



## I-69 EVANSVILLE TO INDIANAPOLIS TIER 2 STUDIES

### Section 5—Final Environmental Impact Statement

## APPENDIX W

### FINAL NOISE TECHNICAL REPORT

FILE 3 - APPENDIX A - FIGURES (CONTINUED) &  
APPENDIX B - NOISE METER CALIBRATION AND  
WEATHER DATA

#### TECHNICAL REPORT APPENDICES

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<b>APPENDIX A</b>	<b>Figures</b>
<b>APPENDIX B</b>	<b>Noise Meter Calibration and Weather Data</b>
<b>APPENDIX C</b>	<b>Ambient Noise Measurement Logs</b>
<b>APPENDIX D</b>	<b>Traffic Volumes</b>
<b>APPENDIX E</b>	<b>Predicted Sound Levels</b>
<b>APPENDIX F</b>	<b>TNM Input/Output Tables</b>

## **APPENDIX A: FIGURES**

**Figure 1: General Location Map**

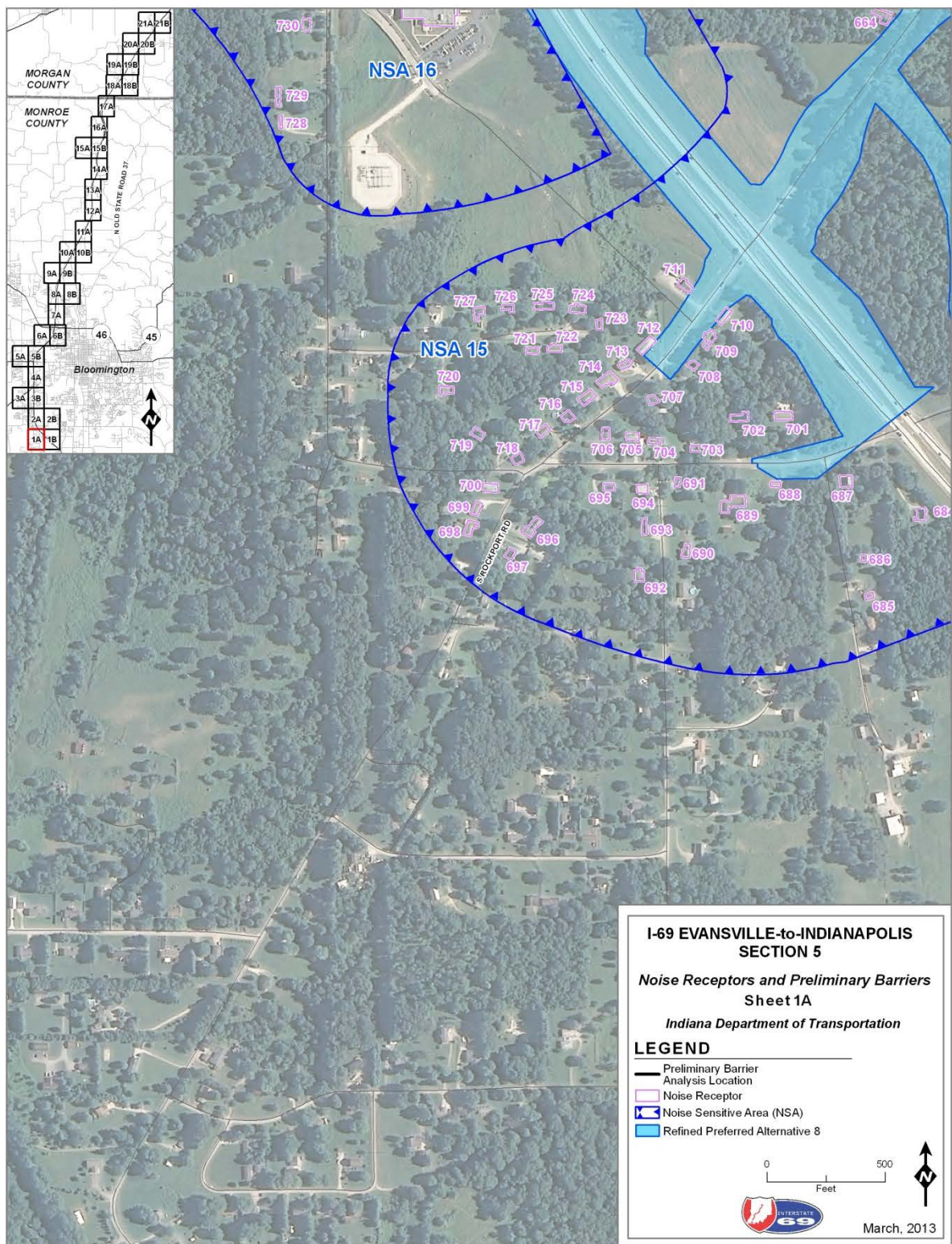
**Figure 2: Ambient Noise Monitoring Locations**

**Figures 3 and 4: Typical Sections for Alternatives**

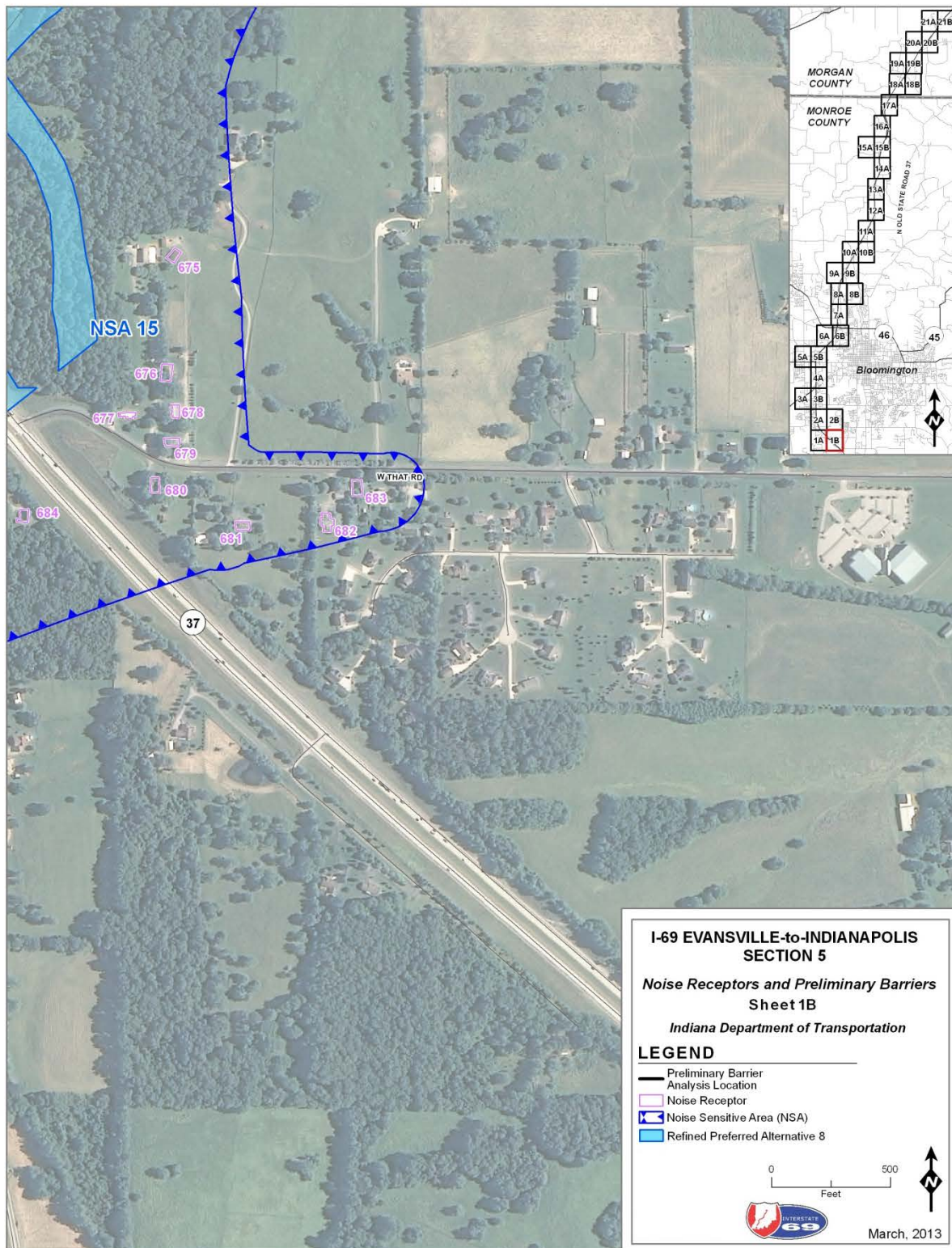
**Figure 5: Noise Receptors & Preliminary Barrier Locations for  
Alternatives 4 through 8**

**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined  
Preferred Alternative 8**

**Figure 6:**  
**Noise Receptors & Preliminary Barrier**  
**Locations for Refined Preferred Alternative 8**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 1A)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternatives 8 (Sheet 1B)**

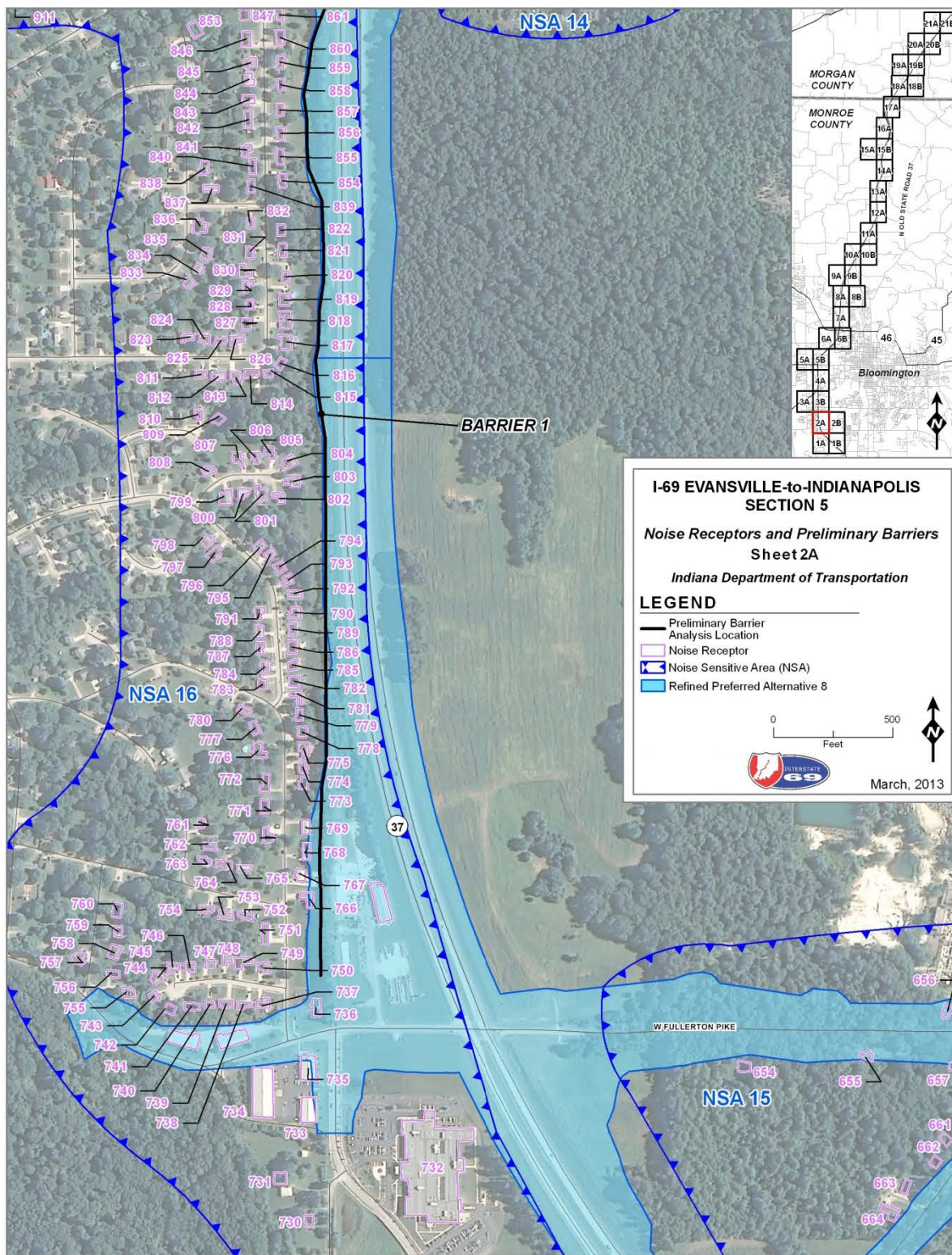
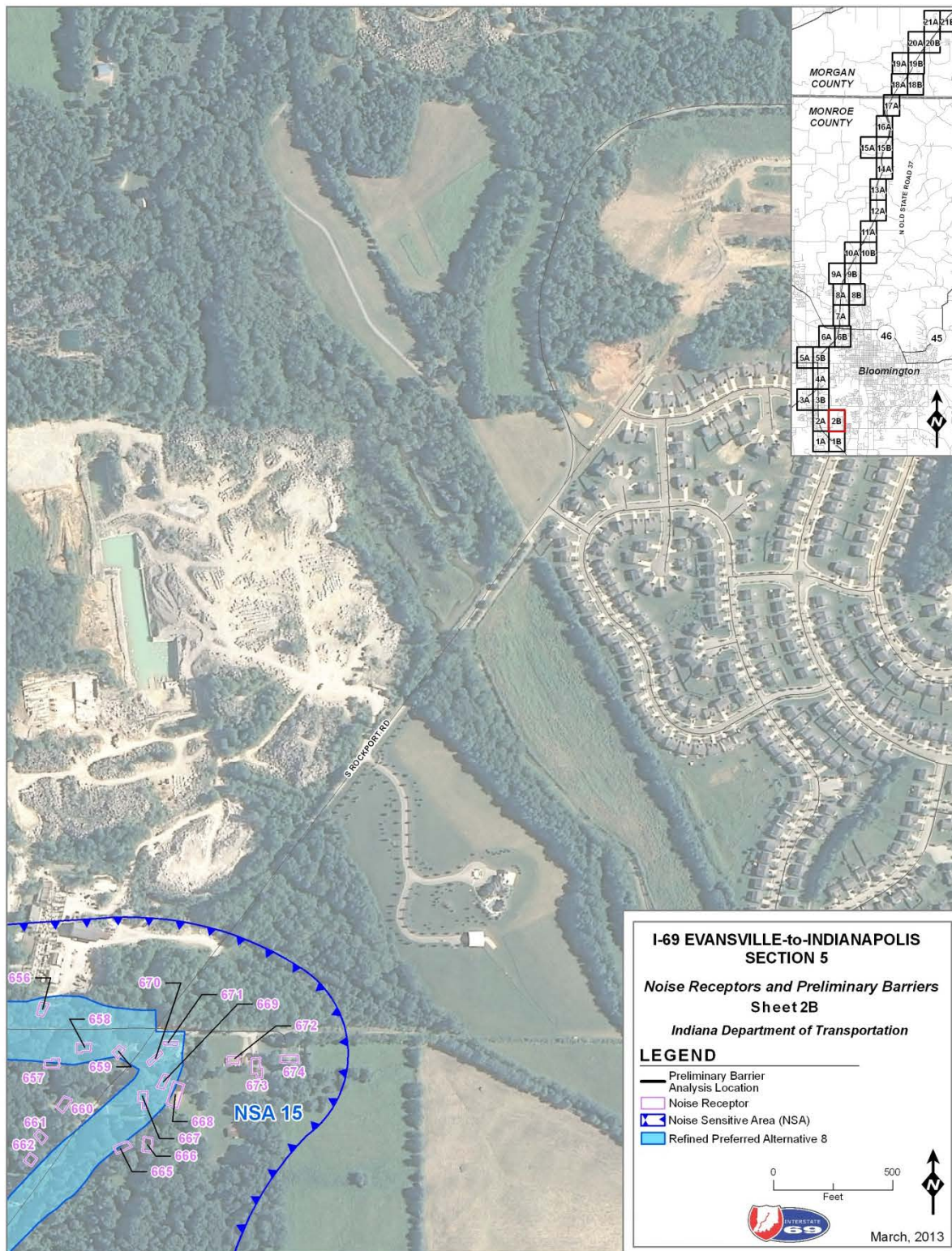
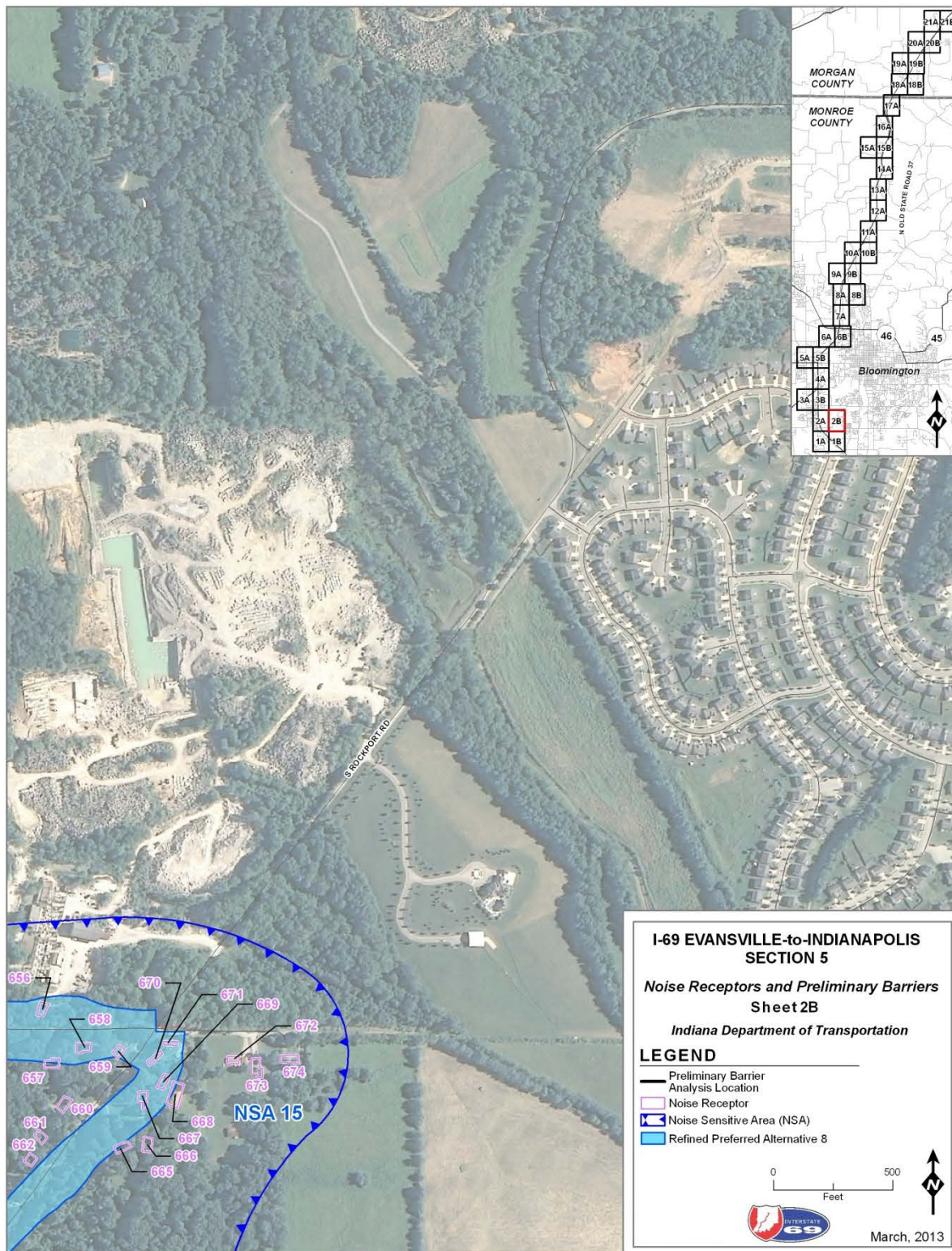


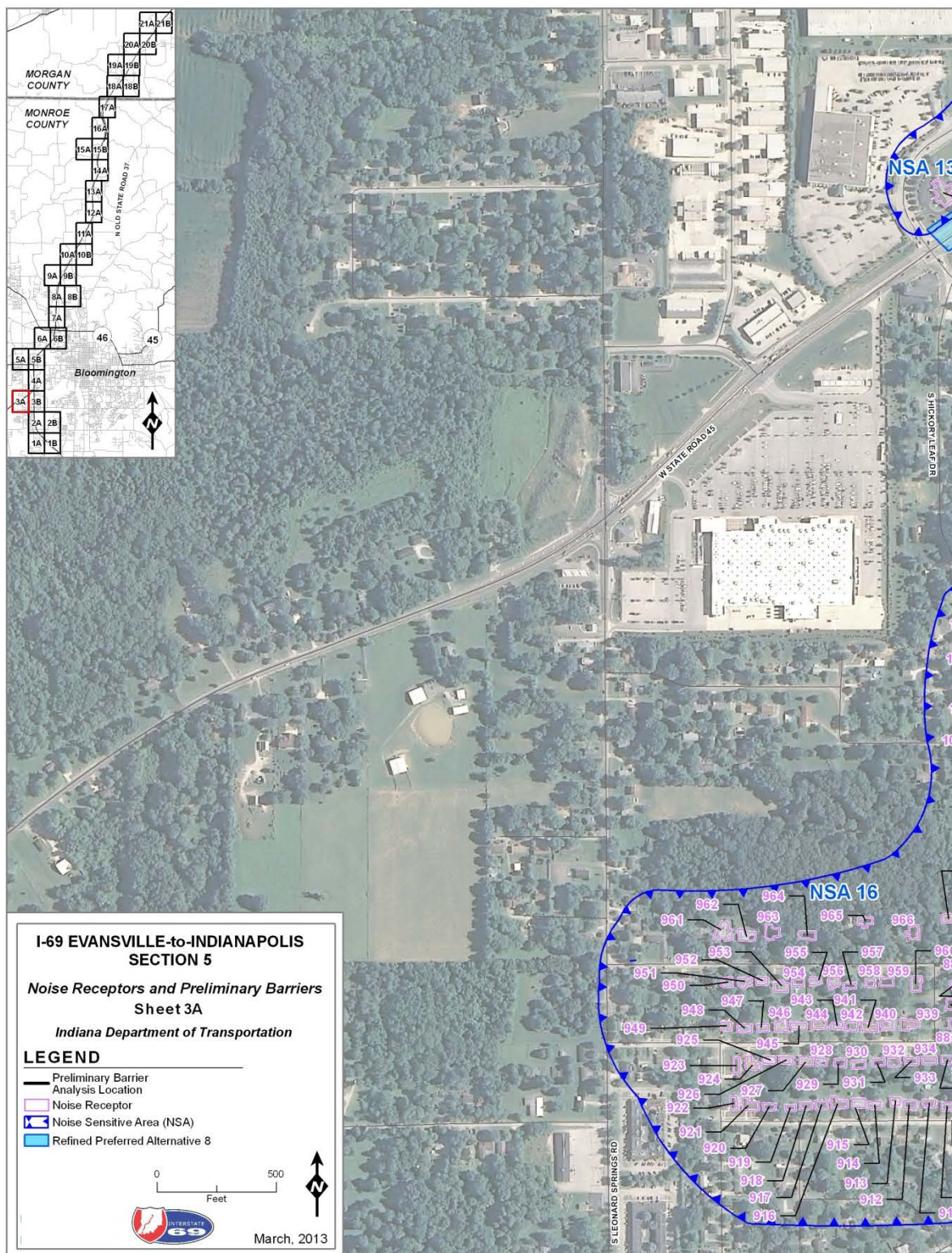
Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 2A)



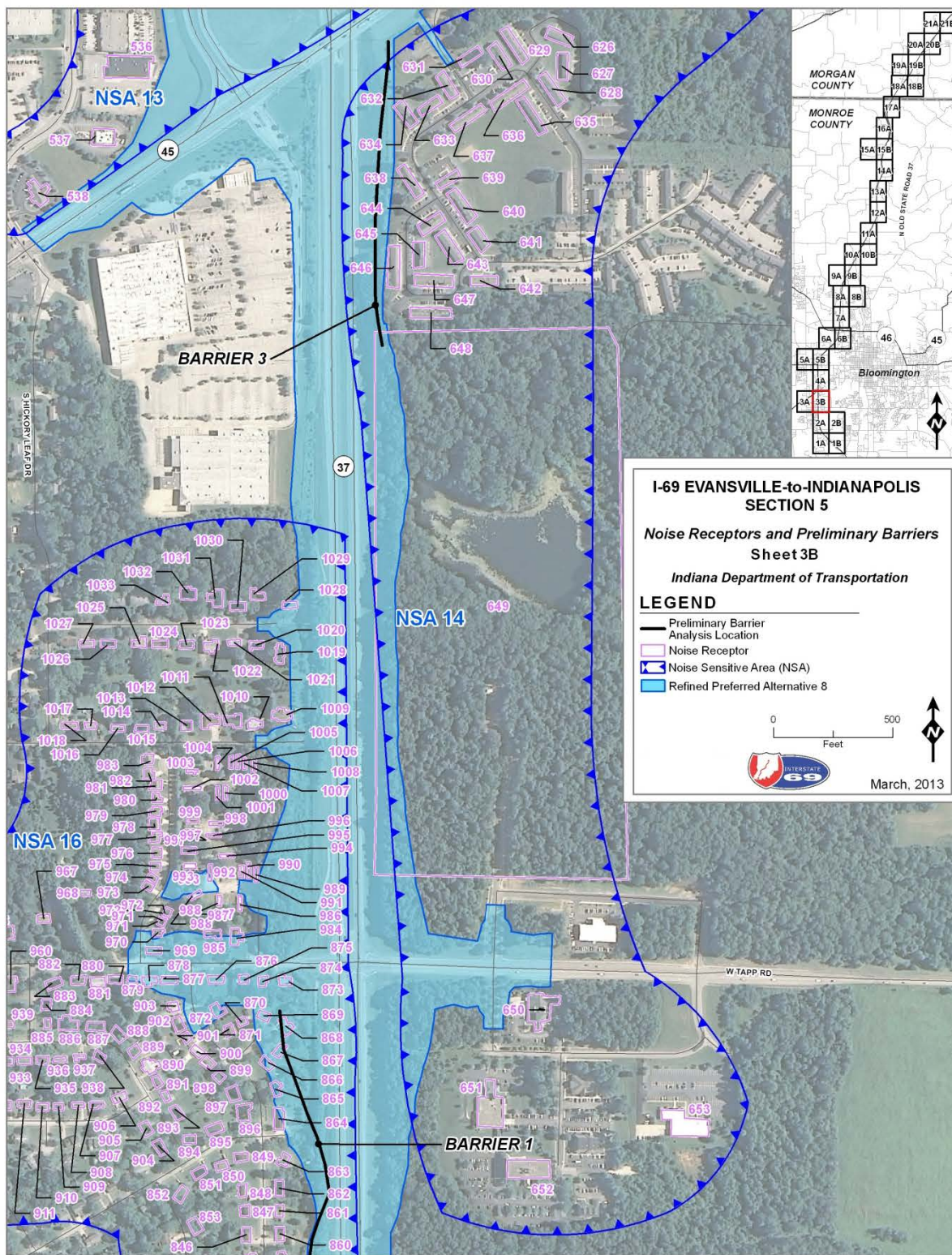
**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 2B)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 2B)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 3A)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 3B)**

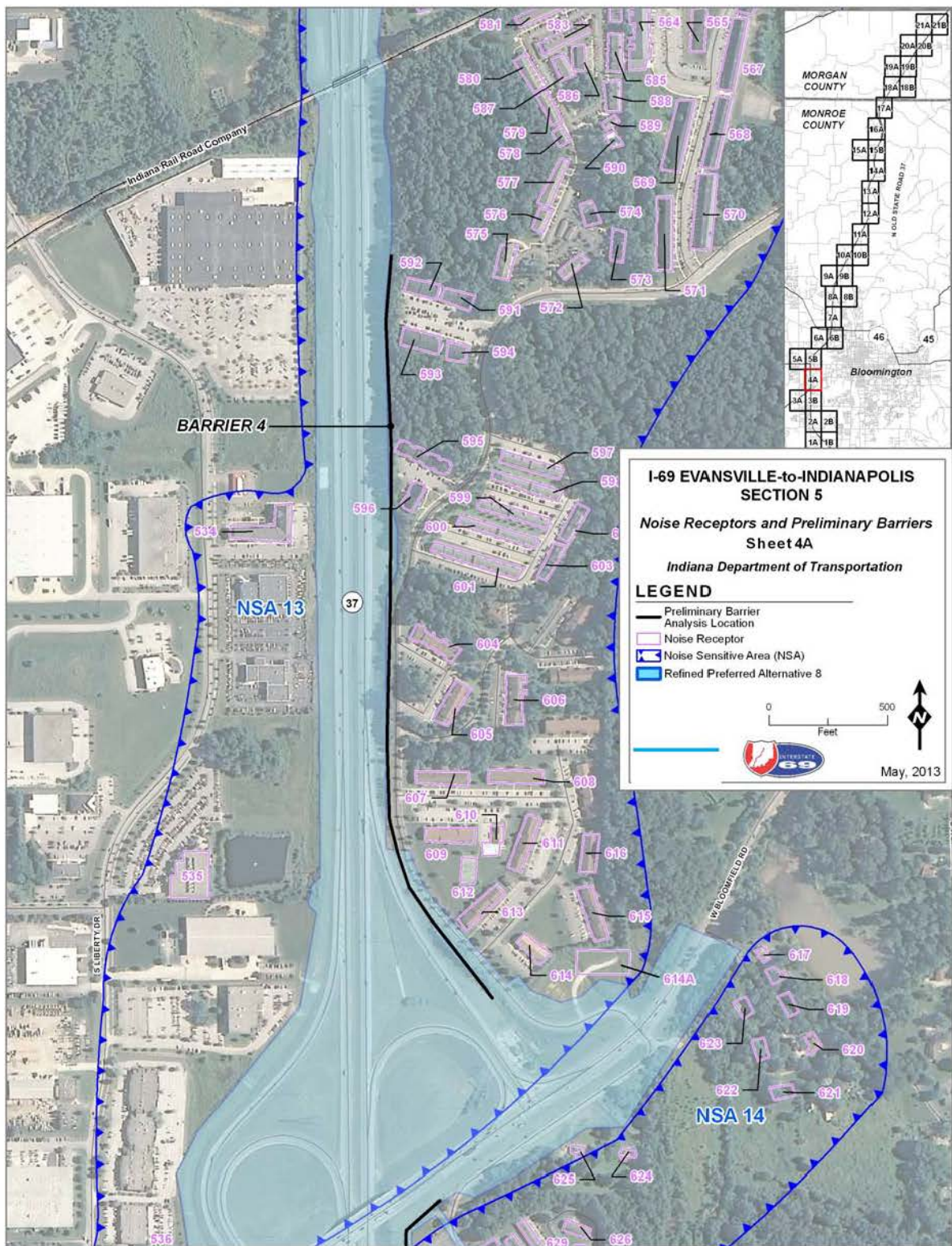
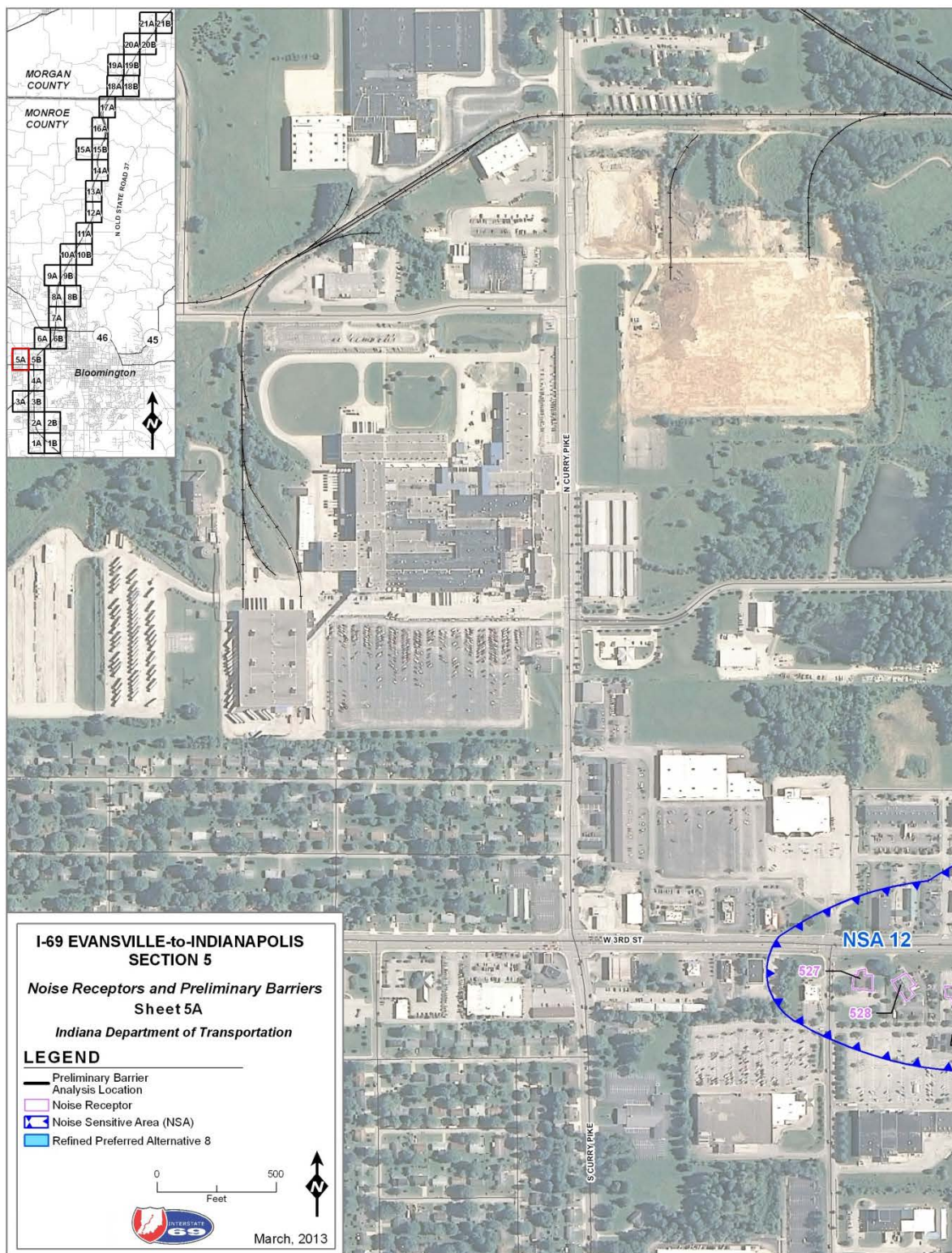
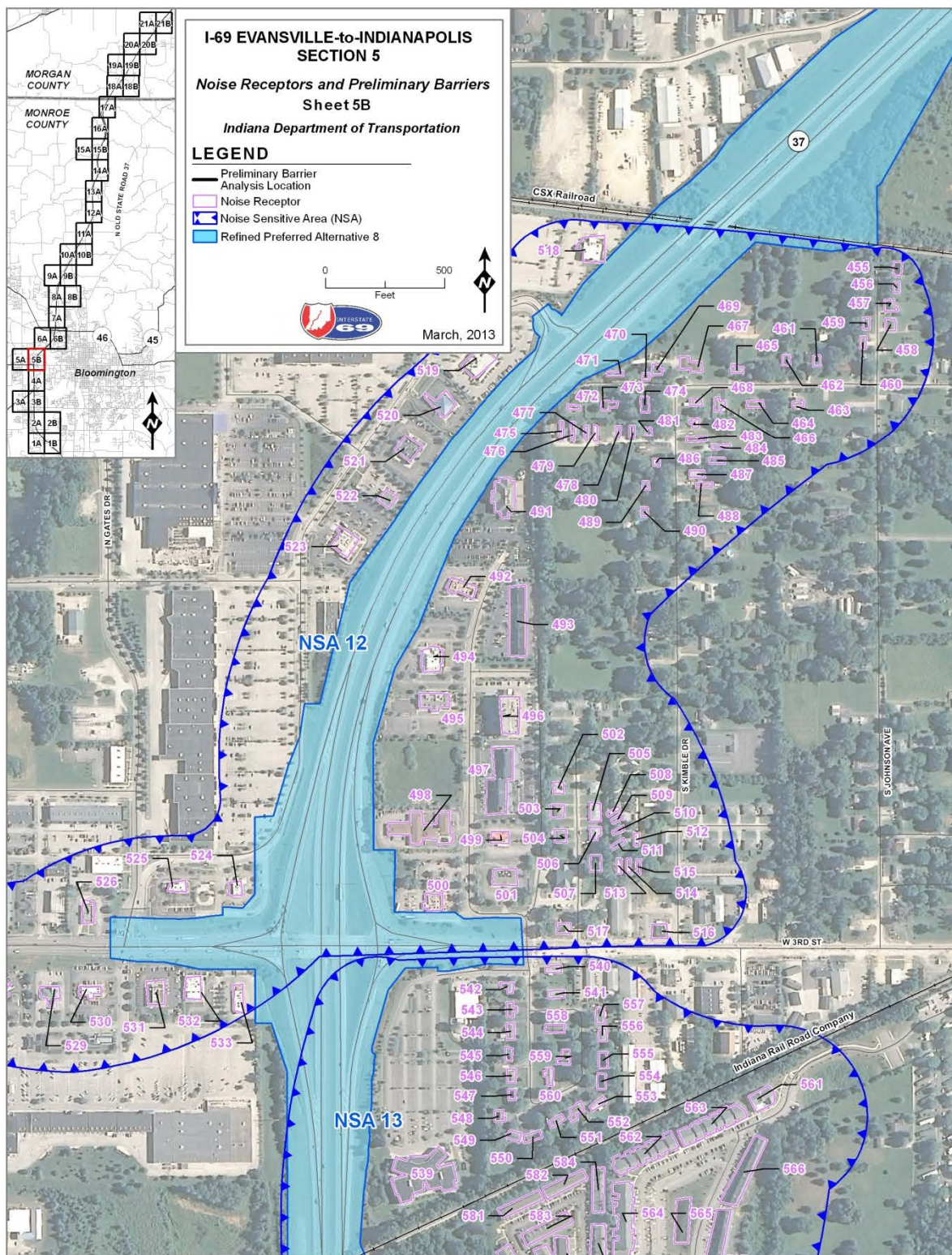


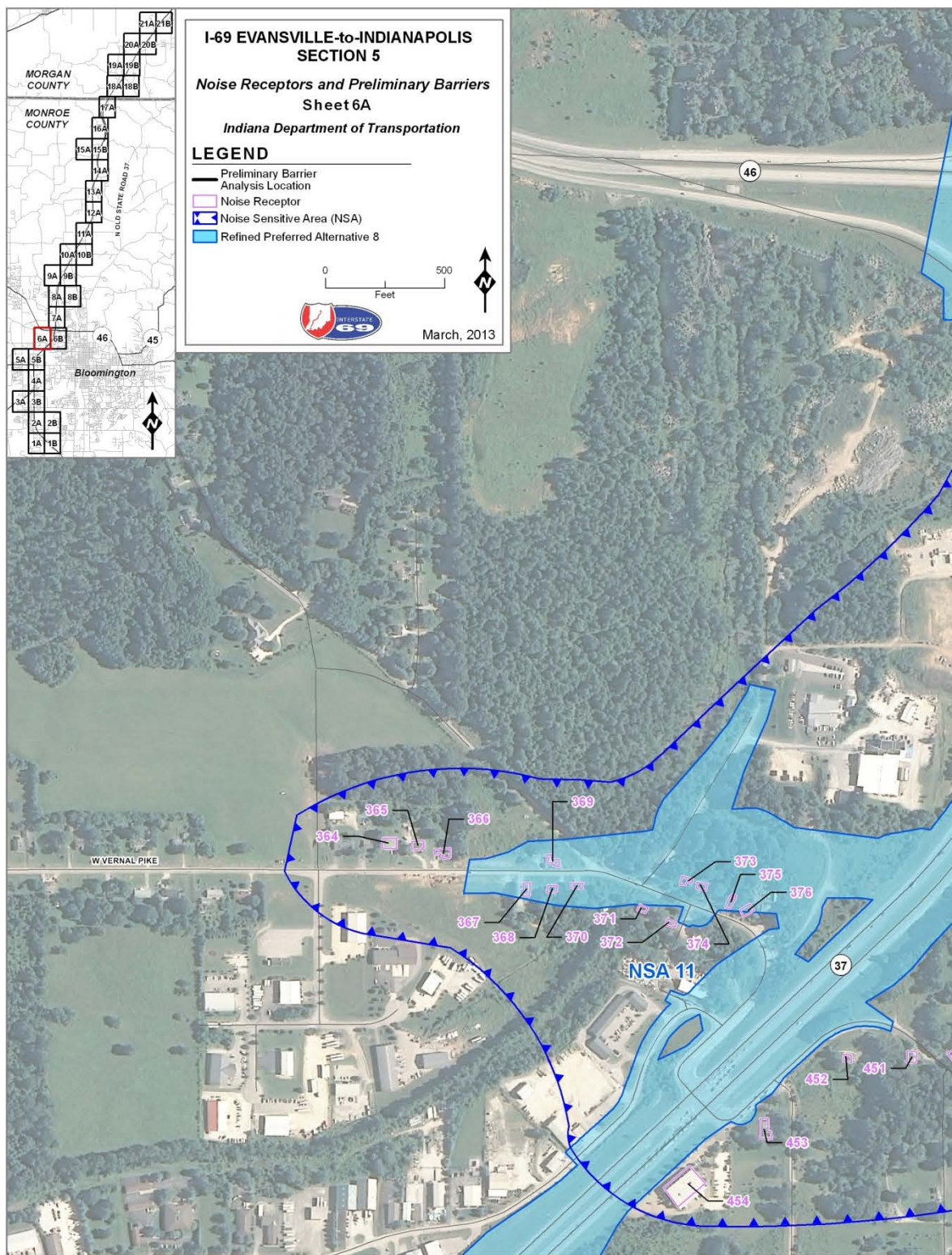
Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 4A)



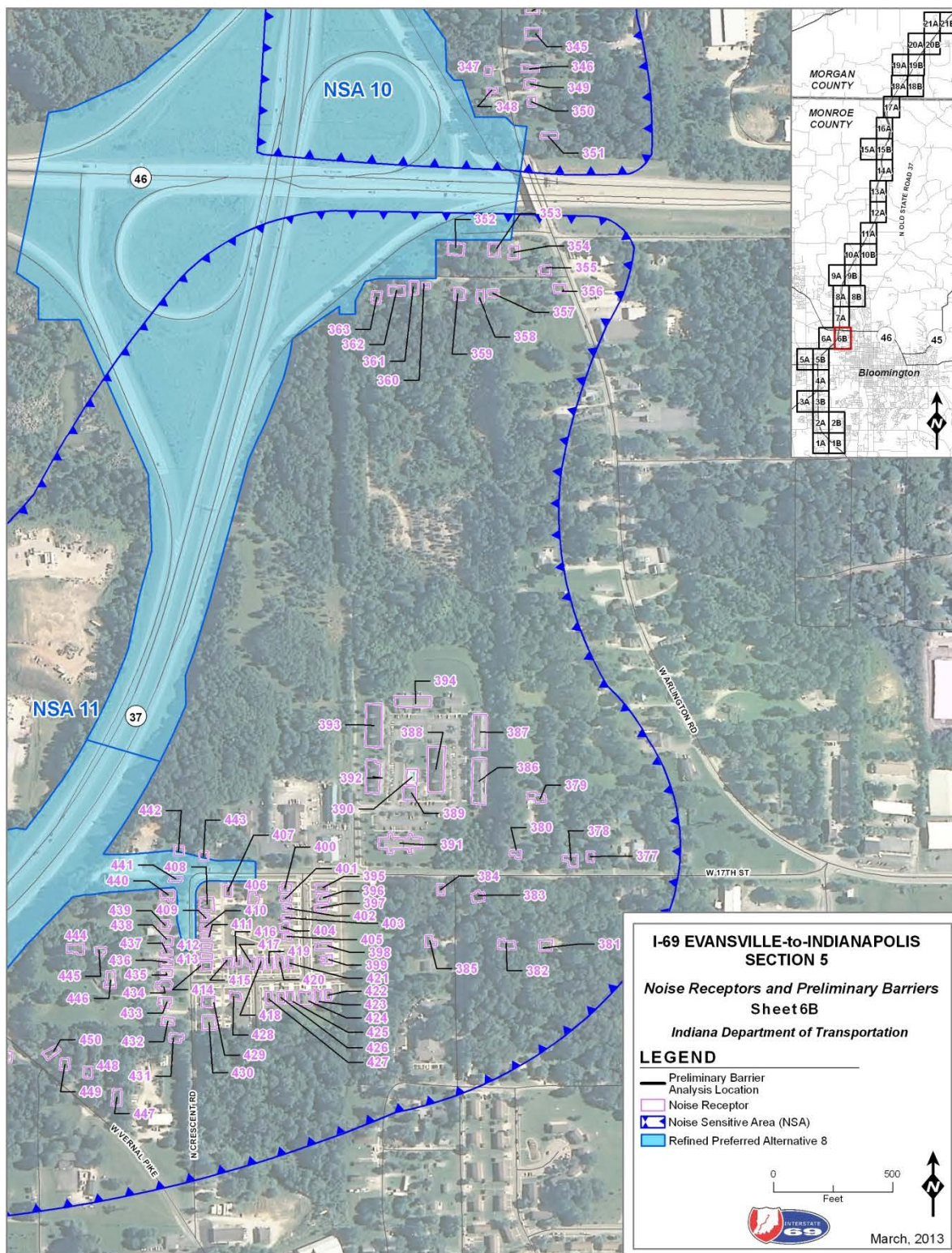
**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 5A)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 5B)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 6A)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 6B)**

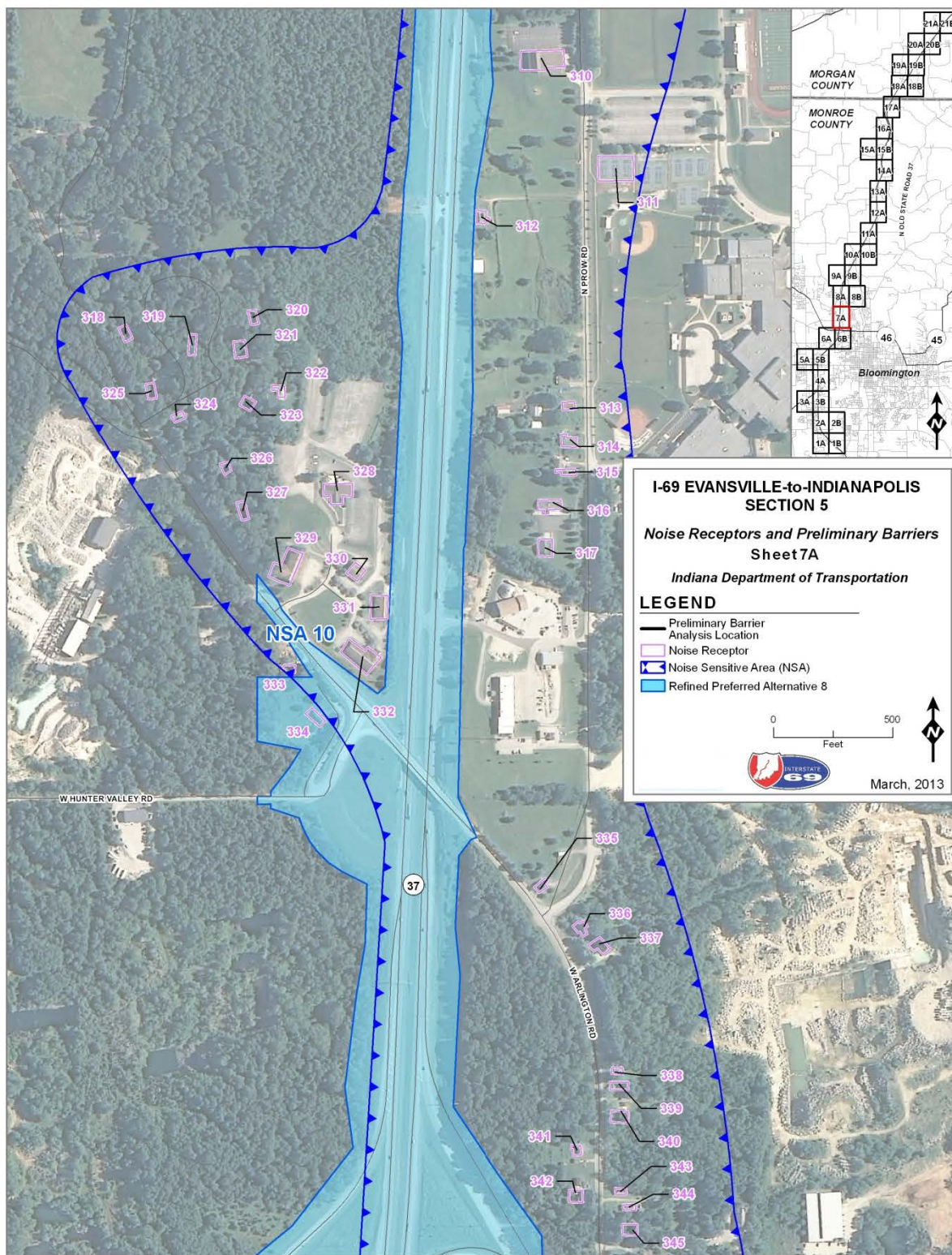
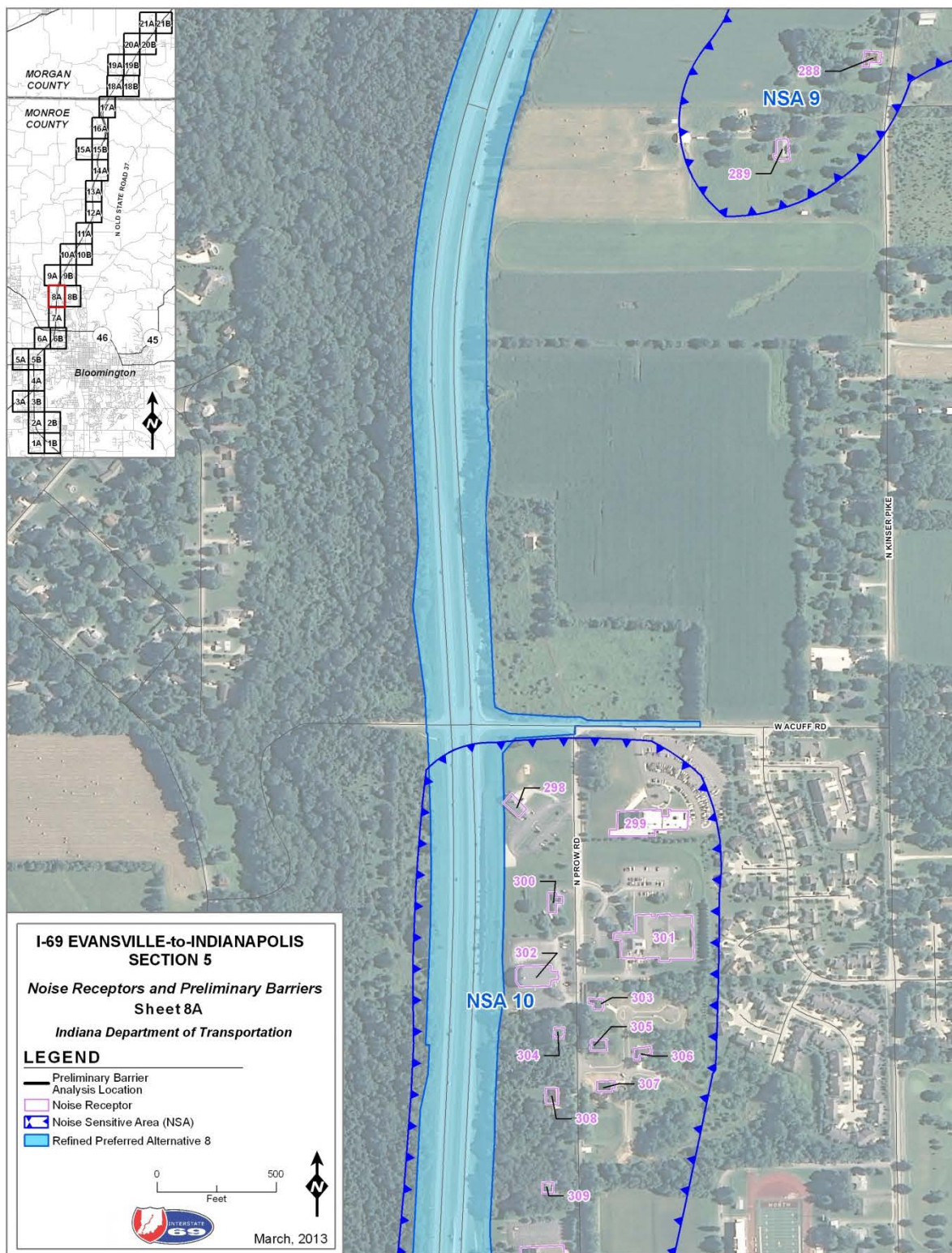
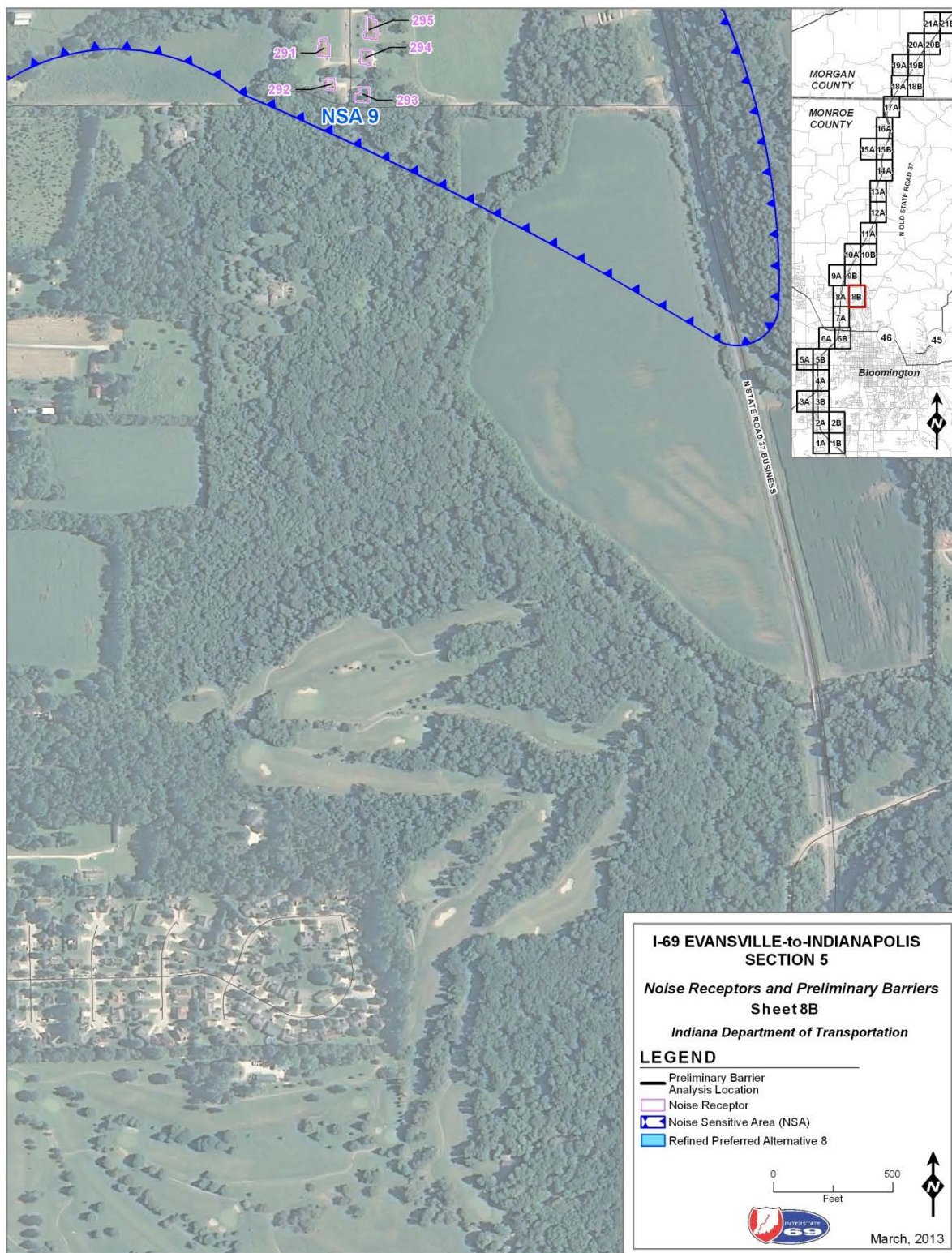


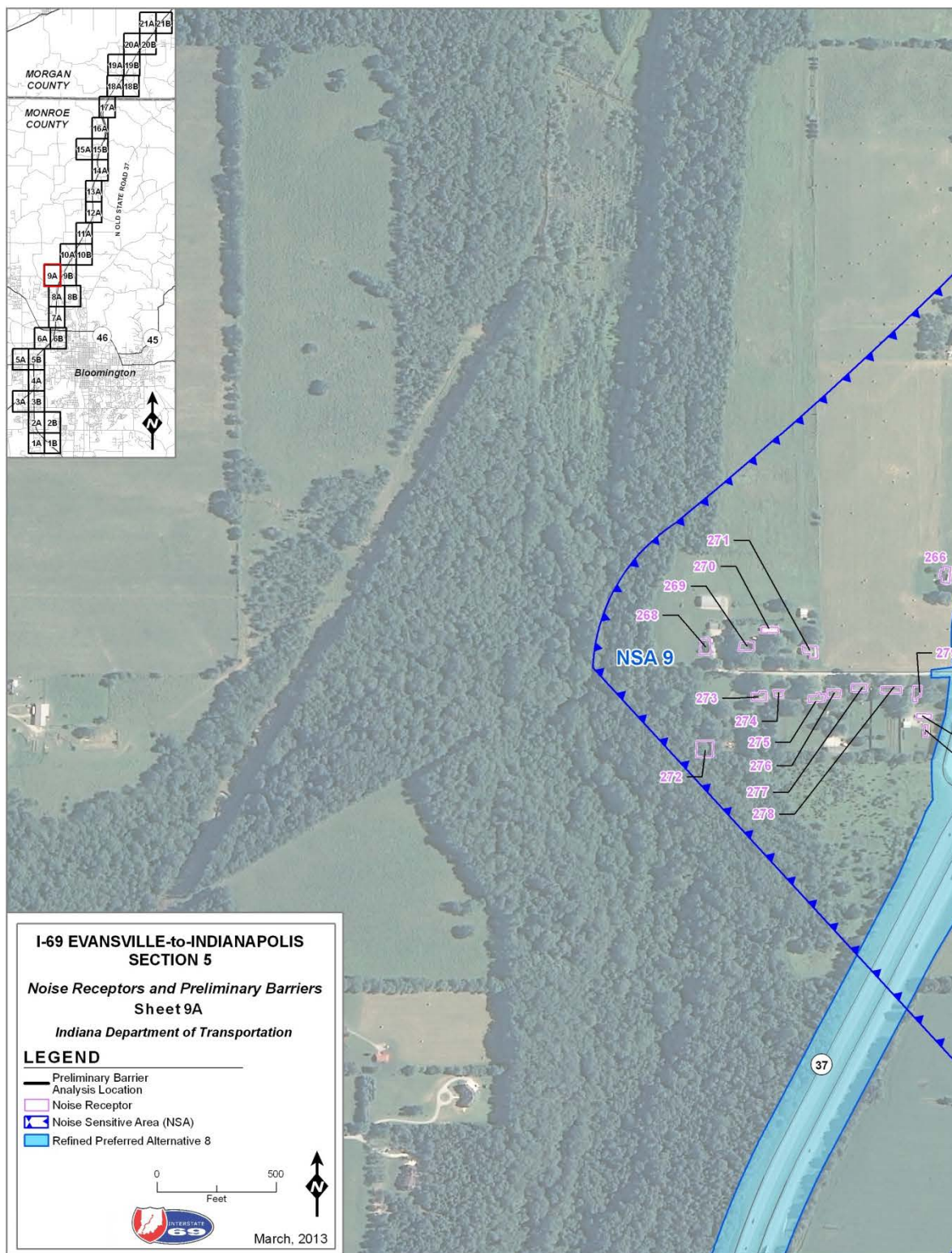
Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 7A)



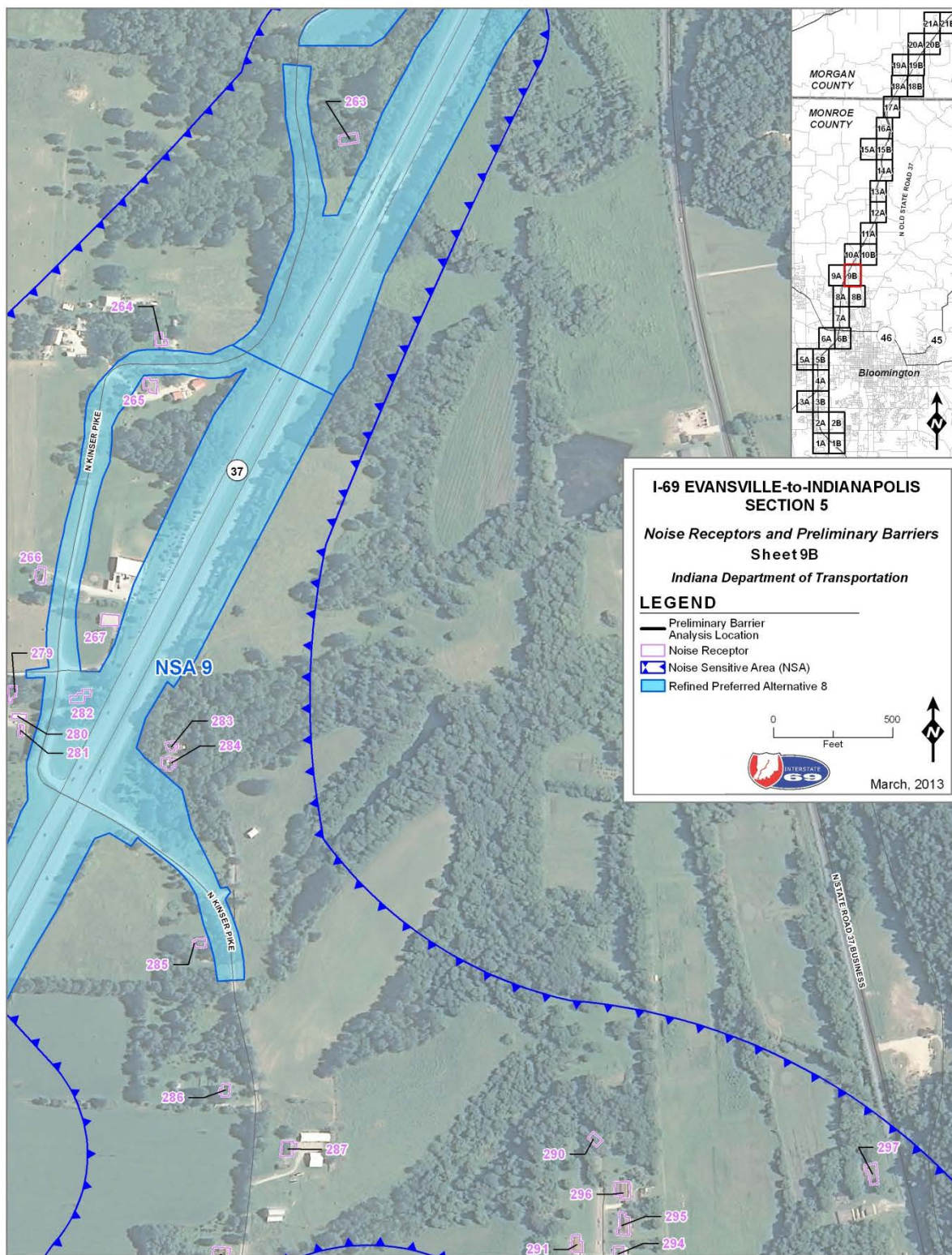
**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 8A)**



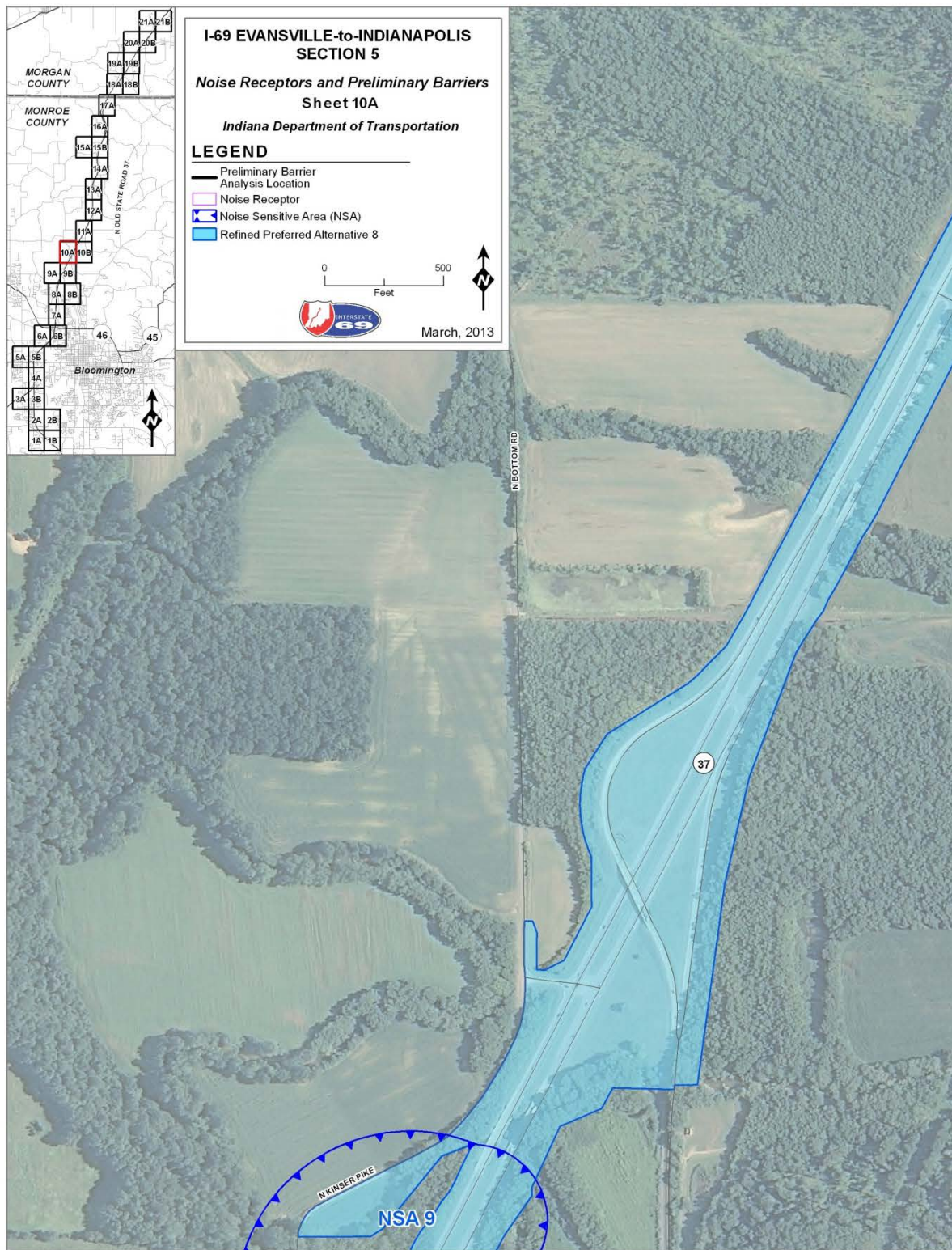
**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 8B)**



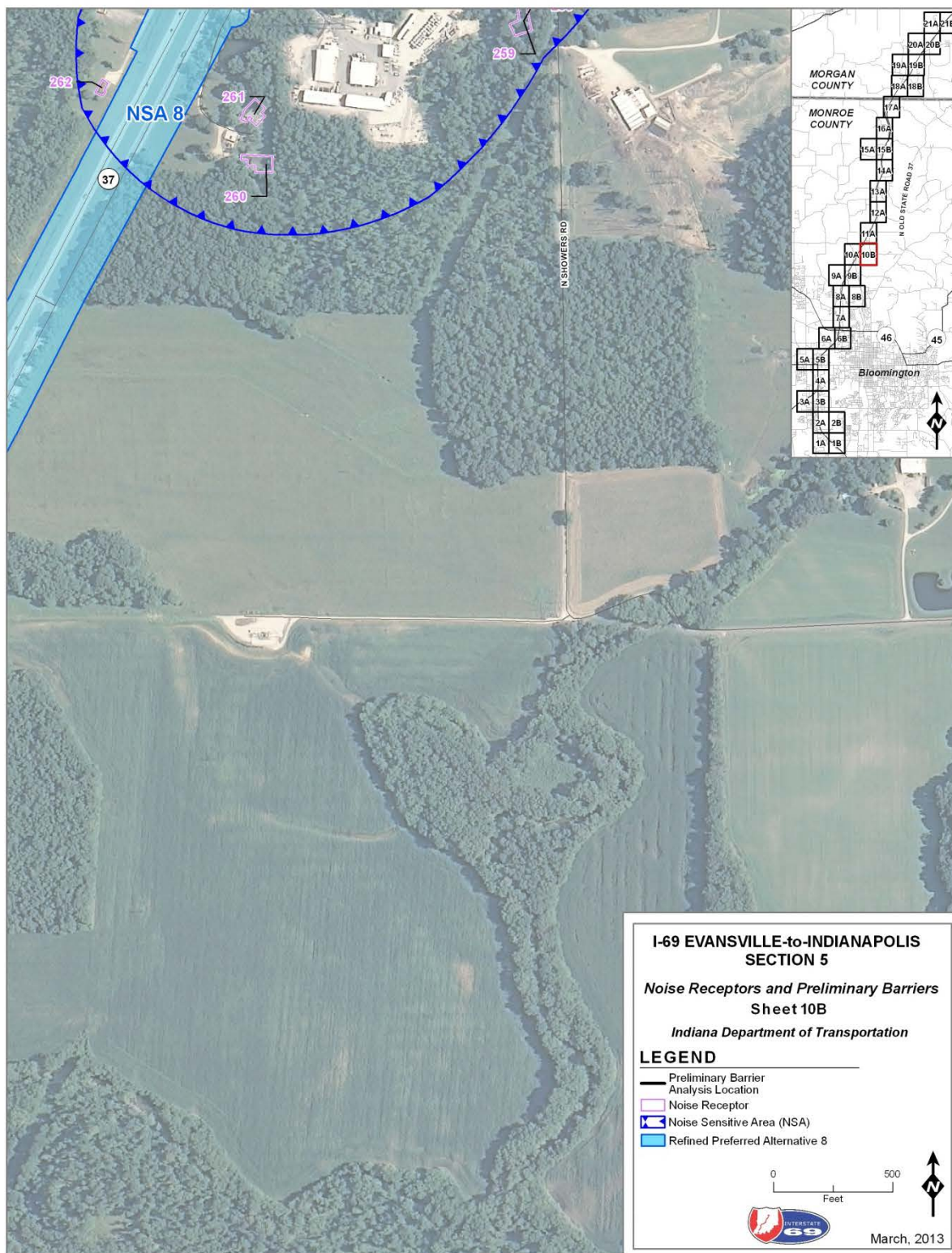
**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 9A)**



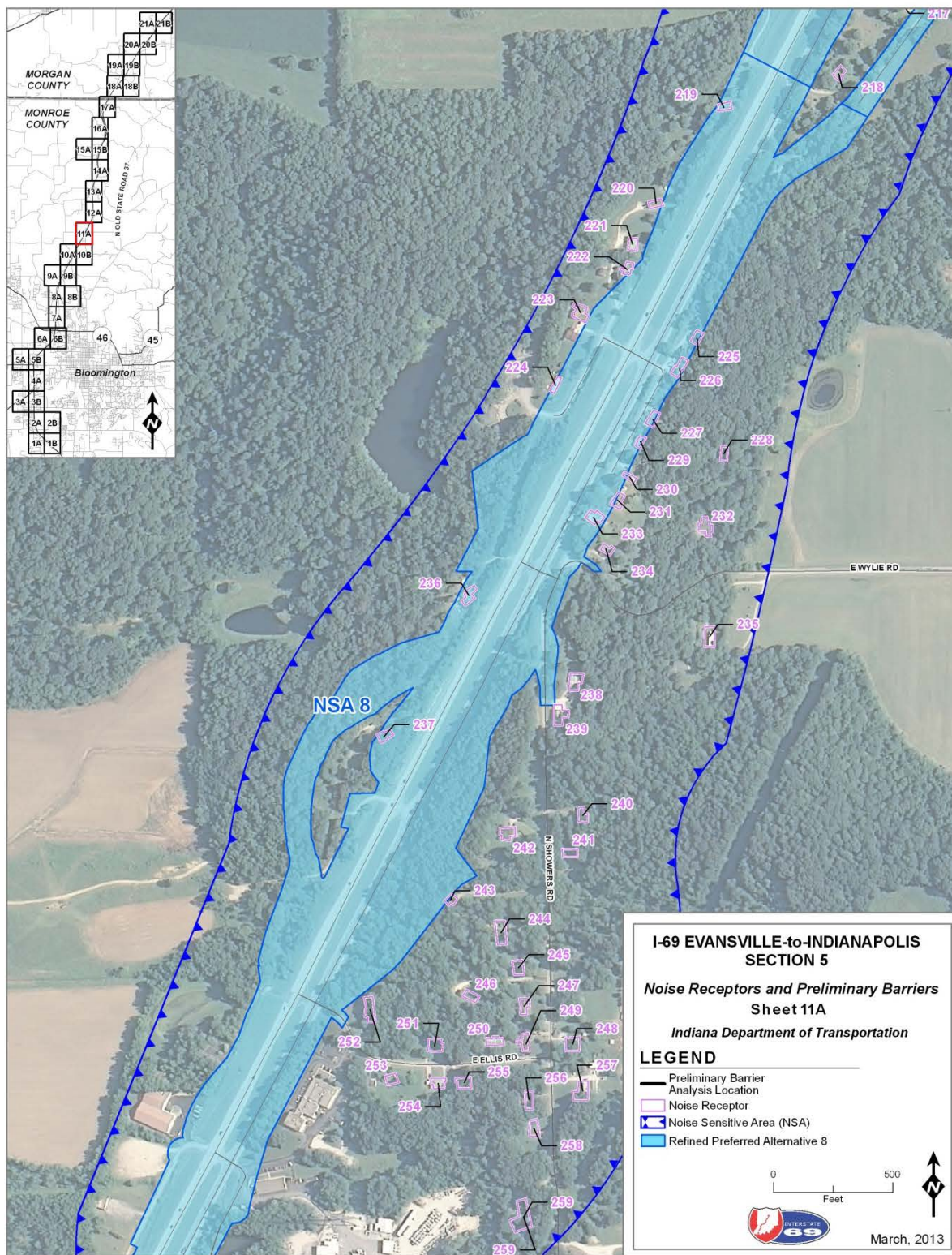
**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 9B)**



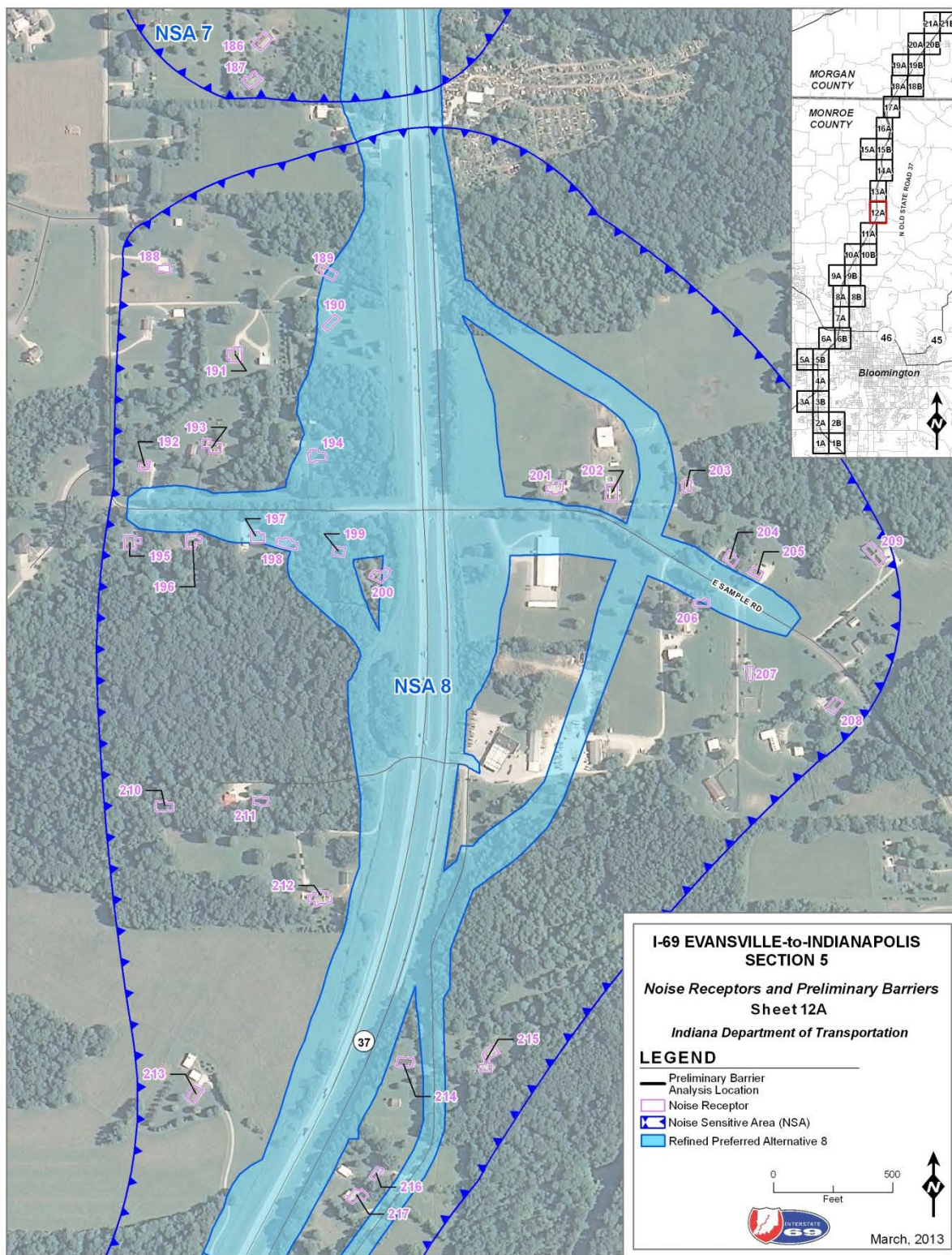
**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 10A)**



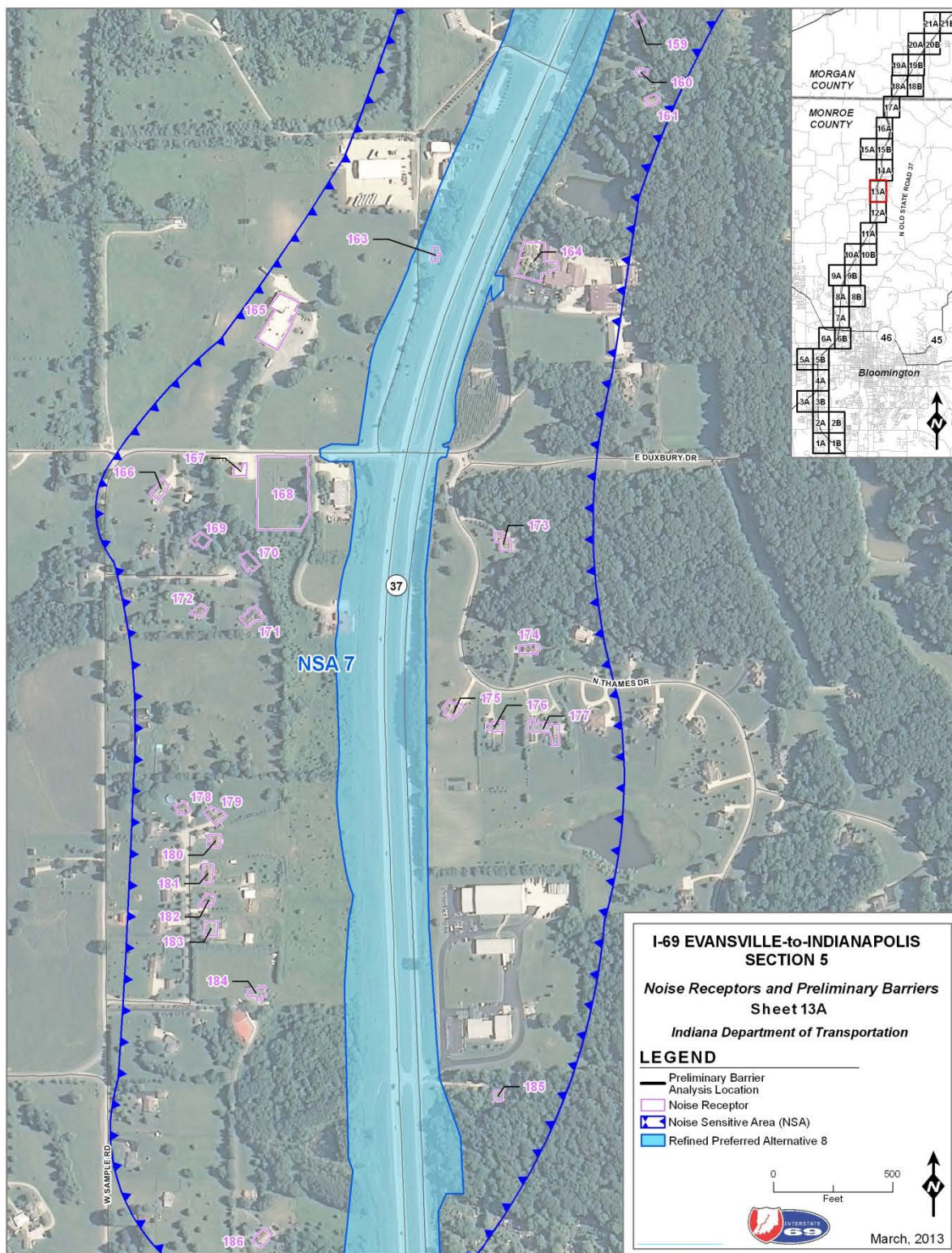
**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 10B)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 11A)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 12A)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 13A)**

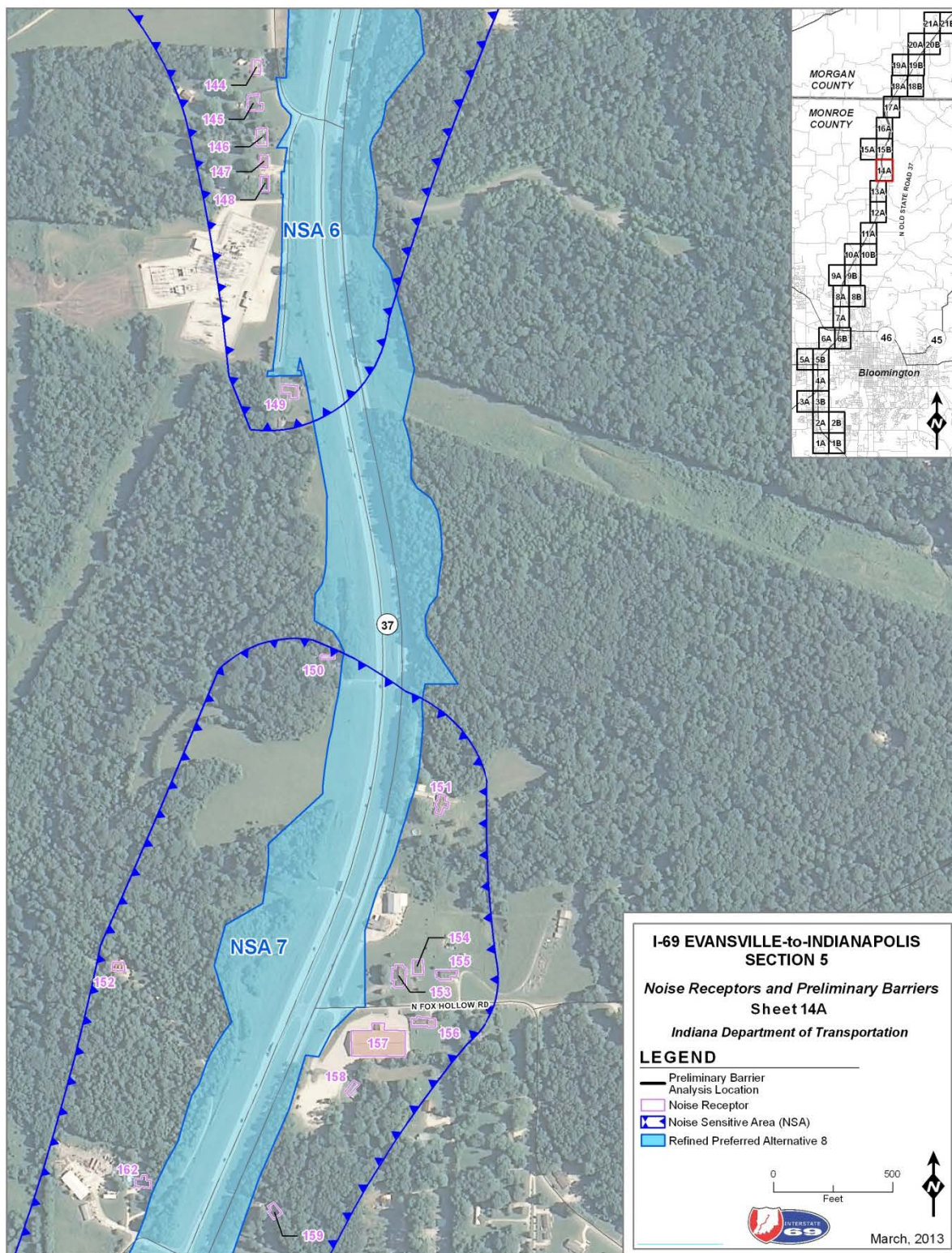
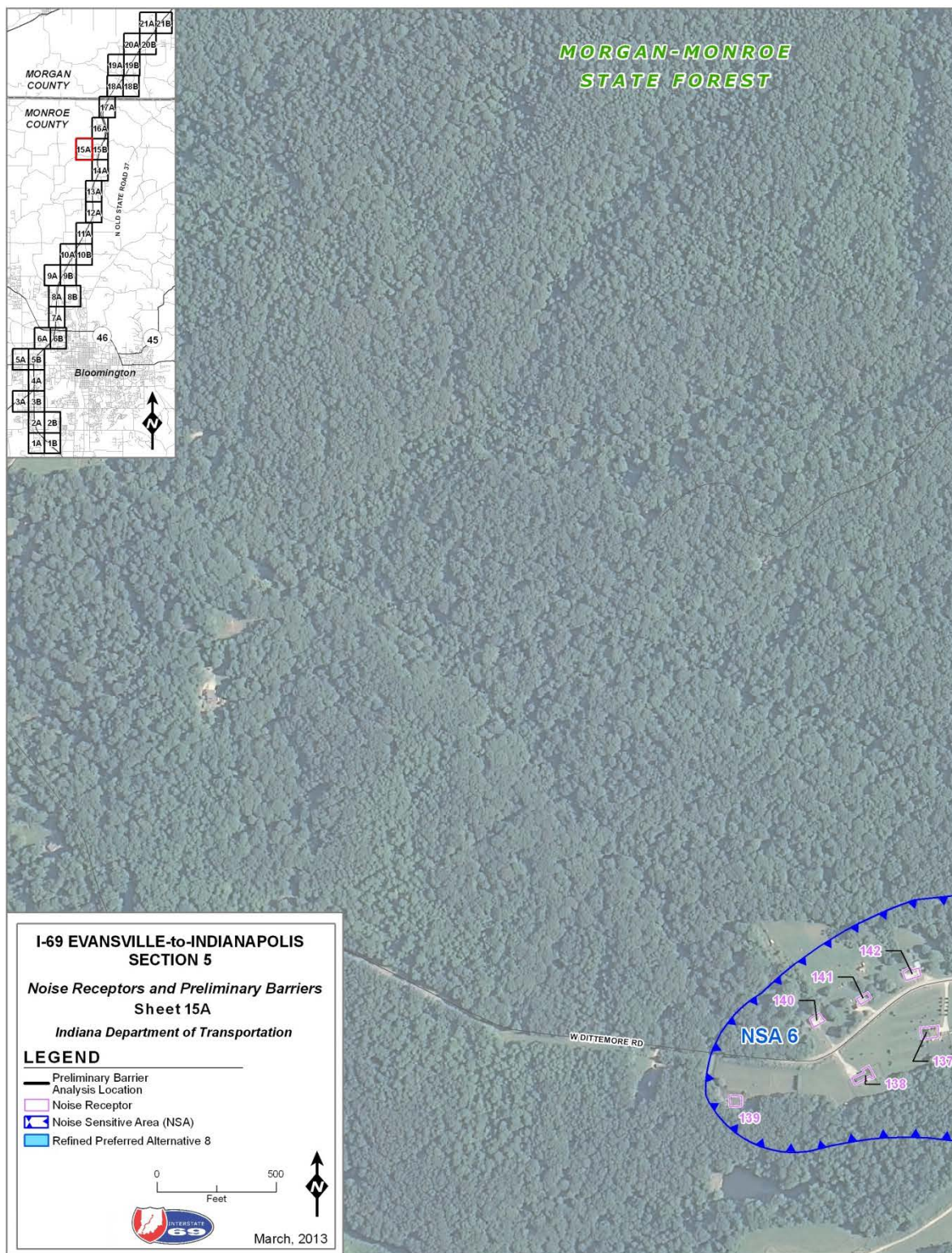
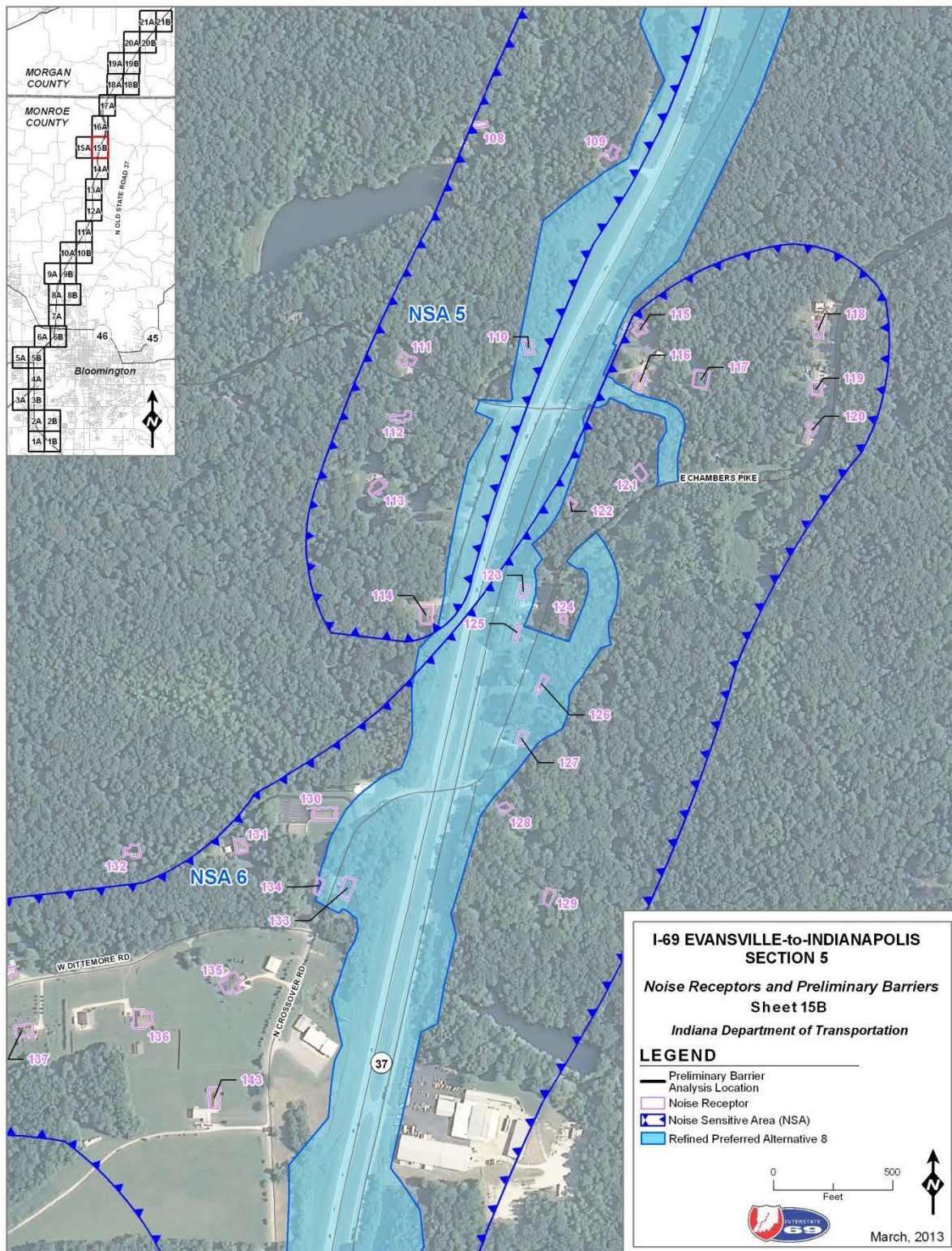


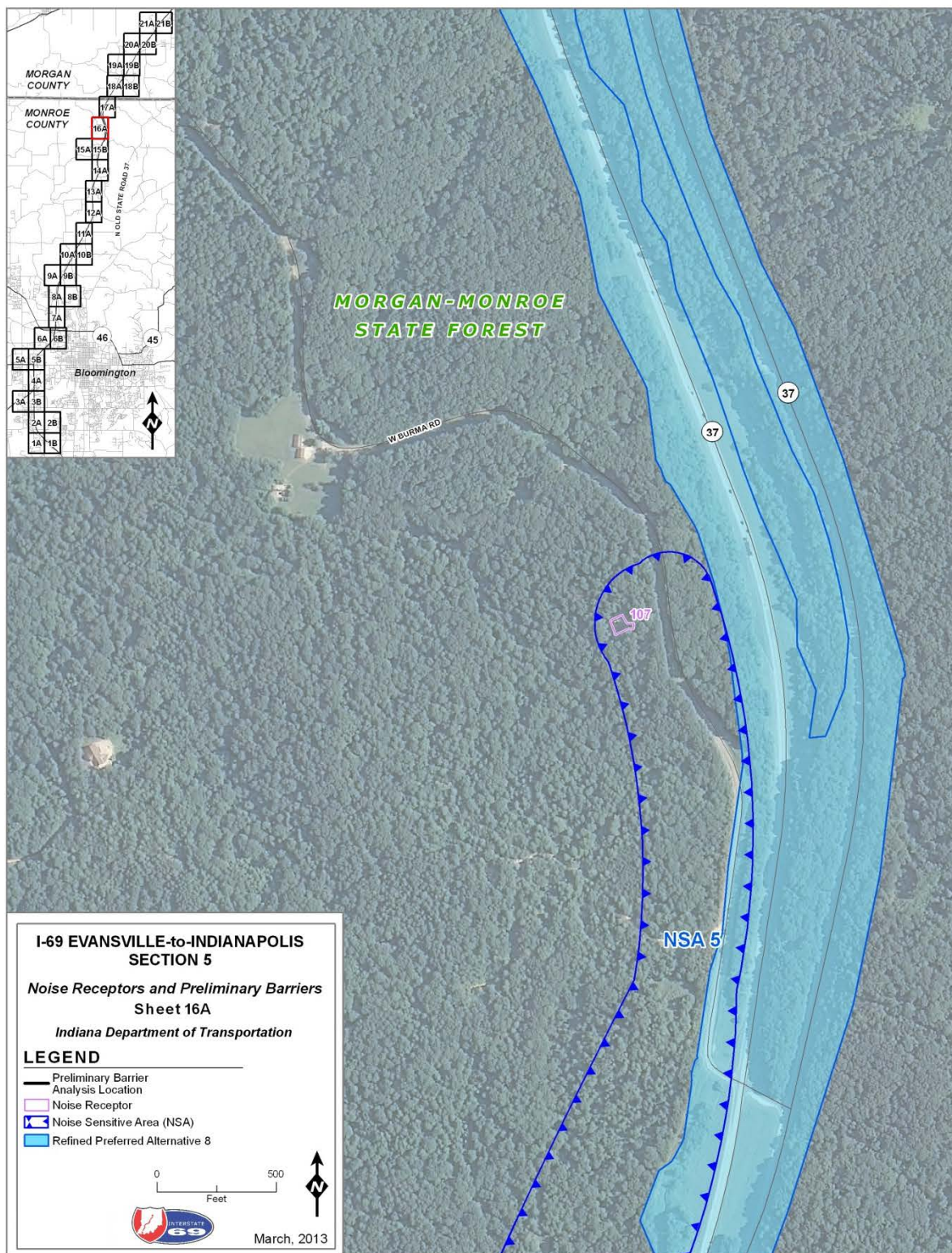
Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 14A)



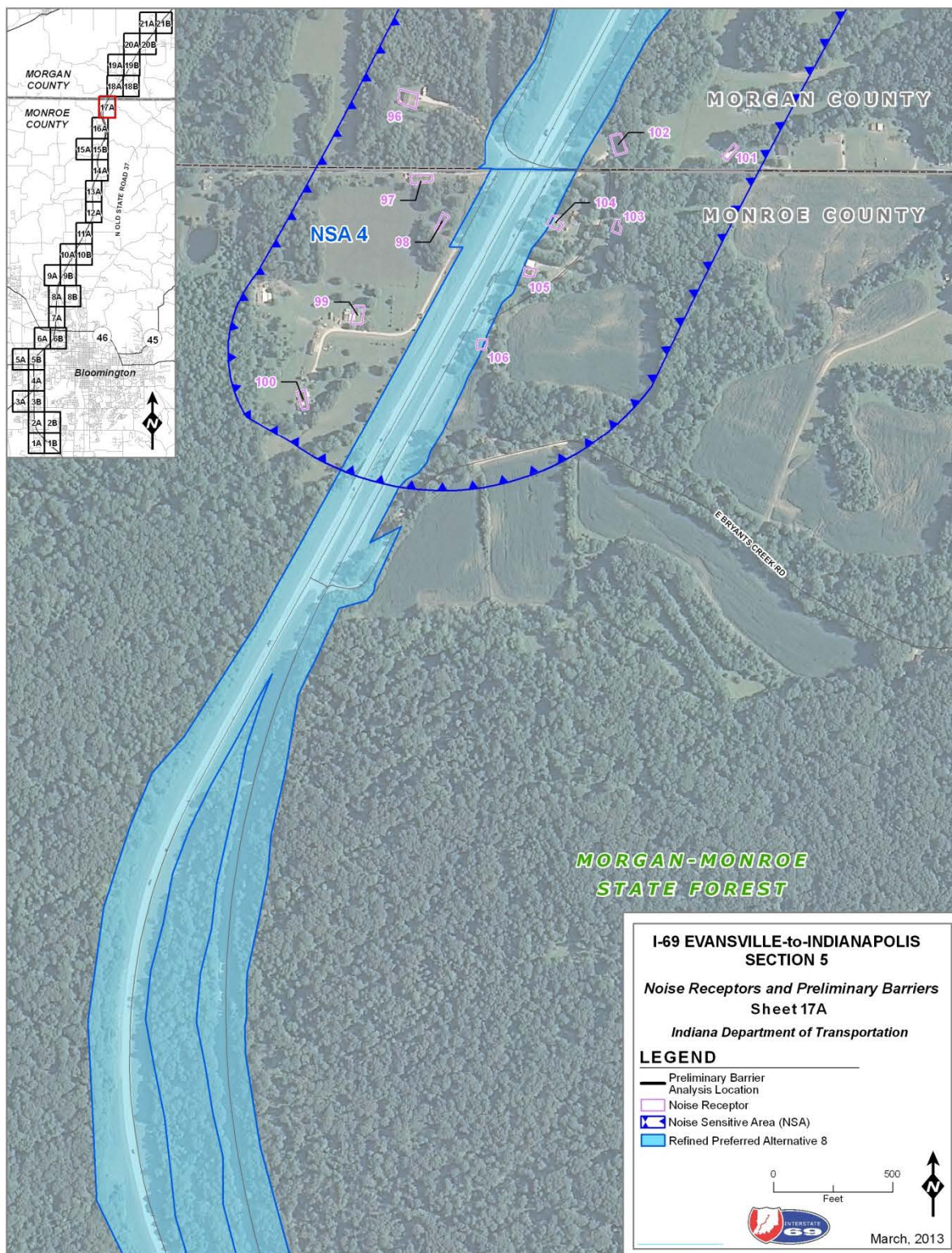
**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 15A)**



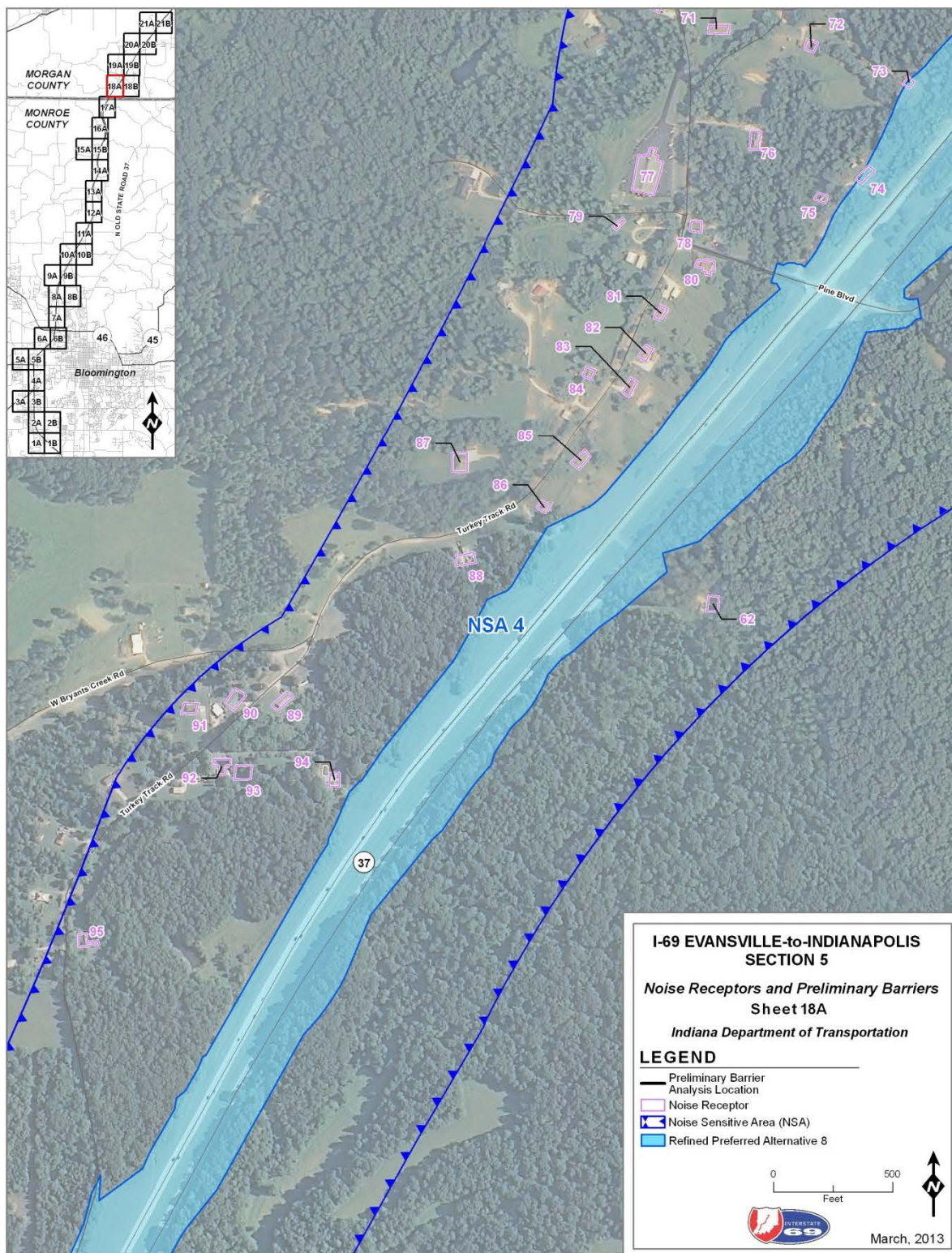
**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 15B)**



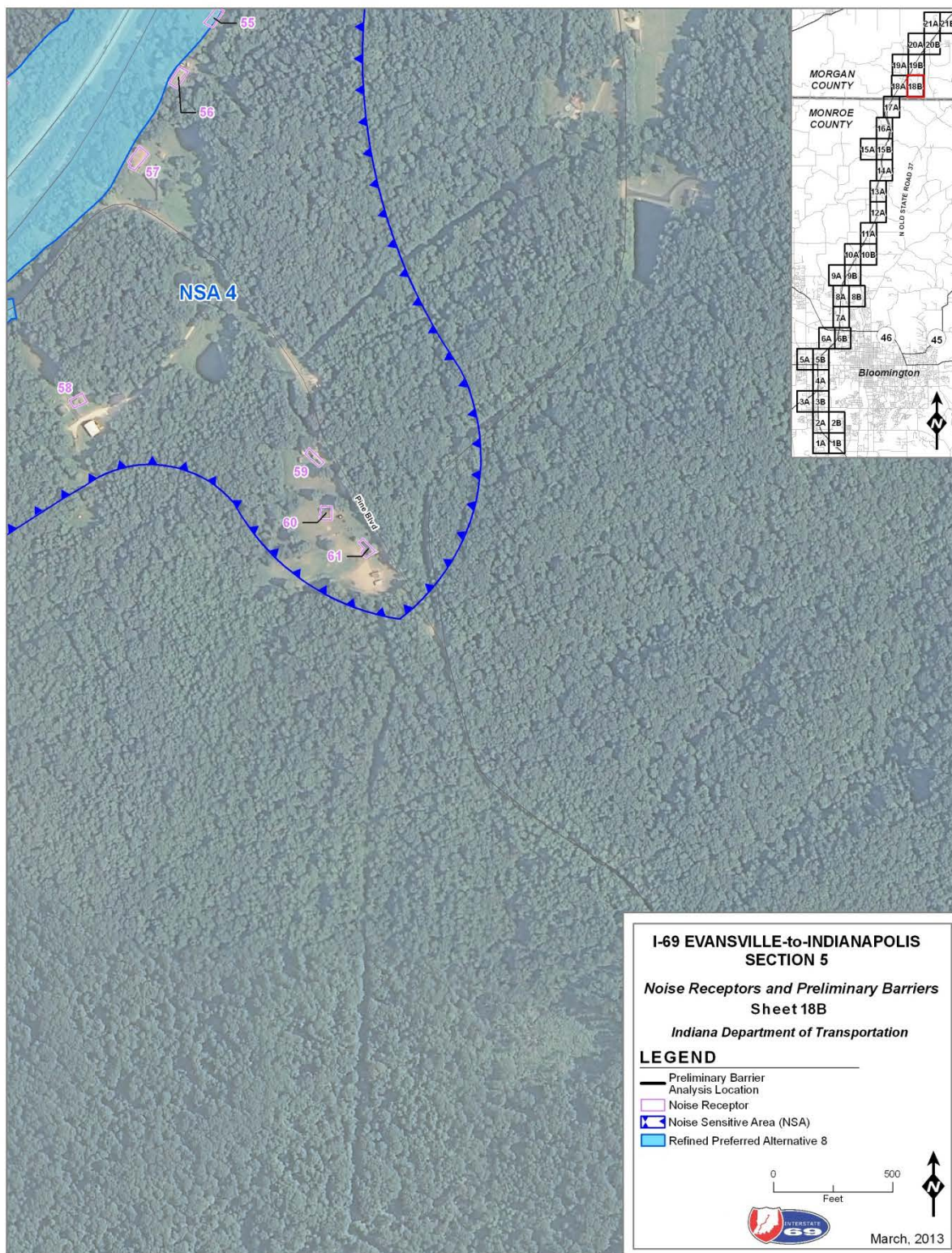
**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 16A)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 17A)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 18A)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 18B)**

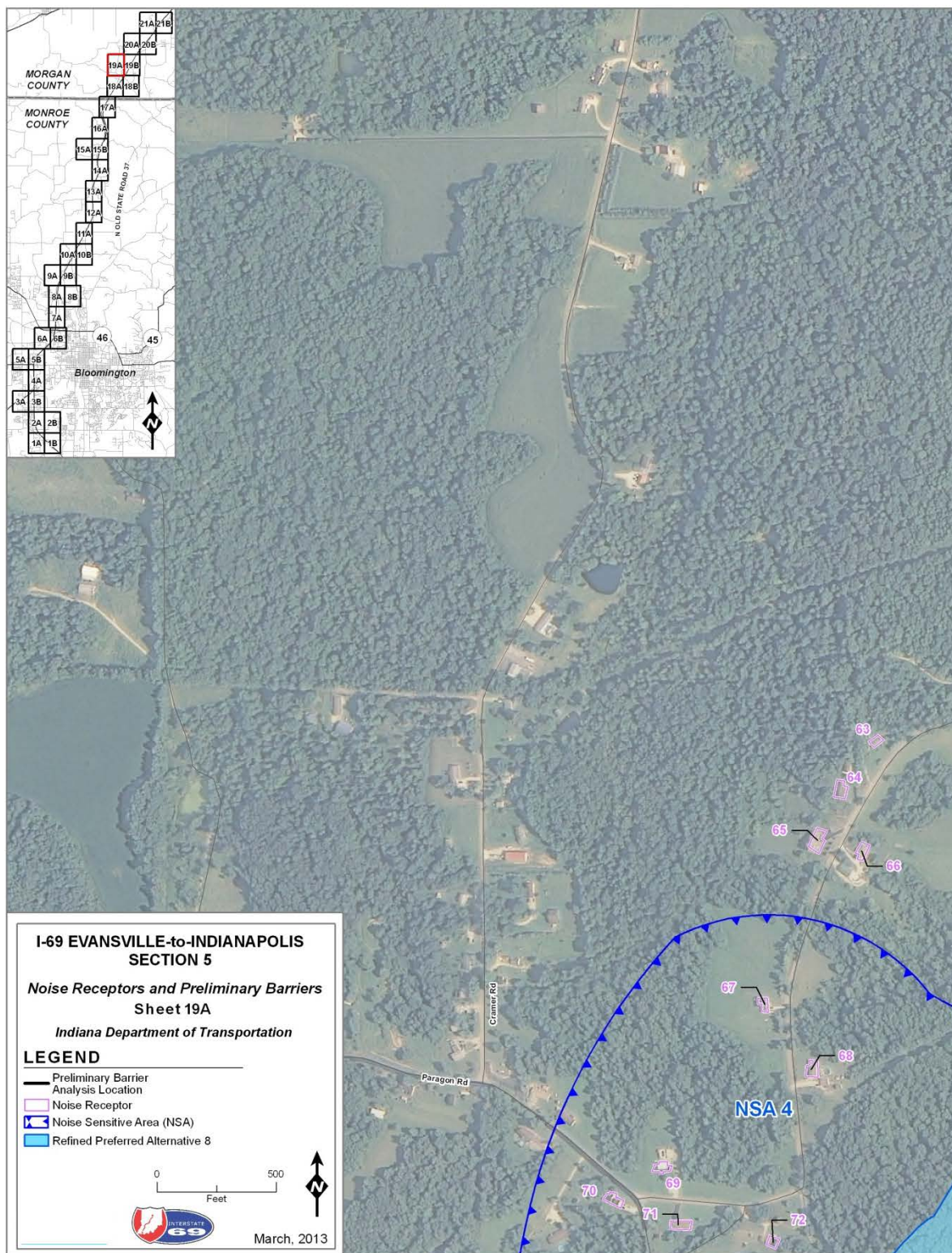
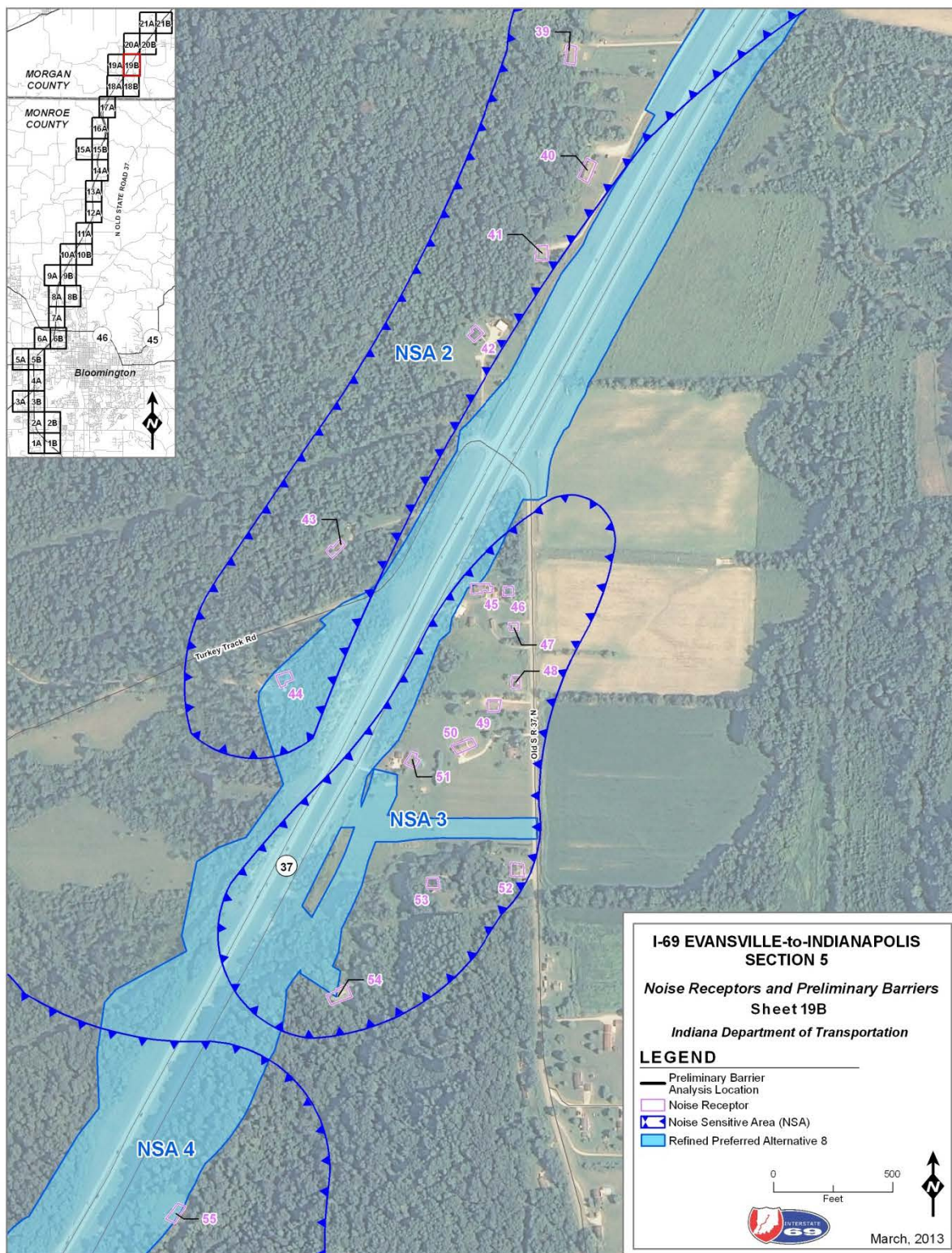
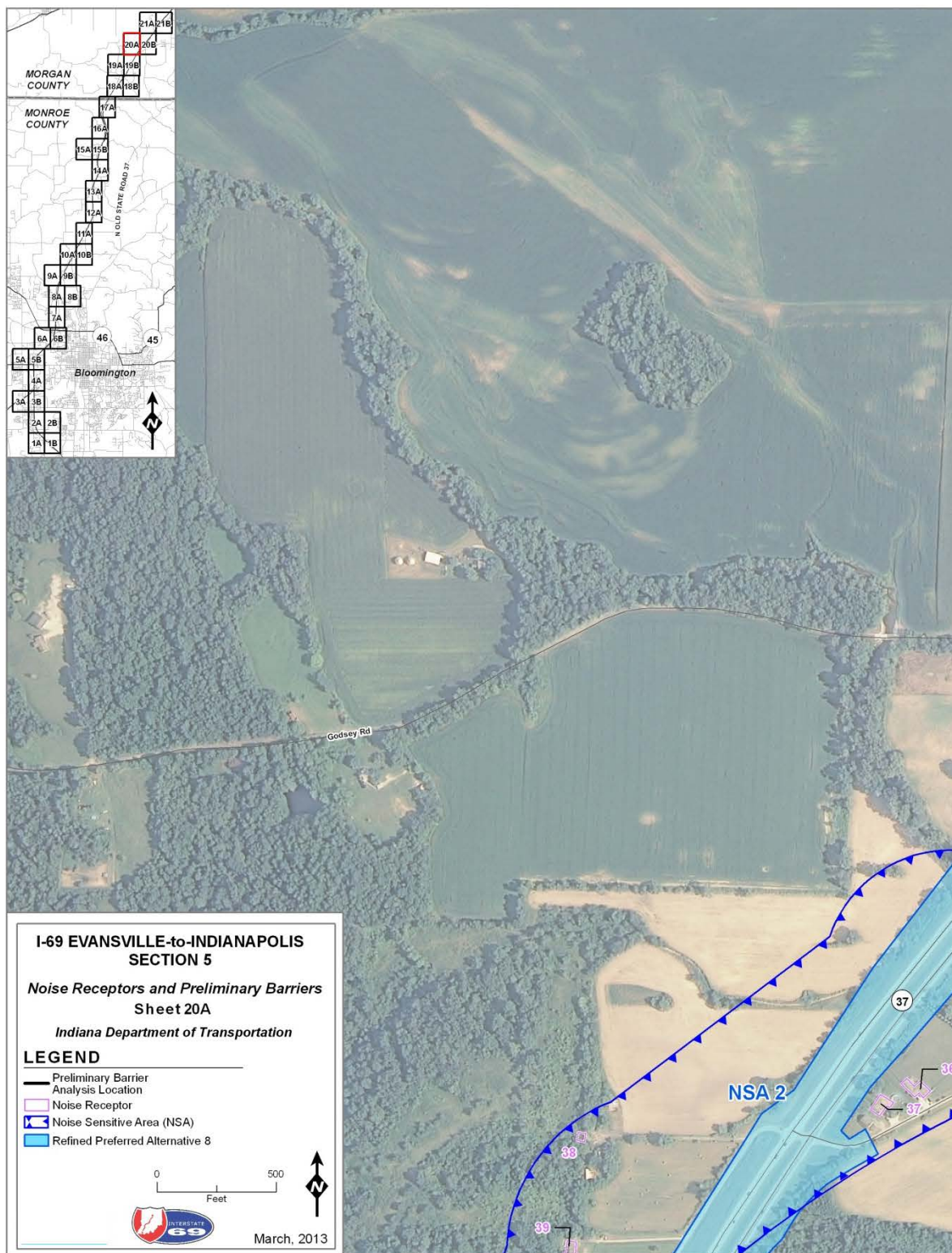


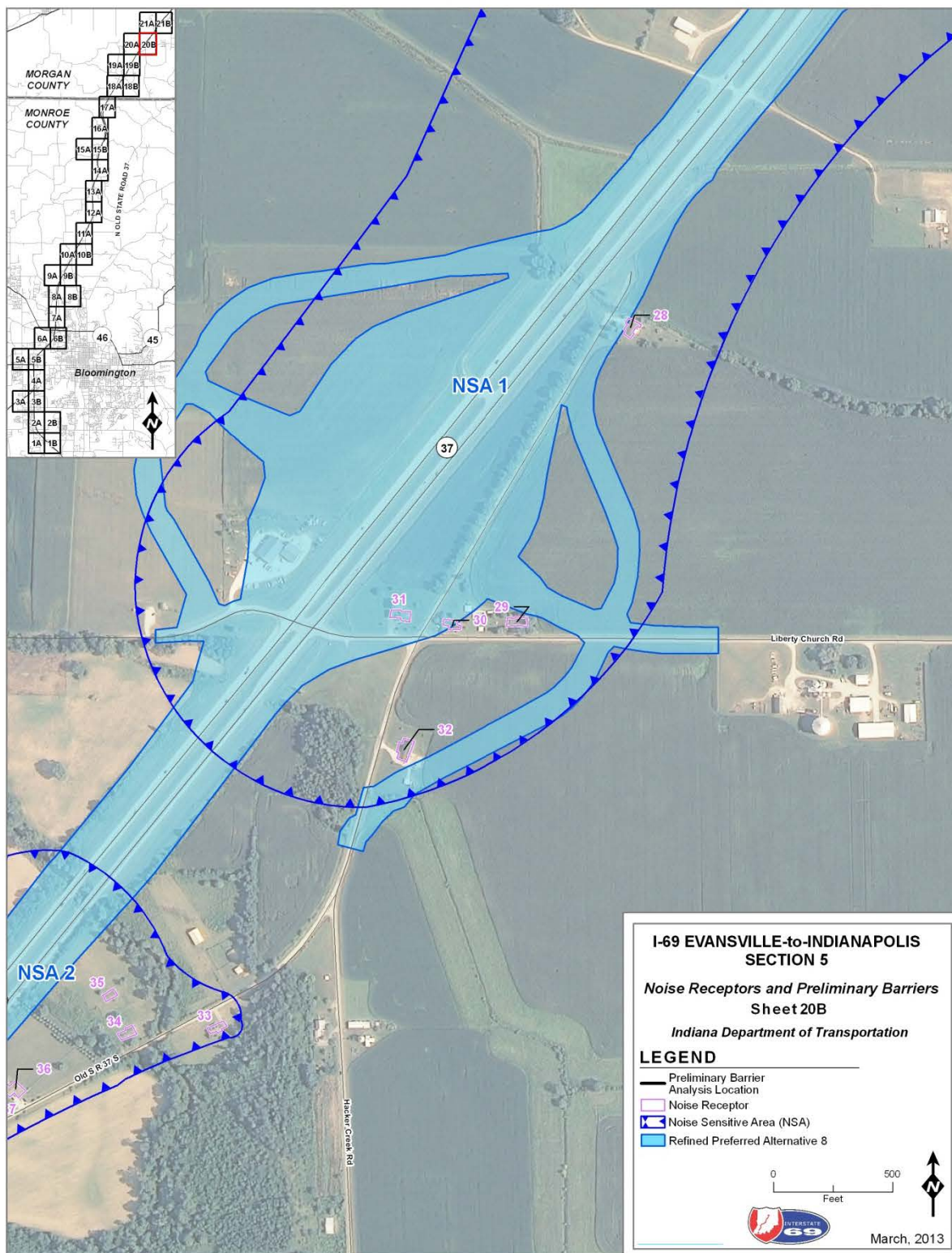
Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 19A)



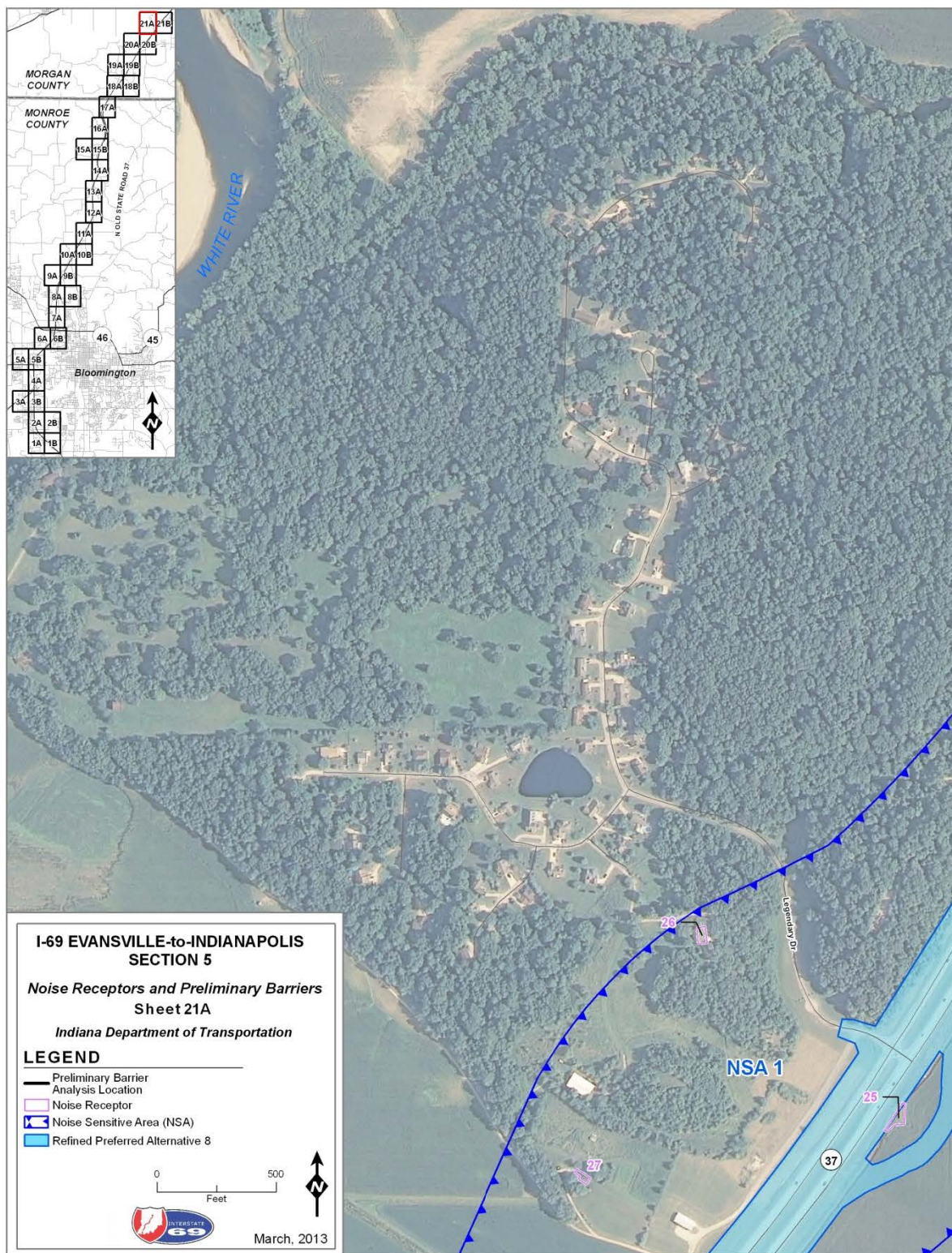
**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 19B)**



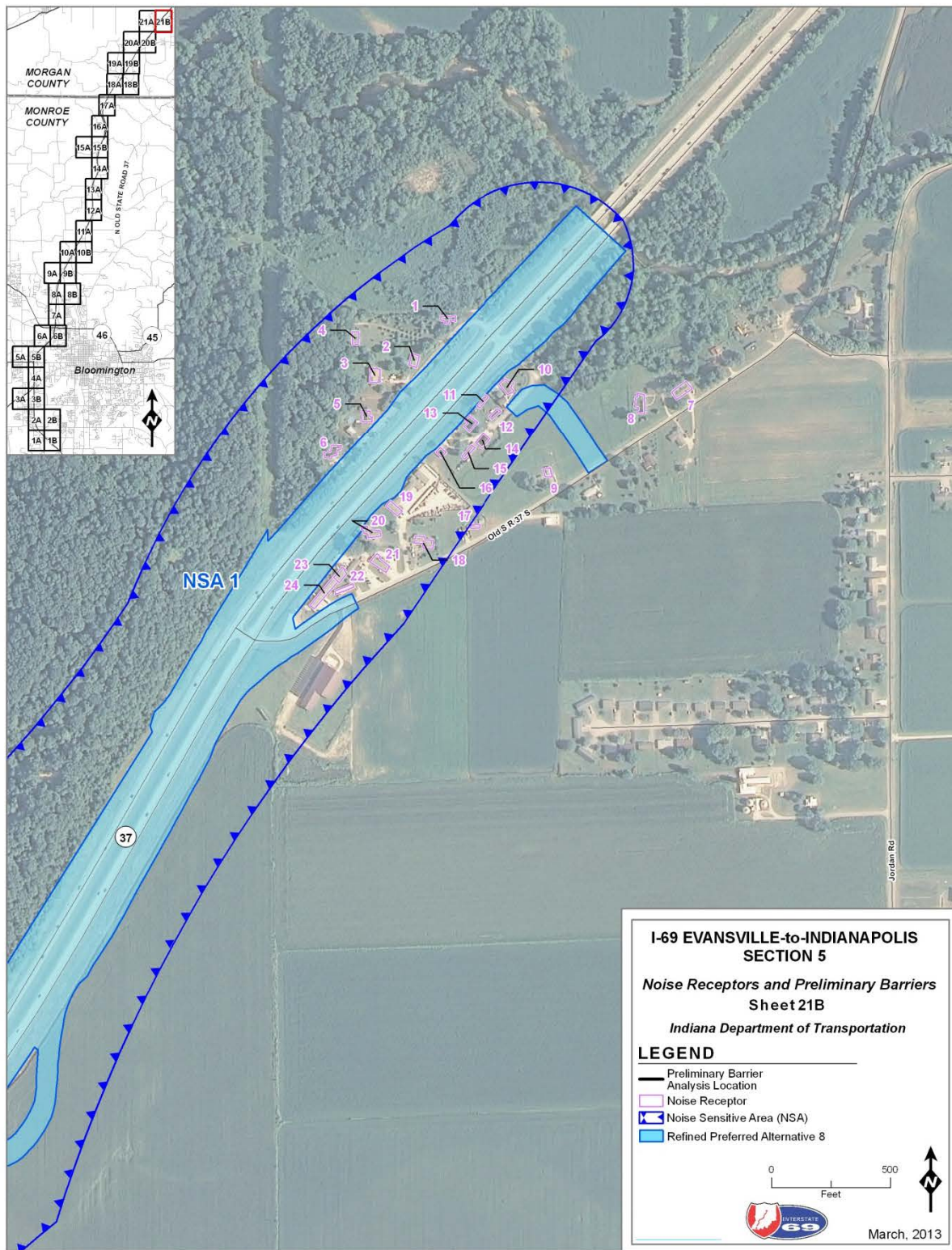
**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 20A)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 20B)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 21A)**



**Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 21B)**



## **APPENDIX W FINAL NOISE TECHNICAL REPORT**

### **TECHNICAL REPORT APPENDICES**

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<b>APPENDIX A</b>	<b>Figures</b>
<b>APPENDIX B</b>	<b>Noise Meter Calibration and Weather Data</b>
<b>APPENDIX C</b>	<b>Ambient Noise Measurement Logs</b>
<b>APPENDIX D</b>	<b>Traffic Volumes</b>
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## Calibration Certificate No.25725

Instrument: Acoustical Calibrator  
Model: 407744  
Manufacturer: Extech  
Serial number: H.175429-2206457  
Class (IEC 60942): 2  
Barometer type:  
Barometer s/n:

Date Calibrated: 3/15/2012 Cal Due:  
Status: Received Sent  
In tolerance: X X  
Out of tolerance:  
See comments:  
Contains non-accredited tests: Yes X No

Customer: Michael Baker Jr., Inc.  
Tel/Fax: 412-269-4644 / -375-3088

Address: Airside Business Park  
100 Airside Drive  
Moon Township, PA 15108

Tested in accordance with the following procedures and standards:  
Calibration of Acoustical Calibrators, Scantek Inc., Rev. 10/1/2010

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Date
403B-Norsonic	Shoe Cal Cui	25747	Jul 1, 2011	Scantek, Inc. / NVLAP	Jul 1, 2012
05-760-505	Function Generator	65815	Nov 16, 2011	ACR Env. / A2LA	Nov 16, 2012
34401A-Agilent Technologies	Digital Voltmeter	MP41022013	Dec 3, 2011	ACR Env. / A2LA	Dec 3, 2012
OP1141-Druck	Pressure Indicator	190/20-01	Dec 13, 2011	ACR Env. / A2LA	Dec 13, 2012
HMP23B-Vaisala Oyj	Humidity & Temp. Transmitter	V9820301	Jul 29, 2011	Vaisala / A2LA	Jul 29, 2012
8509A HP	Audio Analyzer	7514405891	Dec 1, 2010	ACR Env. / A2LA	Dec 1, 2012
-C Program J019-Norsonic	Calibration software	v1.2	Validated March 2011	Scantek, Inc.	
4134-Brüel&Kjær	Microphone	175300	Dec 13, 2011	Scantek, Inc. / NVLAP	Dec 13, 2012
1102-Norsonic	Preamplifier	14053	Jan 3, 2012	Scantek, Inc. / NVLAP	Jan 3, 2012

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK)

Calibrated by	Valentin Brudugs	Checked by	Marianus Brudugs
Signature		Signature	
Date	3/15/2012	Date	3/15/2012

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the Laboratory.  
This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.  
Document stored as: C:\Calibration\2012\EX-407744\_H.175429-2206457\_M1.doc Page 1 of 2

## Calibration Certificate No. 25724

Instrument: Microphone  
Model: 1229  
Manufacturer: Norsonic  
Serial number: 00529  
Composed of:

Date Calibrated: 3/15/2012 Cal Due:  
Status: Received Sent  
In tolerance: X X  
Out of tolerance:  
See comments:  
Contains non-accredited tests: Yes X No

Customer: Michael Baker Jr., Inc.  
Tel/Fax: 412-269-4644 / -375-8988

Address: Airside Business Park  
100 Airside Drive  
Moon Township, PA 15108

Tested in accordance with the following procedures and standards:  
Calibration of Measurement Microphones, Scantek, Inc., Rev. 11/30/2010

Instrumentation used for calibration: N-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
1830-Norsonic	SME Cal Unit	25747	Jul 1, 2011	Scantek, Inc. / NVLAP	Jul 1, 2012
DS 350-SHS	Function Generator	61646	Nov 16, 2011	ACR Eng. / A2LA	Nov 16, 2012
34401A-Agilent Technologies	Digital Voltmeter	80741072043	Dec 3, 2011	ACR Eng. / A2LA	Dec 3, 2012
011343-Duck	Pressure Indicator	796700-04	Dec 11, 2010	ACR Eng. / A2LA	Dec 11, 2012
BMF277-Vaisala Oyj	Humidity & Temp. Transmitter	V8820001	Jul 29, 2011	Vaisala / A2LA	Jul 29, 2012
PC Program 1017 Norsonic	Calibration software	v. 5.2	Validated Mar 2011	Scantek, Inc.	-
1251-Norsonic	Calibrator	28326	Dec 23, 2011	Scantek, Inc. / NVLAP	Dec 23, 2012
1708-Norsonic	Pre-amplifier	14059	Jan 3, 2012	Scantek, Inc. / NVLAP	Jan 3, 2013
1160-Brüel&Kjær	Microphone	2246115	Nov 21, 2011	NPL-UK / JNCS	Nov 21, 2013

Instrumentation and test results are traceable to SI - BIPM through standards maintained by NPL (UK) and NIST (USA)

Calibrated by	Valentin Buzduga	Checked by	Mariana Buzduga
Signature		Signature	
Date	3/15/2012	Date	3/16/2012

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Document stored as: ZA\Calibration Lab\1229\_00-13\_M1.doc

# Scantek, Inc.

CALIBRATION LABORATORY

ISO 17025: 2005, ANSI/NCSL Z540:1994 Part 1  
ACCREDITED by NVLAP (an ILAC and APLAC signatory)



NVLAP Lab Code: 200525-01

## Calibration Certificate No. 25723

**Instrument:** Sound Level Meter  
**Model:** 132  
**Manufacturer:** Norsonic  
**Serial number:** 1928870  
**Tested with:** Microphone 1219 s/n 00529  
Preamplifier  
**Type (class):** 2  
**Customer:** Michael Baker Jr., Inc.  
**Tel/Fax:** 412-259-4644 / -375-9988

**Date Calibrated:** 3/15/2012 **Cal Due:**  
**Status:** Received **Scat:**  
**In tolerance:** X **X**  
**Out of tolerance:**  
**See comments:**  
**Contains non-accredited tests:** Yes ☒ No  
**Calibration service:** Basic ☒ Standard

**Address:** Airside Business Park  
100 Airside Drive  
Moon Township, PA 15108

Tested in accordance with the following procedures and standards:  
Calibration of Sound Level Meters, Scantek Inc., Rev. 6/7/2005  
SLM & Drexeltech - Acoustics Tests, Scantek Inc., Rev. 7/6/2011

Instrumentation used for calibration: Nor-1504 Norsonic Test System

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
4653-Norsonic	SLM Cal Ball	25747	Jul 5, 2011	Scantek, Inc. / APLAC	Jul 5, 2012
ES-150-SGS	Function Generator	61146	Nov 16, 2011	ATR Inc. / A2LA	Nov 16, 2013
3401A-Agilent Technologies	Digital Voltmeter	8441022043	Dec 9, 2011	ATR Inc. / A2LA	Dec 9, 2012
6-1318-Duck	Pressure Nullator	790/00 04	Dec 13, 2010	ATR Inc. / A2LA	Dec 13, 2012
HW233-Valtech Oyl	Humidity & Temp. Generator	03620001	Jul 29, 2011	Valtech / A2LA	Jul 29, 2012
PC Program 1019 Norsonic	Calibrator software	v.5.2	Validated Mar 2011	Scantek, Inc.	-
1551-Norsonic	Calibrator	32845	Dec 13, 2011	Scantek, Inc. / APLAC	Dec 13, 2013

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK).

### Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
24.3 °C	100.874 kPa	47.7 %RH

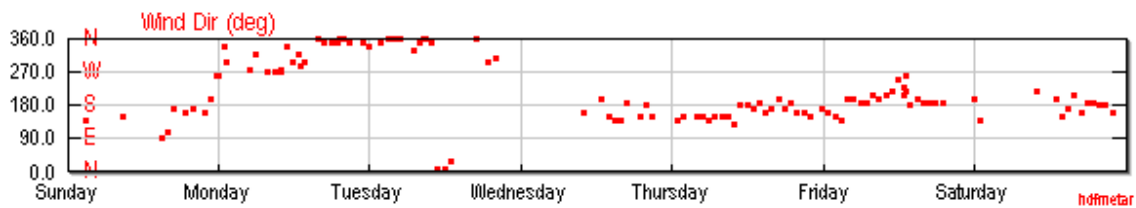
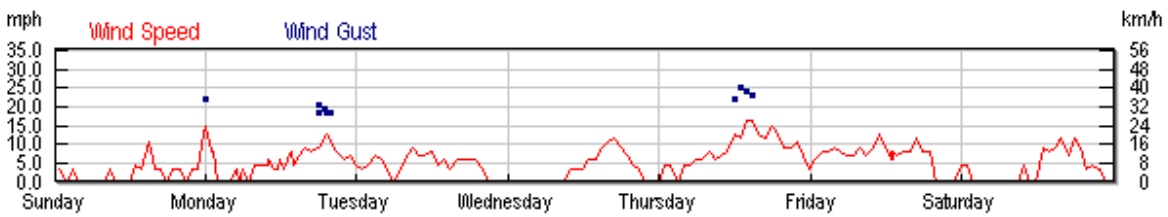
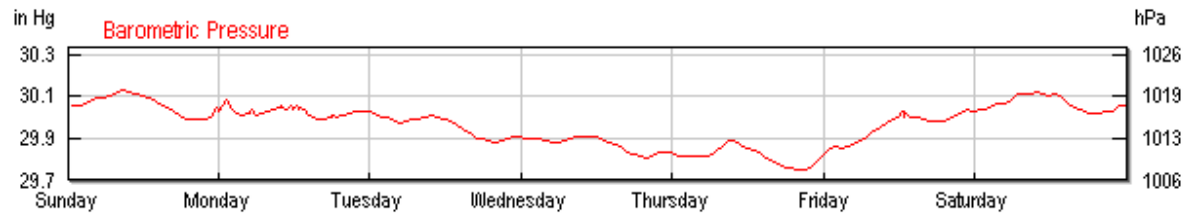
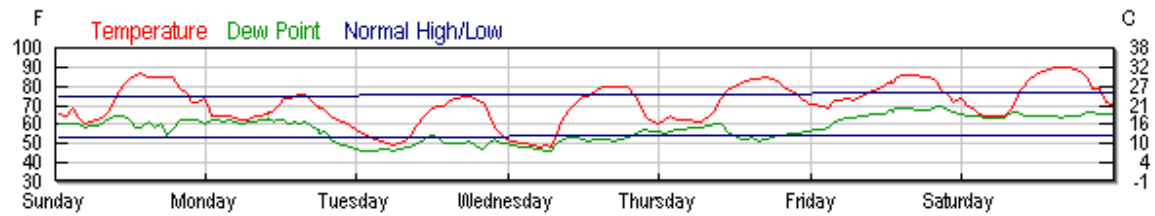
Calibrated by	Volentia A. Duga	Checked by	Mariana Ruzicka
Signature		Signature	
Date	3/15/2012	Date	3/15/2012

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This Calibration Certificate or Test Report shall not be used to claim product certification, approval or endorsement by NVLAP, NIST,  
or any agency of the federal government.  
Document stored: 25723 Calibration 1019 SLM 2012/03/15 1928870 JAL.doc Page 1 of 2

## History for Bloomington, IN

Week of May 20, 2012 through May 26, 2012 — [View Current Conditions](#)

Week of May 20, 2012 through May 26, 2012				
« Previous Week	May	22	2012	<a href="#">View</a> Next Week »
Daily	Weekly	Monthly	Custom	
	Max	Avg	Min	Sum
Temperature				
Max Temperature	91 °F	84 °F	76 °F	
Mean Temperature	78 °F	71 °F	63 °F	
Min Temperature	69 °F	58 °F	47 °F	
Degree Days				
Heating Degree Days (base 65)	2	0	0	3
Cooling Degree Days (base 65)	13	6	0	45
Growing Degree Days (base 50)	28	21	12	144
Dew Point				
Dew Point	70 °F	58 °F	46 °F	
Precipitation				
Precipitation	0.07 in	0.01 in	0.00 in	0.10 in
Snowdepth	-	-	-	-
Wind				
Wind	21 mph	5 mph	0 mph	
Gust Wind	29 mph	20 mph	17 mph	
Sea Level Pressure				
Sea Level Pressure	30.13 in	29.97 in	29.75 in	



## Noise Field Calibration Results

Site	Starting Calibration (dB)	Ending Calibration (dB)
M-1	93.2	93.2
M-2	93.2	93.2
M-3	93.2	93.2
M-4	93.1	93.1
M-5	93.1	93.1
M-6	93.1	93.1
M-7	93.1	93.1
M-8	93.2	93.2
M-9	93.1	93.1
M-10	93.2	93.2
M-11	93.1	93.1
M-12	92.9	92.9
M-13	93.1	93.1
M-14	93.1	93.1
M-15	92.8	92.8
M-16	93.1	93.1
M-17	93.1	93.1
M-18	93.1	93.1
M-20	93.1	93.1
M-21	92.9	92.9
M-22	92.9	92.9
M-23	93.1	93.1
M-24	93.1	93.1
M-25	93.1	93.1
M-26	93.1	93.1
M-27	92.9	92.9
M-28	93.1	93.1
M-29	93.1	93.1
M-31	93.1	93.1
M-32	93.1	93.1
M-34	93.1	93.1