Aircraft Noise Reduction Submittal Checklist

(All Occupancies)

This informational handout is a summary of the City of Burien Aircraft Noise Reduction Ordinance as described in the Burien Municipal Code (BMC) Chapter 15.12.

The City of Burien is divided into three aircraft noise reduction areas:

- **Zone 1:** Those portions of the City, east of First Avenue South extending from the northern to the southern City limits and to the eastern city limits are a 35 dB Reduction Area. All living and working areas must comply with 15.12.90 BMC which is designed to achieve a noise reduction level of 35 dB.
- **Zone 2:** Those portions of the City, between First Avenue South and 12th Avenue S.W. extending from the northern to the southern City limits are a 30 dB Reduction Area. All living and working areas must comply with 15.12.100 BMC which is designed to achieve a noise reduction level of 30 dB.
- **Zone 3:** All remaining portions of the City are a 25 dB Reduction Area. All living and working areas must comply with 15.12.110 BMC which is designed to achieve a noise reduction level of 25 dB.

These provisions apply to all buildings or structures constructed or placed in use for human occupancy on sites within the City of Burien.

Exceptions:

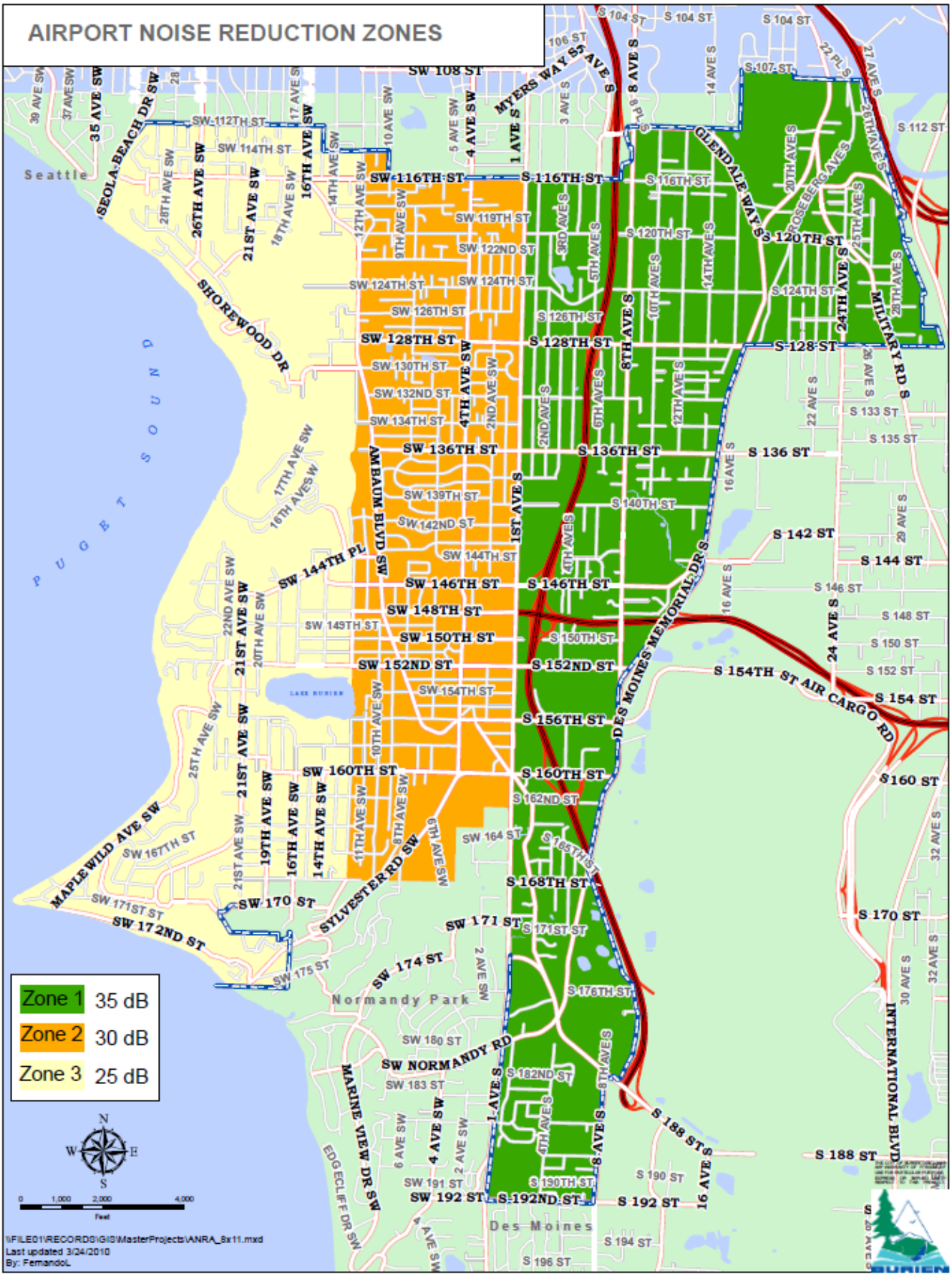
(a) Additions under 500 square feet that are not used for sleeping rooms; and
(b) Remodels with a building department valuation less than $16,800.

Note: New glazing in exempted additions and remodels must conform to the provisions of the Washington State Energy Code.

Additions may be made to existing buildings or structures without making the entire building or structure comply with all the requirements of this chapter for new construction. Additions on existing buildings shall be made to comply in the areas being added to the extent that it is deemed practical and effective by the building official.

A change in use or occupancy, or structures, or use of a building previously unapproved for human occupancy to human occupancy use, or of one previously unused for sleeping purposes to sleeping use shall not be permitted unless the building or structure complies with the Aircraft Noise Reduction requirements of 15.12 BMC.

The plans and specifications shall show in sufficient detail all pertinent data and features of the building and the equipment and systems, 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 Aircraft Noise Reduction requirements.


AIRPORT NOISE REDUCTION ZONES
Zone 1 35 dB
Zone 2 30 dB
Zone 3 25 dB
Seattle
PUGET SOUND
Normandy Park
Des Moines
SW 108 ST
SW 112TH ST
SW 114TH ST
SW 116TH ST
S 116TH ST
SW 119TH ST
SW 122ND ST
S 120TH ST
SW 124TH ST
S 124TH ST
SW 126TH ST
S 126TH ST
SW 128TH ST
S 128TH ST
SW 130TH ST
SW 132ND ST
SW 134TH ST
SW 136TH ST
S 136TH ST
SW 139TH ST
S 140TH ST
SW 142ND ST
S 142 ST
SW 144TH ST
S 144 ST
SW 144TH PL
SW 146TH ST
S 146TH ST
SW 148TH ST
SW 149TH ST
SW 150TH ST
S 150TH ST
SW 152ND ST
S 152ND ST
SW 154TH ST
S 154 ST
S 156TH ST
SW 160TH ST
S 160TH ST
S 162ND ST
SW 164 ST
S 165TH ST
S 168TH ST
SW 167TH ST
SW 170 ST
SW 171ST ST
S 171ST ST
SW 171 ST
SW 172ND ST
SW 174 ST
SW 175 ST
S 176TH ST
SW 180 ST
SW NORMANDY RD
SW 183 ST
S 182ND ST
S 188 ST
SW 191 ST
SW 192 ST
S 190TH ST
S 192 ST
S 192ND ST
S 194 ST
S 196 ST
S 170 ST
S 112 ST
S 133 ST
S 135 ST
S 148 ST
S 150 ST
S 152 ST
S 107 ST
S 104 ST
106 ST
35 AVE SW
SEOLA BEACH DR SW
26TH AVE SW
21ST AVE SW
16TH AVE SW
4TH AVE SW
1ST AVE S
8TH AVE S
MYERS WAY S
GLENDALE WAY S
ROSEBERG AVE S
MILITARY RD S
SHOREWOOD DR
AMBAUM BLVD SW
DES MOINES MEMORIAL DR S
24 AVE S
154TH ST AIR CARGO RD
INTERNATIONAL BLVD
MAPLE WILD AVE SW
SYLVESTER RD SW
MARINE VIEW DR SW
EDGECLIFF DR SW
4 AVE SW
16 AVE S
N
W
E
S
0 1,000 2,000 4,000
Feet
\\FILE01\RECORDS\GIS\MasterProjects\ANRA_8x11.mxd
Last updated 3/24/2010
By: FernandoL

AIRPORT NOISE REDUCTION - Minimum design requirements

Project Address: _____

Please Circle the options that are included in the construction drawings for this project

EXTERIOR WALLS	**Zone 1**	**Zone 2**	**Zone 3**
Exterior walls shall be designed to meet a minimum STC rating of ____. **Documentation** shall be provided to demonstrate the exterior wall construction details complies with the laboratory sound transmission class rating.	**40**	**35**	**30**
➢ **OR comply with all of the following options**:			
Stud walls shall be at least ____ in nominal depth and shall be finished on the outside with solid sheathing under an approved exterior wall finish.	**6”**	**6”**	**6”**
Continuous plywood or oriented strand board (OSB) at least ____ thick shall cover the exterior side of the wall studs. The thickness of the exterior sheathing includes the thickness of the sub-sheathing only. The thickness of the exterior wall finish (or siding) is not included.	**1/2”**	**1/2”**	**1/2”**
Sheathing panels shall be butted tightly and covered on the exterior with an approved building wrap. Building paper must be overlapping.	✓	✓	✓
Batt or loose fill Insulation material rated not less than ____ shall be installed continuously throughout the cavity space behind the exterior sheathing and between wall studs. Headers shall be insulated in accordance with the Energy Code.	**R-21**	**R-21**	**R-21**
The interior surface of the exterior walls shall be of gypsum board or plaster at least ____ thick, installed on the studs. In Zone 1, this can be reduced to ½” if installed with resilient channels.	**5/8”**	**1/2”**	**1/2”**
Energy Credit Options shall include option ____ (R-4 rigid insulation over exterior sheathing)	**1b**	n/a	n/a
ROOFS & CEILINGS	**Zone 1**	**Zone 2**	**Zone 3**
Combined roof and ceiling construction shall be designed to meet a minimum STC rating of ____. **Documentation** shall be provided to demonstrate the roof/ceiling assembly details complies with the laboratory sound transmission class rating.	**49**	**44**	**39**
➢ **OR: comply with all the following options**:			
Attic or rafter space shall be at least 16" deep with a ceiling below. This requires raised heel trusses for roofs with attics.	✓	n/a	n/a
Roof sheathing over an attic shall consist of ____ plywood or oriented strand board (OSB) sheathing topped with an approved roofing material.	**3/4”**	**7/16”**	**7/16”**
Roof sheathing over vaulted ceilings or open beam construction be provided with ____ or oriented strand board (OSB) sheathing topped with an approved roofing material	**1”**	**7/16”**	**7/16”**
Gypsum board or plaster ceilings at least ____ thick shall be provided on the ceiling. Ceilings shall be substantially airtight with a minimum of penetrations. For zone 1 this can be reduced to ½” if installed with resilient channels	**5/8”**	**1/2”**	**1/2"**

Insulation material shall be having a minimum R-Value of ____ with a minimum of 2" airspace above.	**R-49**	**R-49**	**R-49**
FLOORS	**Zone 1**	**Zone 2**	**Zone 3**
Option 1: Slab on Grade with R-10 under slab insulation installed per Washington State Energy Code.	✓	✓	✓
Option 2. Crawl Space construction: ▪ **Crawl space** walls shall be constructed of solid concrete (with no cripple walls). ▪ **Floor joists** shall be placed so the top of the joist is no higher than the top of the concrete foundation wall. ▪ **Underfloor vent** opening area shall not be more than the minimum allowed under code. Noise control louvers shall be installed at underfloor vents. ▪ **Underfloor insulation** shall be _____ minimum**.**	**R-38**	n/a	n/a
Option 3. Basement construction: ▪ **Below grade exterior walls** shall be constructed of solid concrete. ▪ **Below grade exterior walls** shall be insulated on the exterior with minimum ____ rigid insulation. ▪ **Above ground exterior walls** shall meet the requirements of the exterior wall section. ▪ **Floor joists above basement** shall be placed so the top of the joist is no higher than the top of the concrete foundation wall.	**R-10**	n/a	n/a
EXTERIOR WINDOWS	**Zone 1**	**Zone 2**	**Zone 3**
Exterior Windows other than as described in this section shall have a laboratory sound transmission class rating of at least STC _____	**38**	**33**	**28**
➢ **OR comply with all the following options**:			
Windows shall be double-glazed with panes at least _____ thick and a maximum U-Value of U= 0.30.	**3/16"**	**1/8"**	**1/8"**
Panes of glass shall be separated by a minimum one-half inch (1/2") airspace and shall not be equal in thickness.	✓	n/a	n/a
Glass shall be sealed in an air-tight manner with a non-hardening sealant or a soft elastomer gasket or gasket tape.	✓	✓	✓
The perimeter of the frames shall be sealed air-tight 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, or other materials approved by the Building Official.	✓	✓	✓
Maximum Air Leakage and testing shall be as required by the Washington State energy Code.	✓	✓	✓

SKYLIGHTS	Zone 1	Zone 2	Zone 3
Skylights other than as described in this section shall have a laboratory sound transmission class rating of at least STC ____	**38**	**33**	**28**
➢ **OR comply with the following options**:			
Zone 1: Skylight assemblies that consist of 1/4" tempered glass, 1/2" air space and a laminated panel consisting of 1/8" tempered glass, .03" (three mils) laminate and 1/8" tempered glass will be accepted in lieu of the tested assembly. **Zones 2 & 3: Skylights assemblies** meeting the requirements of the Washington State Energy Code and the Building code requirements for safety glazing.	✓	✓	✓
EXTERIOR DOORS	**Zone 1**	**Zone 2**	**Zone 3**
Doors other than as described in this section shall have a laboratory sound transmission class rating of at least STC ____	**33**	**26**	**26**
➢ **OR comply with all the following options**:			
1. **Double door construction** is required for all hinged door openings to the exterior. Such doors shall be side hinged and shall be solid core wood or insulated hollow metal at least one and three-fourths inch (1-3/4") thick separated by an airspace of at least three inches (3") from another door, which can be a storm door. Both doors shall be tightly fitted and weather-stripped.	✓	n/a	n/a
2. **All exterior side hinged** doors shall be solid core wood or insulated hollow metal at least 1- 3/4" thick and shall be fully weather-stripped.	n/a	✓	✓
3. **The glass of double-glazed sliding doors** shall meet the requirements for exterior windows.	✓	✓	✓
4. **Glass panels in exterior all doors** shall meet the requirements for exterior windows.	✓	✓	✓
5. **The perimeter of door 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, or other materials approved by the Building Official.	✓	✓	✓
6. **Glass in doors** shall be sealed in an airtight non-hardening sealant or in a soft elastomer gasket or gasket tape.	✓	✓	✓
VENTILATION	**Zone 1**	**Zone 2**	**Zone 3**
A ventilation system shall be provided and meet the minimum air circulation and fresh air supply as required by the International Residential Code or International Mechanical Code (as applicable) without opening doors or windows.	✓	✓	✓
AND shall include the following items:			
1. Inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least twenty (20) gauge steel, which shall be lined with one inch (1") thick coated glass fiber and shall be at least five feet (5') long with one (1) ninety-degree bend.	✓	n/a	n/a
2. Gravity vent openings in attics shall be as close to code minimum in number and size, as practical.	✓	✓	✓

2.1 The openings shall be fitted with transfer ducts at least [ ] feet in length containing internal one inch (1") thick coated fiber glass sound-absorbing duct lining. Each duct shall have a lined ninety-degree bend in the duct such that there is no direct line of sight from the exterior through the duct into the attic.	**6**	n/a	n/a
3. Bathroom, laundry, and similar exhaust ducts connecting interior space to the outside, shall contain at least a 10-foot length of internal sound absorbing duct lining. Exhaust ducts less than 10 feet in length shall be fully lined and shall also meet the provisions of proper sealing of air leakage from the structure with approved weather-stripping and caulking compounds. 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" thick.	✓	n/a	n/a
4. Domestic range exhaust ducts connecting the interior space to the outdoors shall contain a self-closing damper across the exterior termination that allows for proper ventilation. The duct shall be provided with a 90-degree bend.	✓	n/a	n/a
AIR LEAKAGE	**Zone 1**	**Zone 2**	**Zone 3**
The following locations shall be sealed, caulked, gasketed, or weather-stripped to limit or eliminate air leakage. 1. Exterior joints around window and door frames, between the window or door frame and the framing members. 2. Openings between walls and foundations. Between the wall sole plate and the rough flooring. Between the wall panels at corners. Openings at penetrations of utility services through walls, floor, and roofs. All other such openings in the building envelope. 3. All other openings not specifically addressed shall be designed to limit sound transmission and shall have the same average STC as required for doors.	✓	✓	✓