

ORDINANCE NO. 88-23

AN ORDINANCE CONTINUING THE TEMPORARY MORATORIUM ON THE ISSUANCE OF NEW RESIDENTIAL HOUSING BUILDING PERMITS IN A DESCRIBED AREA ASSOCIATED WITH THE FORT SMITH REGIONAL AIRPORT, TO PROVIDE FINDINGS OF FACT, DEFINITIONS, APPLICATION, AND DURATION PROVISIONS RELATED TO THE TEMPORARY MORATORIUM, AND FOR RELATED PURPOSES.

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WHEREAS, the development and operation of the Fort Smith Regional Airport is essential to the health, safety, and welfare of the residents of the City of Fort Smith and the surrounding metropolitan area;

WHEREAS, the April, 2020 Airport Master Plan ("Master Plan") for the Fort Smith Regional Airport asserts the baseline assumption that the airport will continue to operate, in part, as a military-use airport throughout the 20-year planning period covered by the Master Plan (page i-3);

WHEREAS, the Master Plan (page i-8) identifies the use of the airport as an Air National Guard Base as the strength of the Fort Smith Regional Airport;

WHEREAS, to address an airport weakness of runway length (summertime restrictions) noted at page i-8 of the Master Plan, the Master Plan anticipated an extension of runway 8-26 to accommodate, in part, military aircraft that have the potential to operate at the Fort Smith Regional Airport in the future (page i-10);

WHEREAS, in anticipation of the expanded military use, the City of Fort Smith and the Fort Smith Airport Commission underwent an extension to runway 8-26 to a length of 9,317 feet at a local cost of \$24.5 million; \$17 million from the State, \$5.7 million from the City, and \$1.8 million from the County;

WHEREAS, Fort Smith Regional Airport has been selected as a pilot training center to be housed at the Ebbing Air National Guard Base;

WHEREAS, the anticipated, expanded military use of the Fort Smith Regional Airport necessitated a now completed evaluation of noise especially as it affects expanded residential use of real property in the vicinity of the Fort Smith Regional Airport;

WHEREAS, the Master Plan (page 1-58) notes:

Noise-sensitive land uses near the airport consist primarily of residential uses in all directions from the airport. A Part 150 study was prepared for the airport in 1997. At that time, there were noise-sensitive land uses within the 65, 70, and 75 DNL noise contours for the airport;

WHEREAS, the 1997 noise contours were placed on the 2001 Noise Contours and Sensitive Land Uses Map attached to Ordinance 44-22 adopted June 21, 2022;

WHEREAS, the anticipated, expanded military use of the airport required a new noise study conducted pursuant to FAA guidelines in the FAA's FY2023 grant year for the Fort Smith Regional Airport (the "2023 Noise Study");

WHEREAS, potential expanded use of the pilot training center to be housed at Ebbing Air National Guard Base requires an additional Environmental Impact Statement (EIS) expected to be completed in 24 months;

WHEREAS, additional City of Fort Smith regulations protecting new residential users of real property from the noise effects from the anticipated increased military use of the Fort Smith Regional Airport may be needed;

WHEREAS, the City desires to study and evaluate the impact of further residential development, appropriate zoning and noise regulations, and issues that will affect future growth and development of the area within its jurisdiction;

WHEREAS, the City finds this evaluation process of potential zoning and noise regulations will require community input and will take a reasonable amount of time to complete;

WHEREAS, the City of Fort Smith retained a qualified consultant to advise on the City's process of developing appropriate regulations;

WHEREAS, the development of noise regulations in relation to the Fort Smith Regional Airport requires consideration of the additional EIS, and, therefore, new residential development potentially affected by increased military use noise levels shall be delayed until December 31, 2025; and,

WHEREAS, a temporary moratorium on issuance of building permits for new residential housing structures in a designated area related to the Fort Smith Regional Airport during the period of study and development of potential zoning and noise regulations, which period shall continue no longer than the date of December 31, 2025, is determined to be essential for the health and welfare of the inhabitants of the City of Fort Smith;

NOW, THEREFORE, BE IT ORDAINED AND ENACTED BY THE BOARD OF DIRECTORS OF THE CITY OF FORT SMITH, ARKANSAS, THAT:

SECTION 1: Moratorium Adoption. For the purpose of land-use planning, including the consideration, drafting, review, and adoption of potential zoning or noise regulations regarding sound impact on residential uses of real property, there is hereby established a temporary moratorium (a temporary prohibition) on the issuance of building permits for residential housing construction in the Moratorium Area described in Section 2 of this Ordinance for the Moratorium Period described in Section 3 of this Ordinance. The adoption of the described moratorium is based on all available information including the findings of fact stated in the whereas clauses of this Ordinance.

SECTION 2: Moratorium Area. The moratorium enacted by Section 1 of this Ordinance shall be in effect in that portion of Fort Smith, Arkansas, identified as the Moratorium Area and Expanded Moratorium Area on the attached Exhibit "1." The Moratorium Area is more specifically described as being the area, including Airport Area, bounded by a line described as follows, to wit:

Beginning at the point of an intersection of Stateline Road with Phoenix Avenue; thence east on Phoenix Avenue to the Interstate 540 overpass; thence following Interstate 540 north to Leigh Avenue; thence east to Phoenix Avenue; thence along Phoenix Avenue to Rogers Avenue; thence east on Rogers Avenue to South 91<sup>st</sup> Street; thence north on South 91<sup>st</sup> to Gary Street; thence east on Gary Street to South 96<sup>th</sup> Street; thence south on South 96<sup>th</sup> Street to Apple Gate Drive; thence east on Apple Gate Drive to South 98<sup>th</sup> Street; thence north on South 98<sup>th</sup> Street to Dallas Street; thence east on Dallas Street to Old Harbor Road; thence south on Old Harbor Road to Hunters Point Road; thence along Hunters Point Road to the cul-de-sac at the easternmost point on Hunters Point Road; thence due east across the tributary of the Arkansas River to the city limit line; thence south along the city limit line; thence west along the city limit line; thence south along the city limit line to South Zero Street; thence west on South Zero Street to Interstate 540; thence south on Interstate 540 to McKinley Avenue; thence west on McKinley Avenue to Highway 71; thence along Highway 71 south to South 28<sup>th</sup> Street; thence south along South 28<sup>th</sup> Street to the southern lot line of 7200 South 28<sup>th</sup> Street; thence along the southern lot line of 7200 South 28<sup>th</sup> Street west to railroad tracks; thence west along the railroad tracks to Geren Street; thence along Geren Street west to Texas Road; thence along Texas Road south to Hillside Drive; thence along Hillside Drive west to city limit line on Stateline Road; thence north along Stateline Road to the point of beginning.

The Expanded Moratorium Area is more specifically described as being the area bounded by a line described as follows (excluding the Moratorium Area), to wit:

Beginning at the point of the intersection of Stateline Road with Phoenix Avenue; thence east on Phoenix Avenue to Towson Avenue; thence north on Towson Avenue to Knoxville Street;

thence east on Knoxville Street to South 16<sup>th</sup> Street; thence south on South 16<sup>th</sup> Street to Jackson Court; thence east along the southern property line of 4001 South 16<sup>th</sup> Street to Knoxville Street; continue east on Knoxville Street to South 18<sup>th</sup> Street; thence north on South 18<sup>th</sup> Street to Jackson Street; thence east on Jackson Street to South 31<sup>st</sup> Street; thence north on South 31<sup>st</sup> Street to Independence Street; thence east on Independence Street which becomes Gary Street which becomes Cliff Drive; thence east along Cliff Drive to Rogers Avenue; thence east on Rogers Avenue to South 74<sup>th</sup> Street; thence north on South 74<sup>th</sup> Street to Horan Drive; thence east on Horan Drive to Massard Road; thence south on Massard Road to Dallas Street; thence east on Dallas Street to South 99<sup>th</sup> Street; thence north on South 99<sup>th</sup> Street to the city limit line; thence east following along the city limit line in the Arkansas River to the eastern most city limit line; following south along the eastern city limit line to the southern city limit line; thence west on the southern city limit line to the eastern city limit line; thence south on the eastern city limit line to Zero Street; thence west on Zero Street to the Fort Chaffee West Trail (parcel 18800-0000-00002-00 and parcel 18883-0000-03001-01) to McClure Drive; thence west on McClure Drive to Massard Road; thence north on Massard Road to the Sebastian County Bike Trail (Parcel number 40001-0000-00407-01); thence west on the Sebastian County Bike Trail (Parcel number 40001-0000-00407-01) to the intersection of South 58<sup>th</sup> Street and Golf Course Loop; thence south on Golf Course Loop to the southern city limit line; thence west on the southern city limit line to Highway 45; thence north on Highway 45 to Ayers Road; thence west on Ayers Road to Ball Road; thence south on Ball Road to Planters Road; thence west on Planters Road to Highway 71 South; thence north on Highway 71 South to Interstate 540; following west on Interstate 540 corridor to the intersection of South 28<sup>th</sup> Street; thence north on South 28<sup>th</sup> Street to Cavanaugh Road; thence west on Cavanaugh Road to Stateline Road; thence north along Stateline Road to the point of beginning.

SECTION 3: Moratorium Period. The moratorium enacted by Section 1 shall be temporary and shall be in effect from the date of adoption of this Ordinance until December 31, 2025, or, if Fort Smith Sound Impact Regulations – Fort Smith Regional Airport (“Sound Regulations”) are adopted prior to December 31, 2025, the moratorium shall be in effect until the effective date of the Sound Regulations.

SECTION 4: Moratorium Application and Definitions.

A. The reference to “building permit” in Section 1 of this Ordinance refers to any permit which would have been issued pursuant to the Arkansas Fire Code (adopting the International Residential Code) adopted by Fort Smith Code of Ordinances Section 6-2.

B. The City Administrator, through the employees of the City, shall observe and enforce the moratorium adopted by Section 1 of this Ordinance, in the Moratorium Area and Expanded Moratorium Area identified in Section 2 of this Ordinance, during the Moratorium Period stated in Section 3 of this Ordinance.

C. The Moratorium shall not be applicable to building permits applied for and issued for non-residential housing uses, including, without limitation, commercial or industrial structures or residential accessory uses including decking or other non-residential housing uses.

D. The Moratorium shall not be applicable to Fort Smith Planning Department and Planning Commission review and action, including but not limited to, approval of development plans, land use amendments, zoning and re-zoning, nor subdivision of land applications; provided, any such land use action in the Moratorium Area involving new residential housing development shall be so conditioned as to be subject to any Sound Regulations adopted in the Moratorium Period, and no building permit for new residential housing use shall be issued in violation of the Moratorium adopted by Section 1 above.

E. The Moratorium shall not be applicable to a residential property in the Expanded Moratorium Area provided all residential construction complies with the sound attenuation standards set forth in Exhibit 3 based on the noise contour lines identified in Exhibit 2.

F. The Moratorium shall not be applicable to building permits applied for reconstruction or repair of a residential structure destroyed by fire, storm, or earthquake provided all residential construction complies with the sound attenuation standards set forth in Exhibit 3 based on the noise contour lines identified in Exhibit 2.

G. The Moratorium applies to new residential housing building permits. Building permits may be applied for and issued for demolition, repair, and remodeling (but not demolition and reconstruction nor to enlarge existing square footage greater than twenty-five (25) percent of the current gross square footage of the principal single-family structure) of residential housing existing on the date of adoption of this Ordinance.

H. Terms appearing in this Ordinance but not defined herein shall have the meanings provided in the City's Code of Ordinances, or if not defined by the City, then the common meanings in accordance with ordinary usage or as defined in applicable state statutes.

SECTION 5: The provisions and applications of this Ordinance shall be considered severable. The invalidity or inapplicability of this Ordinance to one tract of real property shall not adversely affect the validity or applicability of this Ordinance to other tracts of real property. The invalidity of any provision or application of this Ordinance shall not adversely affect the validity or application of another provision hereof.

SECTION 6: Emergency Clause. It is determined that an emergency situation exists in the described area associated with the Fort Smith Regional Airport related to possible noise impacts of increased military uses on residential uses and the necessity of a period of time to study, consider, and adopt appropriate sound regulations. Based on that emergency situation, this Ordinance shall be of full force and effectiveness from and after the date of its adoption in

order to properly and adequately provide for the health, safety, and welfare of the inhabitants of the City of Fort Smith, Arkansas.

PASSED AND APPROVED THIS 24<sup>th</sup> DAY OF October, 2023.

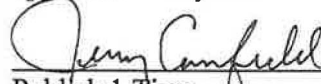
APPROVED:

  
MAYOR

ATTEST:

  
CITY CLERK

Approved as to form:

  
Publish 1 Time

### **Best Practices and Tools for Sound Insulation Planning:**

- **Construction Materials** - Understand how to use Sound Transmission Class (STC) ratings to evaluate construction methods and materials. Two different construction methods or components may have identical STC ratings and yet may block aircraft noise differently because of their response to different sound frequencies.
- **Room Characteristics** - Evaluate the sound absorption characteristics of the room finishes and furnishings. Rooms with soft surfaces such as carpeted floors, long curtains, and upholstered furniture, contribute to a lower interior noise level compared with a room with hard surfaces, such as cabinets and hard floor covering.
- **Construction Methods** - Combine building elements for a balanced design. The acoustical performance depends on the combined performances of each of the elements. If any of the components has poor insulation properties then the overall performance can be weakened. As a rule of thumb, if a weaker element will be included in the design, its size should be kept to a minimum.
- **Cost** - Consider the costs and construction requirements for the sound insulation project. Some sound insulation treatments can be inexpensive and implemented by the homeowner, while others are larger in scale, more expensive, and most likely would be completed by a professional.

Add mass to walls and ceilings, insulate wall panel elements, or add absorptive materials between studs and joists. The ceilings of top-of rooms may need to be modified to provide increased noise protection.

- Consider using brick and concrete block walls, which generally need little to no modifications. Sided wood-framed walls and some stucco wood-framed walls require improvements in higher noise zones.
- The use of cathedral ceilings is strongly discouraged for homes exposed to aircraft noise. Attics provide a more efficient noise buffer than cathedral ceilings or at built-up roofs.
- Roof improvements could include baffles in the attic vents, extra insulation to absorb sound reverberating in the attic space, and an upgraded roof deck.

Improve the acoustical performance of exterior windows to lower the overall sound transmission into the structure. Design modification options include using thicker glass and wider airspaces between the panes of glass. Specialized acoustical windows provide maximum sound insulation and should be used in the loudest environments. The two most common types of acoustical windows are a double-pane window with a storm unit attached or an assembly of two single- or double-pane windows connected.

- Consider the door composition, door weight, presence/type of fixed window panels, and quality of seals and weather stripping. Also consider how tightly they seal when evaluating doors for sound insulation. Solid core or heavy doors provide better sound insulation than hollow or lightweight doors.
- Seal gaps and cracks. Use weather-stripping. Implementing good weatherization techniques and caulking around window and door openings is crucial to effective sound insulation.
- Reduce the number of openings on exterior walls and roofs. Put baffles on open-air vents.

**WALL CONSTRUCTION:** While a variety of wall construction is available, the most common in new-home construction is the 2x4 and 2x6 wood stud wall with exterior and interior finishes.

Sound insulation priorities. When attempting to improve the insulation properties of a residence against external noise, the following prioritized list of treatments will generally apply:

**Windows:** • provide airtight perimeter seals, • reduce window size, • locate larger windows on quiet side of house, • use heavier glass and larger airspace between sheets of glass, • add layer of heavy glass with large airspace to existing window (i.e., create a storm window), • if window must remain openable, consider using a solid screen or baffle to shield the opening from the noise source.

**Doors:** • use solid wood, solid core or insulated steel doors, • provide airtight seals along top, bottom and sides, • add a second "storm door" separated by an airspace (4" to 6") deep - seal perimeters of both doors, • create an entrance vestibule (entryway or "mud room").

**Vents and Holes:** • locate ventilation openings on quiet side of house, • cover with hood and acoustically line ventilation ducts, • caulk or otherwise seal all holes and cracks (airtight).

**Walls:** • increase mass of lightweight constructions with additional interior layers of gypsum board or heavy external materials such as cement stucco or brick, • fully insulate cavities (with glass, mineral or cellulose fiber batts or loose-fill, blow-in insulation), • attach interior gypsum board (one or two layers) to the framing using resilient channels, • consider using staggered-stud or double-stud exterior walls.

**Roofs** (particularly when dealing with aircraft noise): • install (8" to 12") thermal/acoustical insulation in cavity between roof and ceiling, • treat (attached duct section and acoustically line) attic ventilation openings, • keep fireplace dampers closed when not in use, consider an enclosed fireplace (insert) or a wood stove, • construct suspended ceiling using one or two layers of gypsum board mounted on resilient channels.

Window Construction	Sound Insulation Rating (STC)
1. Any window type, open slightly for ventilation	10-15
2. Single-glazed (3/32" glass), closed, no weather- stripping/seals	20
3. Single-glazed (3/32" glass), closed, no weather- stripping/seals, heavy curtains	25
4. Single-glazed, closed with weatherstripping/seals	27
5. Single-glazed, closed and sealed with heavy curtains	(estimate) 29
6. Single-glazed (3/32" glass), fixed	29
7. Standard double-glazed (3/32" glass, 13 mm airspace), openable	30
8. Standard double-glazed (3/32" glass, 13 mm airspace), fixed	32
9. Double-glazed (3/32" glass, 1" air space), fixed	35
10. Laminated glass (1/4" thick)	35
11. Laminated glass, (1/2" thick)	38



- 12. Double-glazed (3/21" glass, 2" air space), or (1/4" glass and 1/2" airspace) fixed 38
- 13. Single-glazed with storm window added, separated by 2" air space, fixed 38
- 14. Single-glazed with storm window added, separated by 4" air space, fixed 42
- 15. Double-glazed with storm window added, separated by 2" to 3" air space, fixed 43
- 16. Single-glazed with "Magnacooustic" sound proofing window insert (commercial STC test) 44

### **Dealing with doors**

For both sound and thermal insulation reasons, all exterior doors should be of either solid wood (typically 1 3/4" to 2" thick) or insulated steel construction. Such doors will generally provide STC 30 to 33 if their perimeters are fitted with airtight seals, but only about STC 20 to 22 if they are not sealed. Specially made acoustical doors are available with ratings of up to STC 45 to 50 however they are quite heavy and expensive and are generally used only in sensitive interior noise control situation such as studios, music rooms and theatres and in high noise areas such as engine test facilities. Some more practical and economical options by which the homeowner may improve the sound insulation of exterior doors are given below:

1. Use two solid core doors separated by an (4" to 6") airspace; seal perimeters of both doors, e.g., add a "storm door" of insulated steel or solid wood construction, with or without a double-glazed window,
2. Create an entrance vestibule (entryway or "mud room"), seal outer or both doors.

### **Improving Exterior Walls**

The sound insulation capacity of typical exterior walls is generally comparable to or better than that of typical sealed single-glazed or double-glazed windows. For example, a Wall an insulated (3.5") wood stud wall with wooden sheathing and lightweight (cedar, vinyl or aluminum) siding on the outside and gypsum board or plaster on the inside will provide approximately STC 36. The addition of (3/4" to 7/8") of cement stucco on the outside improves this wall's performance to STC 44 to 46. Therefore, it would generally only be necessary to consider improving the sound insulation of exterior walls beyond that provided by basic (3.5" or 5.5") thick single wood stud wall if:

1. Your home is an older one and the existing exterior walls do not have adequate thermal insulation – here improving insulation (potentially by blowing loose-fill insulation into the walls) would reduce heating costs as well noise penetration,
2. Exterior noise levels are very high (65 DBA or more) and the sound insulation capacity of the windows has been, or will be, improved beyond the STC 27 to 30 typically provided by sealed, single-glazed or standard double-glazed constructions,
3. Exterior noise levels are high (60 DBA or more), you plan to build a new home or renovate the interior of your existing home and have the opportunity to improve exterior wall performance with minimal additional cost and disruption.

## **Exterior Wall Type**

1. Basic (3.5") insulated wood stud wall with plywood, OSB or shiplap exterior sheathing, cedar, vinyl or aluminum exterior siding and gypsum board or plaster-on-lath on interior surface (STC 36)
2. Basic (5.5") insulated wood stud wall with plywood, OSB or shiplap exterior sheathing, cedar, vinyl or aluminum exterior siding and gypsum board or plaster-on-lath on interior surface (STC 37)
3. Basic (3.5") insulated wood stud wall (similar to No. 1) except that a second layer of gypsum board is applied to the interior surface (STC 38)
4. Basic (5.5") insulated wood stud wall (similar to No. 2) except that a second layer of gypsum board is applied to the interior surface (STC 39)
5. Basic (3.5") to (5.5") insulated wood stud wall plus (3/4" to 7/8") cement stucco or brick or rock on exterior surface (STC 44-46)
6. Basic (3.5") to (5.5") insulated wood stud wall with interior gypsum board (single layer) mounted on resilient channels. (STC 47)
7. Basic (3.5") to (5.5") insulated wood stud wall with interior gypsum board (two layers) mounted on resilient channels, (STC 50)
8. Basic (5.5") insulated staggered wood stud wall with single layer of gypsum board on interior surface (STC 49)
9. Basic (5.5") insulated staggered wood stud wall with two layers of gypsum board on interior surface (STC 52)
10. Basic (3.5") to (5.5") insulated wood stud wall plus 1" airspace and (3.5") Brick or rock on exterior surface. (STC 53)
11. Basic (3.5") to (5.5") insulated wood stud wall plus (3/4" to 7/8") cement stucco or brick or rock on exterior surface plus interior gypsum board (single layer) mounted on resilient channels. (STC 54-56)

All wood studs are spaced at (16") on center.

**Table 3**  
**STC Ratings for Typical**  
**Building Components<sup>1</sup>**

Building Component	Description	STC Rating
Frame Wall	a. 5/8" x 10" Redwood Siding b. 1/2" Insulation Board Sheathing c. 2 x 4 studs 16" o.c. d. Fiberglass Building Insulation e. 1/2" Gypsum Board attached directly to studs	39 dB
Stucco/Frame Wall	a. 7/8" Stucco b. No. 15 felt Building Paper and 1" Wire Mesh c. 2 x 4 Studs 16" o.c. d. Fiberglass Building Insulation e. 1/2" Gypsum Board attached directly to studs	46
Brick Veneer Wall	a. Face Brick b. 1/2" Airspace with metal ties c. 3/4" Insulation Board Sheathing d. 2 x 4 Studs 16" o.c. e. Fiberglass Building Insulation f. 1/2" Gypsum Board attached directly to studs	58
Masonry Wall	a. 1" Stucco b. 8" thick Hollow Concrete Block c. 1/2" Gypsum Board attached to furring strips	49 (estimated)
Windows	Wood double hung, closed but unlocked, single glazing	23
	Aluminum sliding, latched, single glazing	24
	Wood double hung, closed but unlocked, glazed with 7/16" insulating glass	22
	Aluminum single hung, closed, glazed with 7/16" insulating glass	25
	Wood, double hung, sealed, glazed with 7/16" insulating glass with single glazed storm sash-2 1/8" separation	35
	Aluminum sliding, closed, single glazed with single glazed storm sash, 1/8" separation	22
Exterior Doors	Wood, flush solid core, with brass weather stripping	27
	Wood, flush solid core, plastic weather stripping, aluminum storm door	34
	Wood, French door, brass weather stripping	28
	Steel, flush, with urethane foam core, with magnetic weather stripping	28
Roof	Shingle Roof with attic, 1/2" gypsum wall board ceiling framed independently of roof	43 (estimated)

<sup>1</sup>Except as noted, all STC ratings are from: *Acoustical and Thermal Performance of Exterior Residential Walls, Doors and Windows*, National Bureau of Standards.

### WALL CONSTRUCTIONS

While a variety of wall construction is available, the most common in new-home construction is the 2x6 wood stud wall with exterior and interior finishes. Until a laboratory or field measurement of this construction has been made, it is assumed here that the basic wall with insulation provides an STC of 45

<b>Table A1</b>						
<b>STC Estimated Values for Exterior Construction</b>						
Interior Skin and STC Rating						
Exterior	1/2" Gypsum *	3/8" Gypsum	2- 1/2" Gypsum	2- 3/8" Gypsum	1/2" SB** 1/2" GYP	1/2" SB 3/8" GYP
<b>2 x 4 Studs</b>						
Alum. Siding 1/2" Wood	42	40	44	45	42	43
7/8" Stucco 1/2" Wood	50	50	50	50	51	50
1/2" Wood Siding	38	39	43	45	41	42
3/4" Wood Siding	43	42	42	43	39	40
<b>2 x 6 Studs</b>						
Alum. Siding 1/2" Wood	44	42	46	47	44	45
7/8" Stucco 1/2" Wood	52	52	52	52	53	52
1/2" Wood Siding	40	41	45	47	43	44
3/4" Wood Siding	45	44	44	45	41	42
<b>Other</b>						
4-1/2" Brick Veneer	58	57	57	57	58	57
6" Concrete	59	60	62	61	61	62
8" Concrete	61	63	65	64	64	65
6" Hollow Concrete Block	51	52	54	54	53	53
8" Hollow Concrete Block	52	54	56	56	55	56
6" Block With 1/2" Stucco	52	53	55	54	54	55
8" Block with 1/2" Stucco	53	55	55	56	56	57

**WINDOWS, GLAZING AND WINDOW ASSEMBLIES**

It is important to note that measured STC values of glazing used in a particular window will not necessarily be achieved by the window or window assembly.

<b>Table A2 Estimated STC Ratings for Typical Windows</b>	
Type of Window	STC
<b>Picture Window</b>	
Double Glazed	29
1" Insulating Glass	34
<b>Double-Hung Window</b>	
With Insulating Glass	27
With ¾" Insulating Glass	29
With storm window	35
<b>Casement Window</b>	
With Insulated Glass	28
With 1" Insulating Glass	29
With Insulating high-performance Glass	30
With 1" Insulating high-performance Glass	31
With Insulating high-performance Glass & Removable Glass Panel	32

<b>Table A3 Selected STC Ratings for Acoustical Windows</b>	
Sliding Metal Windows	STC
1/4", 1/3" laminated, 3/4" airspace	38
1/4", 1/4", 2 - 1/4" airspace	43
3/8", 1/2", 2 - 1/2" airspace	46
3/16", 1/4", 4 - 1/4" airspace	48
1/4", 1/4" laminated, 4 - 1/4" airspace	48
1/2", 3/8", 8 - 1/2" airspace	56

**STC RATINGS****DOORS AND DOOR ASSEMBLIES**

Commonly used exterior doors

<b>Table A5</b>	
<b>STC Ratings for Solid &amp; Hollow-Core Doors</b>	
<b>Types of Doors</b>	<b>STC</b>
Hollow-core wood with brass weather strip	20
French-style wood with 12 lights (single glazing)	26
Solid-core wood with brass weather strip	27
Hollow steel with magnetic weather strip	28
Insulated steel with compression weather strip	28
Solid-core wood with storm door	34

<b>Table A6</b>	
<b>STC Ratings for Doors with Glazing</b>	
<b>Types of Doors</b>	<b>STC</b>
Sliding glass (3/16" glass)	26
Sliding patio with high-performance glass	28
Swinging patio with 3/4" insulating glass	28
Patio with 1/4" laminating glass and 1/2" airspace	30
Swinging patio doors with 3/4" insulating high-performance glass	30

### Exhibit 3

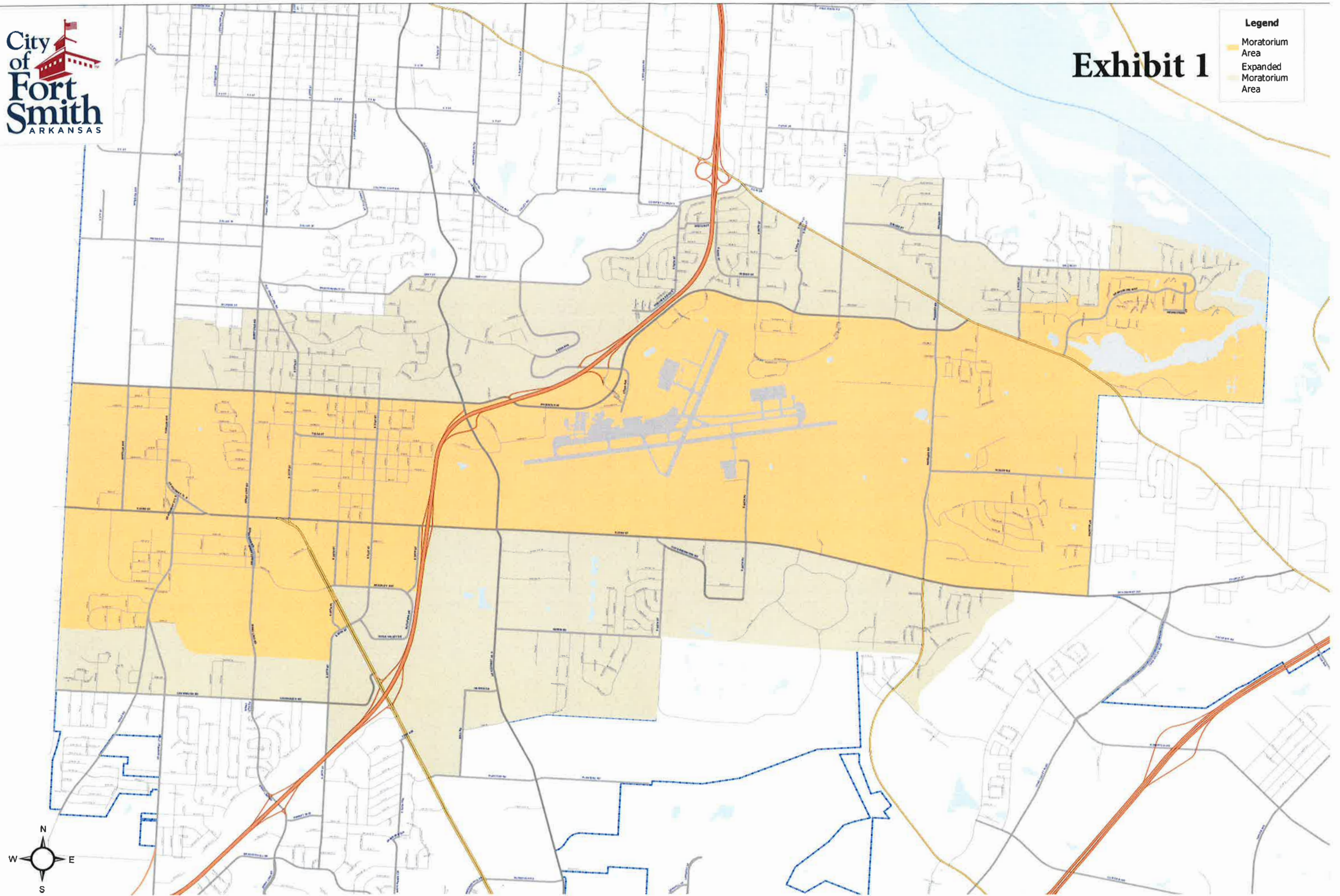
The minimum Sound Transmission Class (STC) rating of structure components shall be in compliance with the following table:

<b>dB LDN</b>	<b>Minimum STC of Exterior Walls and Roof Ceiling</b>	<b>Minimum STC of Doors and Windows</b>
65-69 dB	39	25
70-74 dB	44	33
>75 dB	49	38

# Exhibit 1

**Legend**

- Moratorium Area
- Expanded Moratorium Area





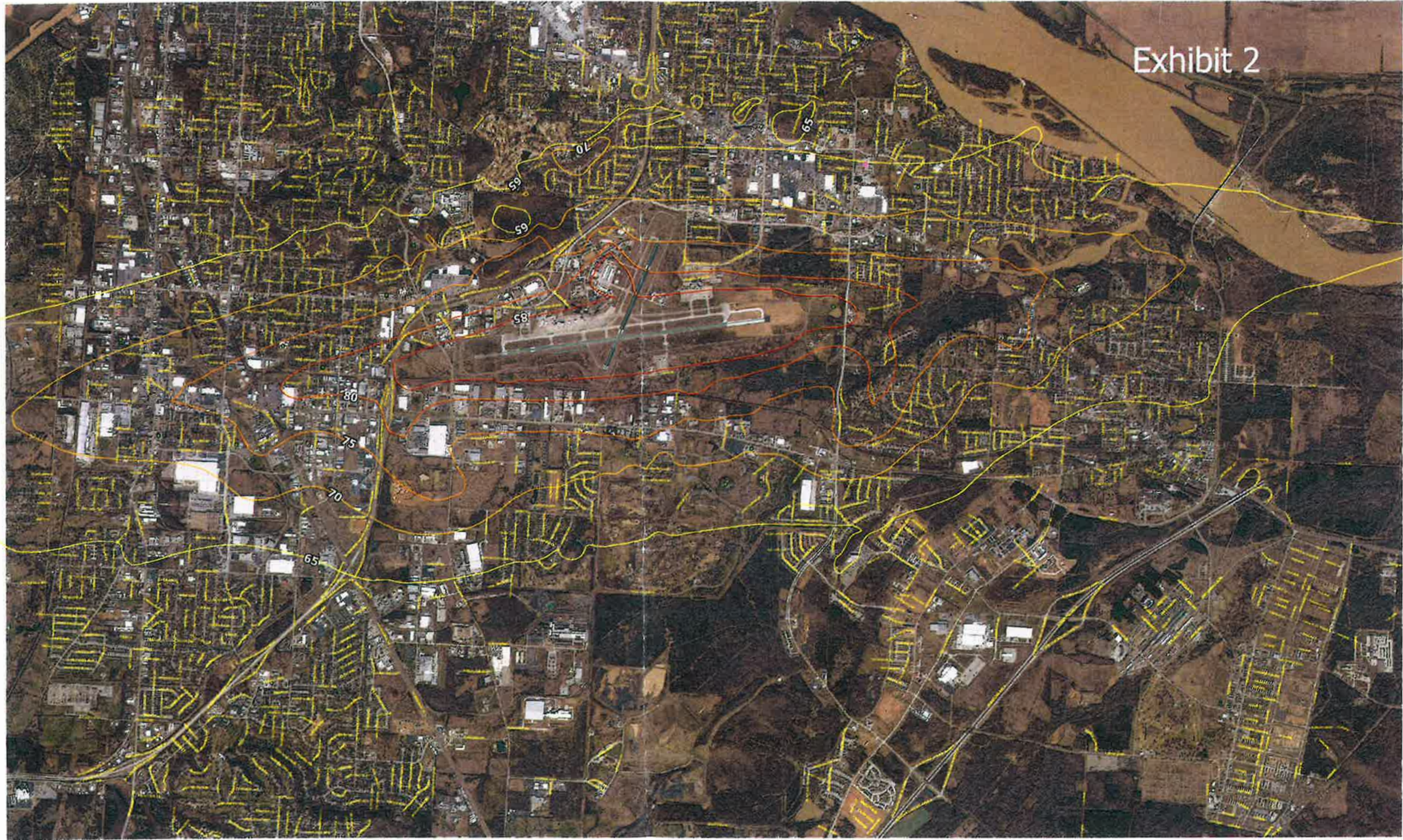


Exhibit 2