or crawl space. All door and window openings in the fully enclosed basement shall be tightly fitted. Crawl space ventilation shall comply with section 1238.</p>	<p>Section 1258</p> <p>a. The floor of the lowest occupied rooms shall be slab on fill or below grade.</p>

	<p>25db Reduction (Required Within 65-70 DLN Noise Contours in Exhibit 1).</p>	<p>30db Reduction (Required within 70-75 DNL Noise Contour in Exhibit 1).</p>	<p>35db Reduction (Required within 75-80 DNL Noise Contour in Exhibit 1).</p>
<p>Ventilation</p>	<p>Section 1239  a. A 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 inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least 20 gauge steel, which shall be lined with 1 inch thick coated glass fiber, and shall be at least 5 feet long with one 90 degree bend.</p>	<p>Section 1249  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 inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least 20 gauge steel, which shall be lined with 1 inch thick coated glass fiber, and shall be at least 5 feet long with one 90 degree bend.</p>	<p>Section 1259  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 inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least 20 gauge steel, which shall be lined with 1 inch thick coated glass fiber, and shall be at least 10 feet long with one 90 degree bend.</p>
	<p>b. Gravity vent openings in attics shall not exceed code minimum in number and size, as practical.</p>	<p>b. Gravity vent openings in attics shall not exceed code minimum in number and size, as practical. The openings shall be fitted with transfer ducts at least 3 feet in length containing internal 1 inch thick coated fiberglass 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.</p>	<p>b. Gravity vent openings in attics shall be as close to code minimum in number and size, as practical. The openings shall be fitted with transfer ducts at least 6 feet in length containing internal 1 inch thick coated fiberglass 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.</p>

	<p>25db Reduction (Required Within 65-70 DLN Noise Contours in Exhibit 1).</p> <p>c. If a fan is used for forced ventilation, the attic inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least 20 gauge steel, which shall be lined with coated glass fiber 1 inch thick, and shall be at least 5 ft long with one 90 degree bend.</p>	<p>30db Reduction (Required within 70-75 DNL Noise Contour in Exhibit 1).</p> <p>c. If a fan is used for forced ventilation, the attic inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least 20 gauge steel, which shall be lined with coated glass fiber 1 inch thick, and shall be at least 5 ft long with one 90 degree bend.</p>	<p>35db Reduction (Required within 75-80 DNL Noise Contour in Exhibit 1).</p> <p>c. If a fan is used for forced ventilation, the attic inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least 20 gauge steel, which shall be lined with 1 inch thick coated glass fiber, and shall be at least 10 ft long with one 90 degree bend.</p>
	<p>d. All other vent ducts connecting the interior space to the outdoors, shall contain at least a 5-foot length of internal sound-absorbing duct lining. Each duct shall be provided with a bend in the duct such that there is no direct line-of-sight through the duct from the venting cross-section to the room-opening cross-section.</p> <p>Duct lining shall be coated glass fiber duct liner at least 1 inch thick approved and suitable for the intended use.</p>	<p>d. All other vent ducts connecting the interior space to the outdoors, shall contain at least a 10-foot length of internal sound-absorbing duct lining. Each duct shall be provided with a lined 90 degree bend in the duct such that there is no direct line-of-sight through the duct from the venting cross-section to the room opening cross-section. Duct lining shall be coated glass fiber duct liner at least 1 inch thick approved and suitable for intended use.</p>	<p>d. All other vent ducts connecting the interior space to the outdoors, shall contain at least a 10-foot length of internal sound-absorbing duct lining. Each duct shall be provided with a lined 90 degree bend in the duct such that there is no direct line-of-sight through the duct from the venting cross-section to the room-opening cross-section. Duct lining shall be coated glass fiber duct liner at least 1 inch thick approved and suitable for intended use.</p>

	<p>25db Reduction (Required Within 65-70 DLN Noise Contours in Exhibit 1).</p> <p>e. Domestic range exhaust ducts connecting the interior space to the outdoors shall contain a baffle plate across the exterior termination which allows proper ventilation. The dimensions of the baffle plate should extend at least one diameter beyond the line of sight into the vent duct. The baffle plate shall be of the same material and thickness as the vent duct material.</p>	<p>30db Reduction (Required within 70-75 DNL Noise Contour in Exhibit 1).</p> <p>e. Domestic range exhaust ducts connecting the interior space to the outdoors shall contain a self-closing baffle plate across the exterior termination which allows proper ventilation. Each duct shall be provided with a bend in the duct such that there is no direct line-of-sight through the duct from the venting cross-section to the room-opening cross-section. The dimensions of the baffle plate should extend at least one diameter beyond the line of sight into the vent duct. The baffle plate shall be made of the same material and thickness as the vent duct material.</p> <p>f. 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.</p> <p>g. Doors between occupied space and mechanical equipment areas shall be solid core wood or 20 gauge insulated steel hollow metal at least 1-3/4 inch thick and shall be fully weather stripped.</p>	<p>35db Reduction (Required within 75-80 DNL Noise Contour in Exhibit 1).</p> <p>e. Domestic range exhaust ducts connecting the interior space to the outdoors shall contain a self-closing baffle plate across the exterior termination which allows proper ventilation. The dimensions of the baffle plate should extend at least one diameter beyond the line of sight into the vent duct. The baffle plate shall be of the same material and thickness as the vent duct material. The duct shall be offset such that there is no direct line-of-sight through the duct.</p> <p>f. Building heating units with flues or combination air vents shall be located in a closet or room closed off from the occupied space by doors.</p> <p>g. Doors between occupied space and mechanical equipment areas shall be solid core wood or 20 gauge insulated hollow metal at least 1-3/4 inch thick and shall be fully weather stripped.</p>
	<p>f. Fireplaces shall be provided with well fitted dampers as required for the type of fuel being used and tightly fitted glass doors.</p>		



**CURRENT NOTIFICATION ZONES**

**Legend**

Territory in the Vicinity of a Military Airport

Accident Potential Zones

1988 Noise Contours

APZ I

APZ II

Clear Zone

60 LDN

70 LDN

75 LDN

80 LDN



SURPRISE

EL MIRAGE

YOUNGTOWN

PEORIA

GLENDALE

PHOENIX

AVONDALE

TOLLESON

BUCKEYE

GOODYEAR