

FEDERAL HIGHWAY ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT
HIGHWAY 112 WIDENING: HIGHWAY 412 – HIGHWAY 12
FAPs CMF-0472(9), STPF-0004(89), STPF-0004(90), STPF-APF-0004(815)
ARDOT JOBS 012305, 090513, 090514, 090636
BENTON AND WASHINGTON COUNTIES, ARKANSAS

Upon consideration of the approved Environmental Assessment (EA), public comments, and other considerations, the Federal Highway Administration (FHWA) has determined that the Preferred Alternative for the proposed Highway (Hwy.) 112 widening project would have no significant impact on the human or natural environment and hereby issues a Finding of No Significant Impact (FONSI) pursuant to 23 CFR § 771.121.

The Arkansas Department of Transportation (ARDOT) in cooperation with FHWA, is proposing to improve 12 miles of Hwy. 112 between Hwy. 412 and Hwy. 12 in Washington and Benton Counties, Arkansas. ARDOT Job 012305 includes the 4.4-mile section from Hwy. 412 to Hwy. 612 (Springdale Northern Bypass), Job 090513 includes the 3.5-mile section from Hwy. 612 to West Wallis Road, Job 090514 includes the 0.9-mile section from West Wallis Road to Pleasant Grove Road, and Job 090636 includes the 3.2-mile section from Pleasant Grove Road to Hwy. 12. The project area is shown in **Figure 1**. FHWA is providing funding for the proposed project and is the lead federal agency under the National Environmental Policy Act (NEPA).

Due to the rapid growth in the northwest Arkansas region, concerns had been raised by local officials that existing Hwy. 112 would not be able to adequately handle the increased traffic volumes predicted for the region. The purpose of this project is to address the existing and forecasted highway congestion issues and accommodate bicyclists and pedestrians on Hwy. 112 from Hwy. 412 to Hwy. 12.

An EA for this section of improvements was approved by FHWA on October 11, 2022. Environmental analysis of the proposed project did not identify any significant impacts to the natural and social environment as a result of any of the alternatives. ARDOT held an Interdisciplinary Staff meeting on March 6, 2023, to review information and identify the Preferred Alternative for the subject projects on Hwy. 112. Alternative E-2 was identified as the Preferred Alternative for Job 012305 due to its preference by the public and the City of Elm Springs, its lower total cost, and fewer relocation impacts. Alternative C-3 was identified as the Preferred Alternative for Job 090513 because it provided the needed improvements to Highway 112 and had the least impacts compared to the other build alternatives. Alternative B-2 was identified as the Preferred Alternative for Jobs 090514 and 090636 due to its lower cost and fewer relocation impacts. The overall Preferred Alternative alignment is shown in **Figure 2**.

This FONSI is based on FHWA's independent evaluation. The information contained in the EA has been determined to adequately and accurately discuss the need, environmental impacts, and appropriate mitigation measures for the project. The EA provides sufficient evidence and analysis for determining that no identified impacts would cause significant adverse effects to the natural, cultural, or social environments.

Figure 1: General Project Location

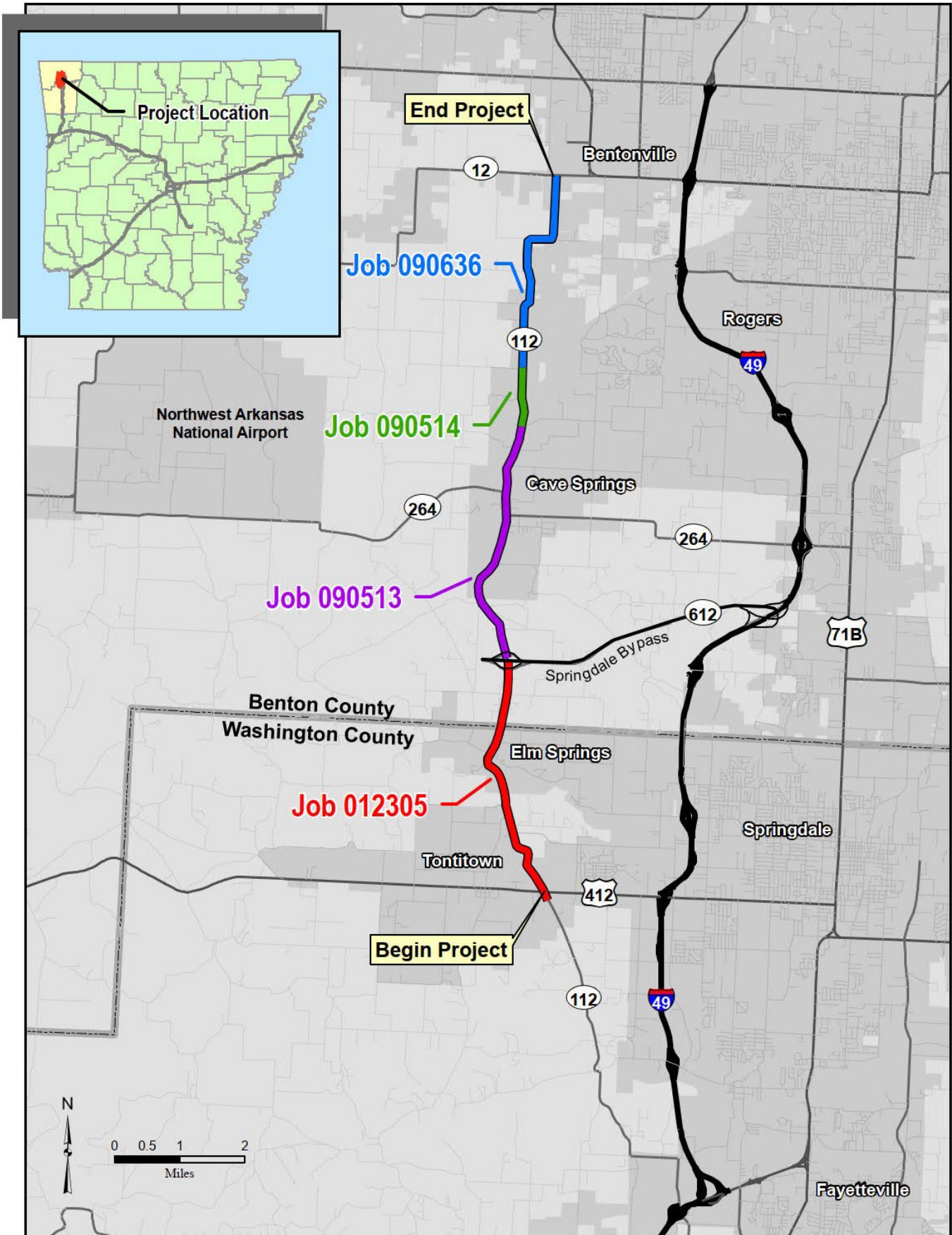
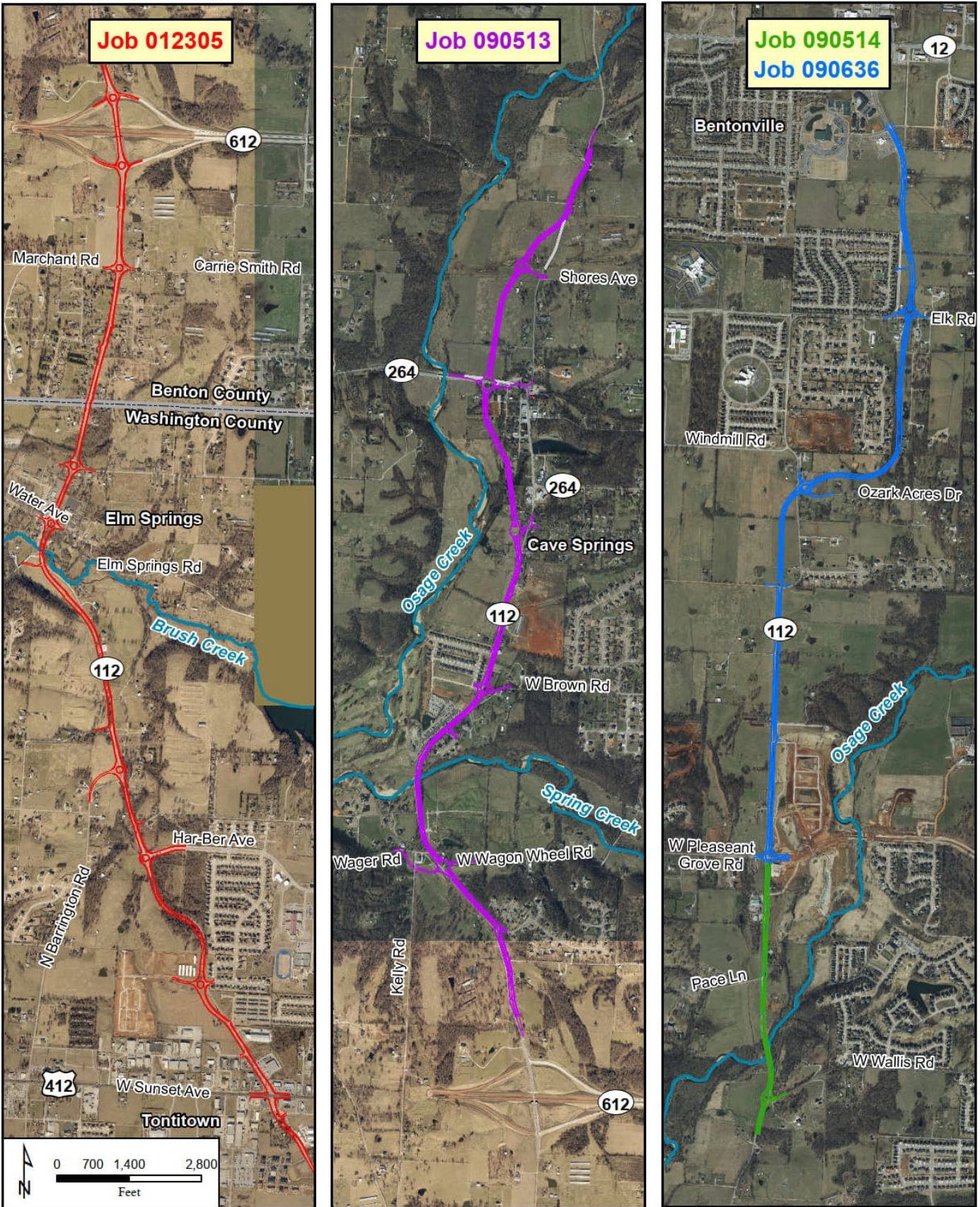


Figure 2: Preferred Alternative



Public Involvement

Public and local official involvement was an important part of the alternative development process. Collaboration with the public began in 2020 and continued throughout the EA process.

Two rounds of live virtual public involvement (VPI) meetings were held for the project. The first round of meetings was held for Job 012305 on December 15, 2020. Three alternatives (Alternatives E-1, E-2, and E-3) were presented to the public during the meeting. A live VPI meeting for Jobs 090513 and 090514 was held on December 17, 2020. Three alternatives for Job 090513 (Alternatives C-1, C-2, and C-3) and two alternatives for Job 090514 (Alternatives B-1 and B-2) were presented to the public during the meeting. A total of 186 people registered online for the meeting on Job 012305 and 261 on Jobs 090513 and 090514. A total of 208 comments were received for Job 012305 and 467 on Jobs 090513 and 090514, including online comment forms, mailed comment forms, emailed comment forms, voicemail comments, and letters.

After the VPI meetings and comment periods concluded, public comments, impacts to the communities, and input from ARDOT staff were evaluated to determine if any alternatives should be dropped from, or added for, further consideration. Alternatives E-1, C-1, C-2, and B-1 were dropped from consideration, and Alternative B-3 was developed to address resident concerns.

A second round of VPI meetings were held for the project to update the public on design modifications and an additional alternative developed in response to comments received during the first round of meetings. The VPI meeting for Job 012305 (Alternatives E-2 and E-3) was held on July 19, 2021, for Job 090513 (Alternative C-3) on July 20, 2021, and for Job 090514 (Alternatives B-2 and B-3) on July 22, 2021. A total of 194 people registered online for the meeting on Job 012305, 115 people for Job 090513, and 128 people for Job 090514. A total of 42 comments were received for Job 012305, 53 for Job 090513, and 114 for Job 090514, including online comment forms, mailed comment forms, emailed comment forms, voicemail comments, and letters.

Input from local, state, and federal agencies was solicited regarding the proposed project in September 2018. Agencies were asked to review the proposed study area and provide any information or identify concerns they had regarding resources within their jurisdiction or expertise. A second scoping letter was sent out to the federal and state agencies in February 2021, after the initial public involvement meetings were held, updating the agencies on the project, and requesting further input on the alternatives under consideration. Additional coordination with local officials and important stakeholders occurred regularly throughout the EA process.

Following the approval of the EA, in-person Location and Design Public Hearings were held on Tuesday, December 13, 2022, for Job 012305 and Thursday, December 15, 2022 for Jobs 090514, 090513, and 090636. The EA comment period ended January 27, 2023. A total of 3,546 unique IP addresses accessed the project website during the comment period.

The Location and Design Public Hearing for Job 012305 was held at the Elm Springs United Methodist Church in Elm Springs, Arkansas. A total of 275 people attended the hearing, and 105 comments (public and public officials) were received. Of the 105 comments submitted, 55 commenters were in favor of Alternative E-2, 32 were in favor of Alternative E-3, 16 were in favor of the No Action Alternative, and 8 did not vote. The remainder of comments were made up of inquiries, construction suggestions, and general statements.

The Location and Design Public Hearing for Jobs 090513, 090514, and 090636 was held at the Bentonville Community Center in Bentonville, Arkansas. A total of 231 people attended the hearing, and 476 comments (public and public officials) were received. Of the 476 comments submitted, 15 commenters were in favor of Alternative C-3, 189 commenters were in favor of Alternative B-2, 243 were in favor of Alternative B-3, 18 were in favor of the No Action Alternative, and 15 did not vote. A total of 92 commenters voted for a western alternative proposed by residents but was not included in the EA as it did not meet the purpose and need of the project. The remainder of comments consisted of inquiries, construction suggestions, and general statements. A synopsis of the Location and Design Public Hearing with the disposition of comments is provided in **Appendix A**. It should be noted that while the synopsis shows a preference for Alternative B3, discrepancies in the electronic comment submittal form were noted. If all comments with no name or address were left out of the count, 102 preferred Alternative B-2 and 103 preferred Alternative B-3.

Environmental Impacts

The environmental impacts for each of the alternatives still under consideration were described in the EA approved by FHWA on October 11, 2022. FHWA found that the project would not impose significant impacts on the social, cultural, or natural environment. After a Preferred Alternative for each project was identified, the impacts were combined into a single Preferred Alternative. These impacts are summarized in Table 1 and discussed in more detail in the following sections.

Table 1: Impacts Associated with the Preferred Alternative

Resource	Alternative E-2	Alternative C-3	Alternative B-2	Preferred Alternative ²
Construction Cost	\$52.1M	\$43.7M	\$44.4M	\$140.2M
Right of Way Cost ¹	\$37.9M	\$27.5M	\$29.6M	\$95M
Environmental Mitigation Cost	-	-	-	\$3.6M
Approximate ROW Acquisition	85 acres	66 acres	57 acres	208 acres
Relocations Required	21	21	7	49
Noise Receptors Impacted	4	38	18	60
Visual Quality Impacts	Minor	Minor	Minor	Minor
Known NRHP Sites Impacted	1	0	0	1
Hazardous Materials Sites Impacted	1	0	0	1
Wetland Impacts	0.6 acre	0.2 acre	None	0.8 acre
Stream Impacts	1,769 linear ft.	1,823 linear ft.	1,532 linear ft.	5,124 linear ft.
Floodplain Impacts	6.4 acres	7.7 acres	3.5 acres	17.6 acres
Karst Recharge Area	36.5 acres	1.2 acres	0.8 acres	38.5 acres
Karst Springs Impacted	0	1	0	1
Protected Species Impacted (NLAA)	6	6	6	6

NRHP - National Register of Historic Places

¹ Total estimated ROW cost includes utility relocation costs.

² Preferred Alternative is the combined impacts for all three alternatives that make up the full project length.

Right of Way / Land Use

The Preferred Alternative would require approximately 208 acres of ROW acquisition. Direct land use changes would primarily be the conversion of forest/pastureland, commercial, and residential development to transportation use. The Preferred Alternative is anticipated to involve 26 residential relocations, 6 landlord relocations, and 17 business relocations. The Preferred Alternative would not directly impact any planned developments and is consistent with comprehensive land use plans for the area.

FHWA finds that there are no significant impacts to private property or land use anticipated with the Preferred Alternative.

Noise Impacts

A traffic noise analysis was conducted in accordance with the FHWA noise regulation, Procedures for Abatement of Highway Traffic and Construction Noise, 23 CFR 772 and the current ARDOT Traffic Noise Policy and utilized the current project functional plans and traffic projections. The Traffic Noise Study, included in **Appendix B**, identified noise impacts, evaluated noise abatement for those impacts, and detailed construction related noise.

As noise levels near existing Hwy. 112 are already dominated by traffic noise, no substantial increase in existing noise levels is predicted near existing Hwy. 112. However, some receptors near the new alignment sections would be impacted due to a substantial increase in existing noise levels. Also, some receptors are predicted to be impacted because the noise level would approach or exceed the Noise Activity Category. The Preferred Alternative would impact a total of 60 receptors.

Noise barriers were evaluated and must be both feasible and reasonable to be deemed “likely” for construction. A description of the methodology used to determine feasibility and reasonableness for a noise barrier is detailed in the Traffic Noise Study in **Appendix B**. Three noise barriers were determined to be feasible and reasonable based on the preliminary project plans.

FHWA finds that there are no significant traffic noise impacts anticipated with the Preferred Alternative.

Visual Quality

The Preferred Alternative would widen the road and introduce roundabouts at major intersections. These design features would change the visual aspect of the view both of and from the road and, would make the roadway a relatively more dominant feature, especially in the less developed areas. The introduction of sidewalks and a multiuse path would provide pedestrians and cyclists with improved views of the surroundings. Construction of the Preferred Alternative has the potential to result in minor visual impacts from the placement of a new roadway, removal of trees and other vegetation, and alteration of the viewshed along the project corridor. Overall visual quality impacts are likely to be beneficial for travelers but may be negative for adjacent residents, particularly in the St. Valery Downs and Lockmoor Club subdivisions, which currently overlook a rural landscape for whom views of the roadway would become more prominent.

FHWA finds that there are no significant visual quality impacts anticipated with the Preferred Alternative.

Cultural Resources / Historical Properties

An Architectural Resource Survey (ARS) and an archeological survey were completed for the project in accordance with Section 106 of the National Historic Preservation Act. The ARS report identified one structure in Elm Springs, the Nelson Feed Building, which is considered eligible to the National Register of Historic Places (NRHP). The recommended NRHP eligibility for the Nelson Feed Building, located within the footprint of the Preferred Alternative, was submitted to the State Historic Preservation Officer (SHPO) for review. SHPO concurred the structure is NRHP-eligible. The Memorandum of Agreement (MOA) to resolve the adverse effect can be found in **Appendix C**.

The Phase I archeological survey identified one new archeological site and revisited six sites, including one cemetery. The cemetery is undetermined in its NRHP status and will be avoided by the Preferred Alternative. The other six sites were determined not eligible for inclusion in the NRHP with SHPO's concurrence. In addition, a Phase I survey of 38.9 acres could not be done due to lack of landowner permission. ARDOT deferred the completion of the Phase I survey until after ROW acquisition and prior to construction with SHPO concurrence, found in **Appendix C**

FHWA finds that there are no significant impacts to cultural resources anticipated with the Preferred Alternative.

Section 4(f) Properties

The Nelson Feed Building is a 1940s feed mill and store located at 110 North Elm (also known as Hwy. 112) in Elm Springs. The Nelson Feed Building is associated with the rise and vertical integration of the poultry and trucking industries in northwest Arkansas. This property was determined eligible for inclusion in the NRHP under Criterion C, as a good example of an early twentieth century agricultural support facility, with local significance. The Preferred Alternative would demolish the Nelson Feed Building and have permanent "use" of the property as a transportation facility.

In the MOA, FHWA, SHPO and ARDOT agreed that the Nelson Feed Building would be documented before demolition. That documentation will meet the Arkansas Historic Preservation Program (AHPP) architectural documentation standards set forth in the AHPP's 2016 Survey Procedures Manual: Guidelines for Historic and Architectural Surveys in Arkansas.

Based on the considerations documented in the Section 4(f) Evaluation in **Appendix D**, there is no feasible and prudent alternative to the proposed use of the Nelson Feed Building. The action includes all possible planning to minimize harm to the property resulting from such use. It is the recommendation of FHWA that the Preferred Alternative minimizes relocations and cost while fully meeting the project's purpose and need.

Hazardous Materials

Based on federal and state regulatory database reviews and site reconnaissance, five operating gas stations with underground storage tanks (USTs) were identified adjacent to the Preferred Alternative. Three of the properties have a low potential for contamination due to past incidents of leaking underground tanks of gas/diesel. All three facilities repaired the leak which was reviewed by the Arkansas Department of Energy and Environment, Division of Environmental Quality (DEQ) and an issuance of "No Further Action" was received for each. The Preferred Alternative would acquire a small amount of right of way from one of the remediated sites,

but the gas station would remain operational and the risk of encountering contamination within the area to be acquired is low. There are no anticipated impacts to hazardous materials as a result of the Preferred Alternative.

If hazardous materials are identified, observed, or accidentally uncovered by any ARDOT personnel, contracting company(s), or state regulating agency, work would be halted, and the appropriate entities would be notified. Prior to resuming construction, the type of contaminant and extent of contamination would be identified. If necessary, a remediation and disposal plan would be developed. All remediation work would be conducted in conformance with the DEQ, the U.S. Environmental Protection Agency, and Occupational Safety and Health Administration regulations.

FHWA finds that there are no significant hazardous materials-related impacts anticipated with the Preferred Alternative.

Important Farmland

Based on a letter from the National Resource Conservation Service included in the EA, the proposed improvements associated with Preferred Alternative are inside of the city limits of the Tontitown, Elm Springs, Cave Springs, Springdale, Rogers, and Bentonville and do not fall under the Farmland Protection Policy Act.

FHWA finds that there are no significant impacts to Important Farmland anticipated with the Preferred Alternative.

Wetlands / Streams

The Preferred Alternative would impact, primarily by fill, a total of approximately 0.8 acre of emergent wetlands and 5,124 linear feet of streams (3,015 linear feet of ephemeral streams, 125 linear feet of intermittent streams and 1,984 linear feet of perennial streams). Several of the streams flowing into or through the Preferred Alternative corridor flow from three mapped spring recharge areas delineated by the Ozark Underground Laboratory. Most of the wetland and stream impacts are anticipated to be permanent. Prior to construction of the project and to obtain the necessary permits, the number of wetland and stream credits required by the permitting agencies would be calculated and purchased from an approved mitigation bank to comply with Section 404 guidelines.

The project would comply with all requirements of the U.S. Army Corps of Engineers (USACE) Section 404 permit program, DEQ Water Quality Certification (Section 401), and the National Pollutant Discharge Elimination System (NPDES; Section 402). Avoidance and minimization efforts have been employed throughout the design and construction process.

FHWA finds that there are no significant impacts to wetlands or streams anticipated with the Preferred Alternative.

Floodplains

The Preferred Alternative would cross 17.6 acres of floodplains associated with Brush Creek, Spring Creek, and Osage Creek. These floodplains would be bridged, which would result in minor impacts to the floodplains. The bridge crossings and box culvert extensions within the floodplains would be constructed in a manner to minimize impacts to the 100-year flood elevations.

The project has been designed to minimize adverse impacts to floodplains. Implementation of the Preferred Alternative would follow local and state floodplain management plans and the project plans will be submitted to the Local Floodplain Administrator for approval.

FHWA finds that there are no significant impacts to floodplains anticipated with the Preferred Alternative.

Protected Species and Other Wildlife

A total of 11 threatened or endangered species are on the U.S. Fish and Wildlife Service (USFWS) official species list for the proposed project. A list of the protected species and the habitat and effects determinations can be found in **Table 3**.

Table 3: Threatened and Endangered Species Impacts Associated with the Preferred Alternative

Species/Critical Habitat	Habitat Availability	USFWS Effects Determination
Indiana Bat (<i>Myotis sodalis</i>)	7.5 acres of potential suitable bat habitat	May Affect, Not Likely to Adversely Affect
Gray Bat (<i>Myotis grisescens</i>)	7.5 acres of potential suitable bat habitat	May Affect, Not Likely to Adversely Affect
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	7.5 acres of potential suitable bat habitat	May Affect, Not Likely to Adversely Affect
Ozark Big-eared Bat (<i>Corynorhinus townsendii ingens</i>)	7.5 acres of potential suitable bat habitat	No Effect
Eastern Black Rail (<i>Laterallus jamaicensis ssp. jamaicensis</i>)	0.8 acres of potential suitable habitat in form of emergent wetlands	No Effect
Red Knot (<i>Calidris canutus rufa</i>)	No suitable habitat in project area	No Effect
Piping Plover (<i>Charadrius melodus</i>)	No suitable habitat in project area	No Effect
Benton County Cave Crayfish (<i>Cambaras aculabrum</i>)	Karst region has documented caves in Washington and Benton County. One spring within the Preferred Alternative footprint	May Affect, Not Likely to Adversely Affect
Ozark Cavefish (<i>Troglichthys rosae</i>)	Karst region has documented caves in Washington and Benton County. One spring within the Preferred Alternative footprint	May Affect, Not Likely to Adversely Affect
Neosho Mucket (<i>Lampsilis rafinesqueana</i>)	Osage Creek contains potentially suitable habitat	May Affect, Not Likely to Adversely Affect
Missouri bladderpod (<i>Physaria filiformis</i>)	No suitable habitat in project area	No Effect

It was determined that the project “May Affect, Not Likely to Adversely Affect” several species as noted in Table 2. The following recommended best management practices and avoidance and minimization measures are proposed to be implemented in the project design:

- Implementing the sediment and erosion control measures described in Section 3.5.
- ARDOT special provisions will include:
 - Off-site Restraining Conditions for Indiana and Northern Long-eared Bats Special Provision
 - Water Pollution Control Special Provision
 - Cave Discovery Special Provision– Including construction methods and procedures upon cave discovery
 - Vegetated Buffer Zone Special Provision

USFWS concurrence and Section 7 clearance can be found in **Appendix E**. The project would involve impacts to a known losing stream within the Elm Springs Recharge Area known to have both Ozark Cavefish and Benton County Cave Crayfish. ARDOT is proposing, as a voluntary conservation measure for these species, to deposit \$3,566,974 into an account to be managed by a conservation organization. These funds would be used to implement future conservation actions benefiting these species.

FHWA finds that there are no significant impacts to protected species anticipated with the Preferred Alternative.

Karst Areas and Water Quality

The Preferred Alternative would impact 38.5 acres within karst recharge areas and would directly impact one spring. Springs, especially within karst recharge areas, can serve as habitat for federally-listed species, including the Ozark Cavefish and the Benton County Cave Crayfish.

Brush Creek, Spring Creek, and Osage Creek may be temporarily impacted by construction activities associated with the widening of the existing highway bridge over each creek. Additionally, a losing stream crosses Hwy. 112 immediately south of Barrington Road that has four tributaries impacted within the proposed ROW. This stream and its tributaries are identified as karst features with approximately 1,095 linear feet of the main channel and approximately 1,200 linear feet of tributary within the proposed ROW. One spring and the associated stream located just north of Hwy. 264 are karst features with approximately 394 linear feet of the channel in the proposed ROW that would be impacted.

The Preferred Alternative would have minor water quality impacts from stormwater discharges. Short-term, minor, construction-related impacts to surface waters within the disturbed areas may occur. Erosion and sediment control would follow ARDOT’s best management practices (BMPs) to minimize sedimentation and avoid impacts to groundwater and sensitive or endangered species. A large site Construction Stormwater Permit from DEQ, which requires a Storm Water Pollution Prevention Plan (SWPPP), would be prepared to prevent and minimize the potential release of contaminants into surface waters and groundwater. Sediment and erosion control devices will be installed and maintained according to the SWPPP and could include diversion channels, silt fence, filter socks, silt protections, slope drains, sediment basins, and sediment traps.

Additionally, a Short-Term Activity Authorization from DEQ would be obtained for each stream crossing and a Section 401 water quality certification would also be obtained in conjunction with the required Section 404 permit.

Where possible, a vegetated buffer zone of 25 feet around waterways and 50 feet around sensitive streams will be maintained.

In the event of cave discovery during construction, the USFWS and ARDOT Environmental Division would be contacted for a determination of the proper procedures.

Based on information provided by the Arkansas Department of Health, there are no surface water intakes, public water supply wells, or wellhead protection areas within the project area. No impacts to public water supply systems are anticipated as a result of the Preferred Alternative.

FHWA finds that there are no significant impacts to water quality anticipated with the Preferred Alternative.

Indirect Impacts

Construction of the Preferred Alternative is anticipated to result in temporary encroachment-alteration effects to water quality that may impact streams, karst features (e.g. springs), and cave-obligate species. Encroachment-alteration effects are physical, chemical, or biological changes in the environment that occur as a result of the project but are removed in time or distance from the direct effects. The Preferred Alternative may indirectly affect streams by causing a temporary increase in sedimentation, which decreases water quality, to the local watershed from stormwater runoff. The Preferred Alternative may also indirectly impact springs and other connected, subterranean karst features, through the introduction of degraded water quality associated with construction and/or stormwater runoff. Because springs are linked to suitable habitat for aquatic cave species such as the Ozark Cavefish and the Benton County Cave Crayfish, the introduction of degraded water quality may also indirectly impact these two species. These temporary impacts would likely include increased turbidity in some areas or even sources of petroleum or other pollutants from construction vehicles.

BMP measures would be implemented as part of the design and construction of the project to avoid and/or reduce encroachment-alteration effects to surrounding resources resulting from stormwater runoff. These construction BMPs would help minimize water quality degradation. Additionally, the project would have provisions relating to karst features (including springs) in place that would reduce impacts if cave or surface openings are encountered during construction.

Changes in the pattern of land use, growth patterns, population density, or growth rate may occur as a result of a highway project, and the resulting induced development can impact sensitive resources. These are another type of indirect effect that are categorized as induced growth effects. An increased rate of development would potentially impact sensitive biological resources. However, for each action alternative, measures such as federal and state permitting, and local land use regulations would minimize potential adverse induced growth impacts for sensitive resources.

The Preferred Alternative would increase accessibility but would not provide new access to areas not already accessible as this alternative primarily follows the existing Hwy. 112 alignment. There is the potential of land use changes from rural or undeveloped to residential, commercial, or industrial resulting from increased mobility and the reduction in travel times. In the vicinity of the intersections with Hwy. 264, the alignment travels through undeveloped land that potentially would be developed with commercial and higher density residential uses supporting the development and employment associated with Northwest Arkansas National Airport (XNA), as Hwy. 264 connects Interstate 49 through Cave Springs to XNA. At the northern end, the Preferred Alternative

would have anticipated land use changes primarily include an increase in the rate/intensity of development and redevelopment along Hwy. 112, which may include residential developments and service-based businesses.

FHWA finds that there are no significant indirect impacts anticipated with the Preferred Alternative.

Cumulative Impacts

Cumulative impacts of past and reasonably foreseeable future actions, including construction of Hwy. 612, the proposed XNA Access Road, construction of a wastewater line from Cave Springs to the Northwest Arkansas Conservation Authority, current/future residential and commercial development, and other reasonably foreseeable transportation projects, combined with impacts from the Preferred Alternative, include impacts to water resources, a reduction in habitat suitable for some federally-protected species, and changes in land use and noise. Affected water resources could include stream and wetland impacts, floodplain impacts, and a temporary increase in sedimentation to the local watershed from stormwater runoff. Habitat for federally-protected species could be impacted; however, the Preferred Alternative is not expected to contribute to substantial cumulative impacts to species habitats. Additionally, the Preferred Alternative is not likely to contribute substantial cumulative impacts to land use in the project vicinity or to traffic noise.

FHWA finds that there are no significant cumulative impacts anticipated with the Preferred Alternative.

Council on Environmental Quality Regulations

The 2020 Council on Environmental Quality regulations require consideration of a project's affected environment and degree of effect in determining whether the project would have a significant impact (40 CFR § 1501.3).

Regarding the potentially affected environment, "agencies should consider, as appropriate to the specific action, the affected area (national, regional, or local) and its resources, such as listed species and designated critical habitat under the Endangered Species Act. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend only upon the effects in the local area."

"In considering the degree of the effects, agencies should consider the following, as appropriate to the specific action: (i) both short- and long-term effects; (ii) both beneficial and adverse effects; (iii) effects on public health and safety; and (iv) effects that would violate Federal, State, Tribal, or local law protecting the environment."

The following issues are considered in the determination of whether there are significant impacts:

1. Impacts that may be both beneficial and adverse.

In addition to the adverse impacts described above, the Preferred Alternative is anticipated to reduce traffic congestion and provide improved access and connectivity for bicyclists and pedestrians.

2. The degree to which the project affects public health or safety.

The additional travel lanes and raised medians would improve safety for motorists. The curb and gutter, grass berms, and sidewalks would improve safety for bicyclists and pedestrians. The project is not anticipated to have any adverse public health or safety impacts.

3. Unique characteristics of the geographical area such as proximity to historic or cultural resources, parks, prime farmland, wetlands, wild and scenic rivers, or ecologically critical areas.

Wetlands and streams are anticipated to be impacted, but these impacts would be mitigated through the purchase of wetland and stream credits at an approved wetland mitigation bank. One NRHP structure, the Nelson Feed Building in Elm Springs, was identified within the footprint of the Preferred Alternative. This adverse effect is being resolved with an MOA among FHWA, SHPO, and ARDOT that can be found in **Appendix C**. The Preferred Alternative is located within the city limits of several communities, so the Farmland Protection Policy Act does not apply. The Preferred Alternative would impact 38.5 acres of karst terrain and one spring; however, due to the implementation of BMPs, FHWA does not anticipate significant impacts to water quality. There are no adverse impacts expected to any parks, wild and scenic rivers, or other ecologically critical areas.

4. The degree to which the effects on the environment are expected to be highly controversial.

The term “controversial” refers to cases where substantial dispute exists as to the size, nature, or effect of the action rather than to the existence of opposition to a use, the effect of which is relatively undisputed. Public meetings and public hearings were conducted for the proposed project. The public primarily commented on roundabout locations, traffic operations, and property impacts. Residents of the St. Valery Downs Subdivision were concerned about noise impacts to the homes adjacent to the Preferred Alternative. FHWA agreed with the findings of the noise study that noise abatement was feasible for the subdivision, but not reasonable, under current noise policy.

5. The degree to which the effects on the quality of the human environment are highly uncertain or involve unique or unknown risks.

The impacts to the human environment are well-documented in the EA for the proposed project in the land use, hazardous waste, visual quality, and noise sections. No significant adverse effects to the human environment are anticipated as a result of the proposed project.

6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

The FHWA NEPA regulations at 23 CFR § 771.115(a) list the types of actions normally requiring the preparation of an Environmental Impact Statement (EIS). The proposed project is not within the scope of a project typically requiring the preparation of an EIS and the EA identified no significant impacts associated with any of the alternatives. The project has logical termini and independent utility, represents a reasonable expenditure, and does not force additional improvements to be made to the transportation system. This action would not set a precedent for future actions with significant effects or represent a decision in principle about a future consideration.

7. Whether the action is related to other actions with individually insignificant, but cumulatively significant, impacts.

As outlined in the EA and this FONSI document, only minor cumulative impacts on the local economy are anticipated. No significant cumulative effects have been identified for the proposed project.

8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss of significant scientific, cultural, or historic resources.

Pursuant to Section 106 of the National Historic Preservation Act, records checks and an intensive cultural resources survey were conducted. One NRHP structure, the Nelson Feed Building in Elm Springs, was identified within the footprint of the Preferred Alternative. This adverse effect is being resolved with an MOA among FHWA, SHPO, and ARDOT that can be found in **Appendix C**.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act.

Impact could occur to potential habitat for seven of the 11 threatened or endangered species that may be found in the project area. The USFWS has determined that the project “may affect, but is not likely to adversely affect” those seven species. The USFWS has determined the requirements of Section 7 of the Endangered Species Act are fulfilled as a result of implementing conservation measures, special provisions, and mitigation; all of which mitigate impacts below the level of significance.

10. Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.

The proposed action does not knowingly threaten a violation of any federal, state, or local law for the protection of the environment. All applicable permits would be acquired prior to construction.

Conclusion

Based upon the EA, comments received as a result of the public involvement meeting and public hearings, and the foregoing information and other supporting information, FHWA concludes that the Preferred Alternative would not have a significant impact on the environment. No additional NEPA documentation is required for this project. If changes in laws or regulations that apply to the project occur during design or construction, or there are major design changes that result in significantly greater impacts than those described in this document, a NEPA re-evaluation of the project will be performed. ARDOT has completed the assessment of the proposed project and FHWA issues a finding of no significant impact for the Hwy. 112 widening projects from Hwy. 412 to Hwy. 12 in Washington and Benton Counties, Arkansas.

Randal Looney

Randal Looney
Environmental Coordinator
Federal Highway Administration

September 18, 2023

Date of Approval



U.S. Department of Transportation
Federal Highway
Administration

Appendix A – LOCATION/DESIGN PUBLIC HEARING SYNOPSIS AND DISPOSITION OF COMMENTS

LOCATION AND DESIGN PUBLIC HEARING SYNOPSIS

Job Number 012305
Hwy. 412 – Springdale Bypass (S) (Hwy. 112)
Benton & Washington Counties
December 13, 2022

An in-person Location and Design Public Hearing for the proposed improvements on Highway 112 was held Tuesday, December 13, 2022 from 4:00 to 7:00 p.m. The project information was made available on the ARDOT website from November 30, 2022 through January 27, 2023. Efforts to involve minorities and the public in the meeting(s) included:

- Public Hearing insertion placed in Northwest Arkansas Democrat Gazette on Sunday, October 30, 2022.
- Display advertisement placed in Northwest Arkansas Democrat Gazette on Sunday, November 20, 2022, and ran Sunday, November 27, 2022.
- PSA placed in La Zeta FM for Job 012305 to run dates December 9 – December 13, 2022
- Letters mailed to Public Officials on December 6, 2022.
- Letters mailed to City Officials on December 6, 2022.
- Arkansas Mailing Services (flyers mailed to citizens) December 7, 2022.
- Flyers hand delivered to residents along the affected route.

The following information and links were available on the ARDOT website:

- Short video presentation about the project
- Public meeting notice
- Project location map
- Project design plans
- Online comment form
- Interactive project map
- Previous PI Information
- Frequently asked questions with answers

Table 1 describes the results of the public participation at the meeting.

TABLE 1	
Public Participation	Totals
Online registration of attendance at PI	26
In-Person Registration	246
Public Officials Registration	29
Number of website viewers (English)	1,459
Number of website viewers (Spanish)	32
Online Comment Forms Received	33
In-Person Comment Forms Received	53
E-mail comments received	3
Phoned Comments Received	1
Mailed Comment Forms Received	15
Total comments received	105

CRAFTON TULL staff reviewed all comments received and evaluated their contents. The summary of comments listed below reflects the personal perception or opinion of the person or organization making the statement. Some of the comments were combined and/or paraphrased to simplify the synopsis process.

An analysis of the responses received as a result of the public survey is shown in Table 2.

TABLE 2	
Alternative Preferred	Totals
Preferred No Action Alternative	16
Preferred Alternate E2	55
Preferred Alternate E3	32
No alternative preference	8
Beneficial impacts due to the proposed project	11
Adverse impacts due to the proposed project	30
No response to beneficial or adverse impacts	66
Had a suggestion to improve the project	42
Knew of historical sites in the project area	7
Knew of environmental constraints	11
Knew of home or property limitations	8

A summary of the comments received is presented below arranged by the alternative that was preferred by the responder. The summaries are followed by a list of general comments about the proposed project.

Alternate E2 (55 respondents)

- Sixteen individuals did not provide a comment.
- Five individuals have concerns that E3 would cut off downtown Elm Springs, thus preferring alternate E2.
- Three individuals were primarily concerned about the loss of property.
- Three individuals requested bike path across Hwy. 612 Bridge.
- Two individuals have concerns about traffic noise at Tuscany Subdivision.
- Two individuals have concerns about the impacts to a nursery.
- Two individuals were concerned about access to their property.
- Two individuals are in favor of either alternative.
- Two individuals are concerned about the existing trees and if they will be replaced.
- Two individual have safety concerns of the existing road.
- One individual wants Hwy. 612 to be completed first.
- One individual is concerned about the biking path design at roundabouts.
- One individual is concerned about the Illinois River watershed quality.
- One individual does not want Hwy. 112 improved and to use I-49 instead.
- One individual thinks the proposed route would be good for the community.
- One individual favors E-2 since it has less impacts to the church.
- One individual likes the 12' side paths.
- One individual states most people are in favor of E-2.
- One individual is concerned about the future of their property.
- One individual is concerned about the bats in the area.
- One individual wants the bridge replaced on S. Goad Springs Rd. at puppy creek for an alternative N/S route. Additionally, add a roundabout at Hwy. 264 and Bellview Road.
- One individual has safety concerns of the existing road and would like the road shifted east near Hwy. 612.
- One individual would like to tie Barrington Rd. to Har-Ber roundabout and eliminate the roundabout at Barrington.
- One individual would like larger roundabouts for safety.
- One individual would like to access the gas station from Water Street without going through the roundabout.
- One individual would like sidewalks connecting to the park and also has flooding concerns at Scott Street.

Alternate E3 (32 respondents)

- Four individuals want to protect downtown Elm Springs.
- Three individuals want a center turn lane instead of a raised median.
- Two individuals are concerned with the amount of roundabouts.
- Two individuals did not provide a comment.
- Two individuals are in favor for either alternative.
- Two individuals are concerned about flooding and request a crossover at their drive.
- One individual wants Hwy. 612 to be completed first, and to complete 112 as soon as possible.
- One individual is concerned about the right turn only at Scott Street.
- One individual is concerned about a spring and the damage to the town of Elm Springs.
- One individual likes the 12' side path.
- One individual is concerned about the Har-Ber roundabout and does not like the right turn only from Scott St.
- One individual is not in favor of the roundabouts.
- One individual is concerned about the economic impact to the town of Elm Springs.
- One individual is concerned about the impact to their property, access to their property, and thinks the sidewalks are a waste.
- One individual requests for the curves to be straightened north of Hwy. 412.
- One individual requests to tie Barrington Rd. to Har-Ber roundabout.
- One individual requests to add a turn lanes and remove sidewalks.
- One individual wants the job to be completed and for the current roadway to be patched.
- One individual wants Hwy. 612 to be completed first.
- One individual wants E3 if the Church and Post Office are not going to be affected.
- One individual requests that the speed be reduced to 35 MPH between Marchant and Elm Springs. They also are concerned about light pollution and drainage concerns near Sta. 280+75.
- One individual would like the stop light at Har-Ber to remain and that Hwy. 612 be completed.
- One individual requests street lighting at roundabouts.

No Build (17 respondents)

- Three individuals are concerned about their property.
- Two individuals are not in favor of roundabouts.
- One individual believes the improvement is a waste of funds and is skeptical about the safety of roundabouts.
- One individual prefers traffic lights over roundabouts.
- One individual does not want sidewalks, bike trail, or raised median.
- One individual is not in favor of the project.
- One individual is concerned about their property value and would like a stoplight at Via Firenze.
- One individual requests the speed be reduced on the existing road.
- One individual requests a bike path across Hwy. 612 Bridge.
- One individual thinks there are too many roundabouts.
- One individual would like the road to be shifted away from Tuscany Subdivision.
- One individual believes the improvement is a waste of funds and to remove bike lanes and curb and gutter.
- One individual would like their driveway moved.
- One individual did not provide a comment.

No Alternate Selected (8 respondents)

- One individual did not provide a comment.
- One individual is concerned about the capacity of the roundabouts.
- One individual is concerned about a spring west of Water St. and Hwy. 112.
- One individual is concerned about traffic noise, subdivision entrance, and impacts to homeowner's property.
- One individual is concerned about the loss of property.
- One individual is concerned about slowing emergency vehicles.
- One individual wants the job to start as soon as possible.
- One individual would like a larger driveway and bridge.

A listing of general comments concerning the proposed project follows:

- Eighteen individuals did not provide a comment.

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- Eleven individuals have concerns about their property.
- Eight individuals are concerned about the access to their property.
- Six individuals think E3 would protect downtown Elm Springs.
- Five individuals prefer a turn lane instead of a raised median.
- Four individuals are concerned that E3 will cut off Elm Springs.
- Four individuals are not in favor of roundabouts.
- Four individuals request a bike path across Hwy. 612 bridge.
- Four individuals think the construction at Hwy. 612 should be completed first.
- Four individuals are concerned about traffic noise.
- Four individuals are concerned about the safety of the existing road.
- Four individuals are not in favor for sidewalks and bike paths.
- Three individuals think there are too many roundabouts.
- Three individuals suggest to tie Barrington Rd. to Har-Ber roundabout, removing Barrington roundabout.
- Three individuals have drainage concerns.
- Three individuals are concerned about roundabout safety.
- Three individuals want the job completed as soon as possible.
- Two individuals think the project is a waste of funds.
- Two individuals are concerned about the right turn only at Scott St.
- Two individuals are in favor for the 12' side paths.
- Two individuals are concerned about a spring near the town of Elm Springs.
- Two individuals are concerned about the negative impact to the nursery.
- Two individuals think both alternatives look good.
- Two individuals want to reduce impact to the church.
- Two individuals have concerns for the existing trees and if they will be replaced.
- Two individuals are not in favor of the raised median.
- One individual is concerned about the bats.
- One individual is concerned about roundabout capacity.
- One individual is concerned about the Illinois River watershed quality.
- One individual does not want Hwy. 112 improved and thinks traffic should use I-49.
- One individual thinks Alternate E-2 would be good for the community.
- One individual wants Hwy. 112 to remain on Main Street in Elm Springs.
- One individual does not want to affect the post office.
- One individual thinks most people are in favor for Alternate E-2.

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- One individual is concerned about the roundabouts at Hwy. 612.
- One individual is not in favor of the project.
- One individual wants a stop light at Via Firenze.
- One individual wants the speed to be reduced on the present road through town.
- One individual suggests to replace the bridge on S. Goad Springs Rd. at Puppy Creek to give another N/S route and add roundabout at Hwy. 264 and Bellview Road.
- One individual has concerns for the roundabouts slowing emergency vehicles.
- One individual would like the road to be shifted east near Hwy. 612.
- One individual wants the curves to be straightened north of Hwy. 412.
- One individual is concerned about light pollution.
- One individual requests the speed limit to be reduced to 35 in the town of Elm Springs.
- One individual requests the stop light to be retained at Har-Ber.
- One individual requests street lighting at roundabouts.
- One individual requests the road to be shifted away from Tuscany Subdivision.
- One individual would like the sidewalks to connect to the park.

PC

LOCATION AND DESIGN PUBLIC HEARING SYNOPSIS

Job Number 090513
Springdale Bypass – W. Wallis Road (S)
Benton County
December 15, 2022

An in-person Location and Design Public Hearing for the proposed improvements on Highway 112 was held Thursday, December 15, 2022 from 4:00 to 7:00 p.m. The project information was made available on the ARDOT website from November 30, 2022 through January 27, 2023. Efforts to involve minorities and the public in the meeting(s) included:

- Public Hearing insertion placed in Northwest Arkansas Democrat Gazette on Sunday, October 30, 2022.
- Display advertisement placed in Northwest Arkansas Democrat Gazette on Sunday, November 20, 2022, and ran Sunday, November 27, 2022.
- PSA placed in La Zeta FM for Job 090513 to run dates December 11 – December 15, 2022
- Letters mailed to Public Officials on December 6, 2022.
- Letters mailed to City Officials on December 6, 2022.
- Arkansas Mailing Services (flyers mailed to citizens) December 7, 2022.
- Flyers hand delivered to residents along the affected route.

The following information and links were available on the ARDOT website:

- Short video presentation about the project
- Public meeting notice
- Project location map
- Project design plans
- Online comment form
- Interactive project map
- Previous PI Information
- Frequently asked questions with answers

Table 1 describes the results of the public participation at the meeting.

TABLE 1	
Public Participation	Totals
Online Registration of Attendance at PI	14
Combined In-Person Registration (090513 , 090514, & 090636)	187
Combined Public Officials Registration (090513, 090514, & 090636)	44
Number of Website Viewers (English)	863
Number of Website Viewers (Spanish)	6
Online Comment Forms Received	14
In-Person Comment Forms Received	7
E-mail Comments Received	2
Mailed Comment Forms Received	3
Total comments received	26

CRAFTON TULL staff reviewed all comments received and evaluated their contents. The summary of comments listed below reflects the personal perception or opinion of the person or organization making the statement. Some of the comments were combined and/or paraphrased to simplify the synopsis process.

An analysis of the responses received as a result of the public survey is shown in Table 2.

TABLE 2	
Alternative Preferred	Totals
Preferred Alternative C3 Modified	15
Preferred No Build Alternative	6
No alternative preference	5
Beneficial impacts due to the proposed project	2
Adverse impacts due to the proposed project	15
No response to beneficial or adverse impacts	9
Had a suggestion to improve the project	16
Knew of historical sites in the project area	0

TABLE 2 (CONT.)	
Alternative Preferred	Totals
Knew of home or property limitations	4
Knew of environmental constraints	3

A summary of the comments received is presented below arranged by the alternative that was preferred by the responder. The summaries are followed by a list of general comments about the proposed project.

Alternative C3 Modified (15 respondents)

- Three individuals would like the alignment moved further west near the City of Cave Springs.
- Two individuals are concerned about their home being taken.
- Two individuals suggest connecting Sands Rd. and Main Street utilizing part of existing Hwy. 112.
- One individual is concerned about the sound.
- One individual is in favor as proposed.
- One individual is concerned about pedestrian safety and the need to improve the infrastructure of the paths and sidewalks.
- One individual is concerned about the billboards near W. Miller being too close to the road. Favor to remove and not rebuild.
- One individual is concerned with the impact to the water quality.
- One individual is concerned with the amount of roundabouts.
- One individual is concerned with their house being too close to the proposed Highway.
- One individual is concerned with the median preventing access to the property from the opposing traffic side of highway.

No Build (6 respondents)

- One individual is concerned about their home being taken.
- One individual is concerned about the sound.
- One individual is concerned with the lack of access to their property.
- One individual is concerned with the amount of roundabouts.
- One individual prefers no action.
- One individual would like the alignment moved west near Spring Ridge Dr. to provide better access to Spring Ridge Dr.

No Alternate Selected (5 respondents)

- Two individuals are concerned about pedestrian safety and the need to improve the infrastructure of the paths and sidewalks.
- Two individuals are concerned with the lack of access to their property.
- One individual is concerned about their home being taken.

A listing of general comments concerning the proposed project follows:

- Twelve individuals are concerned with loss of homes and farms.
- Six individuals are concerned with the current alignment at certain locations.
- Six individuals are concerned with the highway creating safety issues.
- Five individuals are concerned with problems moving equipment and livestock.
- Three individuals suggest improving bike and trail infrastructure.
- Three individuals are concerned with the access of their property.
- Two individuals are concerned about increased flooding.
- Two individuals are concerned with the amount of roundabouts.
- Two individuals suggest to use traffic controlled intersections
- One individual is concerned about the impact on water quality.
- One individual is concerned with the Right of Way acquisition of their property.
- One individual in concerned about the cost of the project.
- One individual prefers widening only.
- One individual suggests providing public access to tributaries below Lake Keith

PC

LOCATION AND DESIGN PUBLIC HEARING SYNOPSIS

Job Number 090514
W. Wallis Road – Pleasant Grove Rd. (S)
Benton County
&
Job Number 090636
W. Wallis Road – Hwy. 12 (S)
December 15, 2022

1

An in-person Location and Design Public Hearing for the proposed improvements on Highway 112 was held Thursday, December 15, 2022 from 4:00 to 7:00 p.m. The project information was made available on the ARDOT website from November 30, 2022 through January 27, 2023. Efforts to involve minorities and the public in the meeting(s) included:

- Public Hearing insertion placed in Northwest Arkansas Democrat Gazette on Sunday, October 30, 2022.
- Display advertisement placed in Northwest Arkansas Democrat Gazette on Sunday, November 20, 2022, and ran Sunday, November 27, 2022.
- PSA placed in La Zeta FM for Job 090514 and 090636 to run dates December 11 – December 15, 2022
- Letters mailed to Public Officials on December 6, 2022.
- Letters mailed to City Officials on December 6, 2022.
- Arkansas Mailing Services (flyers mailed to citizens) December 7, 2022.
- Flyers were hand delivered to residents along the route prior to the hearing.

The following information and links were available on the ARDOT website:

- Short video presentation about the project
- Public meeting notice
- Project location map
- Project design plans
- Online comment form
- Interactive project map
- Prior PI Information
- Frequently asked questions with answers

Table 1 describes the results of the public participation at the meeting.

TABLE 1	
Public Participation	Totals
Online Registration of Attendance at PI	18
Combined In-Person Registration (090513, 090514, & 090636)	187
Number of Website Viewers (English)	1179
Number of Website Viewers (Spanish)	7
Online Comment Forms Received	420
In-Person Comment Forms Received	27
E-mail Comments Received	2
Mailed Comment Forms Received	1
Total comments received	450

CRAFTON TULL staff reviewed all comments received and evaluated their contents. The summary of comments listed below reflects the personal perception or opinion of the person or organization making the statement. Some of the comments were combined and/or paraphrased to simplify the synopsis process.

An analysis of the responses received as a result of the public survey is shown in Table 2. Alternate B4 was not an alternate put forth at this hearing but it is listed because of the number of respondents that mentioned it in their comments.

TABLE 2	
Alternative Preferred	Totals
No Action	12
B2	189
B3	243
B4	92
Did not vote	10

A summary of the comments received is presented below arranged by the alternative that was preferred by the responder. The summaries are followed by a list of general comments about the proposed project.

Alternate B2 Modified (189 respondents)

- 75 People stated, “B3 would destroy an entire community of long time family and neighbors. A western route proposed as B4 would be the absolute best option and would not impact even one house. It would put the traffic where it needs to go and relieve the congestion at Hwy. 12 & 112. Please reconsider!”
- 23 people are concerned about property impacts.
- 7 People are concerned about flooding.
- 2 People want the route to be chosen as soon as possible.
- 2 People said the western route would be much better.
- 2 People expressed concerns of flooding, water pollution, noise, and environmental impacts
- 2 People are worried about displacing neighbors.
- 2 people have concerns of utilities, property access, and effect on home owners
- 1 Person said B3 is too intrusive.
- 1 Person said B2 is the sensible choice.
- 1 Person said they really prefer B4 but choose B2
- 1 Person said B2 has fewer curves.
- 1 Person said to cancel the project and improve existing.
- 1 Person said they feel exploited.
- 1 Person said B2 will negatively affect too many people
- 1 Person said B2 is most cost effective with less impact to homes and community.
- 1 Person said to please think of those affected.
- 1 Person said the farmers that live here should not have to sacrifice their land. The county, and city should have planned beforehand.
- 1 Person asks that a roundabout be moved to qualify home for relocation assistance.
- 1 Person said that long-time residents shouldn’t lose their land and homes due to a lack of transportation planning.
- 1 person says this is a guilt community.
- 1 Person prefers the new alternatives over the previous meeting.

Alternate B3 (242 respondents)

- 75 people expressed noise concerns.
- 8 people are concerned about property impacts.

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December 15, 2022

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- 6 People prefer B4.
- 4 People said this alternate has fewer properties effected with minimal cost increase.
- 2 people said to keep away from existing homes.
- 1 Person is concerned about flooding.
- 1 Person has noise and safety concerns.
- 1 Person has noise and flooding concerns.
- 1 Person called this a flawed project.
- 1 Person said to move traffic away from school zones.
- 1 Person said this will lessen stream impacts.
- 1 Person wants smoothed out bike paths at cross walks.
- 1 Person has concerns about driveway access.

No Build (11 respondents)

- 2 people said widening the road in this residential area will increase traffic speeds, decreasing safety and increasing noise and pollution. Larger roads should be kept away from existing residential areas. Therefore they choose the no build alternative. If DOT decides to go ahead with this project, they would choose the B3 option, which keeps the road further away from most existing houses than option B2. In addition, because the road options are so close to existing homes, DOT should ensure that the new road has landscaping and greenery.
- 2 People have safety and noise concerns
- 1 Person said don't ruin our neighborhood.
- 1 Person stated "B3 would destroy an entire community of long time family and neighbors. A western route proposed as B4 would be the absolute best option and would not impact even one house. It would put the traffic where it needs to go and relieve the congestion at Hwy. 12 & 112. Please reconsider!"
- 1 Person said there needs to be a light at Pleasant Grove.
- 1 Person said move Walmart.
- 1 Person said don't ruin our neighborhood.

No Preference (11 respondents)

- 1 person prefers a shift to west.
- 1 person wants B4
- 1 People are concerned about current traffic counts.
- 1 Person is happy about the design.
- 1 Person is concerned about impacts to their cattle operation.
- 1 Person is concerned about the intersection with Hwy. 12.

DISPOSITION OF PUBLIC COMMENTS

Job 012305

Hwy. 112 Improvements Hwy. 412 – Springdale Bypass (S)
Washington and Benton County

An “In-person” Location and Design Public Hearing for this project was held on December 13, 2023 at the Elm Springs United Methodist Church, 118 Elm Springs. The proposed design was displayed on an aerial photograph, depicting design features on an approximate scale of 1”:200’. Representatives of various ARDOT Divisions as well as Districts 4 and 9 were present to explain the proposed design and to answer questions. Copies of the Environmental Assessment and other general project information were available.

Seventy two (72) written comments were received. Summaries of these comments and responses thereto follow:

COMMENT: James Aunspaugh stated he was in favor of E2 option because it caused less impacts to the Church.

RESPONSE: This comment has been noted.

COMMENT: Donna Power stated they would like to see the bridge on Goad Springs over Puppy Creek replaced to provide another North/South Route and to add a roundabout at Hwy. 264 and Bellview Road

RESPONSE: The bridge on Goads Springs road over Puppy Creek is not under the jurisdiction of ARDOT. A roundabout at Hwy 264 and Bellview Road is being planned but is not part of this improvement.

COMMENT: Alice Jernigan, Sean Goode, Arnold Smith request that a bike path be included across the Hwy. 612 bridge.

RESPONSE: The existing abutments built on the Hwy 612 job will not work for a wider bridge. ARDOT is willing to consider a permit allowing a third party to build a separate bridge for bikes.

COMMENT: Isabella Hambry stated she wanted Larger Roundabouts for safety.

RESPONSE: The roundabouts have been designed to accommodate the design traffic for this roadway including a WB-67 tractor trailer.

COMMENT: Michael Efird, Emily Efird, Vivain Hamby, and Johnathan Hamby stated that option E2 cuts off Elm Springs.

RESPONSE: Option E2 routes Hwy. 112 through Main Street of Elm Springs.

COMMENT: Lief Kindberg stated he had concerns about Illinois River watershed quality, wants vegetated detention and other infiltration devices.

RESPONSE: A storm water prevention plan utilizing best practices will be implemented during construction to keep sediment from leaving the project.

COMMENT: Ben Peters, Mike Fisk, and Paul Walla stated Barrington Road should be rerouted to connect to Har-Ber roundabout.

RESPONSE: The locations of the turnarounds and roundabouts were discussed with the local municipalities and MPO and approved by ARDOT, following ARDOT’s policy on access control. U-turns can be made at the nearest turnaround. No additional turnaround locations will be provided.

COMMENT: Chad ONeal stated he does not want Hwy. 112 improved. People should use I-49

RESPONSE: ARDOT is responding to the need for an improved traffic facility based on the growing population in this area that desires a safer facility that can move more traffic with this proposed project.

DISPOSITION OF PUBLIC COMMENTS

Job 012305

Hwy. 112 Improvements Hwy. 412 – Springdale Bypass (S)
Washington and Benton County

COMMENT: Charlie Boyce stated he owns Paschal Air and is concerned about trucks not having a direct southbound left turn into business.

RESPONSE: The locations of the turnarounds and roundabouts were discussed with the local municipalities and MPO and approved by ARDOT, following ARDOT's policy on access control. U-turns can be made at the nearest turnaround. No additional turnaround locations will be provided.

COMMENT: Brad Bruns stated he is not in favor of Roundabout at Har-ber , Does not like right turn only off Scott in E2 Alternate

RESPONSE: The locations of the turnarounds and roundabouts were discussed with the local municipalities and MPO and approved by ARDOT, following ARDOT's policy on access control. U-turns can be made at the nearest turnaround. No additional turnaround locations will be provided.

COMMENT: Shelby Luker stated she believes E3 option will take money from the town of Elm Springs.

RESPONSE: This comment has been noted.

COMMENT: Janell Bird stated she would like sidewalks connecting to park, flooding concerns at Scott St.

RESPONSE: Connecting sidewalks to the park in Elm Springs could be something that the officials of Elm Spring may want to consider but is not within the scope of this project. A longer higher bridge on Hwy 112 over Brush Creek and a larger than existing culvert replacement on Scott Street will make Scott Street passable during minor flooding. However Scott Street is in a floodplain and will likely be overtopped in a major flooding event.

COMMENT: Benjamin Hawkins, Kyla Carter stated Option E2 would protect downtown Elm Springs.

RESPONSE: This comment has been noted.

COMMENT: James Bennett stated he wants project completed soon. Current road needs patching.

RESPONSE: A project of this scope requires a lot of time for all agencies to provide input, right of way to buy, utilities to adjust, and selecting a contractor before work can begin.

COMMENT: Isaac Stevens stated he was concerned about biking path designs at Roundabouts and narrowing path over Hwy 612.

RESPONSE: Roundabouts are designed so that bike riders have the option of riding in the roundabout itself or taking the sidewalk. The existing abutments built on the Hwy 612 job will not work for a wider bridge. ARDOT is willing to consider a permit allowing a third party to build a separate bridge for bikes.

COMMENT: Jeff Kee stated he wants sound wall for Tuscany Subdivision.

RESPONSE: A noise study has determined that sound levels will not meet the threshold of requiring a sound wall at this location

COMMENT: August Kuklinski stated he thought improvement was waste of funds and was skeptical of RAB safety. .

RESPONSE: Roundabouts have proven over the years to reduce the severity of accidents that may occur as opposed to signalized intersections where accidents can be quite severe if someone runs a red light.

COMMENT: Linda Kersh stated she wants construction to start at Hwy. 612 first.

DISPOSITION OF PUBLIC COMMENTS

Job 012305

Hwy. 112 Improvements Hwy. 412 – Springdale Bypass (S)
Washington and Benton County

RESPONSE: The sequence of construction and where the contractor begins his work will be up to the contractor.

COMMENT: Gene Stevens, Glenda Stevens stated they thought both options looked good.

RESPONSE: This comment has been noted.

COMMENT: Travis Greenley stated he would like to see the alignment shift away from Tuscany.

RESPONSE: The alignment is designed to utilize as much of the existing roadbed as possible. It has been shifted as far west as possible to avoid the backyard fences of residence except at the roundabout approach.

COMMENT: Lorene Hollinsworth stated the project had a lot of wasteful spending. Bike lanes and curb and gutters should be eliminated.

RESPONSE: Bike lanes are viewed favorably by many of the public in this area. Curb and gutter sections facilitate the use of storm sewer to manage the rainfall runoff and thus lessen right of way taking that would be needed for a ditch.

COMMENT: Tiffany Hudson stated she would like to have the speed through town reduced.

RESPONSE: The speed limit will be studied at the completion of the project by Maintenance Division.

COMMENT: Shawn Sedrick, Chad Howard, and Gus Kuklinski stated that they are not in favor of roundabouts.

RESPONSE: Roundabout intersections have been proven to have less severe accidents than signalized intersections.

COMMENT: Kim Greenlee stated she would like to see a stop light at Via Firenze and is concerned about property values.

RESPONSE: Roundabout intersections have been proven to have less severe accidents than signalized intersections.

COMMENT: Michael and Joan McDonald stated they would like the project to move onto someone else's property.

RESPONSE: This comment has been noted.

COMMENT: A.J. Hollinsworth stated he was not in favor of bike trails, sidewalks or a divided road on the project.

RESPONSE: The typical section of the project was discussed with the local municipalities and MPO and approved by ARDOT.

COMMENT: Richard Gray stated he was not in favor of roundabouts. Would like stoplights instead.

RESPONSE: Roundabout intersections have been proven to have less severe accidents than signalized intersections.

COMMENT: Stacy Davis, Neal Gierach, and Tamara Martin stated there were too many roundabouts.

RESPONSE: The locations of the turnarounds and roundabouts were discussed with the local municipalities and MPO and approved by ARDOT, following ARDOT's policy on access control. U-turns can be made at the nearest turnaround. No additional turnaround locations will be provided.

DISPOSITION OF PUBLIC COMMENTS

Job 012305

Hwy. 112 Improvements Hwy. 412 – Springdale Bypass (S)
Washington and Benton County

COMMENT: Walter Ashcroft stated he was not in favor of the project.

RESPONSE: The traffic on Highway 112 has increased considerably in the past few years and is projected to keep growing. The present facility was not designed to handle a design year traffic of 20,000 vehicles per day. Traffic at intersecting streets are finding it difficult to find gaps to enter the roadway. Adding roundabouts at the intersecting streets and adding lanes will alleviate these issues.

COMMENT: Gary Goodson stated he wants to see job completed but keep the light at Har-ber.

RESPONSE: The locations of the turnarounds and roundabouts were discussed with the local municipalities and MPO and approved by ARDOT, following ARDOT's policy on access control. U-turns can be made at the nearest turnaround.

COMMENT: Larry Johnson, Eugene Fuller, and Brian Ikehara stated they prefer turn lane instead of median.

RESPONSE: The typical section of the project was discussed with the local municipalities and MPO and approved by ARDOT.

COMMENT: Justin Hire and Andy Dowrum stated Hwy. 612 should be completed first. Justin Hire wanted this project to be completed ASAP.

RESPONSE: Both projects will proceed as funding becomes available.

COMMENT: Charles Tegethoff stated the curves on Hwy 112 north of highway 412 should be straightened more.

RESPONSE: The alignment is designed to utilize as much of the existing roadbed and right of way as possible. The curves are designed to meet or exceed the design requirements for a 45 miles per hour facility exclusive of the roundabouts.

COMMENT: Diane Sachs and Rick Boosely stated E3 option would protect downtown Elm Springs.

RESPONSE: This comment has been noted.

COMMENT: Charles Easely stated the sidewalks were a waste and medians would restrict access.

RESPONSE: The typical section of the project was discussed with the local municipalities and MPO and approved by ARDOT

COMMENT: Steve Alarid stated he wants speed reduced to 35 between Marchant and Elm Springs, and does not want lighting spill over on private property. He also had a drainage concern near station 280+75.

RESPONSE: Adding additional lanes to the facility will allow more opportunities for motorist to enter the roadway without reducing traffic.

COMMENT: Justin Kennedy stated he does not like option E2 because of right turn only at Scott St.

RESPONSE: The locations of the turnarounds and roundabouts were discussed with the local municipalities and MPO and approved by ARDOT, following ARDOT's policy on access control. U-turns can be made at the nearest turnaround.

COMMENT: Jennifer Pastor and James Jordan stated they liked the 12' side path.

RESPONSE: This comment has been noted.

DISPOSITION OF PUBLIC COMMENTS

Job 012305

Hwy. 112 Improvements Hwy. 412 – Springdale Bypass (S)
Washington and Benton County

COMMENT: Denise Johnson stated she wants center turn lane entire length, with shoulders and no sidewalks.

RESPONSE: The typical section of the project was discussed with the local municipalities and MPO and approved by ARDOT.

COMMENT: James Miller stated Roundabouts will slow traffic for EMS.

RESPONSE: Roundabout intersections have been proven to have less severe accidents than signalized intersections. By adding an additional lanes to Hwy. 112 an area to safely pull aside for EMS will be available.

COMMENT: Shawn Womack stated he would like to see project started ASAP.

RESPONSE: Constructing a project takes a lot of work and input from stakeholders before the actual project starts.

COMMENT: Anna Hollingsworth stated she wants a bigger driveway and bridge.

RESPONSE: Driveways are generally replaced at the existing width that is serving the property as long as it meets minimum width.

COMMENT: Don Hurlbur and Rita Littrell stated E3 would negatively impact nursery.

RESPONSE: This comment has been noted.

COMMENT: Cynthia Busse stated she had concerns about her property and the welfare of the bat population.

RESPONSE: ARDOT right of way will address any loss of value to a particular property on a case by case basis. Environmental input will stipulate measures to be taken to reduce the impact to endangered species of bats.

COMMENT: Benjamin Hawkins stated the project is good for the community.

RESPONSE: This comment has been noted.

COMMENT: David Demoroski stated there should be no roundabouts at Hwy. 612 and center turn lanes all the way.

RESPONSE: The typical section of the project was discussed with the local municipalities and MPO and approved by ARDOT. The locations of the turnarounds and roundabouts were discussed with the local municipalities and MPO and approved by ARDOT, following ARDOT's policy on access control. U-turns can be made at the nearest turnaround.

COMMENT: Barton and Melissa Ashworth stated they were concerned about existing trees.

RESPONSE: All trees necessary for the construction of the project will need removed. Trees may be planted through ARDOT's permitting process after completion of the project.

COMMENT: Kendra Payne stated she was concerned about being able to turn out of drives.

RESPONSE: Adding an additional driving lane in each direction should allow more opportunities to enter the roadway.

COMMENT: Jeanine Burkes stated she is in favor of E2.

RESPONSE: This comment has been noted.

DISPOSITION OF PUBLIC COMMENTS

Job 012305

Hwy. 112 Improvements Hwy. 412 – Springdale Bypass (S)
Washington and Benton County

COMMENT: Josh Beshears, Dora Bartels, Jerry Bartels, Mark Rothmeyer and Howard Martin were concerned about loss of property.

RESPONSE: ARDOT right of way will address any loss of value to a particular property on a case by case basis.

COMMENT: Glenda Stevens stated she has concerns about Spring Street west of Water St. and Hwy 112.

RESPONSE: This comment has been noted.

COMMENT: Harold Douthit stated he thought most people were in favor of E2.

RESPONSE: This comment has been noted.

COMMENT: Cathy Rothmeyer, Gary Downum and Linda Downum stated they have safety concerns about the present road. Cathy Rothmeyer would like to see it shifted east near Hwy. 612.

RESPONSE: This project is designed to create roadway that is safer and more efficient for all.

COMMENT: Dean and Joy Noblin stated they want a crossover at their driveway and are concerned about flooding.

RESPONSE: The locations of the turnarounds and roundabouts were discussed with the local municipalities and MPO and approved by ARDOT, following ARDOT's policy on access control. U-turns can be made at the nearest turnaround. Drainage is a major consideration for roadway design and most structures along this route have been made much larger than existing. In addition a storm sewer will be added to carry the rainwater from the roadway.

COMMENT: Ronnie Rothwell stated he is in favor of E3 option if it does not affect Methodist Church or Post Office.

RESPONSE: This comment has been noted.

COMMENT: Euva Phillips stated she represented Arvest Bank and would like to see the drive shifted 2 ft. north to better que drive through traffic.

RESPONSE: The driveway will be replaced to connect as near to existing drive as practicable.

COMMENT: Wayne Story stated he was concerned about the capacity of the Roundabouts.

RESPONSE: The roundabouts have been designed to accommodate the design traffic for this roadway including a WB-67 tractor trailer.

DISPOSITION OF PUBLIC COMMENTS

Job 090513

Hwy. 112 Improvements (Springdale Bypass ~ W. Wallis Rd.) (S)
Benton County

An Open Forum Design Public Hearing for this project was held on December 15, 2022 at the Bentonville Community Center, 1101 SW Citizen's Circle, Bentonville, Arkansas. The proposed design was displayed on an aerial photograph, depicting design features on an approximate scale of 1":200'. Representatives of various ARDOT Divisions as well as District 9 were present to explain the proposed design and to answer questions. Copies of the Environmental Assessment and other general project information were available.

Twenty-Five (25) written comments were received. Summaries of these comments and responses thereto follow:

COMMENT: Roger Meredith, Teresa Meredith, Brian Buttry, Mindy Buttry, Randy Crawford and Lee Ann Crawford want C3 moved farther west near City of Cave Springs.

RESPONSE: Moving the alignment further west, near Cave Springs, will place the project further into a special flood hazard area.

COMMENT: Judie Shook is concerned about 448 S. Main St. & 478 S. Main St. being taken.

RESPONSE: These two addresses will be effected by the roundabout tie-in to S. Main St. ARDOT right of way will address any loss of value to a particular property on a case by case basis.

COMMENT: Jim Long has concerns about affect to his property, taking his house.

RESPONSE: The property at 245 Healing Springs Rd. will be effected. ARDOT right of way will address any loss of value to a particular property on a case by case basis.

COMMENT: Doug May Wants C3 moved farther west near Spring Ridge Dr. to ease access to the road.

RESPONSE: The proposed alignment is paralleled by a creek to the west that prevents a western shift.

COMMENT: Leif Kindberg wants to reduce impact to water sheds along 112 to Osage Creek - Public access to Lake Keith.

RESPONSE: The corridor will use curb and gutter, with a storm sewer, to collect pavement runoff and discharge at specific locations.

COMMENT: Megan Neumeier wants a barrier wall for safety between home and Hwy. (Fairway Valley Subdivision)

RESPONSE: The design utilizes the safety standards defined by AASHTO and FHWA.

COMMENT: Anne Olinger and Anita Lambert want to shift Wager connection to Existing Wager North to avoid taking of house.

RESPONSE: Utility constraints prevent eastern tie-in to existing Wager Dr.

COMMENT: Anthony Vanderploeg wants southbound traffic access to property on northbound side.

RESPONSE: Comment noted.

COMMENT: Matthew Horak wants to know if there will be a retaining wall near Spring Ridge to act as a sound barrier?

RESPONSE: The Noise Study does not include a sound barrier at this location.

COMMENT: Jim Gigantino has concerns for the billboards near W. Miller being too close to the road.

DISPOSITION OF PUBLIC COMMENTS

Job 090513

Hwy. 112 Improvements (Springdale Bypass ~ W. Wallis Rd.) (S)
Benton County

RESPONSE: Comment noted.

COMMENT: Isaac Stevens has concerns for path/trail fluidity along route. Path connections to Cave Springs. Pedestrian safety at roundabouts.

RESPONSE: Roundabouts are designed so that bike riders have the option of riding in the roundabout itself or taking the sidewalk. The existing abutments built on the Hwy 612 job will not work for a wider bridge. ARDOT is willing to consider a permit allowing a third party to build a separate bridge for bikes.

COMMENT: Thomas and Sondra McCurdy want to avoid house on W. Brown Rd.

RESPONSE: This house will be impacted to tie W. Brown Rd. to the roundabout at Hwy. 112 and Doral Dr. ARDOT right of way will address any loss of value to a particular property on a case by case basis.

COMMENT: Lance Jobe wants 6' sidewalks over the bridge at Hwy. 612.

RESPONSE: The bridge over Hwy. 612 is on ArDOT job 012305. The existing abutments built on the Hwy 612 job at this location will not work for a wider bridge. ARDOT is willing to consider a permit allowing a third party to build a separate bridge for bikes.

COMMENT: Graham Pods says traffic lights are more efficient.

RESPONSE: Comment noted. Roundabouts have proven over the years to reduce the severity of accidents that may occur as opposed to signalized intersections where accidents can be quite severe if someone runs a red light.

COMMENT: James and Joseph Long prefer no action.

RESPONSE: Comment noted.

COMMENT: Alan Craighead wants to reduce the amount of roundabouts.

RESPONSE: The locations of the turnarounds and roundabouts were discussed with the local municipalities and MPO and approved by ARDOT, following ARDOT's policy on access control. U-turns can be made at the nearest turnaround.

COMMENT: Randall Noblett and David Keck want to connect Main Street to Sands Road using Exist. 112.

RESPONSE: Existing Hwy. 112 between Shores Ave. and Sands Dr. will be obliterated.

COMMENT: Kayvan Afrasiabi wants 6' sidewalks over 612 on bridge - Safety concerns for crossing 112 near major Bike paths.

RESPONSE: The bridge over Hwy. 612 is on ArDOT job 012305. The existing abutments built on the Hwy 612 job at this location will not work for a wider bridge. ARDOT is willing to consider a permit allowing a third party to build a separate bridge for bikes.

COMMENT: Martha Rakes is concerned about lack of access to property - Prefers widening only.

RESPONSE: Existing access will be restored.

COMMENT: Terry Rakes is concerned about a lack of access to property, destroys farms, dam in cave springs needs work.

DISPOSITION OF PUBLIC COMMENTS

Job 090513

Hwy. 112 Improvements (Springdale Bypass ~ W. Wallis Rd.) (S)
Benton County

RESPONSE: Existing access will be restored. Dam work in Cave Springs is beyond the scope of this project.

COMMENT: Cecil Shores stated he wants increased access to property between 264 and Shores RAB for equipment and a livestock passage.

RESPONSE: Existing access will be restored.

DISPOSITION OF PUBLIC COMMENTS

Jobs 090514 & 090636
W. Wallis Rd. – Pleasant Grove Rd. (Hwy. 112)
Pleasant Grove Rd. – Hwy. 12 (Hwy. 112)
Benton County

An Open Forum Design Public Hearing for this project was held on December 15, 2023 at the Bentonville Community Center. The proposed design was displayed on an aerial photograph, depicting design features on an approximate scale of 1":200'. Representatives of various ARDOT Divisions as well as District 9 were present to explain the proposed design and to answer questions. Copies of the Environmental Assessment and other general project information were available.

Four hundred fifty (450) comments were received. Summaries of these comments and responses thereto follow:

COMMENT: Alan Henley, Amanda Henley, Joseph Levey, Angela Bingham, Mark Bradbury, Diane Lidsley, Aubrey Wood, Joey Travis, Rick Fish, Kailey Schell, Tristen Schell, Amanda Schell, Julian Schell, Dawn Miller, Pasha Maleknia, Joy Hagerty, Michael Forehand, Cole Erisman, Nick Slagle, Diane McNabb, Randy Murray, and Leslie Wing stated reasons as to why they think alternative B2 is a better alternative. (Less curves, less costly, better for the environment, less effect on residents, less impact on community & businesses.)

RESPONSE: This comment has been noted.

COMMENT: David Shelly, Allison Eil, Robert Kennedy, Michelle Gordon, China Feinber, Simone Schwarze, Adam Maris, and stated reasons as to why they think alternative B3 is a better alternative. (Less effect on residents, less impact on community & businesses, less noise impacts)

RESPONSE: This comment has been noted.

COMMENT: Talon Townsend, Brook Cannedy, Piper Satterfield, June Thompson, Adah Townsend, Julie Harvester, John Harvester, Jon Jouvenaux, Bryan Beeson, Scott Thompson, Vera Howard, Gan Nunnally, Chassity Nunnally, George Nunnally, Beth Nunnally, Kraig Bond, Samuel Cox, Paul James, Jessie Keller, Seth McDaniel, Sumer Brandon, Mitzi Taylor, Stan Webb, Ray Drew, Jim Higginbottom, Larry Robertson, Teresa Beeson, Linda Brown, Lezlie Newton, Dustin Kindell, Betsy Smyth, Isaiah Thompson, Bridget Dye, Julie Jouvenaux, Natalie Bowman, and John Green stated that B3 would destroy an entire community of long time family and neighbors. A western route proposed as B4 would be the absolute best option and would not impact even one house. It would put the traffic where it needs to go and relieve the congestion at Hwy. 12 & 112. In support of B2.

RESPONSE: The Hwy. 112 corridor has been analyzed by ARDOT's Environment Division in order to detect environmentally sensitive areas and document impacts to those areas. Alternatives B2 and B3 are proposed to optimize roadway geometry and minimize impacts to the environmentally sensitive areas. There is not an official B4 alternative proposed by ARDOT.

COMMENT: Mackenzie Trofholz, Landon Taylor, Caitlin Potlack, Andrew Potlack, Dax Weindorf, Karri Weindorf, Jason Shaffer, Jeff Parker, Si Shen, Russlyn Simmering, Leslye Perna, Samuel Fremstad, Katie Fremstad, Jason Fremstad, Missy Clifton, Laurel Holler, Jan Amann, Mary Paquette, Corey Paquette, Brenda Shelly, Joseph Cavness, Fred Ficklim, Hazel Russell, Verity Russell, Lydia Russell, Charlotte Russell, Anna Russell, Randy Rodgers, Mindy Harrington, Lisa Christianson, Thuc Tran, Jason Slepecki, David Poltack, Jeff Clifton, Cindy Schell, Samuel Russel, Brett Goode, Alexander Schwarze, Jerry Dou, Jonathan Feinberg, Lawrence Schmitz, Erica Schmitz, Dax Weindorf, Paul Dorey, Peggy Woolard, Lisa Beaumont, and Kevin Beaumont stated the environment study documented increased noise levels for St Valery Down will increase approximately 16dbs and considered a "substantial increase" of noise pollution to the homes in St. Valery Down. To build a road along the

DISPOSITION OF PUBLIC COMMENTS

Jobs 090514 & 090636
W. Wallis Rd. – Pleasant Grove Rd. (Hwy. 112)
Pleasant Grove Rd. – Hwy. 12 (Hwy. 112)
Benton County

eastern boundary, option B2, without building a noise barrier is unacceptable to residents of St. Valery Down. They urged the state to select alternative B3.

RESPONSE: The Hwy. 112 corridor has been analyzed by ARDOT's Environment Division in order to detect environmentally sensitive areas and document impacts to those areas. Alternatives B2 and B3 are proposed to optimize roadway geometry and minimize impacts to the environmentally sensitive areas. The environmental division will evaluate any potential needs for noise reduction devices.

COMMENT: Joyce Meczowski, Frank Meczowski, Greg Lancelot, Annie Walker, concerns for the affect that B2 will have on St Valery Downs. (Noise concerns, Flooding, and Safety)

RESPONSE: The Hwy. 112 corridor has been analyzed by ARDOT's Environment Division in order to detect environmentally sensitive areas and document impacts to those areas. Alternatives B2 and B3 are proposed to optimize roadway geometry and minimize impacts to the environmentally sensitive areas. Drainage is a major consideration for roadway design and most structures along this route have been made much larger than existing. In addition, a storm sewer will be added to carry the rainwater from the roadway.

COMMENT: Lynn Fortner stated a concern about heavy traffic at Hwy. 112 and W. Pleasant Grove, considers it a dangerous intersection.

RESPONSE: A temporary signal is planned as an immediate stop gap solution at this intersection until a roundabout can be built.

COMMENT: David Schaible stated that alternative B2 takes out my business.

RESPONSE: Concerns about property limitations will be addressed on a case by case basis during the Right of Way acquisition process.

COMMENT: Kristy Moses stated Exploitation: make full use of & derive benefit from our land!

RESPONSE: This comment has been noted.

COMMENT: Ronald McLane, Neil Pumford, Heather Ledford, Scott Moses, and Larry Woolard stated concerns for the increased risk of flooding with the proposed routes.

RESPONSE: Drainage is a major consideration for roadway design and most structures along this route have been made much larger than existing. In addition, a storm sewer will be added to carry the rainwater from the roadway.

COMMENT: Alan Craighead stated that they prefer alternative B3 due to the decrease of stream impacts. Mr. Craighead also stated that due to the volume on Hwy 112, there will be an increase in total accidents with the amount of roundabouts proposed. Considerations to use other forms of traffic control at some side streets.

RESPONSE: The Hwy. 112 corridor has been analyzed by ARDOT's Environment Division in order to detect environmentally sensitive areas and document impacts to those areas. Alternatives B2 and B3 are proposed to optimize roadway geometry and minimize impacts to the environmentally sensitive areas. The use and location of roundabouts were discussed with the local municipalities and MPO and approved by ARDOT.

COMMENT: Jim Gigantino, and Gary Wilf stated they are in favor of the proposed Hwy. 112 alternatives.

RESPONSE: This comment has been noted.

DISPOSITION OF PUBLIC COMMENTS

Jobs 090514 & 090636
W. Wallis Rd. – Pleasant Grove Rd. (Hwy. 112)
Pleasant Grove Rd. – Hwy. 12 (Hwy. 112)
Benton County

COMMENT: Roger O’Neal stated to move Walmart to another state, problem solved.

RESPONSE: This comment has been noted.

COMMENT: Randall Noblett stated that the community has offered a Northwest route from Scroggins Road that would serve Wester traffic better and reduce North-South congestion North of Scroggins.

RESPONSE: There is not an official Northwest route proposed by ARDOT.

COMMENT: John Strickland and Beth Strickland stated that both alternatives were a waste of money and that a more Western route would be a better use of money.

RESPONSE: This comment has been noted.

COMMENT: Susan Podd stated that they asked for advice and was told: No action with a comment “Roundabout at Scoggins road and go Northwest to another roundabout to east end of Windmill and Morning Star then west to Hwy. 112”.

RESPONSE: There is not an official Northwest route proposed by ARDOT.

COMMENT: Charles Hatfield (pg. 1114 of LDPH Packet – Difficult interpretation of handwriting) stated concerns for working the cattle on their property?

RESPONSE: Concerns about property limitations will be addressed on a case by case basis during the Right of Way acquisition process.

COMMENT: Lind Prosh stated that the project will greatly impact their home and that they are sad to think they may have to leave.

RESPONSE: This comment has been noted.

COMMENT: Admanda Costa stated that alternative B3 would terminate their business completely due to the loss of septic lines, therefore they prefer alternative B2.

RESPONSE: Concerns about property limitations will be addressed on a case by case basis during the Right of Way acquisition process.

COMMENT: Marc Williams stated that the B3 route is preferable to their family and many neighbors in Saint Valery Downs and prefers the project to be moved west. Marc also stated that the environmental impact of B2 is extreme, as many old growth Walnut trees in this natural forest will need to be taken down, and wetlands below will be polluted with the runoff from the proposed highway route which may impact cavefish downstream.

RESPONSE: The Hwy. 112 corridor has been analyzed by ARDOT’s Environment Division in order to detect environmentally sensitive areas and document impacts to those areas. Alternatives B2 and B3 are proposed to optimize roadway geometry and minimize impacts to the environmentally sensitive areas. There is not an official Northwest route proposed by ARDOT.

COMMENT: Donald Prosch, Linda Prosch, and Rachel Gubler express concern for choosing the proposed alternative as soon as possible.

RESPONSE: This comment has been noted.

COMMENT: Reed Gilstrap stated that this is a guilt community.

RESPONSE: This comment has been noted.

DISPOSITION OF PUBLIC COMMENTS

Jobs 090514 & 090636

W. Wallis Rd. – Pleasant Grove Rd. (Hwy. 112)

Pleasant Grove Rd. – Hwy. 12 (Hwy. 112)

Benton County

COMMENT: David and Iwana Stephenson stated that the road easement and path for bikes/walking is too close to our home. For us to feel safe, we would push for a new cost replacement for our home/residence. (Sta. 548-580 approx.) The access to the pasture gate is a shared dual easement and must remain, the new map shows this going away. We are a working farm and the new changes will cause unnecessary expense and time due to the lack of road access points and having to use the roundabouts to access other parts of the property. David and Iwana would also like to know why they can't move the road at Wallis Road "N" to (Pleasant Crossing) "Diamond Stone" about 120' West and totally miss our property, that area is open property?

RESPONSE: Concerns about property limitations will be addressed during the Right of Way acquisition process on a case by case basis. The current alignment has been placed to optimize roadway geometry and minimize impacts overall.

COMMENT: Carolyn O'Neal stated concerns that the roundabouts and proposed road will consume their neighborhood and neighbor's property. There has been lots of flooding through our field on many occasions and with the new construction you can bet that more flooding will result, are you prepared for that? We cannot get out of Ozark Acres due to traffic from schools and working traffic between the hours of 7:00 to 8:30 to turn left (south), with a single lane roundabout will this continue to be a problem? It will also put the highway 80 feet from a neighbor's house and will result in noisy traffic and sickening effecting people that have spent their life raising their family in this quiet neighborhood.

RESPONSE: Concerns about property limitations will be addressed during the Right of Way acquisition process on a case by case basis. Drainage is a major consideration for roadway design and most structures along this route have been made much larger than existing. In addition, a storm sewer will be added to carry the rainwater from the roadway. The environmental division will evaluate any potential needs for noise reduction devices.

COMMENT: Chad Gilliam and Pat Semon asks that the intersection of Pleasant Grove and Hwy. 112 to be improved as soon as possible with a new traffic device as the intersection has become dangerous and a stop sign is not enough.

RESPONSE: A temporary signal is planned as an immediate stop gap solution at this intersection until a roundabout can be built.

COMMENT: Chad O'Neal stated that widening is not needed, traffic is elevated for about 4 hours a day and that no massive improvements are required. Encourage drivers to take I-49. There is no pedestrian traffic on Hwy. 112 so there is not demand for two sidewalks on the highway, only one would be enough. Requests that the projects be cancelled and leave the roads as they are. The project will not benefit the area economically and will not improve or affect traffic positively. It will negatively affect our environment, more run-off, more asphalt, less green and trees. It will improve vagrant migration by encouraging them to use the new sidewalks, rather than using existing paths or avenues. The timeline of the construction will impact Hwy. 112 for 3-9 years. This delta is too much and the timeline is too long and will cause pain for many of us living along the highway. Proposed cross sections will promote flooding onto my property and the increase of paved area will make flooding around Hwy. 112 worse. The deep ditches on each side of the road that controls local flooding will be consumed by this ridiculous construction plan.

RESPONSE: The traffic on Highway 112 has increased considerably in the past few years and is projected to keep growing. The present facility was not designed to handle a design year traffic of

DISPOSITION OF PUBLIC COMMENTS

Jobs 090514 & 090636
W. Wallis Rd. – Pleasant Grove Rd. (Hwy. 112)
Pleasant Grove Rd. – Hwy. 12 (Hwy. 112)
Benton County

20,000 vehicles per day. Traffic at intersecting streets are finding it difficult to find gaps to enter the roadway. Adding roundabouts at the intersecting streets and adding lanes will alleviate these issues. The typical section of the project was discussed with the local municipalities and MPO and approved by ARDOT. The Hwy. 112 corridor has been analyzed by ARDOT's Environment Division in order to detect environmentally sensitive areas and document impacts to those areas. Alternatives B2 and B3 are proposed to optimize roadway geometry and minimize impacts to the environmentally sensitive areas. The project will be staged construction to minimize impacts to traffic. Drainage is a major consideration for roadway design and most structures along this route have been made much larger than existing. In addition, a storm sewer will be added to carry the rainwater from the roadway

COMMENT: Jerry Basham suggests to move the proposed roundabout north enough to miss the property to the south of the intersection of Hwy. 112 and Ozark Acres road, 3473 Hwy. 112. This would impact our house and possibly qualify for relocation assistance program and be less intrusive. We would like to be contacted to visit about this proposal.

RESPONSE: Concerns about property limitations will be addressed during the Right of Way acquisition process on a case by case basis.

COMMENT: Greg Remaly, Dan Jackson and Molly Ross stated B2 is the better of the two options but prefer an alternative B4 to be considered.

RESPONSE: This comment has been noted. There is not an official B4 alternative proposed by ARDOT.

COMMENT: Mike Parker, Robert Dennis, and Don Pennington left a comment in favor of a new option, B4.

RESPONSE: There is not an official B4 alternative proposed by ARDOT.

COMMENT: Travis Turner stated concerns of storm water on their property and that the proposed routes will further exasperate the water problem. Route B2 will require relocation of my driveway and control of storm water. I expect a new driveway and stir water remediation by ARDOT. In addition, I expect to be connected to city sewer as relocation of the driveway will potentially disrupt my septic systems.

RESPONSE: Drainage is a major consideration for roadway design and most structures along this route have been made much larger than existing. In addition, a storm sewer will be added to carry the rainwater from the roadway

COMMENT: Kent and Kim Myers stated concerns of flooding, costs, increase of noise, and view changes for options B2 and B3 and state they want to see a westerly B4 alternative.

RESPONSE: The Hwy. 112 corridor has been analyzed by ARDOT's Environment Division in order to detect environmentally sensitive areas and document impacts to those areas. Alternatives B2 and B3 are proposed to optimize roadway geometry and minimize impacts to the environmentally sensitive areas. The environmental division will evaluate any potential needs for noise reduction devices. There is not an official B4 alternative proposed by ARDOT.

COMMENT: Michael Fryar and Debra Cook stated concerns of property limitations with the loss of access to utilities, septic system, and a narrow strip of land. Michael also stated concerns of drainage issues, property access issues, and the proposed route will go through a memorial erected to honor the passing of a late husband to Michael's girlfriend. Requests the following to be looked into: Utilities,

DISPOSITION OF PUBLIC COMMENTS

Jobs 090514 & 090636

W. Wallis Rd. – Pleasant Grove Rd. (Hwy. 112)

Pleasant Grove Rd. – Hwy. 12 (Hwy. 112)

Benton County

privacy gate, pecan trees, memorial, garden, truck access – 30' driveways, make northwest drive accessible, and provide median gap to go north or south with semi-trucks.

RESPONSE: Concerns about property limitations can be addressed during the Right of Way acquisition process. The locations of the turnarounds and roundabouts were discussed with the local municipalities and MPO and approved by ARDOT, following ARDOT's policy on access control. U-turns can be made at the nearest turnaround. No additional turnaround locations will be provided.

COMMENT: Tanner Bedwell stated they are not in favor for either but understand the route need to be improved.

RESPONSE: This comment has been noted.

COMMENT: Madeline Simmons and David Simmons stated widening in the residential area will increase traffic speeds, decreasing safety and increasing noise and pollution. Larger roads should be kept away from existing residential areas. Therefore I choose the no-build alternative. If DOT decides to go through with this project, I choose the B3 option. The DOT should ensure that the new road has landscaping and greenery.

RESPONSE: The traffic on Highway 112 has increased considerably in the past few years and is projected to keep growing. The present facility was not designed to handle a design year traffic of 20,000 vehicles per day. Traffic at intersecting streets are finding it difficult to find gaps to enter the roadway. Adding roundabouts at the intersecting streets and adding lanes will alleviate these issues. The environmental division will evaluate any potential needs for noise reduction devices. Landscaping and greenery may be planted through ARDOT's permitting process after the completion of the projects.

COMMENT: Kelly Hatfield stated farmers that live here should not have to sacrifice their land. The county, and city should have planned beforehand. The Locmoore subdivision should have never been allowed to build right on the road. B4 is still the best route.

RESPONSE: This comment has been noted. There is not an official B4 alternative proposed by ARDOT.

Appendix B – TRAFFIC NOISE STUDY

Traffic Noise Study **Highway 112**

Washington and Benton Counties, Arkansas

Job Nos. 012305, 090513, 090514
FAP Nos. CMF-0472(9), CMF-0004(74)

Prepared for:



Prepared by:

Bowlby & Associates, Inc. 

2505 21st Avenue, #300, Nashville, TN 37212

May 2023

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1.0 EXECUTIVE SUMMARY

This report summarizes the results of a noise analysis for the Highway 112 Improvement project proposed by the Arkansas Department of Transportation (ARDOT) in Benton and Washington Counties. The project is Type I per the Federal Highway Administration (FHWA) noise regulation, *Procedures for Abatement of Highway Traffic and Construction Noise, 23 CFR 772*, and requires a noise study to identify noise impacts and evaluate noise abatement for those impacts. The study was conducted per the FHWA noise regulation and the current ARDOT *Traffic Noise Policy* and utilized the project functional plans and traffic projections.

ARDOT has divided the project into three jobs and is evaluating two Build Alternatives for Job 012305 (*E2 Modified* and *E3 Modified*), one Build Alternative for Job 090513 (*C3 Modified*), and two Build Alternatives for Job 090514 (*B2 Modified* and *B3*). The alternatives include widening existing Highway 112 in most locations and relocating Highway 112 in some locations.

The study identified noise-sensitive receptors in 47 noise study areas (NSAs). All of the NSAs, except for NSAs 2 and 23, include Activity Category B residential uses. The uses are predominantly single-family homes; however, NSA 1 includes apartments, NSA 10 includes a duplex, and NSAs 3 and 28 include townhomes.

Nine NSAs include Activity Category C land uses including playgrounds, basketball courts, a swimming pool, a trail, golf courses, a church pergola, the flagpole at the Cave Springs American Legion, and the Creeks RV Park. Three NSAs include Activity Category D land uses that were evaluated for interior impacts: two churches and the Illinois River Watershed Partnership Learning Center. Two NSAs include Activity Category E land uses: Jose's Bar & Grill patio and the patio at Mercy Clinic Primary Care.

The FHWA Traffic Noise Model Version 2.5 (TNM) computer program predicted design year 2044 worst-hour noise levels under the Build Alternatives for the noise-sensitive land uses in each NSA. Noise impacts were then evaluated by comparing design year noise levels to FHWA's Noise Abatement Criteria (NAC) and existing noise levels.

Noise levels near existing Highway 112 are already dominated by traffic noise, so the project will not cause a substantial increase in existing noise levels at locations near existing Highway 112. However, some receptors near new alignment sections of Highway 112 will be impacted due to a substantial increase in existing noise levels. Some land uses are also predicted to be impacted because the noise level with the project approaches or exceeds the NAC.

For Job 012305, four (4) Activity Category B residences in two NSAs are predicted to be impacted along Alternative E2 Modified. Seven (7) Activity Category B residences in two NSAs are predicted to be impacted along Alternative E3 Modified. No Activity Category C, D, or E land uses are predicted to be impacted under Alternatives E2 Modified or E3 Modified.

For Job 090513, thirty-eight (38) Activity Category B residences in five NSAs are predicted to be impacted along Alternative C3 Modified. No Category C land uses are predicted to be impacted, including the Activity Category C Creeks RV Resort. No Activity Category D or E land uses are predicted to be impacted under Job 090513.

For Job 090514, seventeen (17) Activity Category B residences in four NSAs are predicted to be impacted along Alternative B2 Modified. The Activity Category C pergola at the First Christian Church in NSA 40 is also predicted to be impacted. No Activity Category D or E land uses are predicted to be impacted under Alternative B2 Modified. Ten (10) Activity Category B residences in five NSAs are predicted to be impacted along Alternative B3. No Activity Category C, D, or E land uses are predicted to be impacted under Alternative B3.

The total number of impacts for the entire project will vary depending on the chosen alternatives, ranging from a low of 52 (Alternatives *E2 Modified*, *C3 Modified*, and *B3*) to a high of 63 (*E3 Modified*, *C3 Modified*, and *B2 Modified*).

Noise barriers were evaluated per ARDOT's noise policy for impacted receptors in 13 NSAs.

- Job 012305:
 - Alternative E2 Modified: NSAs 4 and 12
 - Alternative E3 Modified: NSAs 4 and 10
- Job 090513
 - Alternative C3 Modified: NSAs 24, 25, 27a, 28, and 31a
- Job 090514
 - Alternative B2 Modified: NSAs 36, 39a, 39b, and 40
 - Alternative B3: NSAs 36, 39a, 39b, 40, and 41

Noise barriers must be both feasible and reasonable to be deemed "likely" for construction. Noise barriers for NSAs 12, 27a, 31a, and 36 are not feasible as the impacted receptors will have direct driveway access to Highway 112 which precludes the construction of noise barriers. Noise barriers are also not feasible for *some* residences in NSAs 24 and 28 that will have direct driveway access to Highway 112.

Noise barriers were designed for the impacted land uses in the remaining nine (9) NSAs per ARDOT's noise policy. The designed noise barriers provide 5.0 dB insertion loss (IL) for all impacted receptors, except for NSA 28. All barriers are *acoustically* feasible. A barrier that poses engineering problems may still be deemed *not feasible* even if it is *acoustically* feasible. Since this analysis was based on functional project plans, the *engineering* feasibility factors will need to be evaluated during final design. While not an engineering consideration, all potential noise barriers would restrict access from the adjacent properties to the planned sidewalk or multi-use path.

Each feasible noise barrier was evaluated for reasonableness per the criteria in ARDOT's noise policy:

1. *Noise reduction design goal (NRDG)*: A minimum of 8.0 dB reduction in design year highway traffic noise levels for at least one benefited receiver.
2. *Cost-effectiveness*: The cost of the noise abatement measure is no more than \$36,000 per benefited residence. *Benefited* is defined as a minimum decrease in noise levels of 5.0 dBA.
3. *Viewpoints of the property owners and residents*: The viewpoints of the benefited receptors will be collected to determine if there is a consensus of support for the construction of the noise barrier.

The designed noise barriers meet ARDOT's NRDG by providing 8.0 dB IL for at least one benefited receptor. Therefore, the barriers were evaluated for cost-effectiveness.

The costs per benefited residence for NSAs 39a and 39b (Alternative B2 Modified), 40 (Cases 1 and 2, Alternative B2 Modified), and 41 (Alternative B3) are more than double ARDOT's cost-effectiveness threshold of \$36,000. Four evaluated barriers benefit only one receptor: NSA 39a (Alternative B3), NSA 39b (Alternative B3), NSA 40 (Alternative B3), and NSA 40 (717 Elk Road, Alternative B2 Modified). These barriers are not reasonable.

The cost per benefited residence for the noise barriers for NSAs 10 (Alternative E3 Modified) and 24 are \$41,888 and \$55,475, respectively. Attempts to redesign the noise barriers were made but did not reduce the cost per benefited residence, so these barriers are also not reasonable.

The cost per benefited residence for NSA 4 along Job 012305 is \$29,680, and the cost per benefited residence for NSAs 25 and 28 along Job 090513 (Alternative C3 Modified) are \$27,226 and \$35,220, respectively. These costs are below ARDOT's cost-effectiveness threshold. Therefore, these noise barriers are preliminarily feasible and reasonable; however, feasibility and reasonableness would need to be re-evaluated during final design.

The noise barrier for NSA 4 would be located east of the proposed multi-use path between STA 150+00 and STA 153+50. The barrier length is approximately 370 feet with a barrier height of 6 feet. The estimated barrier cost is \$89,040.

The noise barrier for NSA 25 would be located west of the proposed sidewalk between STA 411+50 and STA 419+80 with a gap at the intersection of Pebble Beach Drive. The barrier length is approximately 736 feet with barrier heights between 6 and 8 feet and an average height of 6.6 feet. The estimated barrier cost is \$190,580. Sight distance requirements for vehicles on Pebble Beach Drive could affect the barrier design.

The noise barrier for NSA 28 would be located east of the proposed multi-use path between STA 453+00 and STA 471+50 with a gap for the driveway access for the residence at 257 Healing Springs Road. The barrier would still need to run along the property for 257 Healing Springs Road to protect the impacted residences on Allen Street. The barrier length is approximately 1,730 feet with barrier heights between 8 and 16 feet and an average height of 10.2 feet. The estimated barrier cost is \$704,400. Sight distance requirements for vehicles using the driveway from 257 Healing Springs Road could affect the barrier design.

The barriers would not extend past adjacent noise-tolerant commercial/industrial properties, so commercial and industrial property visibility would not be a concern.

The final step in determining reasonableness is the solicitation of the viewpoints of the benefited property owners and residents. ARDOT will make final noise barrier feasibility and reasonableness decisions during final design using the design plans for the selected alternative. ARDOT will solicit the viewpoints of the benefited property owners and residents as part of that process before making the final noise barrier determinations. ARDOT will also reassess the need for absorptive noise barriers during final design.

Construction activities may generate noise above existing noise levels. The noise levels resulting from construction activities will depend on the types of equipment utilized, the duration of the activities, and the distances between construction activities and nearby land uses. However, the noise increases will be intermittent and temporary. Construction procedures will also be governed by ARDOT's *Standard Specifications for Highway Construction*.

Some tracts of undeveloped land exist in the project area. ARDOT encourages local communities and developers to practice noise compatibility planning to avoid future noise impacts.

The noise analysis for the design year includes projected traffic volumes for the project as well as forecasted traffic growth and other planned and programmed projects in the area. As a result, the predicted noise impacts represent both direct and cumulative noise effects.

2.0 INTRODUCTION

This report details the results of a noise analysis for the Highway 112 Improvement project proposed by the Arkansas Department of Transportation (ARDOT) from just south of E Henri de Tonti Boulevard (US 412) in Washington County to just south of SW Regional Airport Boulevard (Highway 12) in Benton County. The project length is approximately 12 miles. ARDOT has divided the project into three jobs as shown in Figure 1 and discussed below. ARDOT evaluated numerous alternatives during the planning process and considered public input to identify the alternatives for the Environmental Assessment (EA). Figure 2 shows the jobs and alternatives that include:

- Job 012305: US 412 in Washington County to the Springdale Bypass (Highway 612) in Benton County
 - *Alternative E2 Modified:* Widening of Highway 112, including shifting the alignment south of E Henri De Tonti Boulevard (US 412), south of Via Firenze Avenue, and south of Water Avenue; and intersection improvements, including the construction of roundabouts and/or new connections at Via Firenze Avenue, Har-Ber Avenue, Sabatini Road, Water Avenue, Elm Springs Road, Marchant Road, Hwy 612, and Scott Street.
 - *Alternative E3 Modified:* Widening of Highway 112, including shifting the alignment south of E Henri De Tonti Boulevard (US 412) and south of Via Firenze Avenue, and intersection improvements, including the construction of roundabouts and/or new connections at Via Firenze Avenue, Har-Ber Avenue, Sabatini Road, Water Avenue, Elm Springs Road, Marchant Road, and Hwy 612. Construction of a 0.6-mile section of Highway 112 on a new alignment from south of Water Avenue to the Benton/Washington County Line.
- Job 090513: Highway 612 to W Wallis Road in Benton County
 - *Alternative C3 Modified:* Widening of Highway 112 and intersection improvements including the construction of roundabouts and new connections at Wager Drive and E Lowell Avenue.
- Job 090514: W Wallis Road to Highway 12 in Benton County
 - *Alternative B2 Modified:* Widening of Highway 112 and intersection improvements including the construction of roundabouts. Construction of a 0.9-mile section of Highway 112 on a new alignment west of Cook Road from north of Ozark Acres Drive to Elk Road.
 - *Alternative B3:* Widening of Highway 112 and intersection improvements including the construction of roundabouts. Construction of a 1-mile section of Highway 112 on a new alignment east of Cook Road from north of Ozark Acres Drive to Elk Road.

Appendix A includes the project plans and typical cross-sections. Highway 112 will provide two 11-foot travel lanes in each direction and a variable width median with curb and gutter. The plans include a 5-foot sidewalk on the southbound side and a 12-foot multi-use path on the northbound side.

The project is Type I per the Federal Highway Administration (FHWA) noise regulation, *Procedures for Abatement of Highway Traffic and Construction Noise, 23 CFR 772 [1]* (hereafter referred to as the *FHWA noise regulation*) and requires a noise study to identify noise impacts and to evaluate noise abatement for those impacts. This study has been prepared per the FHWA noise regulation and the ARDOT *Traffic Noise Policy*, revised in 2018 [2].

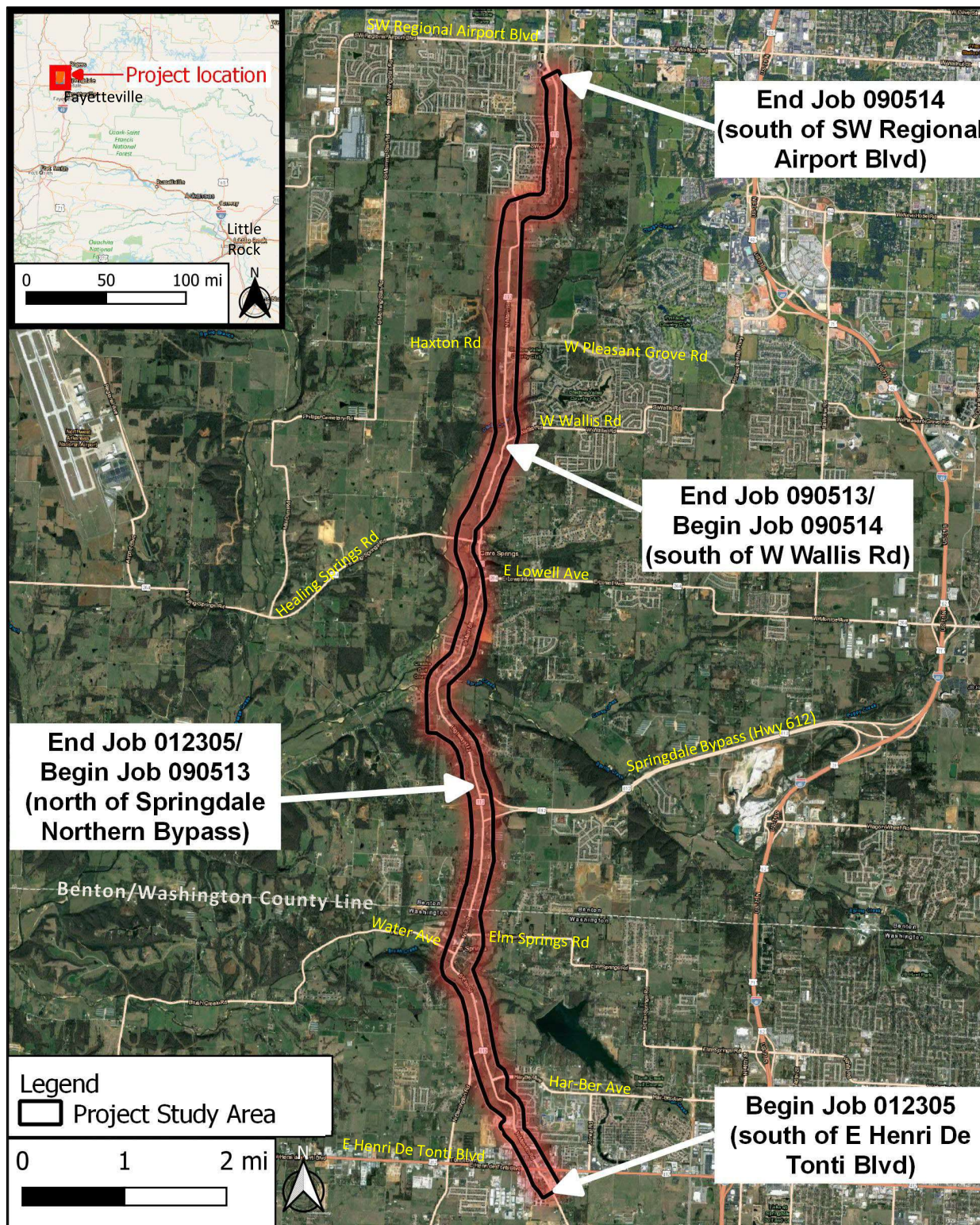


Figure 1. Project Location

Traffic Noise Study, Jobs 012305, 090513, 090514
Highway 112, Benton and Washington Counties

May 2023

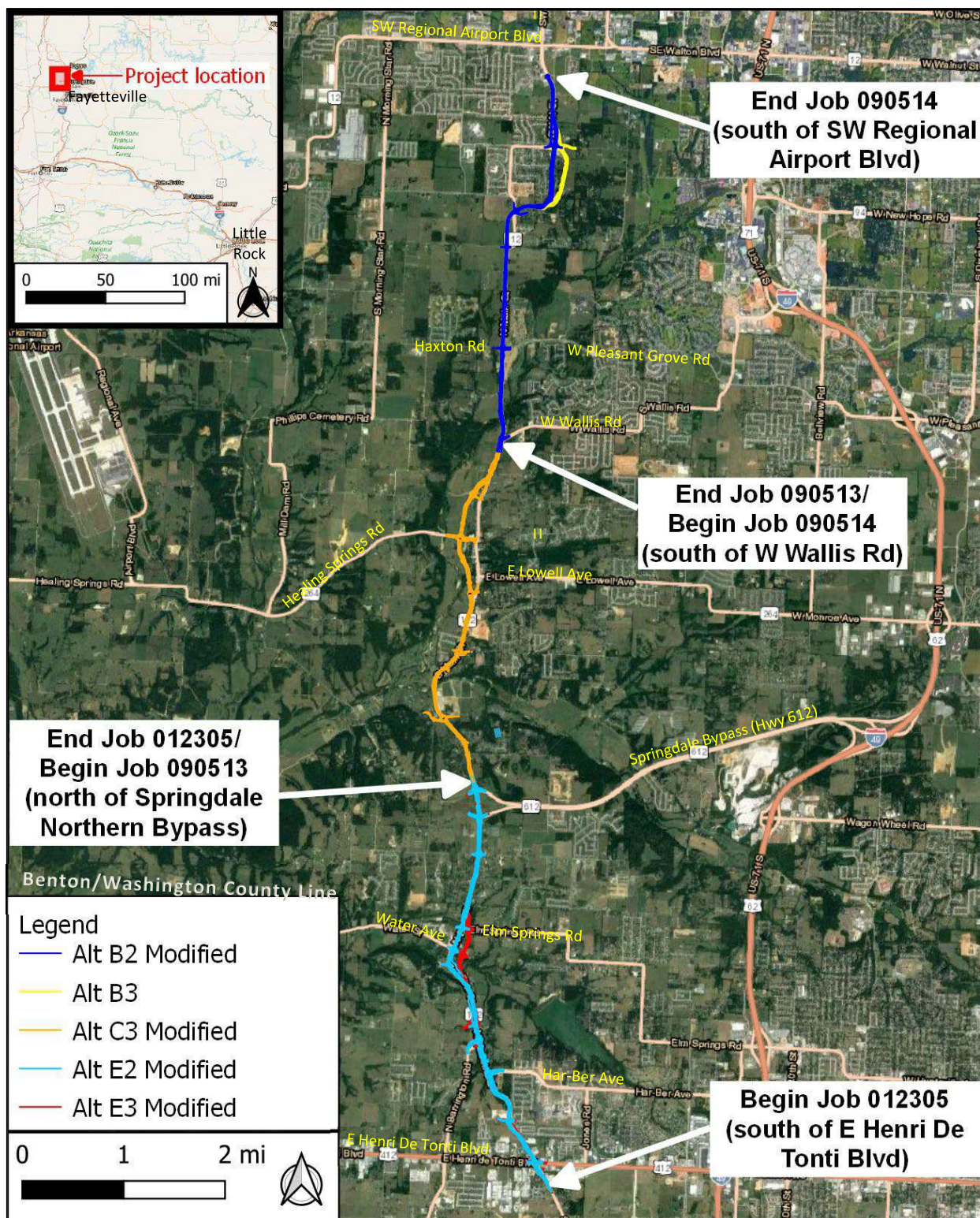


Figure 2. Project Alternatives

This study utilized the functional project plans and traffic projections and included the following tasks:

1. *Identification of noise study areas*: Identification of land uses in the project area that are sensitive to highway traffic noise
2. *Determination of existing noise levels*: Measurement and prediction of existing noise levels at sensitive land uses to characterize the existing noise environment in the project area
3. *Determination of future noise levels*: Prediction of future, design year, worst-hour noise levels for the No-Build and Build Alternatives
4. *Determination of traffic noise impacts*: Determination of noise impacts based on the increase in existing noise levels and design year noise levels
5. *Noise abatement evaluation*: Evaluation of noise abatement for impacted land uses
6. *Discussion of construction noise*
7. *Information for local officials*
8. *Discussion of indirect and cumulative effects*

Each of these analysis steps is discussed below, following a discussion of basic terminology and ARDOT's criteria for determining noise impacts.

2.1 Traffic Noise Terminology

Traffic noise levels are expressed in terms of the hourly, *A-weighted equivalent sound level* in decibels (dBA). A *sound level* represents the level of the rapid air pressure fluctuations caused by sources (such as traffic) that are heard as noise. A *decibel* is a unit that relates the sound pressure of noise to the faintest sound the young human ear can hear.

The *A-weighting* refers to the amplification or attenuation of the different frequencies of the sound (subjectively, the pitch) to correspond to the way the human ear "hears" these frequencies. Generally, when the sound level exceeds the mid-60 dBA range, outdoor conversation in normal tones at a distance of 3 feet becomes difficult. Figure 3 shows some common indoor and outdoor sound levels.

A 9-10 dBA increase in sound level is typically judged by the listener to be *twice as loud* as the original sound while a 9-10 dBA reduction is judged to be *half as loud*. Doubling the number of sources (i.e., vehicles) will increase the hourly equivalent sound level by approximately 3 dBA, which is usually the smallest change in hourly equivalent A-weighted traffic noise levels that people can detect without specifically listening for the change.

Because most environmental noise fluctuates from moment to moment, it is standard practice to condense data into a single level called the *equivalent sound level* (L_{eq}). The L_{eq} is a steady sound level that would contain the same amount of sound energy as the actual time-varying sound evaluated over the same period. The L_{eq} averages the louder and quieter moments but gives much more weight to the louder moments in the averaging. For traffic noise assessment purposes, L_{eq} is typically evaluated over the worst 1-hour period and is often written as $L_{eq}(h)$. The hourly, A-weighted equivalent sound level in decibels can be written as $L_{Aeq}(h)$.

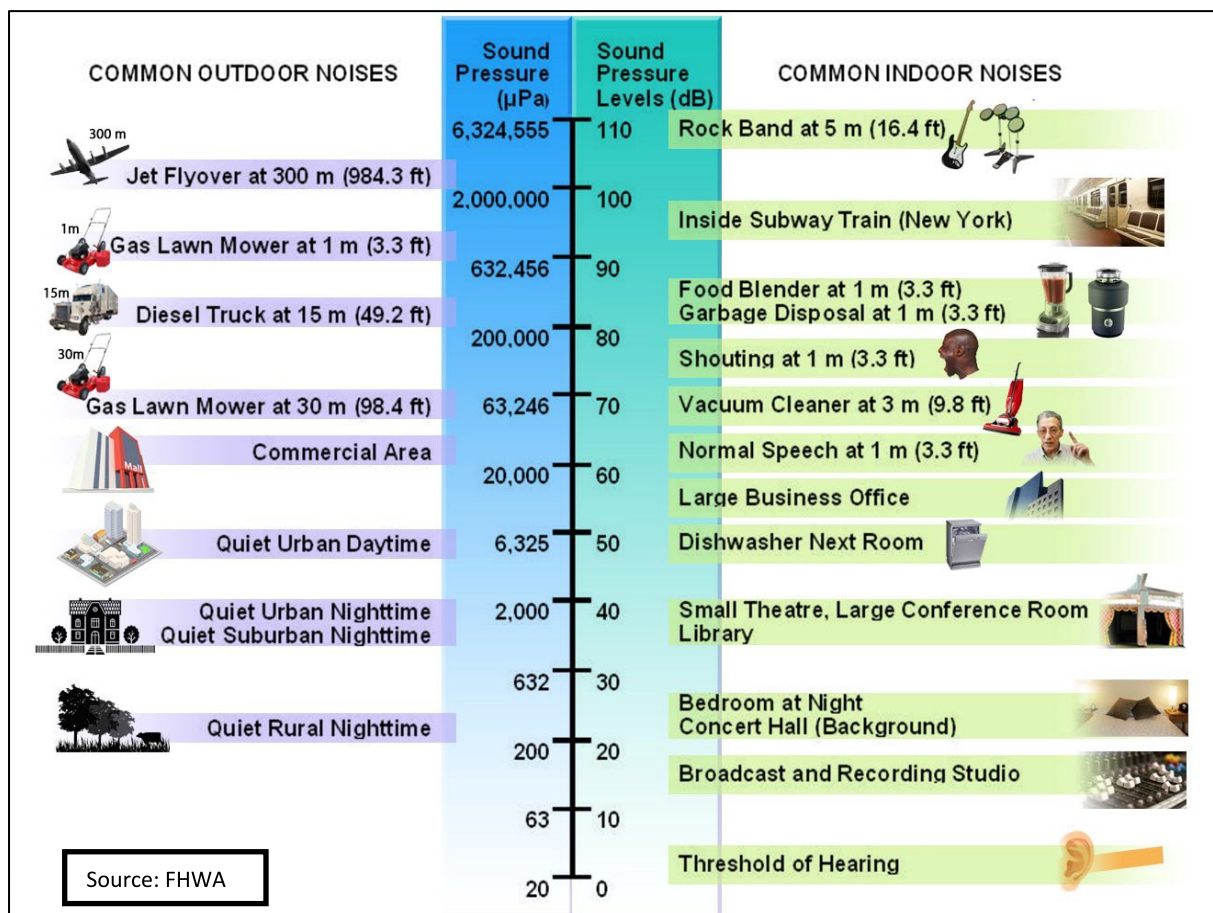


Figure 3. Common Sound Levels

The term *insertion loss* (IL) is generally used to describe the reduction in $L_{eq}(h)$ at a location after a noise barrier is constructed. For example, if the $L_{eq}(h)$ at a residence before a barrier is constructed is 75 dBA and the $L_{eq}(h)$ after a barrier is constructed is 65 dBA, then the insertion loss would be 10 dB.

2.2 Criteria for Determining Impacts

Noise impacts are determined by comparing future noise levels with the project to 1) a set of Noise Abatement Criteria (NAC) for a land-use category and 2) existing noise levels. The FHWA noise regulation and ARDOT’s noise policy state that traffic noise impacts occur, and abatement must be considered when worst-hour noise levels approach or exceed the NAC listed in Table 1. ARDOT’s noise policy defines “approach” as one decibel below the NAC, or 66 dBA for Activity Category B and C land uses. The FHWA noise regulation and ARDOT’s noise policy also state that an impact occurs when there is a *substantial increase* over existing noise levels. ARDOT defines a substantial increase as a traffic noise level that is 10 dB or greater over the existing level.

Additionally, ARDOT *does not* round noise levels, so a predicted noise level between 65.5 to 65.9 dBA does *not* round to 66 dBA, and a noise level increase between 9.5 and 9.9 dB does *not* round to 10 dB.

Table 1. FHWA Noise Abatement Criteria

Activity Category	L _{Aeq} (h) dBA	Evaluation Location	Activity Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B ¹	67	Exterior	Residential.
C ¹	67	Exterior	Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	Interior	Auditoriums, daycare centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E ¹	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F.
F	---	---	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	---	---	Undeveloped lands that are not permitted.

(1) Includes undeveloped lands permitted for this activity category.

3.0 NOISE STUDY AREAS

A review of available electronic mapping, as well as field reconnaissance, led to the identification of 47 areas of noise-sensitive land uses, called noise study areas (NSAs). Table 2 lists the land uses or “receptors” in each NSA and their associated Activity Category and NAC. Figures 4 through 8 show the locations of each NSA. The NSAs include all land uses/receptors within at least 500 feet of the edge of the outside travel lane of proposed Highway 112.

Some residences will be taken for the project. Residences with any part of the structure within the proposed right-of-way (ROW) of a Build Alternative were assumed to be taken. Additionally, the far tees at the 14th hole of Shadow Creek Country Club golf course in NSA 35 were assumed to be taken since most of the area is within the proposed ROW.

Table 2. Noise Study Areas

Noise Study Area	Location Relative to Existing Highway 112	Boundaries	Description	Activity Category	NAC (dBA)
Job 012305, Washington and Benton Counties					
Alternatives: E2 Modified, E3 Modified					
1	West	South of E Henri De Tonti Boulevard (US 412)	The Highland Park Apartments (northernmost buildings) and residences on S Maestri Drive	B	67
2	East	North of E Henri De Tonti Boulevard (US 412)	Jose's Bar & Grill patio	E	72
3	East	South of Via Firenze Avenue	The Siena Townhomes and playground, and residences in the Tuscany Vines subdivision	B, C	67
4	East	North of Via Firenze Avenue	Residences in the Tuscany Subdivision	B	67
5	East	South of Har Ber Avenue	Residences in the West Elm Estates	B	67
6	West	Har Ber Avenue to N Barrington Road	Residences on N Maestri Road and N Barrington Road	B	67
7	East	Har Ber Avenue to Sabatini Road	Residences on W Gibbs Road and N Maestri Road	B	67
8	East and West	Sabatini Road to Water Avenue/School Street	Residences on S Hwy 112, S Elm Street, School Street, E Lake Road, Scott Street, and Water Avenue	B	67
9	East	East of Alternative E3 Modified from Water Avenue/School Street to Elm Springs Road	Residences on Lawn View Lane, School Street, and Elm Springs Road	B	67
10	East and West	West of Alternative E3 Modified/East of Alternative E2 Modified from Water Avenue/School Street to Elm Springs Road	Residences on N Elm Street, Church Lane, Gumm Street, and Elm Springs Road; Elm Springs United Methodist Church (interior) and playground	B, C, D	67, 52
11	West	West of Alternative E2 Modified from Water Avenue/School Street to Elm Springs Road	Residences on Water Avenue, Jayroe Avenue, and N Elm Street; Elm Springs Park playground, basketball court, trail, and benches	B, C	67

Noise Study Area	Location Relative to Existing Highway 112	Boundaries	Description	Activity Category	NAC (dBA)
12	East	Elm Springs Road to Carrie Smith Road	Residences on Elm Springs Road, N Elm Street, Hale Avenue, Hwy 112, Greenbrier Estates Road, and Carrie Smith Road	B	67
13	West	Elm Springs Road to Amy Drive	Residences on N Elm Street, Hwy 112, and Amy Drive	B	67
14	West	Amy Drive to Marchant Road	Residences on Hwy 112, Amy Drive, Roma Drive, and Marchant Road	B	67
15	East	Carrie Smith Road to Highway 612	Residences on Hwy 112	B	67
16	West	Marchant Road to Highway 612	Residence on Al's Drive	B	67
Job 090513, Benton County					
Alternative: C3 Modified					
17	East	Hwy 612 to W Miller Road	Residences on Hwy 112	B	67
18	West	Hwy 612 to W Wagon Wheel Road	Residences on Hwy 112	B	67
19	East	W Miller Road to W Wagon Wheel Road	Residences on Rusty Blackhaw Court, Spring Ridge Drive, Hickory Court, and Crest Lane	B	67
20	West	West of Kelley Road and South of Wager Road	Residences on Kelley Road and Wager Road	B	67
21	East	W Wagon Wheel Road to Spring Creek	Residence on Hwy 112	B	67
22	West	W Wagon Wheel Road to Spring Creek	Residences on Kelly Road, Wager Road, and S Main Street	B	67
23	West	Spring Creek to W Brown Road	The Creeks RV Park and Golf Course (practice green, driving range, and clubhouse patio)	C	67
24	East	Spring Creek to North of Pebble Beach Drive	Residences on Duffers Court in the Duffer's Ridge subdivision, S Main Street, and Brown Road	B	67
25	West	W Brown Road to North of Pebble Beach Drive	Residences on Sawgrass Road, Pebble Beach Drive, Deer Run Drive, and Doral Drive in the Fairway Valley subdivision; residence at 1015 S Main Street	B	67

Noise Study Area	Location Relative to Existing Highway 112	Boundaries	Description	Activity Category	NAC (dBA)
26	West	N of Pebble Beach Drive to Highway 264 (E Lowell Avenue)	Residence on S Main Street	B	67
27a	East	North of Pebble Beach Drive to E Johnson Avenue	Residences on S Main Street, East Avenue, and E Johnson Avenue	B	67
27b	East and West	East and west of Highway 112 between Johnson Avenue and Highway 264 (E Lowell Avenue)	Residences on S Main Street	B	67
28	West	Highway 264 (E Lowell Avenue) to Highway 264 (Healing Springs Road)	Residences on S Main Street, N Chestnut Street, Glenwood Avenue, Midway Avenue, N Allen Street, and Stroud Street. Osage Vista Townhomes; Cave Springs American Legion (flagpole area) and Illinois River Watershed Partnership Learning Center (interior)	B, C, D	67, 52
29	East and West	Highway 264 (Healing Springs Road) to Shores Avenue	Residences on Main Street and N Main Street; Church of Christ (476 N Main Street) (interior)	B, D	67
30	West	Highway 264 (Healing Springs Road) to Evening Star Road	Residence on N Main Street	B	67
31a	East	Shores Avenue to W Wallis Road	Residences on N Main Street and Sands Road	B	67
32a	West	Evening Star Road to North of W Wallis Road	Residences on N Main Street and Evening Star Road	B	67
Job 090514, Benton County					
Alternatives: B2 Modified, B3					
31b	East	Shores Avenue to W Wallis Road	Residences on W Wallis Road	B	67
32b	West	Evening Star Road to North of W Wallis Road	Residence on N Main Street	B	67
33	East	W Wallis Road to W Pleasant Grove Road	Residences on N Main Street; Shadow Valley golf course	B, C	67

Noise Study Area	Location Relative to Existing Highway 112	Boundaries	Description	Activity Category	NAC (dBA)
34	West	Pace Lane to W Pleasant Grove Road	Residence on W Pleasant Grove Road	B	67
35	East	W Pleasant Grove Road to W Kettering Court	Residences on W Isleworth Court, S Exeter Drive, W Kettering Court in the Shadow Valley Community; Shadow Valley Country Club golf course (Hole 14 Tees and Green, Holes 13 and 15 Tees)	B, C	67
36	West	W Pleasant Grove Road to W Lillard Ln	Residences on N Main Street and W Lillard Ln	B	67
37	East	Scoggins Road to Ozark Acres Drive	Residences on Highway 112, Chattin Circle, and Averie Lane	B	67
38	West	South of Windmill Road	Residence on Highway 112	B	67
39a	East	East of Alternative B2 Modified from Ozark Acres Drive to Elk Road	Residences on Ozark Acres Drive and Cook Road	B	67
39b	East	Between Alternatives B2 Modified and B3 along Cook Road	Residences on Cook Road	B	67
40	West	Ozark Acres Drive to Elk Road	Residences on Caerleon Circle in the St. Valery Downs subdivision, Dryden Road (permitted), AR 112 Hwy, SW H Street, and Elk Road; First Christian Church Pergola	B, C	67
41	East	North of Elk Road	Residences on Elk Road	B	67
42	West	North of Elk Road	Residences on Glenarbor Avenue, SW Westchester Road, Avon Glen Place, SW Lochmoor Avenue, SW Thorncroft Avenue, and SW Edinburgh Avenue in the Lochmoor Club subdivision; Lochmoor Club pool and basketball court	B, C	67
43	West	South of SW 41 st Street	Residence on SW H Street Mercy Clinic Primary Care patio	B, E	67, 72

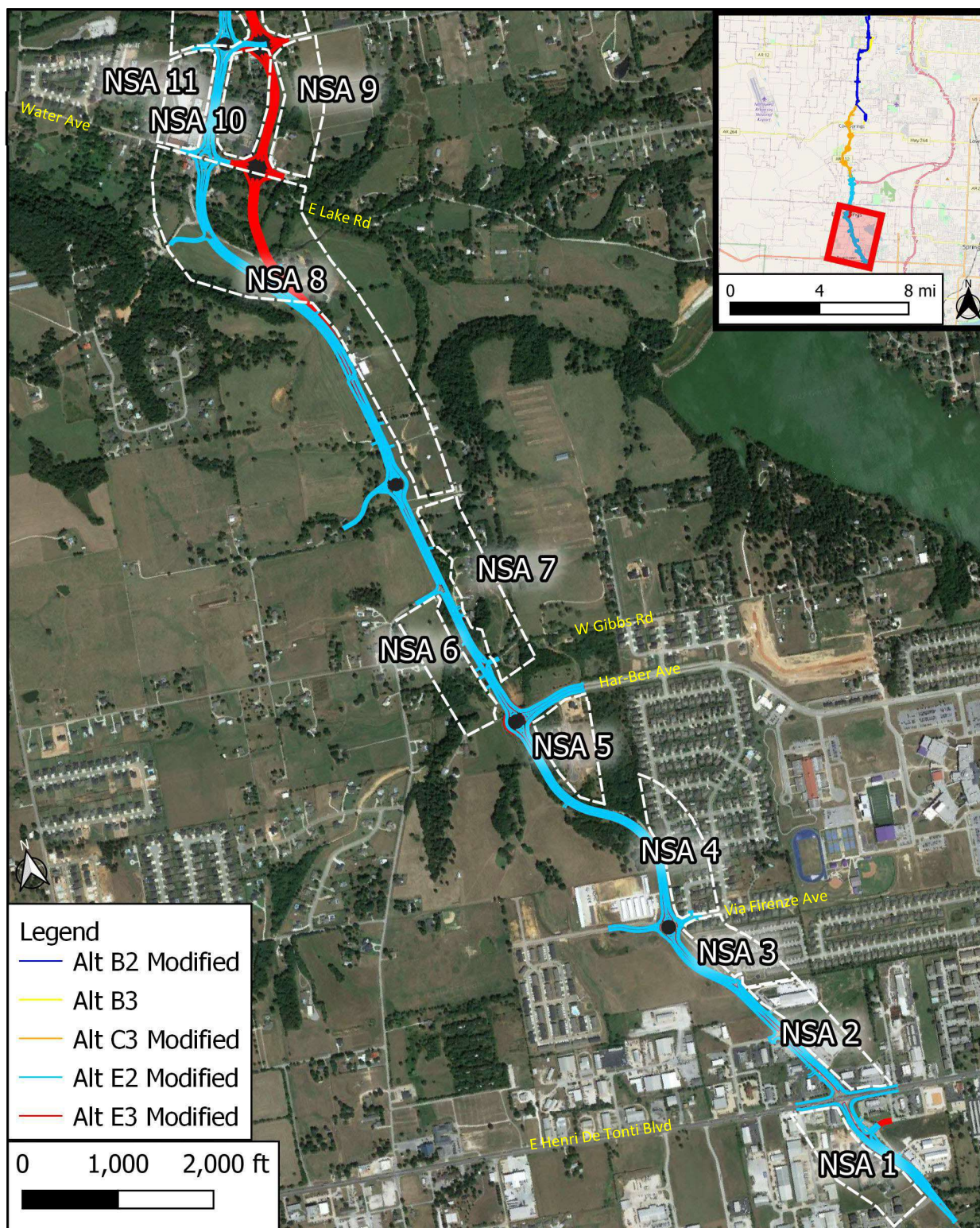


Figure 4. Noise Study Areas 1 through 11

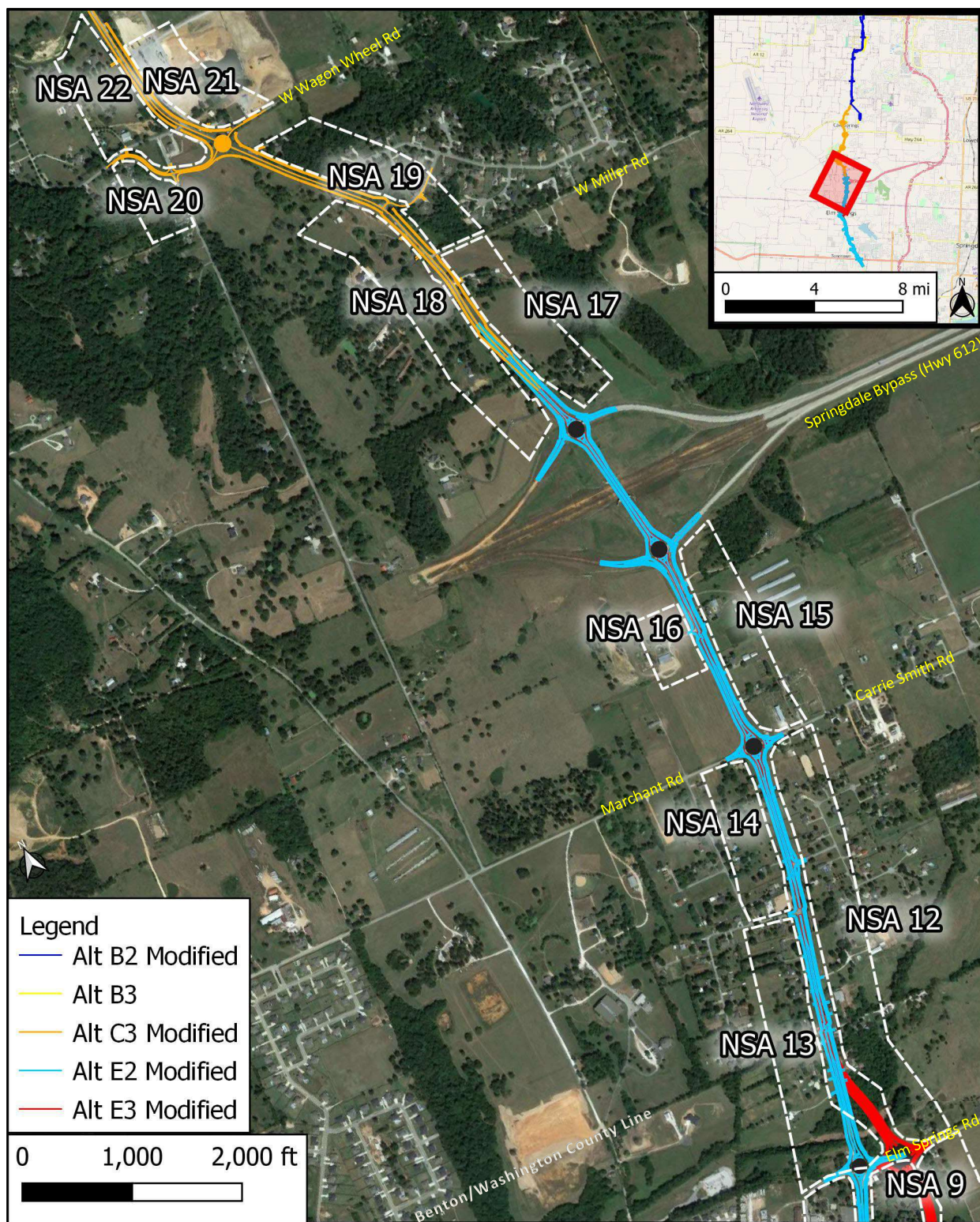


Figure 5. Noise Study Areas 12 through 22

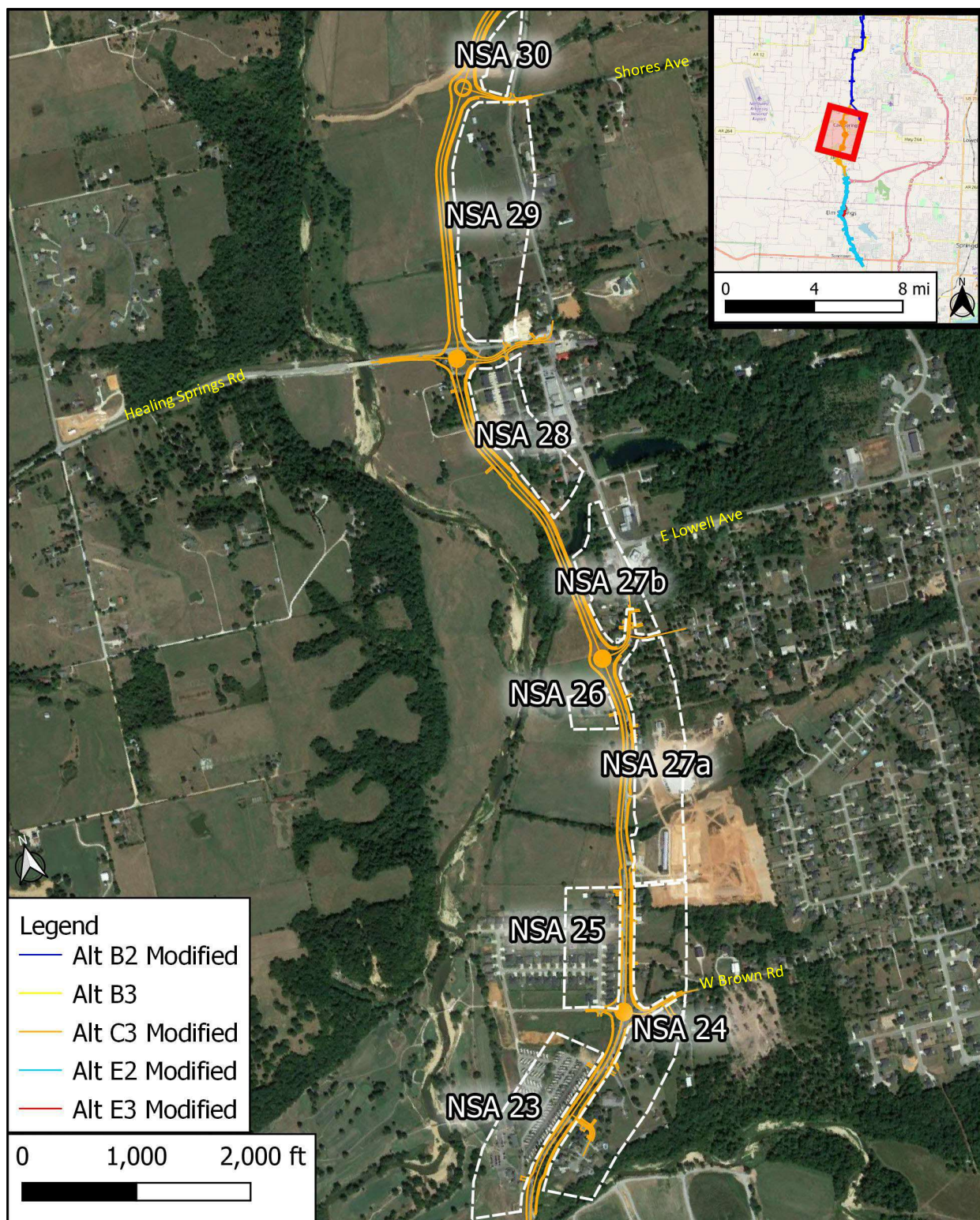


Figure 6. Noise Study Areas 23 through 30

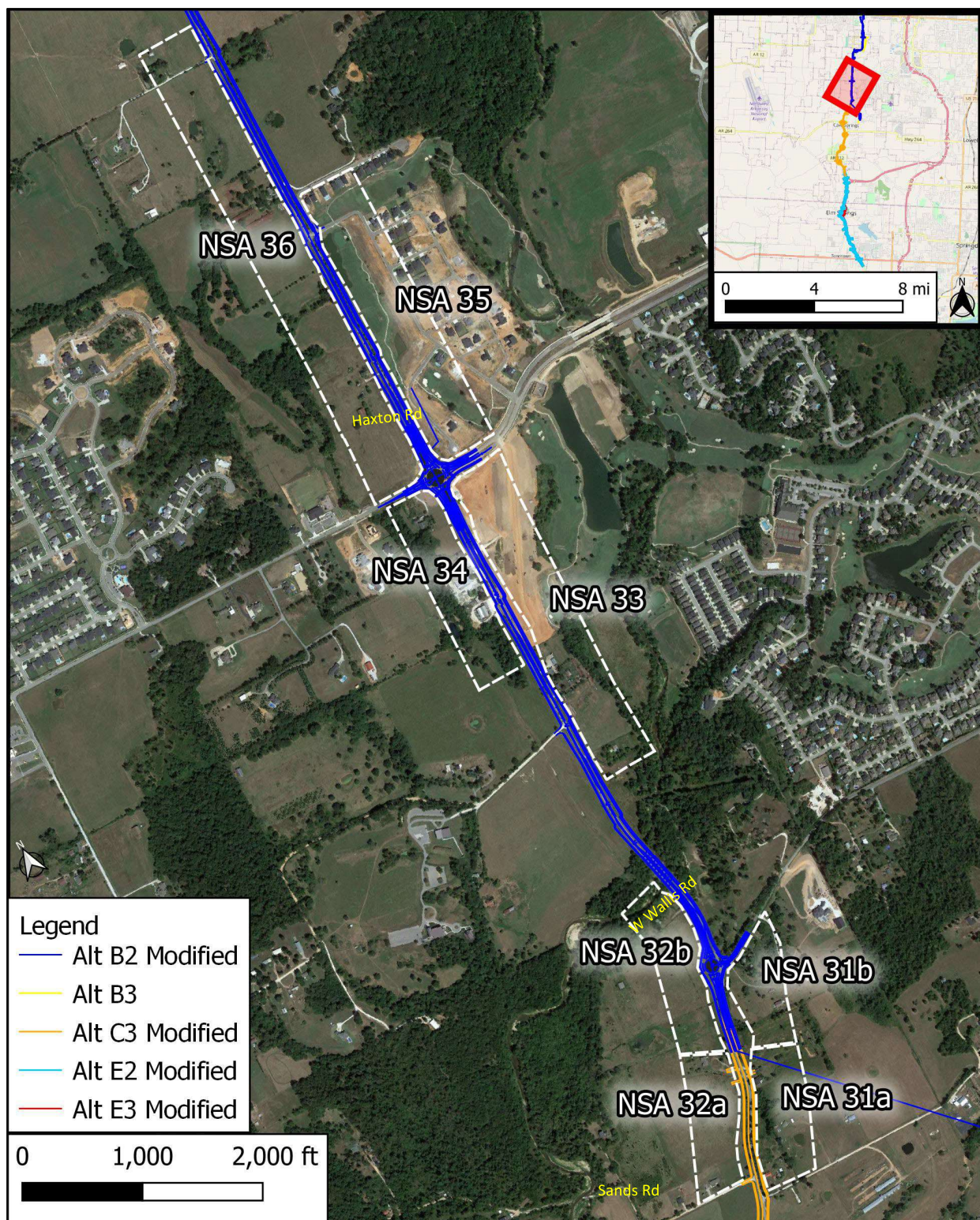


Figure 7. Noise Study Areas 31 through 36

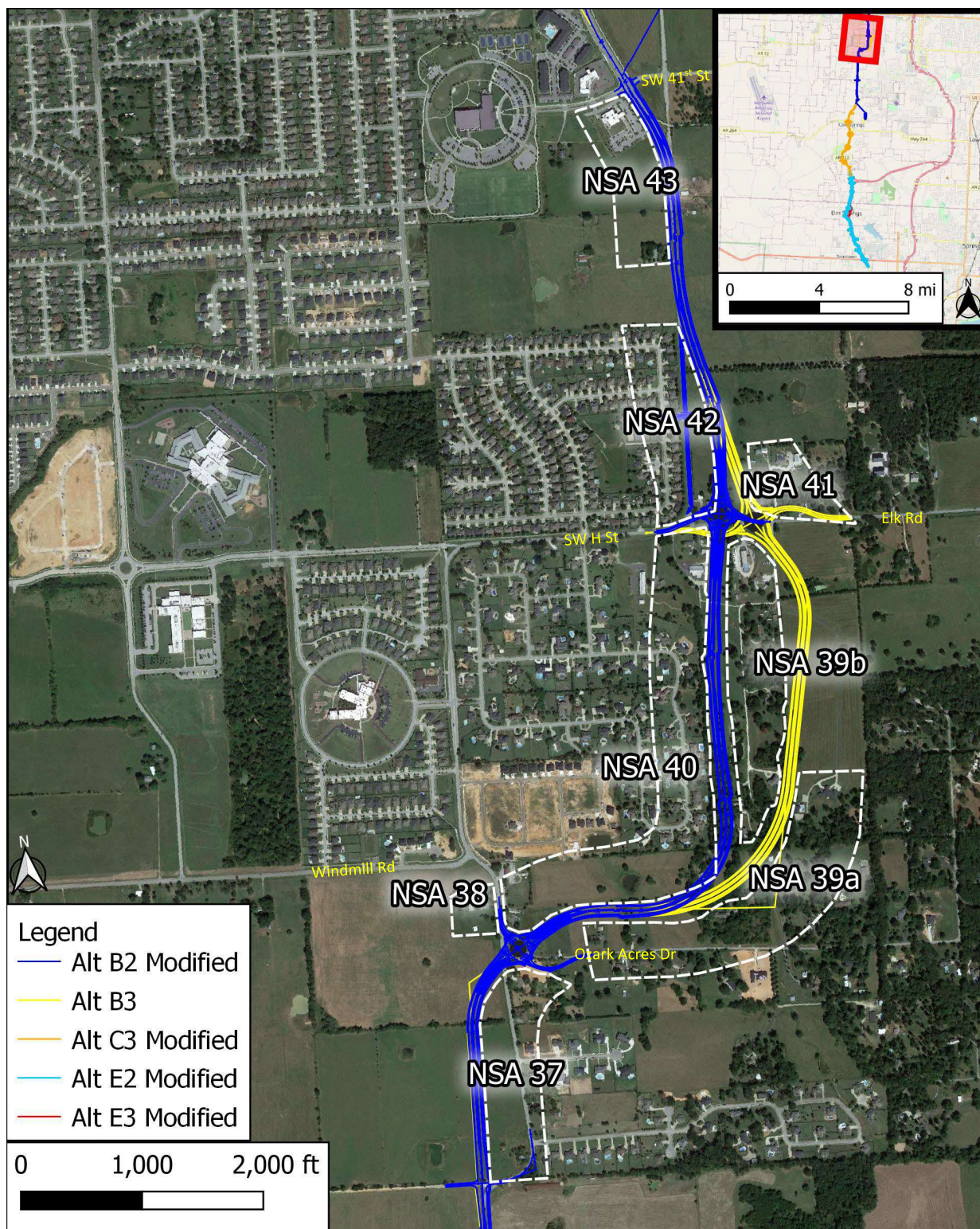


Figure 8. Noise Study Areas 37 through 43

Land uses that are permitted before the “date of public knowledge” for the project should be included in the noise study. The “date of public knowledge” is the date that FHWA approves the final environmental document and will occur for this project when FHWA signs the Finding of No Significant Impact (FONSI). This date is currently unknown but expected sometime in 2023. Land uses that are permitted after the “date of public knowledge” will not qualify for federally funded noise abatement.

A permit search was initially conducted in July 2021 for the areas along the proposed alternatives in Washington and Benton Counties using various sources including the Building Departments for the City of Tontitown, the City of Springdale, the City of Elm Springs, Benton County, the City of Cave Springs, and the City of Bentonville.

This search identified active building permits for 1064 Sawgrass Road, 100 Averie Lane, 104 Averie Lane, 109 W Elm Lane, 147 W Elm Lane, 8114 W Isleworth Court, 8110 W Kettering Court, 8106 W Kettering Court, 8102 W Kettering Court, 8100 W Kettering Court, and some lots in the Clarendon Subdivision.

The permit search was updated in January 2022, May 2022, and February 2023 (for Job 090514) and identified more recent activity. New permits include:

- NSA 4 – three residences on Bella Vista Street
- NSA 25 – four residences on Doral Drive
- NSA 35 – three residences on W Isleworth Court, eight residences on S Exeter Drive, and three residences on W Kettering Court
- NSA 40 – four residences in the Clarendon Subdivision on SW Alleghany Avenue

In NSA 33, Phase 11 of the Shadow Valley Community is under construction. The lots are in pre-opening status and available for reservation, however, no building permits have been issued. Land uses permitted after the “date of public knowledge” will not qualify for consideration of noise abatement. The existing and permitted noise-sensitive land uses identified for this study are discussed below.

3.1 Activity Category B Land Uses

As indicated in Table 2, all of the NSAs except NSAs 2 and 23 include Activity Category B residential uses. The uses are predominantly single-family homes; however, NSA 1 includes apartments, NSA 10 includes a duplex, and NSAs 3 and 28 include townhomes. Each unit in multi-family residential communities is a separate noise receptor.

3.2 Activity Category C Land Uses

Nine NSAs include Activity Category C land uses:

- NSA 3: Sienna Townhomes playground
- NSA 10: Elm Springs United Methodist Church playground
- NSA 11: Elm Springs Park playground, basketball court, trail, and benches
- NSA 23: The Creeks RV Park and Golf Course (practice green, driving range, and clubhouse patio)
- NSA 28: Cave Springs American Legion (flagpole area)

- NSAs 33 and 35: The Shadow Valley Country Club golf course
- NSA 40: First Christian Church pergola
- NSA 42: Lochmoor Club subdivision pool and basketball court

3.3 Activity Category D Land Uses

Two churches and a learning center along the proposed alternatives have no exterior uses and are, therefore, Activity Category D land uses that must be evaluated for interior noise impacts. These uses include:

- NSA 10: Elm Springs United Methodist Church (118 N Elm Street)
- NSA 28: Illinois River Watershed Partnership Learning Center
- NSA 29: Church of Christ (476 N Main Street)

3.4 Activity Category E Land Uses

The only Activity Category E land uses are Jose's Bar & Grill patio in NSA 2 and the patio at Mercy Clinic Primary Care in NSA 43.

3.5 Activity Category F Land Uses

Activity Category F commercial, industrial, and retail uses also exist in the project area. As indicated in Table 1, these land uses are not noise-sensitive and do not have an NAC. Therefore, they have not been included in the noise study.

The Elm Springs Cemetery in NSA 9 does not have areas within 500 feet of the project where services would be held. Therefore, the cemetery is not considered to be a noise-sensitive land use and has not been included in the noise study.

3.6 Activity Category G Land Uses

There are tracts of Activity Category G undeveloped lands along the project. These undeveloped lands are not noise-sensitive and have not been included in the noise analysis. However, noise impacts could occur in the future if noise-sensitive land uses are constructed near Highway 112. A discussion of future noise levels and the need for noise-compatible land use planning is provided later in this report.

4.0 NOISE MEASUREMENTS

Noise measurements were conducted at ARDOT-approved noise-sensitive land uses near existing Highway 112 on July 20 and 21, 2021. Short-term noise measurements at each location were conducted by making three consecutive 15-minute measurements in 1-minute intervals. Background noises (e.g., local traffic, dog barking, and sirens) were noted during these measurements, and the corresponding 1-minute periods were eliminated from the calculation of the measured noise level. ARDOT also completed three ambient measurements on June 16, 2021.

Table 3 summarizes the measured noise levels. Appendix B shows the noise measurement locations and includes the noise measurement results and photographs. Field data sheets are available separately. As indicated in Table 3, existing noise levels at the measurement locations near Highway 112 were between approximately 55 and 64 dBA except for 4701 SW Westchester Road (Site 11), which is only 25 feet from the edge of shoulder of Highway 112. The measured noise levels at that location were 70 to 71 dBA. The measured noise levels at the locations that represent ambient noise levels ranged from 48 to 51 dBA.

5.0 MODEL VALIDATION

ARDOT's noise policy requires validation of the FHWA Traffic Noise Model version 2.5 computer program (hereafter referred to as "TNM") that is used to calculate worst-hour noise levels. Validation involves conducting noise measurements at locations near the existing roadway while making simultaneous traffic and vehicle classification counts and estimating speeds.

Traffic and speed data were collected during the noise measurements. The traffic counts were factored up to hourly volumes and, along with the speeds, were entered into a TNM model that represents existing conditions. The TNM model is considered validated if two of the three predicted noise levels at each location are within 3.0 dBA of the measured levels.

Table 3 presents the validation results. As shown, the TNM predicted noise levels are within 3.0 dB of the measured noise level for eight of the eleven locations. The three locations that did not validate include 563 Via Pisa Road, 1052 Sawgrass Road, and 4701 SW Westchester Road.

The TNM prediction at 1351 Duffers Court during one period was lower than the measured noise level by more than 3 dBA. Noise reflections off of nearby fences (adjacent to the measurement location and across Highway 112) could have increased the measured noise level. Modeling this site using the CadnaA environmental noise model showed an approximate 1 dBA increase in the noise level due to reflections. Therefore, 1 dBA was added to the predicted noise levels, and the resulting differences are between 0.9 and 2.2 dBA.

TNM is overpredicting the measured noise levels at 563 Via Pisa Road and 1052 Sawgrass Road by 2.8 to 5.2 dB. Both locations are behind wood-panel fences that are providing some shielding at the measurement locations. TNM does not have an input object to model shielding from fences, so the noise reduction is not included in the noise predictions.

Finally, TNM is underpredicting the noise level at 4701 SW Westchester Road by 3.2 to 4.1 dBA. The measurement data and model input parameters were reexamined, but the discrepancies could not be resolved. However, a high number of dump trucks were noted on Highway 112 during the measurement, and dump trucks are generally louder than "heavy trucks" that are modeled in TNM. Furthermore, reflections off of the nearby fence could have contributed to the higher measured noise levels.

Table 3. Existing Noise Levels at Measurement Locations

Noise Study Area	Site	Date	Location	Distance to Existing Highway 112	Time	Measured L _{eq} (dBA)	Predicted L _{eq} (dBA)	Difference (dBA)	Notes
Job 012305, Washington and Benton Counties									
3	1	07/21/21	Tuscany Apartments	55	12:50 – 13:05	62.9	62.3	-0.6	n/a
					13:05 – 13:20	62.9	63.0	0.1	
					13:20 – 13:35	61.7	64.7	3.0	
4	2	07/21/21	563 Via Pisa Road	70	11:30 – 11:45	57.3	61.1	3.8	Surrounded by a privacy fence.
					11:45 – 12:00	56.1	60.5	4.4	
					12:00 – 12:15	56.8	62.0	5.2	
10	Ambient-2	06/16/21	112 Church Lane	515	10:15 – 10:35	50.5	n/a	n/a	n/a
12	3	07/21/21	9196 Greenbriar Estate	220	10:15 – 10:30	53.4	56.4	3.0	n/a
					10:30 – 10:45	54.4	55.2	0.8	
					10:45 – 11:00	54.4	56.7	2.3	
Job 090513, Benton County									
19	4	07/21/21	8985 Crest Lane	135	08:55 – 09:10	54.6	57.5	2.9	n/a
					09:10 – 09:25	54.7	57.0	2.3	
					09:25 – 09:40	56.5	58.2	1.7	
24	5	07/20/21	1351 Duffers Court	115	15:30 – 15:45	62.8	61.9	-0.9	Reflections off of adjacent fence and fence across the highway. ⁽¹⁾
					15:45 – 16:00	62.7	61.1	-1.6	
					16:00 – 16:15	62.4	60.2	-2.2	
25	6	07/20/21	1052 Sawgrass Road	70	14:25 – 14:40	58.9	61.7	2.8	Surrounded by a privacy fence.
					14:40 – 14:55	58.5	62.4	3.9	
					14:55 – 15:10	59.0	63.3	4.3	

Noise Study Area	Site	Date	Location	Distance to Existing Highway 112	Time	Measured L _{eq} (dBA)	Predicted L _{eq} (dBA)	Difference (dBA)	Notes
27b	7	07/20/21	517 Main Street	125	13:00 – 13:15	56.5	56.6	0.1	n/a
					13:15 – 13:30	58.7	58.4	-0.3	
					13:30 – 13:45	57.2	58.2	1.0	
28	Ambient-1	06/16/21	Osage Vista Townhomes	790	48.3	n/a	n/a	n/a	n/a
29	8	07/20/21	451 N Main Street	135	11:35 – 11:50	58.6	56.8	-1.8	n/a
					11:50 – 12:05	57.6	55.8	-1.8	
					12:05 – 12:20	58.4	55.4	-3.0	
Job 090514, Benton County									
35	9	07/20/21 and 07/21/21	8106 W Isleworth Court	60	10:10 – 10:25	57.9	59.5	1.6	n/a
					10:25 – 10:40	60.8	60.9	0.1	
					07:20 – 07:35	60.3	60.4	0.1	
					07:35 – 07:50	60.2	62.4	2.2	
37	10	07/20/21	3473 AR Hwy 112	75	07:50 – 08:05	60.2	61.2	1.0	n/a
					08:45 – 09:00	61.8	62.1	0.3	
					09:00 – 09:15	62.2	61.5	-0.7	
					09:15 – 09:30	60.0	61.3	1.3	
40	Ambient-3	06/16/21	4056/4060 Caerleon Circle	1,480	47.8	n/a	n/a	n/a	n/a
42	11	07/20/21	4701 SW Westchester Road	25	07:30 – 07:45	69.9	66.7	-3.2	High percentage of dump trucks. Possible reflections off fences.
					07:45 – 08:00	71.4	66.9	-4.5	
					08:00 – 08:15	70.3	66.2	--4.1	

(1) CadnaA modeling of Site 5 showed an approximate 1 dB increase due to reflections that was added to TNM predicted levels.

6.0 EXISTING AND FUTURE NOISE LEVELS

6.1 Existing Noise Levels

The noise measurements provide representative existing noise levels at some receptors; however, the measured levels do not necessarily represent worst-hour noise levels. TNM was used to predict existing worst-hour noise levels for all of the receptors along the project.

ARDOT provided traffic data for each job as summarized in Table 4. The design hour volumes, given in vehicles per hour (vph), were determined by applying an 11% peak hour (K) factor to the projected annual average daily traffic (AADT) in vehicles per day (vpd). The year 2024 traffic data was used to model existing conditions. ARDOT also provided truck percentages for each job and indicated that approximately 81% of the trucks are medium trucks and 19% are heavy trucks. A 50/50 directional split was assumed.

Table 4: Traffic Projections

Job	County	AADT (vpd)		DHV (vph)		Percent Trucks
		Year 2024	Year 2044	Year 2024	Year 2044	
012605	Washington, Benton	10,500	20,300	1,155	2,233	6%
090513	Benton	14,300	28,700	1,573	3,157	4%
090514	Benton	11,300	21,000	1,243	2,310	4%
		8,900	16,500	979	1,815	6%

The TNM models also account for traffic noise from local roads where data was available. Traffic volumes and truck percentages for the local roads were obtained from ARDOT’s average daily traffic count website. Traffic volumes were increased to year 2024 volumes using growth rates calculated from the traffic data. The peak hour (K) and directional distribution (D) factors for Highway 112 were applied. If a truck percentage was not available for a local road, the truck percentage for Highway 112 was used. Vehicles on Highway 112 were modeled at the existing posted speeds shown in Table 5. Posted speed limits on local roads were modeled. Appendix C contains the existing traffic data used for the analysis.

Receptors were modeled by TNM “receiver” points at areas of frequent human use. For single-family residences, that area could be the front or back yard. For apartments and condominiums, that area could be a patio, balcony, or a common use area. For the churches with no exterior uses, receivers were modeled near the building façade closest to the project so that interior levels could be assessed.

Each Highway 112 travel lane was modeled as a separate TNM “roadway” with the traffic divided proportionally across all lanes in the same direction. For some multiple-lane roadways, such as local roads, one TNM roadway was used to represent two travel lanes.

Table 5: Posted Speed Limits on Highway 112

Limits		Speed Limit (mph)
From	To	
Job 012305, Washington and Benton Counties		
South of E Henri de Tonti Boulevard	North of Sabatini Road	45
North of Sabatini Road	North of Scott Street	40
North of Scott Street	Hale Street	35
Hale Street	Wager Drive	55
Job 090513, Benton County		
Hale Street	Wager Drive	55
Wager Drive	North of Pebble Beach Drive	45
North of Pebble Beach Drive	North of Healing Springs Road	35
North of Healing Springs Road	North of Shores Avenue	40
North of Shores Avenue	W Wallis Road	45
Job 090514, Benton County		
W Wallis Road	North of Ozark Acres Drive	55
North of Ozark Acres Drive	North of SW Lochmoor Avenue	45
North of SW Lochmoor Avenue	Highway 12	40

Large buildings were modeled as noise barriers. Single-family houses were modeled as either individual noise barriers or as rows of buildings. Significant terrain features were also modeled. Finally, large areas of pavement, such as parking lots, were modeled as ground zones.

Some receptors are far from existing Highway 112 but will be near sections of Highway 112 that may be constructed on a new alignment. For these receptors, the higher of the measured or predicted noise levels was used to represent the existing worst-hour noise level.

6.2 Future Noise Levels

6.2.1 No-Build Alternative

Increases in noise levels for the No-Build Alternative were estimated by evaluating existing and future traffic volumes on Highway 112. Design year 2044 traffic volumes are approximately twice that of existing volumes, therefore future noise levels for the No-Build Alternative are expected to increase by approximately 3 dB for receptors in the NSAs along existing Highway 112.

6.2.2 Build Alternatives

TNM was used to predict future worst-hour noise levels for the receptors in each NSA for the Build Alternatives in the same manner that was used to predict existing conditions.

Background noise is typically not important for widening projects since traffic noise levels are usually much higher than background noise levels. However, accounting for background noise for new alignment projects and in quiet noise environments is important as background noise can affect both noise impact conclusions and noise abatement evaluations. A 40 dBA background noise is typical of suburban noise levels without significant nearby noise sources. Therefore, 40 dBA was added to the predicted TNM noise levels to accurately estimate future noise levels.

The traffic data for design year 2044 in Table 4 was used for the noise modeling. The truck percentages and directional splits used for existing conditions were used for design year 2044. The TNM models used a 45-mph design speed for Highway 112. The existing traffic volumes on the local roads were projected to design year 2044 volumes using the growth rates provided by ARDOT for each job. Appendix C contains the future traffic data used for the analysis.

Appendix D includes tables of the predicted noise levels for the receptors in each NSA for the Build Alternatives and figures showing the locations of impacted receptors. Receptors that were assumed to be taken by the project are also listed, although noise levels predictions were not shown at those locations. The following section discusses the predicted noise levels and impacts.

7.0 NOISE IMPACTS

A noise-sensitive receptor is impacted if 1) the predicted design year worst-hour noise level under the Build Alternative approaches or exceeds the NAC, or 2) the project substantially increases existing noise levels. Noise levels near existing Highway 112 are already dominated by traffic noise; consequently, noise impacts within NSAs that are adjacent to existing Highway 112 are typically due to predicted noise levels approaching or exceeding the NAC and not due to a substantial increase in existing noise levels.

However, Highway 112 will be relocated in some locations as summarized in Table 6. Some receptors in these NSAs are impacted due to a substantial increase in existing noise levels.

Table 6: Highway 112 Locations on New Alignment

Job	Alternative	Adjacent NSAs	Location
012305	E2 Modified, E3 Modified	1	Southern project limit to E Henri de Tonti Boulevard
		3, 4, 5	North of Jerome Drive to south of Har Ber Avenue
	8 through 11	North of Sabatini Road to Elm Springs Road	
	E3 Modified	12, 13	Elm Springs Road to Benton/Washington County Line
090513	C3 Modified	21, 22	Near Wager Drive
		26 through 30	South of E Johnson Avenue to Shores Avenue
090514	B2 Modified, B3	31b and 32b	Near W Wallis Road
		37 to 42	Scroggins Road to south of SW 41 st Street

Table 7 summarizes the predicted noise levels and impacts for each NSA for the Build Alternatives. The results for each job are discussed below.

7.1 Job 012305

7.1.1 Alternative E2 Modified

Most of Highway 112 will be widened under Alternative E2 Modified, although a short section of Highway 112 will be shifted to the west along new alignment near Via Firenze Avenue, moving travel lanes further away from the Category B residences in NSAs 3 and 4. Four Activity Category B residences are predicted to be impacted under Alternative E2 Modified based on the NAC: three in NSA 4 and one in NSA 12.

No Activity Category D or E land uses are predicted to be impacted.

7.1.2 Alternative E3 Modified

The southern section of Alternative E3 Modified is similar to Alternative E2 Modified. However, on the northern end starting within NSA 8, Highway 112 will be located on a different alignment.

Seven (7) Activity Category B residences are predicted to be impacted under Alternative E3 Modified: three (3) residences in NSA 4 and four (4) residences in NSA 10, including one duplex. The residences in NSA 4 are predicted to be impacted based on exceedance of the NAC. The four residences in NSA 10 are predicted to be impacted by a substantial increase in existing noise levels, as Highway 112 will be constructed on a new alignment near NSA 10 under Alternative E3 Modified. The duplex in NSA 10 is also predicted to be impacted based on the NAC.

No Activity Category C, D, or E land uses are predicted to be impacted.

7.2 Job 090513, Alternative C3 Modified

As shown in Table 4, Job 090513 is projected to have the highest traffic volumes for the project. Although most of Highway 112 will be widened under Alternative C3 Modified, Highway 112 will be shifted along new alignment in some locations, most notably near NSAs 26 through 30. Thirty-eight (38) Activity Category B residences are predicted to be impacted along Alternative C3 Modified including:

- NSA 24: 5 residences
- NSA 25: 7 residences
- NSA 27a: 3 residences
- NSA 28: 22 residences
- NSA 31a: 1 residence

Table 7: Noise Impact Summary, Design Year 2044, Build Alternatives

Noise Study Area	Design Year Noise Levels (dBA)	Impacted?	Impacts					Design Year Noise Levels (dBA)	Impacted?	Impacts							
			Category B	Category C	Category D	Category E	Total			Category B	Category C	Category D	Category E	Total			
E2 Modified													E3 Modified				
<i>Job 012305</i>																	
1	56 - 63	No	0	0	0	0	0	No	0	0	0	0	0	0	0	0	0
2	67	No	0	0	0	0	67	No	0	0	0	0	0	0	0	0	0
3	43 - 65	No	0	0	0	0	43 - 65	No	0	0	0	0	0	0	0	0	0
4	51 - 68	Yes	3	0	0	0	51 - 68	Yes	3	0	0	0	0	0	0	0	3
5	53 - 61	No	0	0	0	0	53 - 61	No	0	0	0	0	0	0	0	0	0
6	61 - 65	No	0	0	0	0	61 - 65	No	0	0	0	0	0	0	0	0	0
7	54 - 65	No	0	0	0	0	54 - 65	No	0	0	0	0	0	0	0	0	0
8	51 - 62	No	0	0	0	0	49 - 61	No	0	0	0	0	0	0	0	0	0
9	49 - 50	No	0	0	0	0	55 - 57	No	0	0	0	0	0	0	0	0	0
10	44 - 62	No	0	0	0	0	50 - 66	Yes	4	0	0	0	0	0	0	0	4
11	52 - 59	No	0	0	0	0	47 - 52	No	0	0	0	0	0	0	0	0	0
12	47 - 66	Yes	1	0	0	0	47 - 65	No	0	0	0	0	0	0	0	0	0
13	51 - 65	No	0	0	0	0	51 - 66	No	0	0	0	0	0	0	0	0	0
14	56 - 64	No	0	0	0	0	56 - 64	No	0	0	0	0	0	0	0	0	0
15	60 - 65	No	0	0	0	0	59 - 62	No	0	0	0	0	0	0	0	0	0
16	57	No	0	0	0	0	57	No	0	0	0	0	0	0	0	0	0
Total			4	0	0	0	0	Total	7	0	0	0	0	0	0	7	

Table 7: Noise Impact Summary, Design Year 2044, Build Alternatives

Noise Study Area	Design Year Noise Levels (dBA)	Impacted?	Impacts					Design Year Noise Levels (dBA)	Impacted?	Impacts										
			Category B	Category C	Category D	Category E	Total			Category B	Category C	Category D	Category E	Total						
C3 Modified													N/A							
<i>Job 090513</i>																				
17	59 - 66	No	0	0	0	0	0													
18	62 - 64	No	0	0	0	0	0													
19	48 - 64	No	0	0	0	0	0													
20	50 - 56	No	0	0	0	0	0													
21	63	No	0	0	0	0	0													
22	51 - 64	No	0	0	0	0	0													
23	54 - 65	No	0	0	0	0	0													
24	52 - 71	Yes	5	0	0	0	0	5												
25	51 - 71	Yes	7	0	0	0	0	7												
26	59	No	0	0	0	0	0	0												
27a	56 - 70	Yes	3	0	0	0	0	3												
27b	57 - 63	No	0	0	0	0	0	0												
28	51 - 66	Yes	22	0	0	0	0	22												
29	54 - 59	No	0	0	0	0	0	0												
30	59	No	0	0	0	0	0	0												
31a	62 - 71	Yes	1	0	0	0	0	1												
32a	57 - 59	No	0	0	0	0	0	0												
Total			38	0	0	0	0	38												

Table 7: Noise Impact Summary, Design Year 2044, Build Alternatives

Noise Study Area	Design Year Noise Levels (dBA)	Impacted?	Impacts					Design Year Noise Levels (dBA)	Impacted?	Impacts							
			Category B	Category C	Category D	Category E	Total			Category B	Category C	Category D	Category E	Total			
B2 Modified													B3				
<i>Job 090514</i>																	
31b	56 - 64	No	0	0	0	0	0	No	0	0	0	0	0	0			
32b	59	No	0	0	0	0	59	No	0	0	0	0	0	0			
33	52 - 54	No	0	0	0	0	52 - 54	No	0	0	0	0	0	0			
34	59	No	0	0	0	0	59	No	0	0	0	0	0	0			
35	50 - 64	No	0	0	0	0	50 - 64	No	0	0	0	0	0	0			
36	54 - 69	Yes	2	0	0	0	54 - 69	Yes	2	0	0	0	0	2			
37	53 - 59	No	0	0	0	0	53 - 58	No	0	0	0	0	0	0			
38	53	No	0	0	0	0	53	No	0	0	0	0	0	0			
39a	48 - 62	Yes	3	0	0	0	49 - 63	Yes	4	0	0	0	0	4			
39b	55 - 59	Yes	4	0	0	0	53 - 69	Yes	2	0	0	0	0	2			
40	50 - 65	Yes	8	1	0	0	47 - 65	Yes	1	0	0	0	0	1			
41	50 - 58	No	0	0	0	0	51 - 62	Yes	1	0	0	0	0	1			
42	45 - 63	No	0	0	0	0	44 - 64	No	0	0	0	0	0	0			
43	62 - 63	No	0	0	0	0	62 - 64	No	0	0	0	0	0	0			
Total			17	1	0	0	18	Total	10	0	0	0	0	10			

The residences in NSAs 24, 25, 27a, and 31a are impacted based on the NAC. The impacted residences in NSA 28 are impacted by a substantial increase in existing noise levels as Highway 112 will be constructed on a new alignment west of existing Highway 112. One of those residences (at 257 Healing Springs Road) is also predicted to be impacted based on the NAC. The Creeks RV Resort in NSA 23 is not predicted to be impacted because the receivers are below the grade of Hwy 112 and will be shielded by the future edge-of-pavement of Hwy 112.

No Activity Category C, D, or E land uses are predicted to be impacted.

7.3 Job 090514

7.3.1 Alternative B2 Modified

Seventeen (17) Activity Category B residences are predicted to be impacted along Alternative B2 Modified including:

- NSA 36: 2 residences
- NSA 39a: 3 residences
- NSA 39b: 4 residences
- NSA 40: 8 residences

The residences in NSA 36 are impacted based on the NAC. The residences in NSAs 39a, 39b, and 40 are impacted by a substantial increase in existing noise levels as Highway 112 will be constructed on a new alignment near these NSAs. The residences in NSA 42 (Lochmoor Club) are not predicted to be impacted as Highway 112 will be constructed on a new alignment east of existing Highway 112, and the alignment shift away from these residences is predicted to reduce existing noise levels at many residences. The Activity Category C pergola at the First Christian Church in NSA 40 is also predicted to be impacted by a substantial increase in existing noise levels.

No Activity Category D or E land uses are predicted to be impacted.

7.3.2 Alternative B3

Ten (10) Activity Category B residences are predicted to be impacted along Alternative B3 including:

- NSA 36: 2 residences
- NSA 39a: 4 residence
- NSA 39b: 2 residence
- NSA 40: 1 residence
- NSA 41: 1 residence

The residences in NSA 36 are impacted based on the NAC. The residences in NSAs 39a, 40, and 41 are impacted by a substantial increase in existing noise levels as Highway 112 will be constructed on a new alignment near these NSAs. The residence at 4010 Cook Road in NSA 39b is predicted to be impacted by a substantial increase, while the residence at 4006 Cook Road is predicted to be impacted based on both the NAC *and* a substantial increase in existing noise levels.

No Activity Category C, D, or E land uses are predicted to be impacted.

7.4 Corridor-Wide Impacts

ARDOT is evaluating two alternatives (*E3 Modified* and *E2 Modified*) for Job 012305, one alternative for Job 090513 (*Alternative C3 Modified*), and two alternatives for Job 090514 (*Alternative B2 Modified* and *B3*). Table 8 shows the total number of impacts for the Highway 112 corridor for the four possible combinations of alternatives. The total number of impacts ranges from a low of 52 (*Alternatives E2 Modified, C3 Modified, and B3*) to a high of 63 (*E3 Modified, C3 Modified, and B2 Modified*).

Table 8: Corridor-Wide Noise Impacts

Job/Alternative Combination	Impacts				
	Category B	Category C	Category D	Category E	Total
012305, E2 Modified	4	0	0	0	4
090513, C3 Modified	38	0	0	0	38
090514, B2 Modified	17	1	0	0	18
Totals	59	1	0	0	60
012305, E3 Modified	7	0	0	0	7
090513, C3 Modified	38	0	0	0	38
090514, B2 Modified	17	1	0	0	18
Totals	62	1	0	0	63
012305, E2 Modified	4	0	0	0	4
090513, C3 Modified	38	0	0	0	38
090514, B3	10	0	0	0	10
Totals	48	0	0	0	52
012305, E3 Modified	7	0	0	0	7
090513, C3 Modified	38	0	0	0	38
090514, B3	10	0	0	0	10
Totals	51	0	0	0	55

8.0 NOISE ABATEMENT EVALUATION

The FHWA noise regulation and ARDOT's noise policy require that noise abatement be evaluated to mitigate predicted noise impacts. Noise abatement measures may include noise barriers, alteration of horizontal and vertical alignment, and traffic management measures (such as reducing speed limits or prohibition of heavy trucks).

Reduced speeds and truck restrictions would not result in substantial noise reductions. Therefore, noise barriers were determined to be the only available abatement measure to reduce noise levels for impacted land uses. Alignment shifts were not evaluated for this study; however, ARDOT may choose to evaluate the effects of alignment shifts during final design.

The FHWA noise regulation requires that noise abatement be evaluated first for “feasibility” and, if feasible, for “reasonableness.” Noise barriers must be both *feasible* and *reasonable* to be deemed “likely” for construction.

8.1 Feasibility

Feasibility includes engineering and acoustical considerations. Engineering feasibility factors include topography, drainage, safety, barrier height, utilities, and access and maintenance needs (which may include right-of-way considerations). A barrier that poses engineering problems may be deemed *not feasible* even if it is *acoustically feasible*. *Acoustical feasibility* means that a noise barrier will provide a 5.0 dB noise reduction for at least one impacted receptor. A barrier that does not meet this criterion is not acoustically feasible. Barriers that are determined to be feasible are assessed for reasonableness per the criteria in ARDOT’s noise policy.

8.1.1 Engineering Feasibility

Highway 112 is not a limited access facility. The impacted residences listed in Table 9 will have direct access to Highway 112, so noise barriers are not feasible for these residences.

Table 9: Impacted Residences with Driveway Access

Job/Alternative Combination	NSA	Residence(s)
012305, E2 Modified	12	3569 AR 112 Hwy
090513, C3 Modified	24	970 S Main Street
	27a	590, 636, and 650 S Main Street
	28	257 Healing Springs Road
	31a	868 N Main Street
090514, B2 Modified	36	2349 & 2625 N Main Street

Barriers were not eliminated from consideration for other engineering issues since the analysis was based on functional project plans, and engineering issues are typically addressed during final design. While not an engineering issue, all potential noise barriers would restrict access to the planned sidewalk or multi-use path from the adjacent properties.

The project plans were reviewed to identify the most acoustically effective noise barrier location for each remaining impacted NSA. Table 10 lists the evaluated noise barriers and locations. These barriers were added to the models and TNM predicted noise levels with the barriers for a range of barrier heights. Appendix E includes the noise barrier evaluation results.

Table 10: Evaluated Noise Barriers

NSA	Impacted Receptors	Barrier Location
Job 012305, Alternative E2 Modified		
4	612, 632, and 658 Bella Vita Street	East of Multi-Use Path
Job 012305, Alternative E3 Modified		
4	612, 632, and 658 Bella Vita Street	East of Multi-Use Path
10	Elm Springs Church duplex, Residences on Gumm Street	West of Sidewalk
Job 090513, Alternative C3 Modified		
24	Residences on Duffer's Court	ROW, East of Multi-Use Path
25	Residences on Sawgrass Road and Pebble Beach Drive in the Fairway Valley subdivision	West of Sidewalk
28	Residences on Allen Street, W Glenwood Avenue, and Healing Springs Road; Osage Vista Townhomes	East of Multi-Use Path
Job 090514, Alternative B2 Modified		
39a & 39b	2801, 2899, and 2995 Ozark Acres Road; and 4006, 4010, 4100, and 4149 Cook Road	East of Multi-Use Path
40	Residences on Caerleon Circle in the St. Valery Downs subdivision, and the First Christian Church pergola	Case 1: West of Sidewalk
		Case 2: ROW and West of Sidewalk
Job 090514, Alternative B3		
39a	2801, 2899, 2995 Ozark Acres Dr and 4134 Cook Rd	ROW, East of Multi-Use Path
39b	4006 and 4010 Cook Road	ROW, West of Sidewalk
40	3670 AR 112 Hwy	ROW, West of Sidewalk
41	784 Elk Road	East of Multi-Use Path

ARDOT's noise barrier design philosophy is to provide 5.0 dB noise reduction for all impacted receptors, if possible. If a barrier design that provides 5.0 dB noise reduction for all impacted receptors is not reasonable, then ARDOT would evaluate alternate designs that might be reasonable but would *not* provide 5.0 dB noise reduction at all impacted receptors.

Noise barriers were first designed to provide 5.0 dB noise reduction for all impacted receptors. If that design is reasonable and provides 8.0 dB noise reduction to at least one benefited receptor, then the

design process is complete. If that barrier is not reasonable, the design would be modified to provide 8.0 dB for at least one benefited receptor while maximizing the number of benefited receptors at the lowest possible cost.

8.1.2 Acoustical Feasibility

Table 11 summarizes the results of the acoustical feasibility analysis. Two alternative noise barrier locations were evaluated for NSA 40 under Alternative B2 Modified: a barrier west of the proposed sidewalk and a barrier with sections west of the proposed sidewalk as well as near the ROW.

Table 11. Acoustical Feasibility Analysis

Noise Analysis Area	Barrier Length (ft)	Average Height (ft)	Impacted Receptors	Impacted Receptors with at least a 5 dB Noise Reduction	Acoustically Feasible?
Job 012305, Alternative E2 Modified					
4	371	6.0	3	3	Yes
Job 012305, Alternative E3 Modified					
4	371	6.0	3	3	Yes
10	775	6.8	4	4	Yes
Job 090513, Alternative C3 Modified					
24	634	10	4 ⁽¹⁾	4	Yes
25	736	6.6	7	7	Yes
28	1,732	10.2	22	20	Yes
Job 090514, Alternative B2 Modified					
39a & 39b	4,249	7.0	7	7	Yes
40 (Case 1: Sidewalk)	2,479	10.2	9	9	Yes
40 (Case 2:	2,467	8.8	9	9	Yes
Job 090514, Alternative B3					
39a	3,454	7.5	4	4	Yes
39b	1,098	7.6	2	2	Yes
40	864	9.3	1	1	Yes
41	800	12.3	1	1	Yes

(1) Does not include the impact at 970 South Main Street.

As shown, the designed noise barriers provide 5.0 dB IL for all of the impacted receptors, except for NSA 28, where two impacted residences do not receive a 5.0 dB IL because they are near a gap in the two-barrier system to accommodate a driveway. However, noise barriers are acoustically feasible for all NSAs and barrier options, therefore each barrier was evaluated for reasonableness.

8.2 Reasonableness

Feasible barriers are assessed for reasonableness per the criteria in ARDOT's noise policy:

1. *Noise reduction design goal (NRDG)*: A minimum of 8.0 dB reduction in design year highway traffic noise levels for at least one benefited receiver.
2. *Cost-effectiveness*: The cost of the noise abatement measure is no more than \$36,000 per benefited residence. *Benefited* is defined as a minimum decrease in noise levels of 5.0 dBA.
3. *Viewpoints of the property owners and residents*: The viewpoints of the benefited receptors will be collected to determine if there is a consensus of support for the construction of the noise barrier.

8.2.1 Noise Reduction Design Goal

Table 12 summarizes the results of the NRDG analysis. As shown, all of the designed noise barriers meet the NRDG by providing 8.0 dB IL for at least one benefited receptor. Therefore, the barriers were evaluated for cost-effectiveness.

8.2.2 Cost-Effectiveness

ARDOT provided the following unit costs for estimating noise barrier costs: \$35 per square foot for reflective barriers, \$40 per square foot for absorptive barriers, and \$50 per square foot for structure-mounted barriers. Costs associated with crash protection were not included since Highway 112 will be a curb and gutter facility.

ARDOT's standard practice is to analyze the need for sound absorption when parallel barriers are proposed and when the width-to-height ratio is less than 20:1. The need for sound absorption is also analyzed for single barriers if: (1) a bike/pedestrian path is proposed for the highway side of the barrier, (2) noise-sensitive land uses are across the roadway from the wall, or (3) a frontage road exists between the noise barrier and the receptors. A preliminary assessment of the barrier location for each NSA was conducted to assess the likelihood that an absorptive barrier would be needed. As shown in Table 13, many barriers would be opposite noise-sensitive land uses. The project plans also include a 12-foot multi-use path within the proposed ROW on the northbound side of Highway 112. As a result, the barriers would be absorptive except for NSA 24 where the barrier would be near the ROW and elevated above the opposite land uses and adjacent bike path. An absorptive barrier would likely not be needed at this location. However, detailed noise reflections analyses should be conducted during final design for all barriers that are determined to be feasible and reasonable.

Table 12. Noise Reduction Design Goal Analysis

Noise Study Area	Benefited Receptors	Benefited Receptors with at least an 8 dB Noise Reduction	Noise Reduction Design Goal Met?
Job 012305, Alternative E2 Modified			
4	1	1	Yes
Job 012305, Alternative E3 Modified			
4	1	1	Yes
10	5	2	Yes
Job 090513, Alternative C3 Modified			
24	4	1	Yes
25	7	4	Yes
28	20	1	Yes
Job 090514, Alternative B2 Modified			
39a & 39b	8	1	Yes
40 (Case 1: Sidewalk)	9	1	Yes
40 (Case 2: ROW/Sidewalk)	9	1	Yes
Job 090514, Alternative B3			
39a	5	1	Yes
39b	2	1	Yes
40	1	1	Yes
41	2	1	Yes

The results of the sound absorption assessment were used to determine the barrier unit cost for the cost-effectiveness analysis shown in Table 13. As stated previously, ARDOT’s cost-effectiveness threshold is \$36,000 per benefited residence.

The costs per benefited residence for many NSAs are more than double ARDOT’s cost-effectiveness threshold including NSAs 39a, 39b, and 40 (Cases 1 and 2) for Alternative B2 Modified; and NSAs 39a, 39b, 40, and 41 for Alternative B3. Additional designs were not evaluated since the barriers significantly exceed the cost-effectiveness criteria. Barriers were also not evaluated for subsets of the impacted receptors in these NSAs as those barriers would not be reasonable.

The cost per benefited residence for the noise barriers for NSAs 10 (Alternative E3 Modified) and 24 are \$41,888 and \$55,475, respectively. Attempts to redesign the noise barriers were made but did not reduce the cost per benefited residence, so these barriers are not reasonable.

The cost per benefited residence for NSA 4 within Job 012305 is \$29,680, and the cost per benefited residence for NSAs 25 and 28 within Job 090513 are \$27,226 and \$35,220, respectively. These costs are below ARDOT's allowable *cost per benefited residence* of \$36,000; therefore, these noise barriers are preliminarily feasible and reasonable.

The noise barrier for NSA 4 would be located east of the proposed multi-use path between STA 150+00 and STA 153+50. The barrier length is approximately 371 feet with a barrier height of 6 feet. The estimated barrier cost is \$89,040.

The noise barrier for NSA 25 would be located west of the proposed sidewalk between STA 411+50 and STA 419+80 with a gap at the intersection of Pebble Beach Drive. The barrier length is approximately 736 feet with barrier heights between 6 and 8 feet and an average height of 6.6 feet. The estimated barrier cost is \$190,580. Sight distance requirements for vehicles on Pebble Beach Drive could affect the barrier design.

The noise barrier for NSA 28 would be located east of the proposed multi-use path between STA 453+00 and STA 471+50 with a gap for the driveway access for 257 Healing Springs Road. The barrier would still need to run along the property for 257 Healing Springs Road to protect the impacted residences on Allen Street. The barrier length is approximately 1,730 feet with barrier heights between 8 and 16 feet and an average height of approximately 10 feet. The estimated barrier cost is \$704,400. Sight distance requirements for vehicles using the driveway from 257 Healing Springs Road could affect the barrier design.

Feasibility and reasonableness for NSAs 4, 25, and 28 would need to be re-evaluated during final design. None of the barriers would extend past adjacent noise-tolerant commercial/industrial properties, so commercial and industrial property visibility would not be a concern.

8.2.3 Viewpoints of Benefited Property Owners and Residents

The final step in determining reasonableness is the solicitation of the viewpoints of the benefited property owners and residents. ARDOT will revisit the noise barrier feasibility and reasonableness conclusions during final design and will solicit the viewpoints of the benefited property owners and residents before making the final reasonableness determinations.

Table 13. Cost-Effectiveness Analysis

Noise Study Area	Barrier Area (sf)	Barrier Type			Cost	Benefited Receptors	Cost per Benefited Receptor	Cost-Effective?
		Noise-Sensitive Uses Opposite Barrier?	Bike Path on Highway Side?	Reflective or Absorptive				
Job 012305, Alternative E2 Modified								
4	2,226	No	Yes	Absorptive	\$89,040	3	\$29,680	Yes
Job 012305, Alternative E3 Modified								
4	2,226	No	Yes	Absorptive	\$89,040	3	\$29,680	Yes
10	5,236	Yes	No	Absorptive	\$209,440	5	\$41,888	No
Job 090513, Alternative C3 Modified								
24	6,340	Yes	Yes	Reflective ⁽¹⁾	\$221,900	4	\$55,475	No
25	4,826	Yes	Yes	Absorptive	\$190,580	7	\$27,226	Yes
28	17,610	No	Yes	Absorptive	\$704,400	20	\$35,220	Yes
Job 090514, Alternative B2 Modified								
39a & 39b	29,642	Yes	Yes	Absorptive	\$1,185,680	8	\$148,210	No
40 (Case 1: Sidewalk)	25,174	Yes	No	Absorptive	\$1,006,960	9	\$111,884	No
40 (Case 2: ROW/Sidewalk)	21,660	Yes	No	Absorptive	\$866,400	9	\$96,267	No
Job 090514, Alternative B3								
39a	\$18,512	Yes	Yes	Absorptive	\$740,480	5	\$148,096	No

Noise Study Area	Barrier Area (sf)	Barrier Type			Cost	Benefited Receptors	Cost per Benefited Receptor	Cost-Effective?
		Noise-Sensitive Uses Opposite Barrier?	Bike Path on Highway Side?	Reflective or Absorptive				
39b	8,384	Yes	No	Absorptive	\$335,360	2	\$167,680	No
40	8,064	Yes	No	Absorptive	\$322,560	1	\$322,560	No
41	10,400	Yes	Yes	Absorptive	\$416,000	2	\$208,000	No

(1) Noise-sensitive uses would be opposite this barrier; however, the barrier would be near the ROW and elevated above those uses as well as the adjacent bike path; therefore, an absorptive barrier would likely not be needed.

8.3 Statement of Likelihood of Abatement

Noise barriers are preliminarily feasible and reasonable for two NSAs based on the functional project plans:

- NSA 4 – northbound side of future Highway 112, north of Via Firenze Avenue
- NSA 25 – southbound side of widening Highway 112; a two-barrier system from just north of Pebble Beach Drive to Doral Drive
- NSA 28 – northbound side of future Highway 112; a two-barrier system from north of E Lowell Avenue to Healing Springs Road

The preliminary barrier locations are shown in Appendix F. However, changes made during the final design process could affect conclusions regarding noise impacts and abatement. Noise barrier reasonableness is also contingent upon the results of the solicitation of the viewpoints of the benefited residents and property owners. Therefore, final noise abatement decisions will be made during the final design process.

9.0 CONSTRUCTION NOISE

Construction activities will generate intermittent and temporary noise above existing ambient noise levels. The noise levels resulting from construction activities will depend on the types of equipment utilized, the duration of the activities, and the distances between construction activities and nearby land uses. However, the noise increases will be temporary and will not constitute a noise impact as defined by the FHWA noise regulation and ARDOT's noise policy. Construction procedures will be governed by ARDOT's *Standard Specifications for Highway Construction*. All construction equipment shall be maintained, repaired, and adjusted to keep it in full satisfactory condition.

10.0 INFORMATION FOR LOCAL OFFICIALS

ARDOT encourages local communities and developers to practice noise compatibility planning to avoid future noise impacts. Two guidance documents on noise-compatible land use planning are available from the FHWA [3, 4].

Table 14 presents future predicted noise levels for each job based on an assumed at-grade situation for areas along Highway 112 where vacant and potentially developable lands exist. Noise predictions were made at distances of 50, 100, 200, 300, 400, and 500 feet from Highway 112 for the design year 2044. The results showed exterior residential activities would generally be impacted with noise levels of 66.0 dBA or higher within approximately 75 to 100 feet of the centerline of the nearest travel lane of Highway 112. These values do not represent predicted levels at every location at a particular distance back from the roadway. Noise levels will vary with changes in terrain and other site conditions. This information is being included to make local officials and planners aware of anticipated highway noise levels so that future development will be compatible with these levels.

Table 14. Design Year 2044 Predicted Noise Levels for Undeveloped Areas

Distance from Highway 112*	L _{eq} (1h), dBA		
	Job 012305	Job 090513	Job 090514
50 feet	69.4	70.6	69.3
100 feet	65.0	66.2	64.9
200 feet	60.8	62.0	60.7
300 feet	57.9	59.1	57.8
400 feet	54.9	56.1	54.8
500 feet	52.4	53.5	52.2

* Perpendicular distance to the centerline of the nearest travel lane of proposed Highway 112.

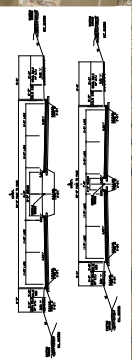
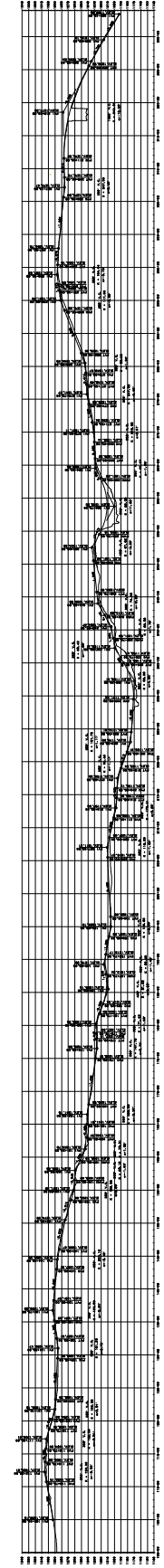
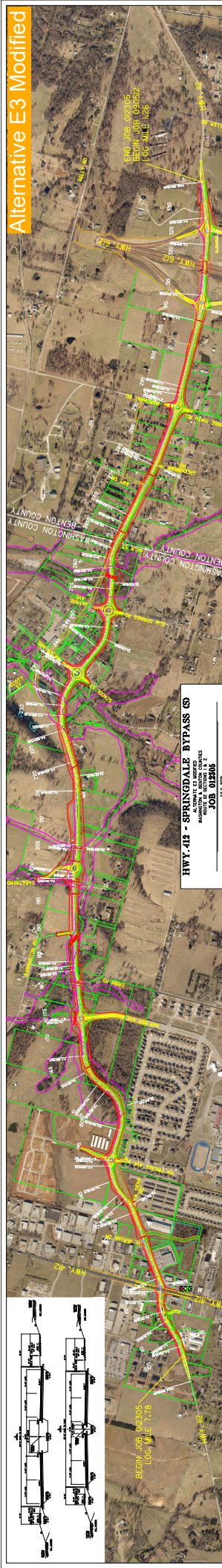
11.0 INDIRECT AND CUMULATIVE EFFECTS

The noise analysis for the design year 2044 includes projected traffic volumes for the project as well as forecasted background traffic growth. As a result, the predicted noise impacts represent both direct and cumulative noise effects.

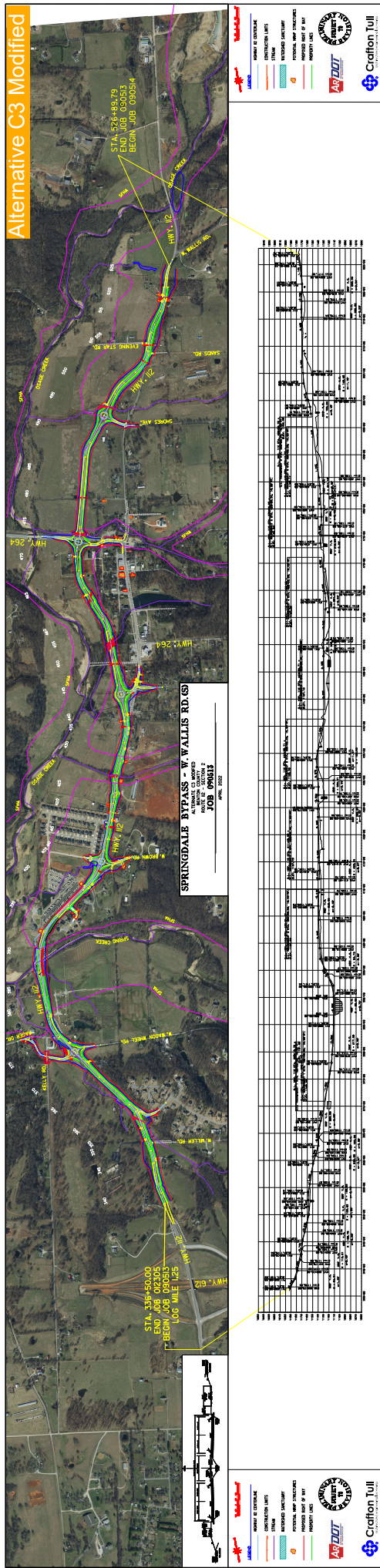
The project could cause a redistribution of traffic on the surrounding roadway network and affect development and land use patterns in the project area. These situations could result in higher traffic volumes at locations for roadways beyond the project limits. However, as described earlier, a doubling of the traffic volume is required to increase the hourly equivalent sound level by 3 dB, which is usually the smallest change in sound levels that people can detect without specifically listening for the change. Traffic volumes are not anticipated to double as a result of the redistribution of traffic or changes in development, so any increases in noise levels beyond the project limits would be small.

12.0 REFERENCES

- [1] *Procedures for Abatement of Highway Traffic and Construction Noise*, 23 CFR 772, Federal Highway Administration.
- [2] *Policy on Highway Traffic Noise Abatement*, Arkansas Highway and Transportation Department, September 13, 2018.
- [3] *The Audible Landscape: A Manual for Highway Noise and Land Use*, Federal Highway Administration, November 1974.
- [4] *Entering the Quiet Zone: Noise Compatibility Land Use Planning*, Federal Highway Administration, May 2002.

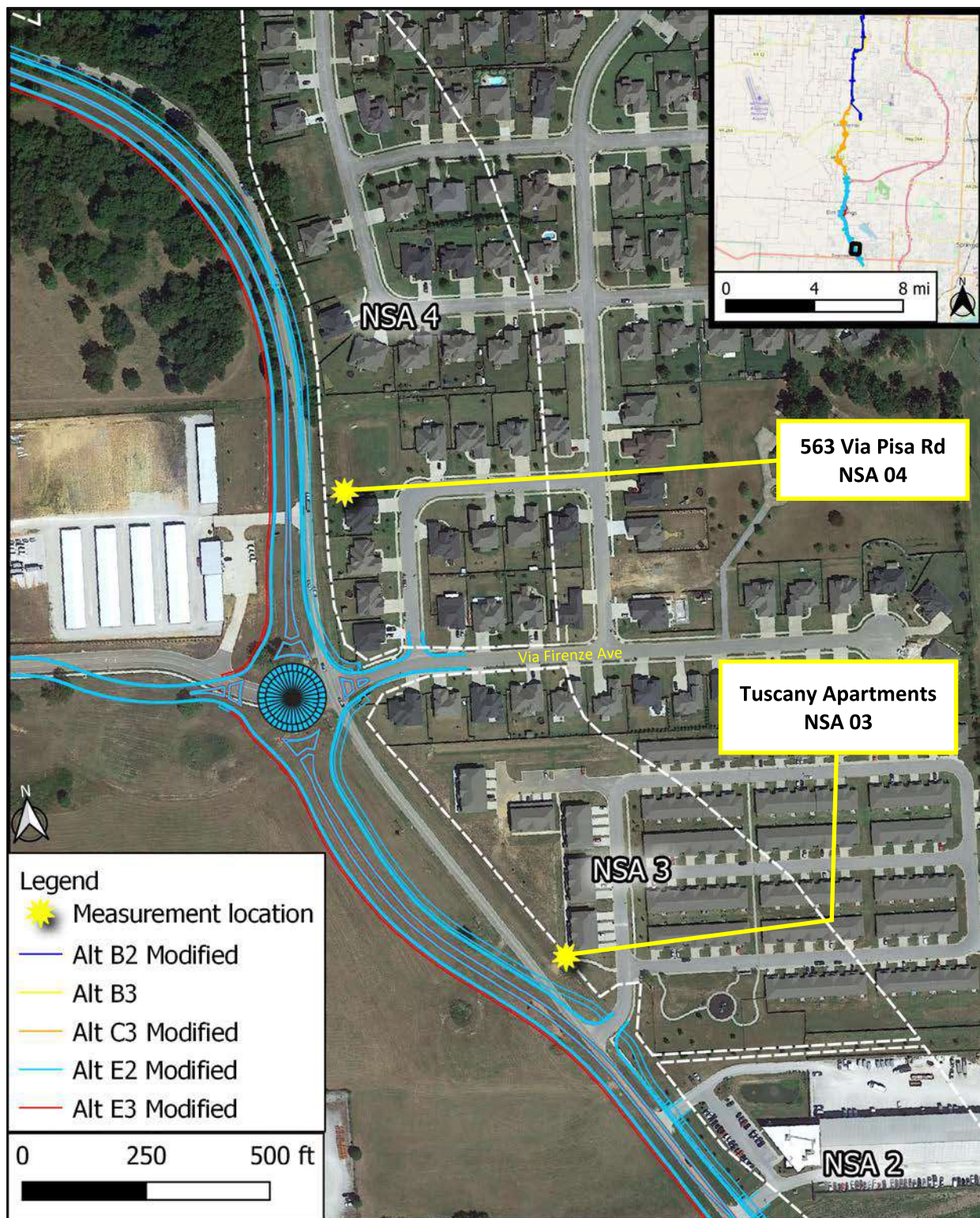


ARIZONA DOT
CROFTON TULL
PROPOSED 4-LANE DIVIDED HIGHWAY
EXISTING 2-LANE HIGHWAY
EXISTING 4-LANE HIGHWAY
EXISTING 6-LANE HIGHWAY
EXISTING 8-LANE HIGHWAY
EXISTING 10-LANE HIGHWAY
EXISTING 12-LANE HIGHWAY
EXISTING 14-LANE HIGHWAY
EXISTING 16-LANE HIGHWAY
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EXISTING 92-LANE HIGHWAY
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EXISTING 96-LANE HIGHWAY
EXISTING 98-LANE HIGHWAY
EXISTING 100-LANE HIGHWAY



Appendix B
Noise Measurements

Measurement Location	Appendix Page
Aerial of NSAs 03 & NSA 04	B-2
Site 1 – Tuscany Apartments – NSA 03	B-3
Site 2 – North of 563 Via Pisa – NSA 04	B-5
Aerial of NSA 10	B-7
Ambient Site 2 – 112 Church Lane – NSA 10	B-8
Aerial of NSA 12	B-10
Site 3 – 9196 Greenbriar Estates Road – NSA 12	B-11
Aerial of NSA 19	B-13
Site 4 – 8985 Crest Lane – NSA 19	B-14
Aerial of NSAs 24 and 25	B-16
Site 5 – 1351 Duffers Court – NSA 24	B-17
Site 6 – North of 1052 Sawgrass Road – NSA 25	B-19
Aerial of NSAs 27b, 28, and 29	B-21
Site 7 – 517 S Main Street – NSA 27b	B-22
Ambient Site 1 – Osage Vista Townhomes – NSA 28	B-24
Site 8 – 451 N Main Street – NSA 29	B-26
Aerial of NSA 35	B-28
Site 9 – 8106 W Isleworth Court – NSA 35	B-29
Aerial of NSA 37, 40, and 42	B-32
Site 10 – 3473 AR Hwy 112 – NSA 37	B-33
Ambient Site 3 – 4056/4060 Caerleon Circle – NSA 40	B-35
Site 11 – North of 4701 SW Westchester Road – NSA 42	B-37
Traffic Counts and Speeds	B-39





Site 1 – Tuscany Apartments – NSA 03 (looking north)



Site 1 – Tuscany Apartments – NSA 03 (looking east)

Arkansas Department of Transportation	
Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 1 (1)
Description:	Tuscany Apartments
SLM Filename:	LxT_0001604-20210721 125000-LxT_Data.017
Date:	7/21/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	12:50:00 PM	57.4	62.4		
2	12:51:00 PM	67.8	80.4		
3	12:52:00 PM	57.0	65.1		
4	12:53:00 PM	59.9	67.4		
5	12:54:00 PM	59.5	66.5		
6	12:55:00 PM	56.4	64.0		
7	12:56:00 PM	60.8	66.3		
8	12:57:00 PM	57.2	61.8		
9	12:58:00 PM	60.6	69.6		
10	12:59:00 PM	64.0	74.7		
11	1:00:00 PM	59.3	64.2		
12	1:01:00 PM	64.8	75.0		
13	1:02:00 PM	64.1	73.8		
14	1:03:00 PM	68.8	80.0		
15	1:04:00 PM	59.4	66.5		
Leq		62.9			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 1 (2)
Description:	Tuscany Apartments
SLM Filename:	LxT_0001604-20210721 125000-LxT_Data.017
Date:	7/21/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	1:05:00 PM	64.1	73.6		
2	1:06:00 PM	60.4	67.3		
3	1:07:00 PM	60.8	66.8		
4	1:08:00 PM	60.5	68.9		
5	1:09:00 PM	59.1	71.8		
6	1:10:00 PM	71.6	84.2		
7	1:11:00 PM	59.4	67.6		
8	1:12:00 PM	58.9	67.2		
9	1:13:00 PM	56.8	63.7		
10	1:14:00 PM	60.0	70.5		
11	1:15:00 PM	58.5	66.3		
12	1:16:00 PM	56.2	63.2		
13	1:17:00 PM	58.6	70.1		
14	1:18:00 PM	59.7	64.3		
15	1:19:00 PM	63.4	72.5		
Leq		62.9			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 1 (3)
Description:	Tuscany Apartments
SLM Filename:	LxT_0001604-20210721 125000-LxT_Data.017
Date:	7/21/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	1:20:00 PM	55.9	64.8		
2	1:21:00 PM	60.0	68.8		
3	1:22:00 PM	59.2	69.2		
4	1:23:00 PM	56.0	66.1		
5	1:24:00 PM	59.1	64.3		
6	1:25:00 PM	65.6	76.2		
7	1:26:00 PM	59.4	70.7		
8	1:27:00 PM	65.0	75.9		
9	1:28:00 PM	59.2	68.0		
10	1:29:00 PM	63.6	73.0		
11	1:30:00 PM	58.5	63.0		
12	1:31:00 PM	60.0	69.3		
13	1:32:00 PM	57.9	63.5		
14	1:33:00 PM	66.5	75.2		
15	1:34:00 PM	60.9	72.6		
Leq		61.7			



Site 2 – North of 563 Via Pisa – NSA 04 (looking west)



Site 2 – North of 563 Via Pisa – NSA 04 (looking south)

Arkansas Department of Transportation	
Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 2 (1)
Description:	N of 563 Via Pisa
SLM Filename:	LxT_0001604-20210721 113000-LxT_Data.016
Date:	7/21/2021

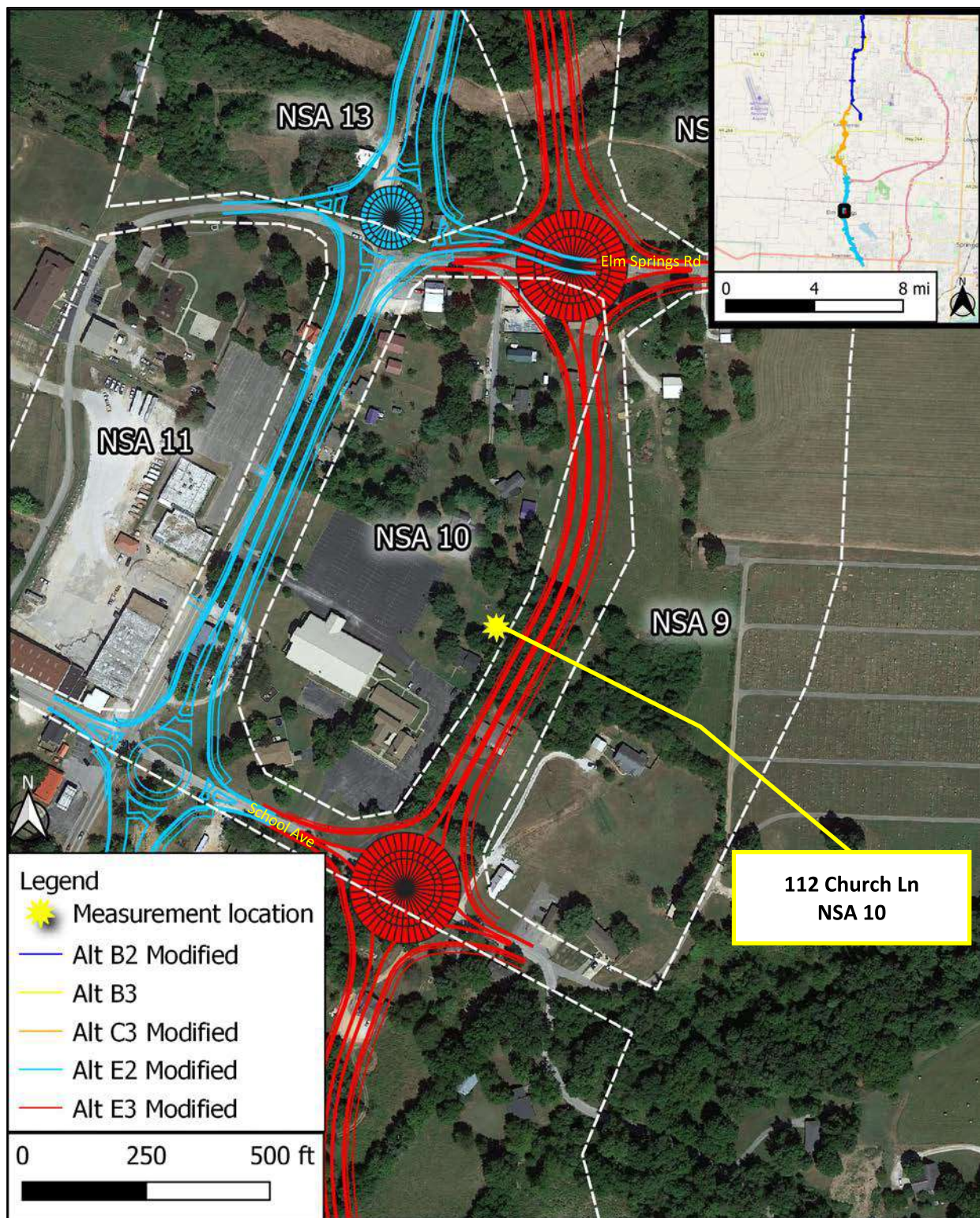
Period #	Time Start	Leq	Lmax	Delete?	Notes
1	11:30:00 AM	50.3	61.2		
2	11:31:00 AM	53.4	61.8		
3	11:32:00 AM	59.1	68.6		
4	11:33:00 AM	59.8	73.7		
5	11:34:00 AM	60.6	67.4		
6	11:35:00 AM	58.3	67.5		
7	11:36:00 AM	55.2	59.4		
8	11:37:00 AM	54.0	62.0		
9	11:38:00 AM	53.7	61.1		
10	11:39:00 AM	53.9	60.0		
11	11:40:00 AM	51.2	61.3		
12	11:41:00 AM	59.0	66.8		
13	11:42:00 AM	53.7	61.2		
14	11:43:00 AM	59.2	67.1		
15	11:44:00 AM	60.0	70.2		
	Leq	57.3			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 2 (2)
Description:	N of 563 Via Pisa
SLM Filename:	LxT_0001604-20210721 113000-LxT_Data.016
Date:	7/21/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	11:45:00 AM	55.1	64.1		
2	11:46:00 AM	57.0	61.8		
3	11:47:00 AM	52.9	62.9		
4	11:48:00 AM	54.3	63.7		
5	11:49:00 AM	58.4	68.2		
6	11:50:00 AM	56.0	62.3		
7	11:51:00 AM	55.2	64.9		
8	11:52:00 AM	56.5	64.3		
9	11:53:00 AM	54.6	62.8		
10	11:54:00 AM	54.7	63.5		
11	11:55:00 AM	58.2	65.5		
12	11:56:00 AM	58.8	66.8		
13	11:57:00 AM	55.8	63.6		
14	11:58:00 AM	52.5	60.7		
15	11:59:00 AM	55.6	64.5		
	Leq	56.1			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 2 (3)
Description:	N of 563 Via Pisa
SLM Filename:	LxT_0001604-20210721 113000-LxT_Data.016
Date:	7/21/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	12:00:00 PM	55.3	62.2		
2	12:01:00 PM	56.8	63.2		
3	12:02:00 PM	56.1	63.7		
4	12:03:00 PM	54.9	61.4		
5	12:04:00 PM	54.2	60.5		
6	12:05:00 PM	55.1	64.0		
7	12:06:00 PM	53.5	61.6		
8	12:07:00 PM	54.7	62.6		
9	12:08:00 PM	55.6	63.6		
10	12:09:00 PM	54.2	60.3		
11	12:10:00 PM	58.0	69.8		
12	12:11:00 PM	60.4	70.9		
13	12:12:00 PM	58.1	64.1		
14	12:13:00 PM	56.7	65.2		
15	12:14:00 PM	60.1	69.9		
	Leq	56.8			



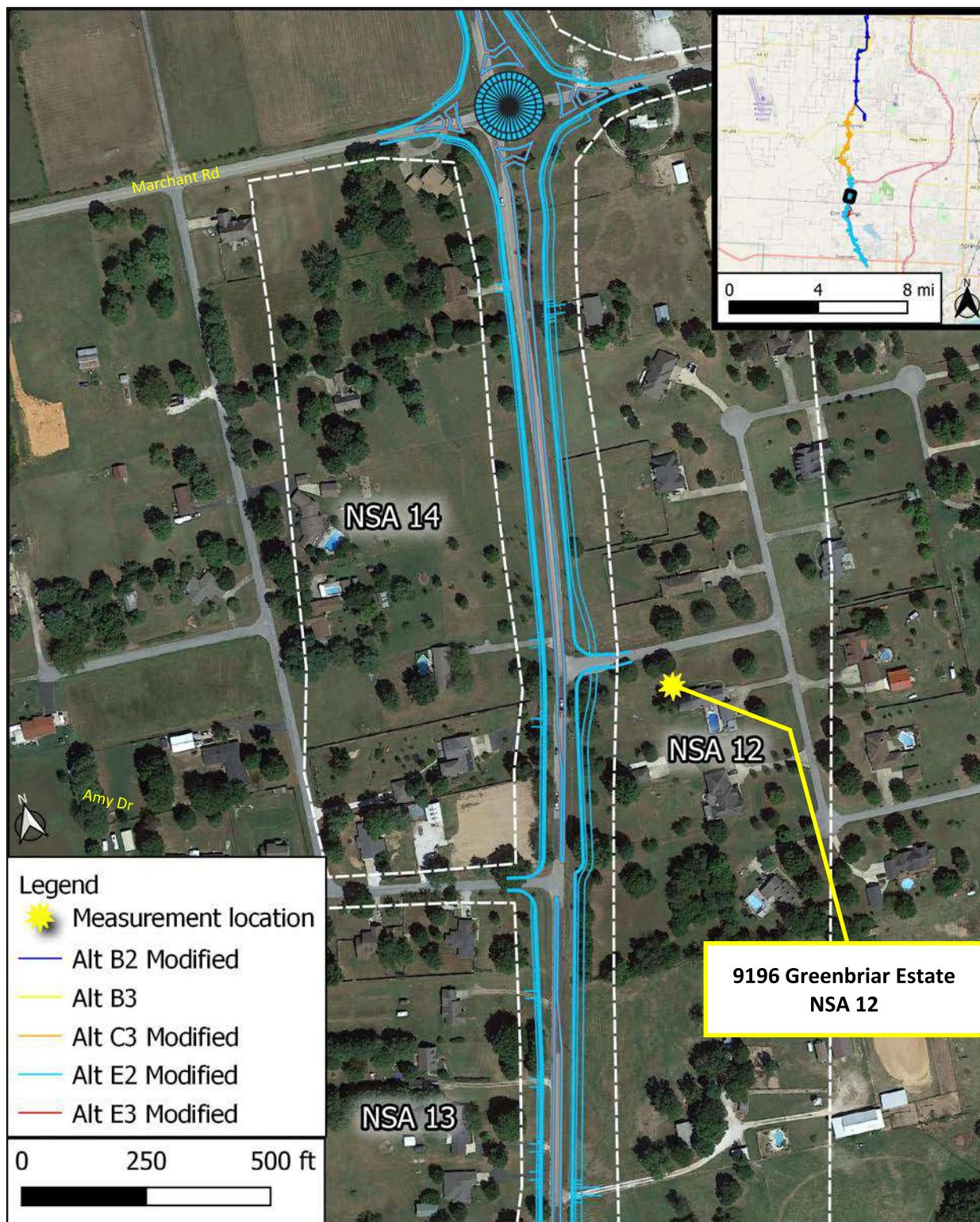
NO PICS AVAILABLE

Ambient Site 2 – 112 Church Lane – NSA 10

Arkansas Department of Transportation

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Ambient Site 2
Description:	112 Church Lane
SLM Filename:	LxT_0003074-20210616 100722-LxT_Data.020
Date:	6/16/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	10:15:00 AM	47.9	54.8		
2	10:16:00 AM	48.4	53.6		
3	10:17:00 AM	50.5	55.9		
4	10:18:00 AM	52.3	59.8		
5	10:19:00 AM	50.2	60.1		
6	10:20:00 AM	50.3	56.1		
7	10:21:00 AM	55.6	63.4		
8	10:22:00 AM	53.5	64.3		
9	10:23:00 AM	48.6	57.0		
10	10:24:00 AM	47.2	53.5		
11	10:25:00 AM	47.9	55.1		
12	10:26:00 AM	43.9	48.7		
13	10:27:00 AM	44.2	49.6		
14	10:28:00 AM	43.9	47.2		
15	10:29:00 AM	56.3	62.5		
16	10:30:00 AM	47.2	53.3		
17	10:31:00 AM	44.5	48.5		
18	10:32:00 AM	51.6	55.9		
19	10:33:00 AM	48.2	51.9		
20	10:34:00 AM	47.5	52.3		
Leq		50.5			





Site 3 – 9196 Greenbriar Estates Road – NSA 12 (looking south)



Site 3 – 9196 Greenbriar Estates Road – NSA 12 (looking west)

Arkansas Department of Transportation	
Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 3 (1)
Description:	9196 Greenbriar Estate
SLM Filename:	LxT_0001604-20210721_101500-LxT_Data.015
Date:	7/21/2021

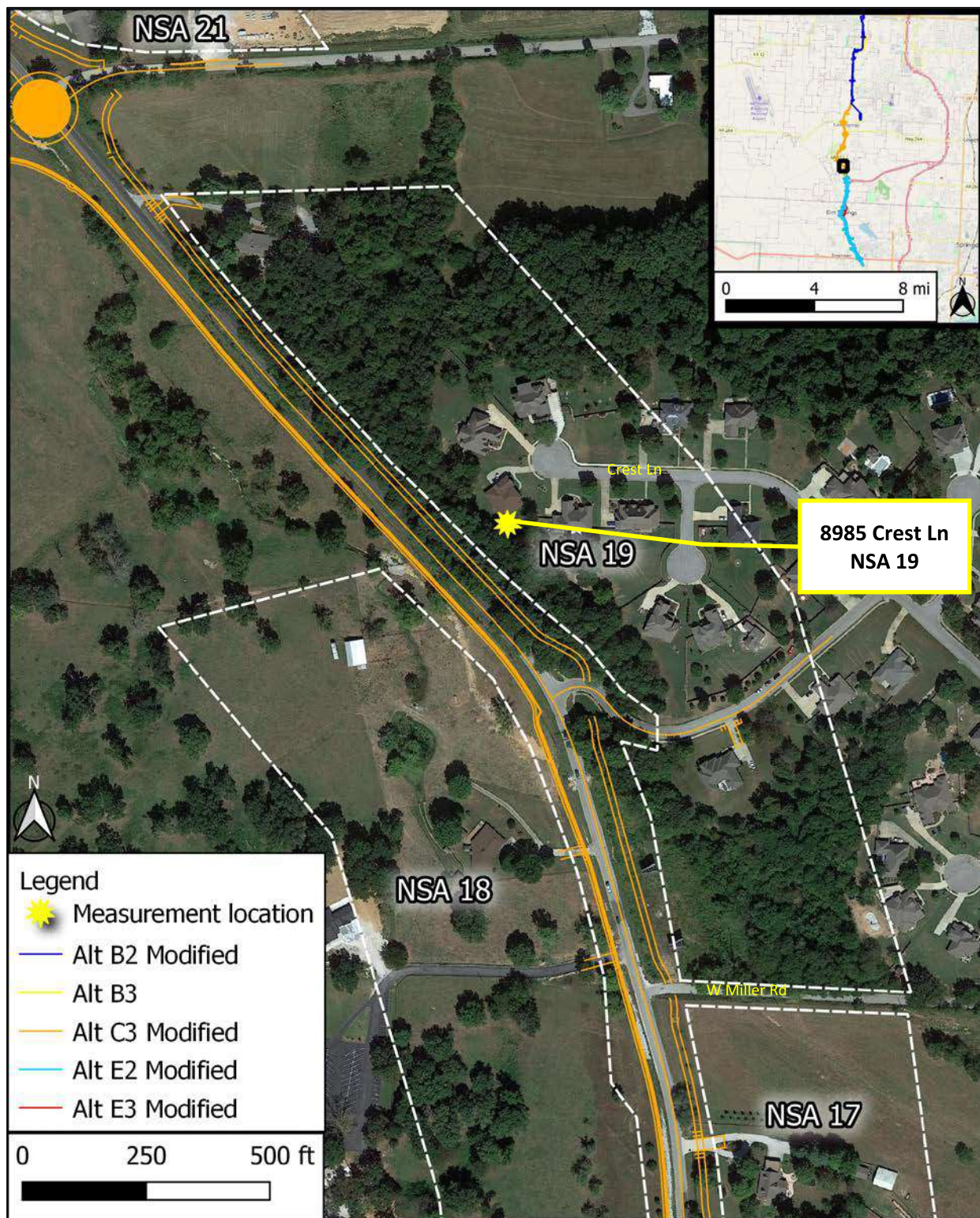
Period #	Time Start	Leq	Lmax	Delete?	Notes
1	10:15:00 AM	52.8	59.8		
2	10:16:00 AM	54.4	58.8		
3	10:17:00 AM	50.3	53.7		
4	10:18:00 AM	49.5	55.4		
5	10:19:00 AM	50.7	54.0		
6	10:20:00 AM	54.0	58.8		
7	10:21:00 AM	54.2	60.3		
8	10:22:00 AM	51.7	58.7		
9	10:23:00 AM	52.2	55.8		
10	10:24:00 AM	52.2	56.5		
11	10:25:00 AM	59.5	67.5		Dump truck
12	10:26:00 AM	52.2	55.3		
13	10:27:00 AM	53.0	55.6		
14	10:28:00 AM	48.4	53.9		
15	10:29:00 AM	51.5	59.3		
	Leq	53.4			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 3 (2)
Description:	9196 Greenbriar Estate
SLM Filename:	LxT_0001604-20210721_101500-LxT_Data.015
Date:	7/21/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	10:30:00 AM	56.0	63.8		
2	10:31:00 AM	56.2	60.1		
3	10:32:00 AM	53.3	58.5		
4	10:33:00 AM	50.3	53.2		
5	10:34:00 AM	54.5	66.1		
6	10:35:00 AM	51.8	58.9		
7	10:36:00 AM	56.0	66.6		
8	10:37:00 AM	53.2	59.7		
9	10:38:00 AM	56.1	64.1		
10	10:39:00 AM	53.3	59.7		
11	10:40:00 AM	54.3	60.9		
12	10:41:00 AM	51.6	55.9		
13	10:42:00 AM	54.7	64.2		
14	10:43:00 AM	55.0	59.2		
15	10:44:00 AM	55.0	62.5		
	Leq	54.4			

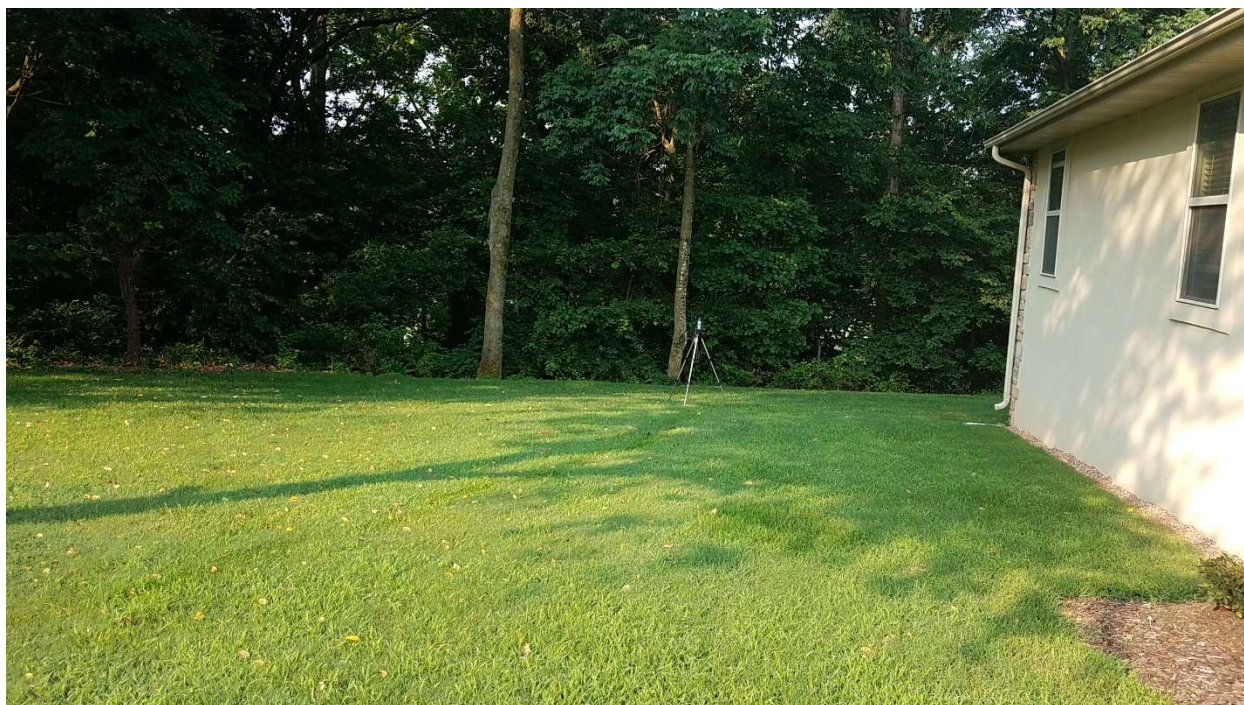
Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 3 (3)
Description:	9196 Greenbriar Estate
SLM Filename:	LxT_0001604-20210721_101500-LxT_Data.015
Date:	7/21/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	10:45:00 AM	49.4	54.7		
2	10:46:00 AM	54.4	61.8		
3	10:47:00 AM	52.0	56.3		
4	10:48:00 AM	54.0	59.7		
5	10:49:00 AM	52.8	57.2		
6	10:50:00 AM	57.7	65.7		
7	10:51:00 AM	55.5	64.3		
8	10:52:00 AM	52.0	55.6		
9	10:53:00 AM	52.4	56.0		
10	10:54:00 AM	59.3	68.6		
11	10:55:00 AM	53.5	58.1		
12	10:56:00 AM	55.3	61.4		
13	10:57:00 AM	50.9	56.9		
14	10:58:00 AM	53.0	57.5		
15	10:59:00 AM	51.3	54.9		
	Leq	54.4			





Site 4 – 8985 Crest Lane – NSA 19 (looking north)



Site 4 – 8985 Crest Lane – NSA 19 (looking west)

Arkansas Department of Transportation	
Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 4 (1)
Description:	8985 Crest Lane
SLM Filename:	LxT_0001604-20210721_084200-LxT_Data.014
Date:	7/21/2021

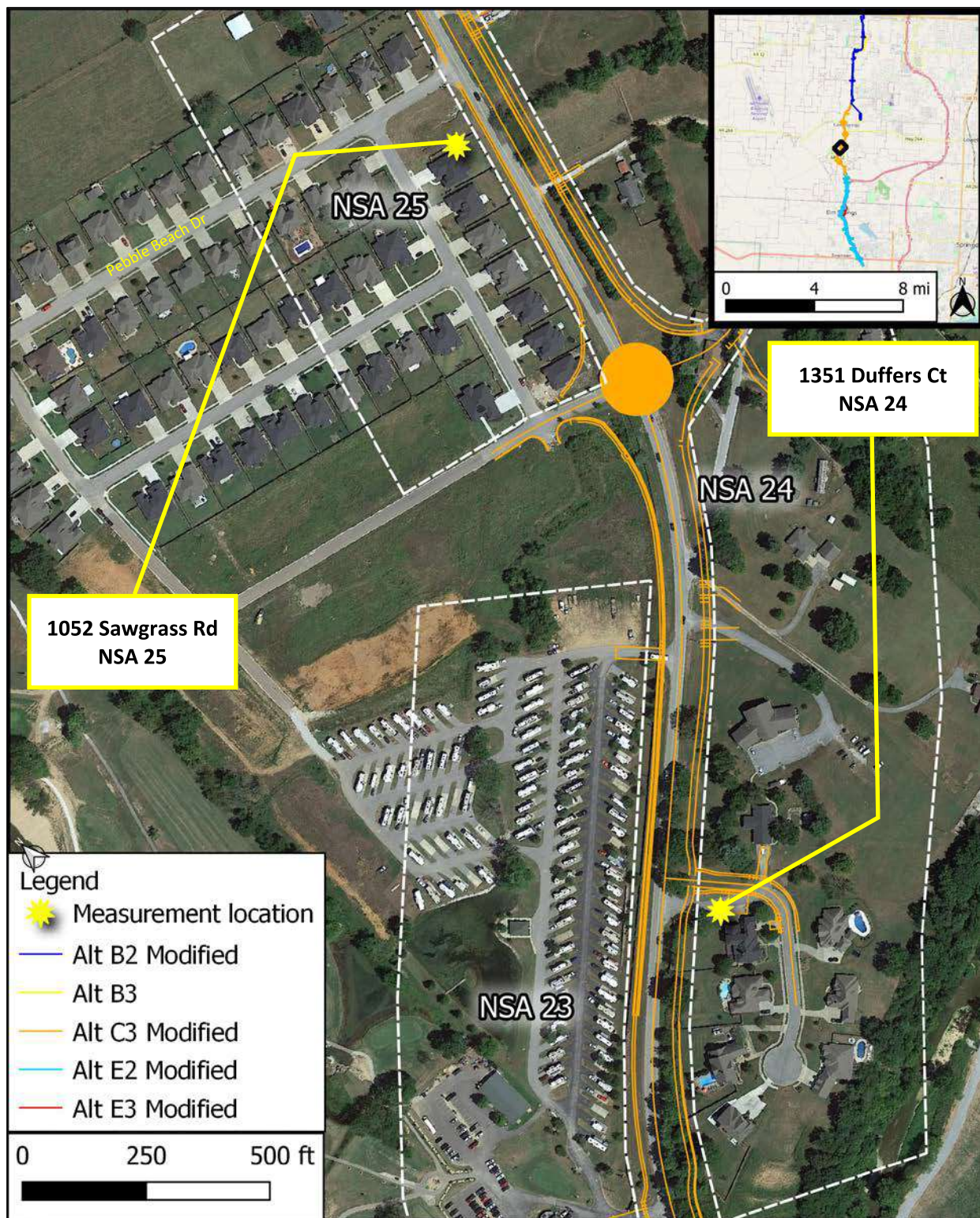
Period #	Time Start	Leq	Lmax	Delete?	Notes
1	8:55:00 AM	51.7	59.2		
2	8:56:00 AM	52.4	56.0		
3	8:57:00 AM	58.2	64.4		
4	8:58:00 AM	54.6	60.8		
5	8:59:00 AM	55.1	61.3		
6	9:00:00 AM	56.3	62.7		
7	9:01:00 AM	52.0	55.5		
8	9:02:00 AM	52.0	56.2		
9	9:03:00 AM	54.7	62.0		
10	9:04:00 AM	55.7	61.2		
11	9:05:00 AM	54.8	59.8		
12	9:06:00 AM	53.9	57.6		
13	9:07:00 AM	53.3	56.8		
14	9:08:00 AM	54.5	57.1		
15	9:09:00 AM	54.9	58.1		
	Leq	54.6			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 4 (2)
Description:	8985 Crest Lane
SLM Filename:	LxT_0001604-20210721_084200-LxT_Data.014
Date:	7/21/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	9:10:00 AM	54.8	57.7		
2	9:11:00 AM	53.7	58.4		
3	9:12:00 AM	56.6	62.2		
4	9:13:00 AM	56.1	58.8		
5	9:14:00 AM	55.1	58.9		
6	9:15:00 AM	54.3	57.6		
7	9:16:00 AM	56.3	65.0		
8	9:17:00 AM	52.5	57.6		
9	9:18:00 AM	50.7	56.8		
10	9:19:00 AM	55.2	60.4		
11	9:20:00 AM	57.1	65.1		
12	9:21:00 AM	55.1	63.8		
13	9:22:00 AM	53.1	56.9		
14	9:23:00 AM	51.7	55.0		
15	9:24:00 AM	53.4	57.5		
	Leq	54.7			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 4 (3)
Description:	8985 Crest Lane
SLM Filename:	LxT_0001604-20210721_084200-LxT_Data.014
Date:	7/21/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	9:25:00 AM	52.9	55.5		
2	9:26:00 AM	55.3	59.9		
3	9:27:00 AM	59.5	67.3		
4	9:28:00 AM	58.4	65.4		
5	9:29:00 AM	55.2	58.2		
6	9:30:00 AM	54.9	61.6		
7	9:31:00 AM	53.7	56.8		
8	9:32:00 AM	56.6	64.2		
9	9:33:00 AM	57.7	63.4		
10	9:34:00 AM	55.3	62.2		
11	9:35:00 AM	55.9	60.2		
12	9:36:00 AM	56.6	64.0		
13	9:37:00 AM	55.6	61.5		
14	9:38:00 AM	59.0	66.6		
15	9:39:00 AM	54.9	58.2		
	Leq	56.5			



NO PICS AVAILABLE

Site 5 – 1351 Duffers Court – NSA 24

Arkansas Department of Transportation	
Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 5 (1)
Description:	1351 Duffers Ct
SLM Filename:	LxT_0001604-20210720 153000-LxT_Data.012
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	3:30:00 PM	59.6	68.0		
2	3:31:00 PM	65.5	73.6	x	Airplane flyover
3	3:32:00 PM	59.8	68.7		
4	3:33:00 PM	64.2	74.3		
5	3:34:00 PM	62.9	73.4		
6	3:35:00 PM	62.3	73.2		
7	3:36:00 PM	63.1	73.8		
8	3:37:00 PM	64.5	76.9		
9	3:38:00 PM	58.0	68.7		
10	3:39:00 PM	62.7	71.1		
11	3:40:00 PM	66.7	76.8	x	Local vehicle
12	3:41:00 PM	64.1	75.9		
13	3:42:00 PM	64.9	79.1	x	HT (dump)
14	3:43:00 PM	62.9	71.3		
15	3:44:00 PM	64.8	72.1		
Leq		62.8			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 5 (2)
Description:	1351 Duffers Ct
SLM Filename:	LxT_0001604-20210720 153000-LxT_Data.012
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	3:45:00 PM	59.2	68.3		
2	3:46:00 PM	62.0	75.5		
3	3:47:00 PM	61.2	69.6		
4	3:48:00 PM	65.4	76.5		
5	3:49:00 PM	63.1	71.7		
6	3:50:00 PM	59.1	67.7		
7	3:51:00 PM	63.8	76.2		
8	3:52:00 PM	70.8	86.1	x	
9	3:53:00 PM	61.6	68.9		
10	3:54:00 PM	62.2	68.7		
11	3:55:00 PM	65.7	72.8		
12	3:56:00 PM	61.5	67.5		
13	3:57:00 PM	63.7	72.3		
14	3:58:00 PM	61.4	69.8		
15	3:59:00 PM	61.5	67.9		
Leq		62.7			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 5 (3)
Description:	1351 Duffers Ct
SLM Filename:	LxT_0001604-20210720 153000-LxT_Data.012
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	4:00:00 PM	61.7	69.0		
2	4:01:00 PM	63.5	73.8		
3	4:02:00 PM	60.2	67.3		
4	4:03:00 PM	63.5	70.8		
5	4:04:00 PM	63.5	78.2		
6	4:05:00 PM	62.5	71.7		
7	4:06:00 PM	61.4	72.5		
8	4:07:00 PM	59.7	67.5		
9	4:08:00 PM	61.5	71.0		
10	4:09:00 PM	62.4	72.5		
11	4:10:00 PM	62.4	69.3		
12	4:11:00 PM	64.3	72.6		
13	4:12:00 PM	62.6	69.7		
14	4:13:00 PM	64.1	70.3		
15	4:14:00 PM	60.1	71.6		
Leq		62.4			



Site 6 – North of 1052 Sawgrass Road – NSA 25 (looking west)



Site 6 – North of 1052 Sawgrass Road – NSA 25 (looking south)

Arkansas Department of Transportation	
Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 6 (1)
Description:	North of 1052 Sawgrass
SLM Filename:	LxT_0001604-20210720 141959-LxT_Data.011
Date:	7/20/2021

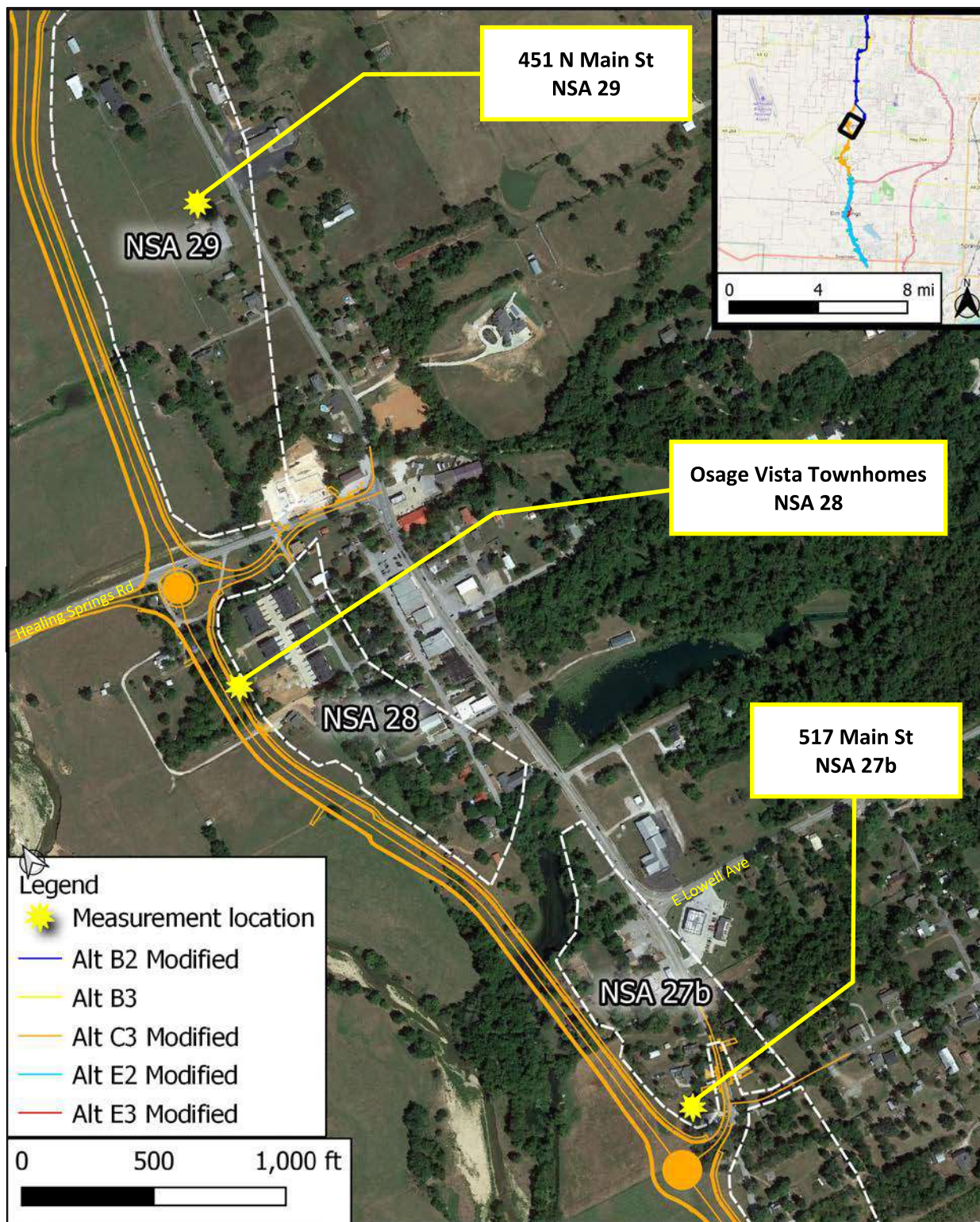
Period #	Time Start	Leq	Lmax	Delete?	Notes
1	2:25:00 PM	52.8	62.0		
2	2:26:00 PM	59.4	66.6		
3	2:27:00 PM	60.1	66.6		
4	2:28:00 PM	54.3	61.0		
5	2:29:00 PM	58.9	67.0		
6	2:30:00 PM	60.8	68.2		
7	2:31:00 PM	63.7	72.9		
8	2:32:00 PM	59.3	63.6		
9	2:33:00 PM	58.7	67.5		
10	2:34:00 PM	55.7	64.8		
11	2:35:00 PM	60.8	69.0		
12	2:36:00 PM	56.7	62.5		
13	2:37:00 PM	58.0	65.4		
14	2:38:00 PM	57.0	67.2		
15	2:39:00 PM	52.5	61.0		
	Leq	58.9			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 6 (2)
Description:	North of 1052 Sawgrass
SLM Filename:	LxT_0001604-20210720 141959-LxT_Data.011
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	2:40:00 PM	53.7	60.2		
2	2:41:00 PM	49.1	59.4		
3	2:42:00 PM	56.4	66.4		
4	2:43:00 PM	62.6	70.4		
5	2:44:00 PM	59.6	66.8		
6	2:45:00 PM	60.5	68.3		
7	2:46:00 PM	52.8	61.8		
8	2:47:00 PM	57.9	63.8		
9	2:48:00 PM	59.6	68.5		
10	2:49:00 PM	58.3	65.5		
11	2:50:00 PM	59.9	70.9		
12	2:51:00 PM	59.6	67.6		
13	2:52:00 PM	59.2	67.1		
14	2:53:00 PM	56.2	62.6		
15	2:54:00 PM	57.0	68.5		
	Leq	58.5			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 6 (3)
Description:	North of 1052 Sawgrass
SLM Filename:	LxT_0001604-20210720 141959-LxT_Data.011
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	2:55:00 PM	56.6	64.3		
2	2:56:00 PM	56.7	63.8		
3	2:57:00 PM	58.9	69.3		
4	2:58:00 PM	59.7	67.5		
5	2:59:00 PM	59.9	67.6		
6	3:00:00 PM	54.0	62.0		
7	3:01:00 PM	56.8	65.9		
8	3:02:00 PM	56.9	66.3		
9	3:03:00 PM	57.2	65.3		
10	3:04:00 PM	61.2	68.2		
11	3:05:00 PM	58.6	66.7		
12	3:06:00 PM	56.8	65.6		
13	3:07:00 PM	58.2	67.5		
14	3:08:00 PM	62.2	69.4		
15	3:09:00 PM	62.5	72.2		
	Leq	59.0			





Site 7 – 517 S Main Street – NSA 27b (looking west)



Site 7 – 517 S Main Street – NSA 27b (looking north)

Arkansas Department of Transportation	
Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 7 (1)
Description:	517 Main St
SLM Filename:	LxT_0001604-20210720 130000-LxT_Data.010
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	1:00:00 PM	52.0	57.6		
2	1:01:00 PM	57.3	65.0		
3	1:02:00 PM	57.9	64.2		
4	1:03:00 PM	56.4	61.8		
5	1:04:00 PM	54.8	64.4		
6	1:05:00 PM	56.2	65.8		
7	1:06:00 PM	55.8	63.4		
8	1:07:00 PM	55.0	63.2		
9	1:08:00 PM	55.3	60.4		
10	1:09:00 PM	58.4	65.7		
11	1:10:00 PM	60.2	69.2		
12	1:11:00 PM	55.0	60.6		
13	1:12:00 PM	56.1	61.2		
14	1:13:00 PM	52.4	57.4		
15	1:14:00 PM	57.6	64.3		
	Leq	56.5			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 7 (2)
Description:	517 Main St
SLM Filename:	LxT_0001604-20210720 130000-LxT_Data.010
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	1:15:00 PM	56.0	61.9		
2	1:16:00 PM	56.7	66.3		
3	1:17:00 PM	63.5	70.8		
4	1:18:00 PM	56.7	64.7		
5	1:19:00 PM	60.5	66.1		
6	1:20:00 PM	53.9	61.3		
7	1:21:00 PM	60.3	73.0		
8	1:22:00 PM	62.1	74.0		Dump truck
9	1:23:00 PM	56.1	63.6		
10	1:24:00 PM	54.2	62.6		
11	1:25:00 PM	60.0	69.9		
12	1:26:00 PM	56.1	63.3		
13	1:27:00 PM	59.2	68.1		
14	1:28:00 PM	53.4	59.9		
15	1:29:00 PM	54.1	60.7		
	Leq	58.7			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 7 (3)
Description:	517 Main St
SLM Filename:	LxT_0001604-20210720 130000-LxT_Data.010
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	1:30:00 PM	57.2	63.0		
2	1:31:00 PM	55.7	62.7		
3	1:32:00 PM	55.9	65.5		
4	1:33:00 PM	57.8	67.5		
5	1:34:00 PM	58.2	67.8		
6	1:35:00 PM	57.8	64.8		
7	1:36:00 PM	54.9	59.3		
8	1:37:00 PM	56.6	63.8		
9	1:38:00 PM	55.1	60.8		
10	1:39:00 PM	58.9	69.5		
11	1:40:00 PM	54.2	61.2		
12	1:41:00 PM	57.8	67.3		
13	1:42:00 PM	60.6	67.8		
14	1:43:00 PM	57.4	62.9		
15	1:44:00 PM	54.8	62.5		
	Leq	57.2			

NO PICS AVAILABLE

Ambient Site 2 – Osage Vista Townhomes – NSA 28

Arkansas Department of Transportation	
Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Ambient Site 1
Description:	Osage Vista Townhomes
SLM Filename:	LxT_0003074-20210616 084429-LxT_Data.019
Date:	6/16/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	8:55:00 AM	48.9	55.1		
2	8:56:00 AM	48.5	52.2		
3	8:57:00 AM	50.8	59.6		
4	8:58:00 AM	48.1	52.8		
5	8:59:00 AM	47.2	54.4		
6	9:00:00 AM	47.6	52.0		
7	9:01:00 AM	51.1	57.6		
8	9:02:00 AM	50.6	59.4		
9	9:03:00 AM	47.8	51.9		
10	9:04:00 AM	46.3	51.5		
11	9:05:00 AM	47.1	50.6		
12	9:06:00 AM	48.7	52.3		
13	9:07:00 AM	48.5	53.0		
14	9:08:00 AM	48.5	56.0		
15	9:09:00 AM	46.0	50.4		
16	9:10:00 AM	46.1	48.4		
17	9:11:00 AM	46.4	49.8		
18	9:12:00 AM	47.6	49.0		
19	9:13:00 AM	49.0	55.6		
20	9:14:00 AM	46.1	50.6		
Leq		48.3			



Site 8 – 451 N Main Street – NSA 29 (looking east)



Site 8 – 451 N Main Street – NSA 29

Arkansas Department of Transportation	
Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 8 (1)
Description:	451 N Main St
SLM Filename:	LxT_0001604-20210720 113500-LxT_Data.008
Date:	7/20/2021

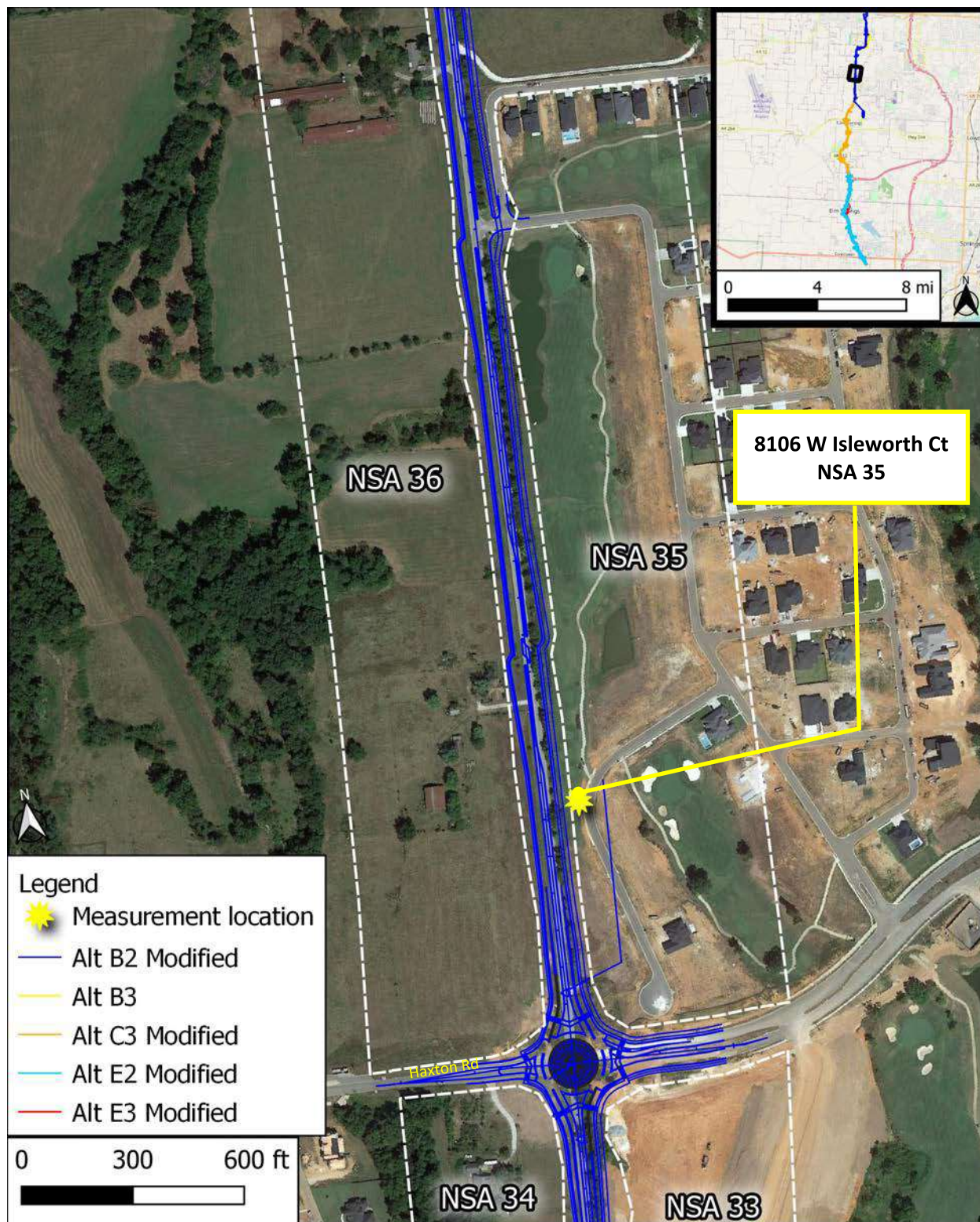
Period #	Time Start	Leq	Lmax	Delete?	Notes
1	11:35:00 AM	56.2	61.6		
2	11:36:00 AM	61.7	71.3		
3	11:37:00 AM	58.8	63.8		
4	11:38:00 AM	55.4	60.6		
5	11:39:00 AM	59.5	65.3		
6	11:40:00 AM	58.2	66.2		
7	11:41:00 AM	58.8	65.7		
8	11:42:00 AM	57.8	63.5		
9	11:43:00 AM	58.5	66.5		
10	11:44:00 AM	57.4	60.6		
11	11:45:00 AM	57.6	60.9		
12	11:46:00 AM	59.0	64.1		
13	11:47:00 AM	56.7	65.0		
14	11:48:00 AM	58.5	65.5		
15	11:49:00 AM	60.8	68.1		
	Leq	58.6			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 8 (2)
Description:	451 N Main St
SLM Filename:	LxT_0001604-20210720 113500-LxT_Data.008
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	11:50:00 AM	56.3	59.5		
2	11:51:00 AM	60.9	71.0		
3	11:52:00 AM	59.0	68.9		
4	11:53:00 AM	53.2	59.7		
5	11:54:00 AM	54.9	62.0		
6	11:55:00 AM	57.4	62.8		
7	11:56:00 AM	58.6	64.5		
8	11:57:00 AM	55.7	60.7		
9	11:58:00 AM	59.4	68.2		
10	11:59:00 AM	56.4	58.8		
11	12:00:00 PM	59.3	65.5		
12	12:01:00 PM	56.2	60.0		
13	12:02:00 PM	54.5	57.6		
14	12:03:00 PM	56.7	63.4		
15	12:04:00 PM	58.2	63.4		
	Leq	57.6			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 8 (3)
Description:	451 N Main St
SLM Filename:	LxT_0001604-20210720 113500-LxT_Data.008
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	12:05:00 PM	56.4	63.4		
2	12:06:00 PM	56.9	60.1		
3	12:07:00 PM	56.0	62.1		
4	12:08:00 PM	56.0	59.4		
5	12:09:00 PM	62.0	68.4		
6	12:10:00 PM	52.9	61.8		
7	12:11:00 PM	59.8	66.9		
8	12:12:00 PM	55.3	59.8		
9	12:13:00 PM	60.6	68.2		
10	12:14:00 PM	53.2	60.2		
11	12:15:00 PM	62.1	65.9		
12	12:16:00 PM	58.0	62.4		
13	12:17:00 PM	58.3	62.6		
14	12:18:00 PM	58.9	62.4		
15	12:19:00 PM	57.2	62.9		
	Leq	58.4			





Site 9 – 8106 W Isleworth Court – NSA 35 (looking west)



Site 9 – 8106 W Isleworth Court – NSA 35 (looking north)

Arkansas Department of Transportation	
Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 9 (1)
Description:	8106 W Isleworth Ct
SLM Filename:	LxT_0001604-20210720 101000-LxT_Data.007
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	10:10:00 AM	57.3	62.2		
2	10:11:00 AM	59.5	69.0		
3	10:12:00 AM	57.3	66.7		
4	10:13:00 AM	61.1	69.7		
5	10:14:00 AM	55.8	62.3		
6	10:15:00 AM	55.5	62.1		
7	10:16:00 AM	55.8	62.6		
8	10:17:00 AM	58.6	69.0		
9	10:18:00 AM	60.1	71.5		
10	10:19:00 AM	54.8	59.2		
11	10:20:00 AM	54.9	65.3		
12	10:21:00 AM	55.6	61.2		
13	10:22:00 AM	58.9	66.0		
14	10:23:00 AM	57.0	62.7		
15	10:24:00 AM	58.9	67.6		
	Leq	57.9			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 9 (2)
Description:	8106 W Isleworth Ct
SLM Filename:	LxT_0001604-20210615 094400-LxT_Data.001
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	10:25:00 AM	55.8	62.9		
2	10:26:00 AM	58.9	66.6		
3	10:27:00 AM	62.1	71.7		dump truck
4	10:28:00 AM	59.2	66.0		
5	10:29:00 AM	60.5	68.7		
6	10:30:00 AM	55.4	60.6		
7	10:31:00 AM	56.7	62.4		
8	10:32:00 AM	54.7	60.1		
9	10:33:00 AM	68.2	80.7		dump truck
10	10:34:00 AM	57.1	63.6		
11	10:35:00 AM	63.1	73.9		
12	10:36:00 AM	60.7	72.1		
13	10:37:00 AM	59.8	72.1		
14	10:38:00 AM	56.9	62.9		
15	10:39:00 AM	56.4	63.9		
	Leq	60.8			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 9 (3)
Description:	8106 W Isleworth Ct
SLM Filename:	LxT_0001604-20210721 072000-LxT_Data.013
Date:	7/21/2021

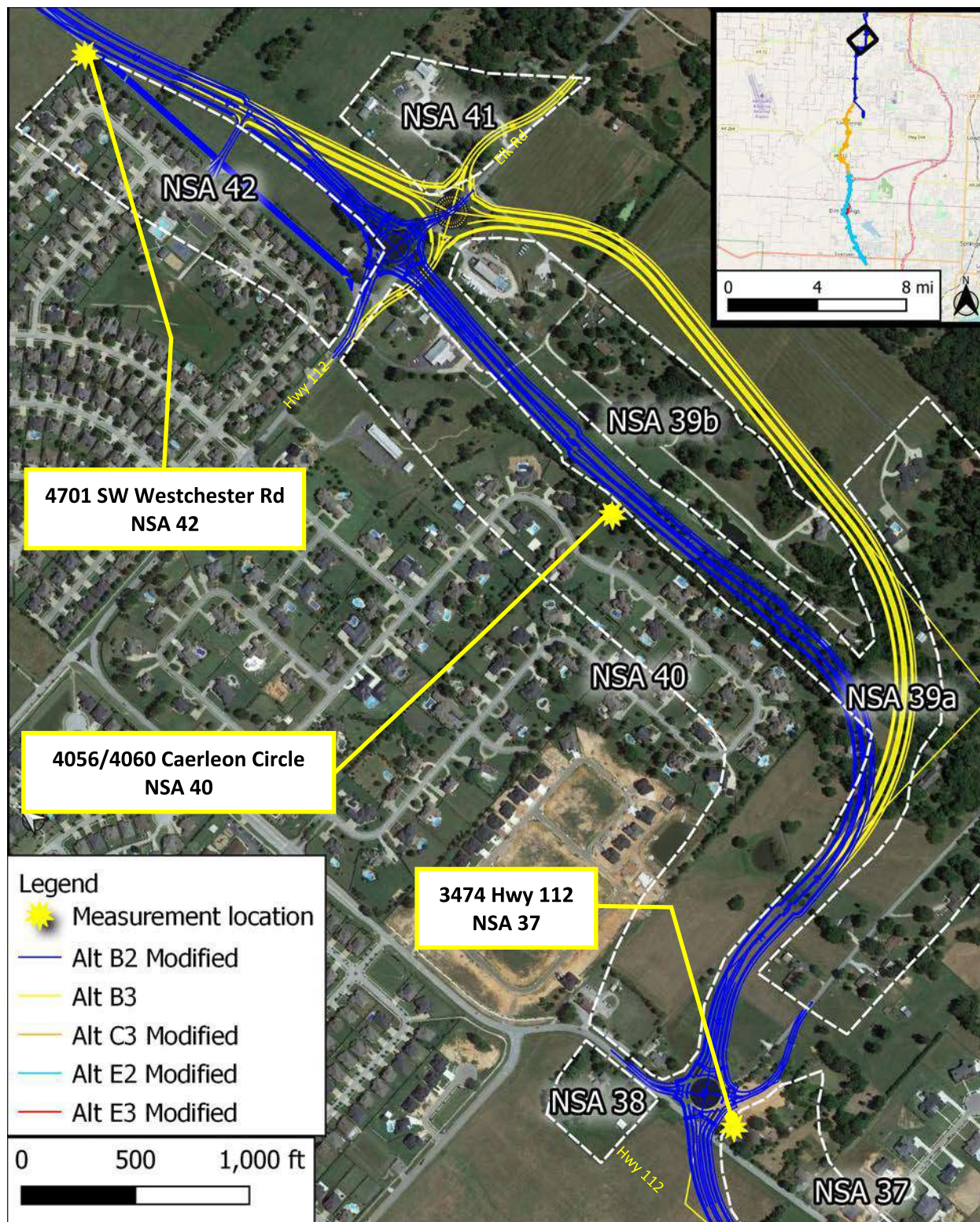
Period #	Time Start	Leq	Lmax	Delete?	Notes
1	7:20:00 AM	55.7	61.2		
2	7:21:00 AM	59.9	66.6		
3	7:22:00 AM	57.9	61.4		
4	7:23:00 AM	55.6	62.3		
5	7:24:00 AM	57.6	62.5		
6	7:25:00 AM	63.5	75.0		
7	7:26:00 AM	62.4	71.2		
8	7:27:00 AM	57.4	65.2		
9	7:28:00 AM	59.9	68.2		
10	7:29:00 AM	57.7	62.0		
11	7:30:00 AM	65.1	73.3		
12	7:31:00 AM	59.1	63.4		
13	7:32:00 AM	59.8	66.5		
14	7:33:00 AM	60.2	67.2		
15	7:34:00 AM	59.5	67.7		
	Leq	60.3			

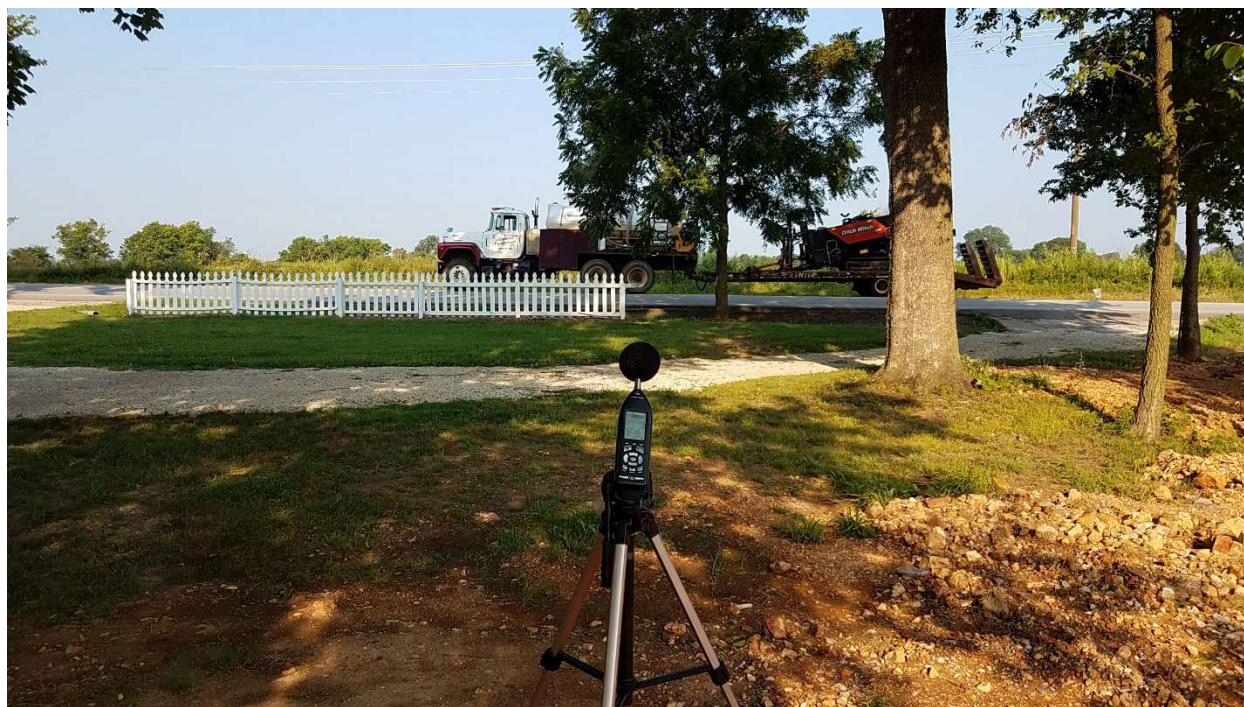
Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 9 (4)
Description:	8106 W Isleworth Ct
SLM Filename:	LxT_0001604-20210721_072000-LxT_Data.013
Date:	7/21/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	7:35:00 AM	58.0	65.2		
2	7:36:00 AM	57.5	63.6		
3	7:37:00 AM	60.0	69.1		
4	7:38:00 AM	61.3	71.6		
5	7:39:00 AM	60.9	68.1		
6	7:40:00 AM	60.7	66.2		
7	7:41:00 AM	60.4	65.2		
8	7:42:00 AM	59.3	63.5		
9	7:43:00 AM	56.3	60.9		
10	7:44:00 AM	59.3	66.3		
11	7:45:00 AM	63.5	72.8		
12	7:46:00 AM	61.7	68.5		
13	7:47:00 AM	60.6	67.2		
14	7:48:00 AM	59.4	65.6		
15	7:49:00 AM	58.7	62.9		
		Leq	60.2		

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 9 (5)
Description:	8106 W Isleworth Ct
SLM Filename:	LxT_0001604-20210721_072000-LxT_Data.013
Date:	7/21/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	7:50:00 AM	66.2	78.9		
2	7:51:00 AM	61.8	67.1		
3	7:52:00 AM	59.2	66.6		
4	7:53:00 AM	59.8	63.9		
5	7:54:00 AM	60.1	66.2		
6	7:55:00 AM	58.8	65.1		
7	7:56:00 AM	57.6	64.9		
8	7:57:00 AM	57.9	66.0		
9	7:58:00 AM	60.7	66.1		
10	7:59:00 AM	57.3	66.3		
11	8:00:00 AM	56.9	61.6		
12	8:01:00 AM	59.5	67.1		
13	8:02:00 AM	57.8	62.8		
14	8:03:00 AM	59.1	67.5		
15	8:04:00 AM	59.1	66.5		
		Leq	60.2		





Site 10 – 3473 AR Hwy 112 – NSA 37 (looking west)



Site 10 – 3473 AR Hwy 112 – NSA 37 (looking south)

Arkansas Department of Transportation	
Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 10 (1)
Description:	3473 AR HWY 112
SLM Filename:	LxT_0001604-20210720 084500-LxT_Data.006
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	8:45:00 AM	61.0	67.6		
2	8:46:00 AM	62.5	71.3		
3	8:47:00 AM	60.8	66.6		
4	8:48:00 AM	61.1	69.6		
5	8:49:00 AM	61.7	69.0		
6	8:50:00 AM	60.5	65.8		
7	8:51:00 AM	62.6	68.1		
8	8:52:00 AM	60.6	67.0		
9	8:53:00 AM	58.1	65.0		
10	8:54:00 AM	55.3	63.8		
11	8:55:00 AM	62.5	70.4		
12	8:56:00 AM	58.2	65.2		
13	8:57:00 AM	64.1	71.5		
14	8:58:00 AM	64.0	70.8		
15	8:59:00 AM	64.7	72.6		
	Leq	61.8			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 10 (2)
Description:	3473 AR HWY 112
SLM Filename:	LxT_0001604-20210720 084500-LxT_Data.006
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	9:00:00 AM	60.3	69.0		
2	9:01:00 AM	60.9	66.5		
3	9:02:00 AM	61.7	72.1		
4	9:03:00 AM	59.6	66.4		
5	9:04:00 AM	65.6	77.7		
6	9:05:00 AM	62.4	68.4		
7	9:06:00 AM	52.8	61.1		
8	9:07:00 AM	57.8	65.1		
9	9:08:00 AM	64.4	70.7		
10	9:09:00 AM	65.9	72.8		
11	9:10:00 AM	62.5	68.5		
12	9:11:00 AM	55.4	62.9		
13	9:12:00 AM	62.2	68.2		
14	9:13:00 AM	60.3	71.0		
15	9:14:00 AM	63.9	70.8		
	Leq	62.2			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 10 (3)
Description:	3473 AR HWY 112
SLM Filename:	LxT_0001604-20210720 084500-LxT_Data.006
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	9:15:00 AM	60.6	66.7		
2	9:16:00 AM	59.9	66.6		
3	9:17:00 AM	56.4	63.8		
4	9:18:00 AM	57.5	66.3		
5	9:19:00 AM	59.3	67.4		
6	9:20:00 AM	59.0	66.5		
7	9:21:00 AM	62.5	73.2		
8	9:22:00 AM	60.5	69.1		
9	9:23:00 AM	62.3	70.3		
10	9:24:00 AM	60.8	66.4		
11	9:25:00 AM	62.7	71.4		
12	9:26:00 AM	57.0	63.2		
13	9:27:00 AM	57.2	64.6		
14	9:28:00 AM	61.2	70.7		
15	9:29:00 AM	60.8	66.9		
	Leq	60.0			

NO PICS AVAILABLE

Ambient Site 3 – 4056/4060 Caerleon Circle – NSA 40

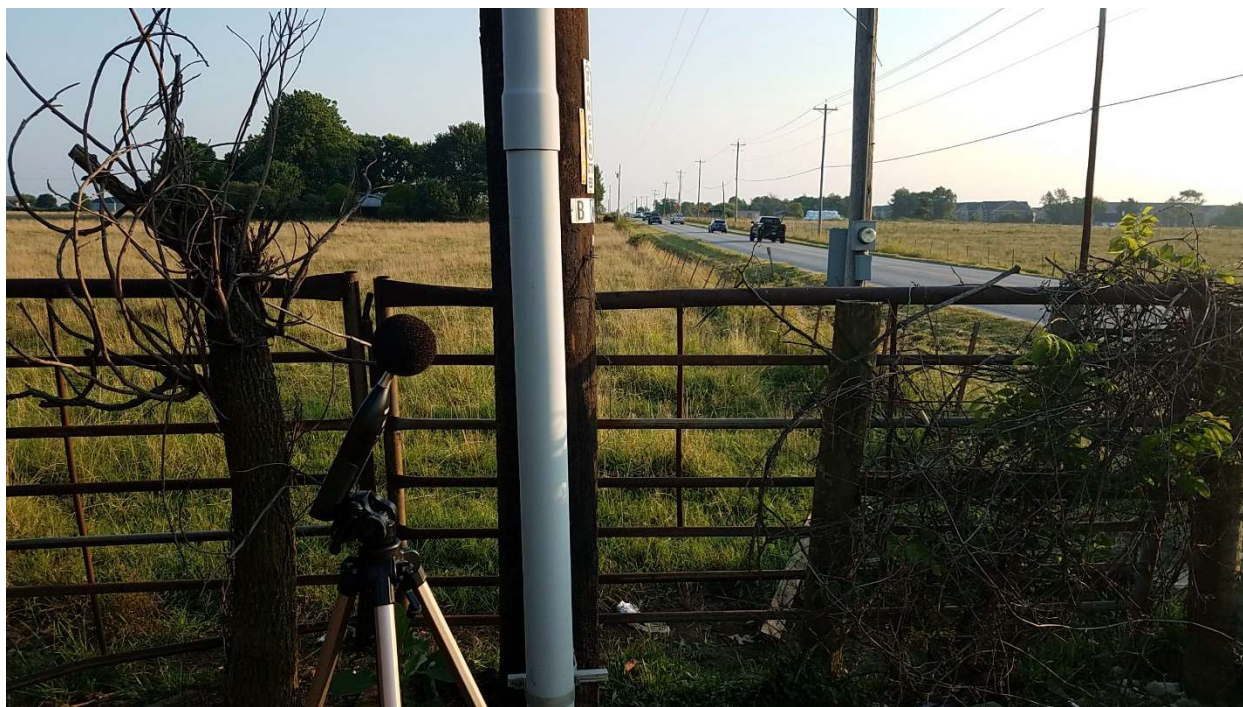
Arkansas Department of Transportation

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Ambient Site 3
Description:	4056/4060 Caerleon Circle
SLM Filename:	LxT_0003074-20210616 110433-LxT_Data.021
Date:	6/16/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	11:05:00 AM	48.2	52.1		
2	11:06:00 AM	46.2	48.5		
3	11:07:00 AM	48.0	56.8		
4	11:08:00 AM	50.2	57.4		
5	11:09:00 AM	46.3	48.6		
6	11:10:00 AM	46.4	48.7		
7	11:11:00 AM	49.4	54.9		
8	11:12:00 AM	47.1	51.3		
9	11:13:00 AM	45.9	50.9		
10	11:14:00 AM	47.8	51.9		
11	11:15:00 AM	47.7	52.5		
12	11:16:00 AM	49.3	56.8	x	Contractors loading rocks into wheelbarrow
13	11:17:00 AM	51.7	61.6	x	Contractors loading rocks into wheelbarrow
14	11:18:00 AM	50.4	58.6	x	Contractors loading rocks into wheelbarrow
15	11:19:00 AM	51.8	59.7	x	Contractors loading rocks into wheelbarrow
Leq		47.8			



Site 11 – North of 4701 SW Westchester Road – NSA 42 (looking east)



Site 11 – North of 4701 SW Westchester Road – NSA 42 (looking north)

Arkansas Department of Transportation	
Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 11 (1)
Description:	North of 4701 SW Westchester Road
SLM Filename:	LxT_0001604-20210720 073000-LxT_Data.005
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	7:30:00 AM	68.3	74.1		
2	7:31:00 AM	69.1	73.9		
3	7:32:00 AM	67.8	73.3		
4	7:33:00 AM	64.1	73.1		
5	7:34:00 AM	71.3	76.0		
6	7:35:00 AM	70.9	76.3		
7	7:36:00 AM	71.2	76.7		
8	7:37:00 AM	70.4	75.8		
9	7:38:00 AM	68.3	75.7		
10	7:39:00 AM	70.8	75.5		
11	7:40:00 AM	70.0	76.6		
12	7:41:00 AM	70.4	77.2		
13	7:42:00 AM	68.6	75.6		
14	7:43:00 AM	70.9	77.4		
15	7:44:00 AM	71.5	78.1		
Leq		69.9			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 11 (2)
Description:	North of 4701 SW Westchester Road
SLM Filename:	LxT_0001604-20210720 073000-LxT_Data.005
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	7:45:00 AM	71.3	75.5		
2	7:46:00 AM	71.4	76.6		
3	7:47:00 AM	72.0	76.3		
4	7:48:00 AM	71.5	76.7		
5	7:49:00 AM	70.2	77.0		
6	7:50:00 AM	72.2	79.5		
7	7:51:00 AM	73.3	77.0		
8	7:52:00 AM	70.4	77.6		
9	7:53:00 AM	71.5	75.7		
10	7:54:00 AM	71.0	76.2		
11	7:55:00 AM	69.5	75.6		
12	7:56:00 AM	72.9	79.4	x	Dog
13	7:57:00 AM	72.2	81.7	x	Dog
14	7:58:00 AM	71.7	82.4		
Leq		71.4			

Project Name:	State Route 112, Washington and Benton Counties, 012305, 090513, 090514
Site:	Site 11 (3)
Description:	North of 4701 SW Westchester Road
SLM Filename:	LxT_0001604-20210720 073000-LxT_Data.005
Date:	7/20/2021

Period #	Time Start	Leq	Lmax	Delete?	Notes
1	8:00:00 AM	68.9	75.6		
2	8:01:00 AM	70.3	75.3		
3	8:02:00 AM	70.3	79.3		
4	8:03:00 AM	72.6	82.7		
5	8:04:00 AM	68.5	77.5		
6	8:05:00 AM	73.1	79.6		
7	8:06:00 AM	68.5	73.7		
8	8:07:00 AM	68.3	72.4		
9	8:08:00 AM	68.2	75.4		
10	8:09:00 AM	70.6	75.7		
11	8:10:00 AM	72.9	84.3		
12	8:11:00 AM	71.4	78.2		
13	8:12:00 AM	70.6	76.6		
14	8:13:00 AM	67.0	75.2		
15	8:14:00 AM	67.3	75.4		
Leq		70.3			

Site	NSA	Date	Time	Traffic Volumes												Speed					
				NB						SB						NB			SB		
				Auto	MT	HT	Auto	MT	HT	Auto	MT	HT	Auto	MT	HT	Auto	MT	HT			
Site 1 (1)	3	7/21/2021	12:50:00 PM	87	3	8	67	0	3	35.5	36.7	36.5	37.0	37.0	33.0	33.0					
Site 1 (2)	3	7/21/2021	1:05:00 PM	62	4	8	55	6	3	35.0	37.0	41.5	34.5	31.0	----	----					
Site 1 (3)	3	7/21/2021	1:20:00 PM	76	3	12	63	2	4	42	40	35.2	40.5	----	----	39.0					
Site 2 (1)	4	7/21/2021	11:30:00 AM	50	4	12	45	0	2	34.0	29.0	37.8	39.3	----	----	35.0					
Site 2 (2)	4	7/21/2021	11:45:00 AM	48	2	7	38	3	8	28.0	33.0	35.4	42.0	37.3	37.5	37.5					
Site 2 (3)	4	7/21/2021	12:00:00 PM	41	2	11	62	2	4	37.0	33.0	37.0	37.1	46.0	----	----					
Site 3 (1)	12	7/20/2021	10:15:00 AM	69	2	12	57	3	5	47.0	38.0	39.8	35.1	45.5	46.0	46.0					
Site 3 (2)	12	7/20/2021	10:30:00 AM	67	1	11	46	3	10	38.3	34.0	39.0	40.3	42.0	40.0	40.0					
Site 3 (3)	12	7/21/2021	10:45:00 AM	66	7	15	76	3	6	42.0	36.5	41.8	39.9	38.0	39.0	39.0					
Site 4 (1)	19	7/21/2021	8:55:00 AM	53	2	16	62	3	6	40.4	45.0	42.6	44.1	40.0	38.0	38.0					
Site 4 (2)	19	7/21/2021	9:10:00 AM	57	5	9	60	2	7	41.0	41.3	40.8	45.5	44	43.5	43.5					
Site 4 (3)	19	7/21/2021	9:25:00 AM	57	2	13	62	9	8	41.5	----	41.4	45.7	46.5	43.6	43.6					
Site 5 (1)	24	7/20/2021	3:30:00 PM	60	0	9	63	5	12	40.8	38.3	43.6	43.6	38.3	40.8	40.8					
Site 5 (2)	24	7/20/2021	3:45:00 PM	82	0	8	100	6	8	38.0	40.8	44.2	44.2	40.8	38.0	38.0					
Site 5 (3)	24	7/20/2021	4:00:00 PM	77	1	5	86	3	5	43.3	42.0	43.6	43.6	42.0	43.3	43.3					
Site 6 (1)	25	7/20/2021	2:25:00 PM	65	1	11	75	3	7	37.0	39.5	41.1	41.1	39.5	37.0	37.0					
Site 6 (2)	25	7/20/2021	2:40:00 PM	69	1	10	52	2	11	40.7	40.0	43.5	43.5	40.0	40.0	40.7					
Site 6 (3)	25	7/20/2021	2:55:00 PM	69	2	11	53	5	15	39.6	44.0	45.0	45.0	44.0	39.6	39.6					
Site 7 (1)	27	7/20/2021	1:00:00 PM	69	2	9	70	3	10	28.0	21.5	29.2	29.2	21.5	28.0	28.0					
Site 7 (2)	27	7/20/2021	1:15:00 PM	53	2	13	56	2	17	27.8	28.0	30.4	30.4	28.0	27.8	27.8					
Site 7 (3)	27	7/20/2021	1:30:00 PM	79	6	7	75	4	17	28.0	21.5	29.2	29.2	21.5	28.0	28.0					
Site 8 (1)	29	7/20/2021	11:35:00 AM	70	6	10	75	6	13	31.6	32.5	32.8	32.8	32.5	31.6	31.6					
Site 8 (2)	29	7/20/2021	11:50:00 AM	76	4	7	55	2	6	34.6	42.0	31.1	31.1	42.0	34.6	34.6					
Site 8 (3)	29	7/20/2021	12:05:00 PM	84	2	7	81	1	10	27.0	----	31.0	31.0	----	27.0	27.0					
Site 9 (1)	35	7/20/2021	10:10:00 AM	53	1	6	65	1	7	43.2	39.0	40.2	40.2	39.0	43.2	43.2					
Site 9 (2)	35	7/20/2021	10:25:00 AM	52	6	8	37	2	11	44.5	42.0	36.4	36.4	42.0	44.5	44.5					
Site 9 (3)	35	7/20/2021	7:20:00 AM	86	2	7	78	2	6	42.5	40.5	44.6	46.5	47	----	----					
Site 9 (4)	35	7/20/2021	7:35:00 AM	113	6	16	74	0	4	41.0	32.0	44.6	48.4	48.0	40.5	40.5					
Site 9 (5)	35	7/20/2021	7:50:00 AM	107	6	11	82	3	2	49.0	39.0	43.7	45.8	----	40.0	40.0					
Site 10 (1)	37	7/20/2021	8:45:00 AM	83	3	11	57	1	6	43.0	37.7	39.9	39.9	37.7	43.0	43.0					
Site 10 (2)	37	7/20/2021	9:00:00 AM	64	1	8	52	4	7	40.5	44.0	42.1	42.1	44.0	40.5	40.5					
Site 10 (3)	37	7/20/2021	9:15:00 AM	61	1	9	44	2	8	40.5	40.3	38.2	38.2	40.3	40.5	40.5					
Site 11 (1)	42	7/20/2021	7:30:00 AM	103	2	4	106	2	3	41	41.5	41.7	41.7	41.5	41	41					
Site 11 (2)	42	7/20/2021	7:45:00 AM	145	4	5	137	0	5	34.3	40.7	38.4	38.4	40.7	34.3	34.3					
Site 11 (3)	42	7/20/2021	8:00:00 AM	88	1	3	104	3	4	30.5	----	35.2	35.2	----	30.5	30.5					

Appendix C
Traffic Projections

Traffic Projections	Appendix Page
Job 012305	C-2
Job 090513	C-3
Job 090514	C-4
Job 090636	C-5
Existing traffic volumes for TNM model	C-6
Build traffic volumes for TNM model	C-7
AADTs for local roads	C-8
AADTs for local roads projected to Year 2044 volumes	C-10



ARKANSAS DEPARTMENT OF TRANSPORTATION

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INTEROFFICE MEMORANDUM

August 11, 2021

TO: Mr. Trinity D. Smith, Engineer of Roadway Design

FROM: Mark Headley, Division Head - System Information and Research 

SUBJECT: Job 012305
Hwy. 412 – Springdale Bypass (S)
Highway 112 Section 2
Benton County

Previously, traffic counts were provided for the subject job. These traffic counts have been revised to better account for changing land development trends as well as newly available travel demand model results. This update was conducted in coordination with the Transportation Planning and Policy Division. Updated traffic assignments for the subject job are:

2024 ADT: 10,500

2044 ADT: 20,300

2024 ADTT: 630

% Trucks: 6

Growth Rate: 3.2%

Truck Traffic Classification: 10

Daily ESALs:

SN 4	SN 5	SN 6
818	807	832

Axle load distributions are attached.

c: Mark Headley
ME:MCH



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INTEROFFICE MEMORANDUM

August 11, 2021

TO: Mr. Trinity D. Smith, Engineer of Roadway Design

FROM: Mark Headley, Division Head - System Information and Research 

SUBJECT: Job 090513
Springdale Bypass – W. Wallis Rd. (S)
Highway 112 Section 2
Benton County

Previously, traffic counts were provided for the subject job. These traffic counts have been revised to better account for changing land development trends as well as newly available travel demand model results. This update was conducted in coordination with the Transportation Planning and Policy Division. Updated traffic assignments for the subject job are:

2024 ADT: 14,300

2044 ADT: 28,700

2024 ADTT: 570

% Trucks: 4

Growth Rate: 3.4%

Truck Traffic Classification: 10

Daily ESALs:

SN 4	SN 5	SN 6
763	752	775

Axle load distributions are attached.

c: Mark Headley
ME:MCH



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INTEROFFICE MEMORANDUM

August 11, 2021

TO: Mr. Trinity D. Smith, Engineer of Roadway Design

FROM: Mark Headley, Division Head - System Information and Research 

SUBJECT: Job 090514
W. Wallis Rd. – Pleasant Grove Rd. (S)
Highway 112 Section 2
Benton County

Previously, traffic counts were provided for the subject job. These traffic counts have been revised to better account for changing land development trends as well as newly available travel demand model results. This update was conducted in coordination with the Transportation Planning and Policy Division. Updated traffic assignments for the subject job are:

2024 ADT: 11,300

2044 ADT: 21,000

2024 ADTT: 450

% Trucks: 4

Growth Rate: 3.0%

Truck Traffic Classification:

Daily ESALs:

SN 4	SN 5	SN 6
573	565	582

Axle load distributions are attached.

c: Mark Headley
ME:MCH



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INTEROFFICE MEMORANDUM

August 11, 2021

TO: Mr. Trinity D. Smith, Engineer of Roadway Design

FROM: Mark Headley, Division Head - System Information and Research 

SUBJECT: Job 090636
Pleasant Grove Rd. – Hwy. 12 (S)
Highway 112 Section 2
Benton County

Previously, traffic counts were provided for the subject job. These traffic counts have been revised to better account for changing land development trends as well as newly available travel demand model results. This update was conducted in coordination with the Transportation Planning and Policy Division. Updated traffic assignments for the subject job are:

2024 ADT: 8,900

2044 ADT: 16,500

2024 ADTT: 530

% Trucks: 6

Growth Rate: 3.0%

Truck Traffic Classification: 10

Daily ESALs:

SN 4	SN 5	SN 6
675	665	686

Axle load distributions are attached.

c: Mark Headley
ME:MCH

K	0.11
D	50%
%MT of T	81%
%HT of T	19%

Project: Hwy 112
Design Year: 2024
Alternative: Existing

Job #	Road	From	To	Average Annual Daily Traffic (AADT)	Design Hour Volume (DHV)	%AADT Trucks	DHV Trucks	Peak			Off Peak				
								Total	Autos	MTs	HTs	Total	Autos	MTs	HTs
012305		Hwy 412	Springdale Bypass (S)	10,500	1,155	6%	46	578	555	19	4	578	555	19	4
090513	Hwy 112	Springdale Bypass	W. Wallis Road	14,300	1,573	4%	42	787	766	17	4	787	766	17	4
090514		W Wallis Road	Pleasant Grove Road (S)	11,300	1,243	4%	33	622	605	13	3	622	605	13	3
		Pleasant Grove Road	Hwy 12 (S)	8,900	979	6%	39	490	470	16	4	490	470	16	4
	E Henri de Tonti	west of Hwy 112		36,297	3,993	10%	266	1,997	1,864	108	25	1,997	1,864	108	25
		east of Hwy 112		39,700	4,367	10%	291	2,184	2,038	118	28	2,184	2,038	118	28
012305	Har-Ber Ave	east of Hwy 112		9,755	1,073	4%	29	537	522	12	3	537	522	12	3
		west of Hwy 112		4,877	537	4%	14	269	262	6	1	269	262	6	1
		west of Hwy 112		1,928	212	4%	6	106	103	2	1	106	103	2	1
		east of Hwy 112	project limit		8,280	911	4%	24	455	443	10	2	455	443	10
090513	E Lowell Ave	east of Hwy 112		7,544	830	4%	22	415	404	9	2	415	404	9	2
		west of Hwy 112		7,316	805	4%	21	402	392	9	2	402	392	9	2
		Shores Ave (2019 AADT adjusted to 2020)		1,300	143	4%	4	71	69	2	0	71	69	2	0
090514	W. Wallis Road	east of Hwy 112		3,000	330	4%	9	165	161	4	1	165	161	4	1

K	0.11
D	50%
%MT of T	81%
%HT of T	19%

Project:	Hwy 112
Design Year:	2044
Alternative:	Build

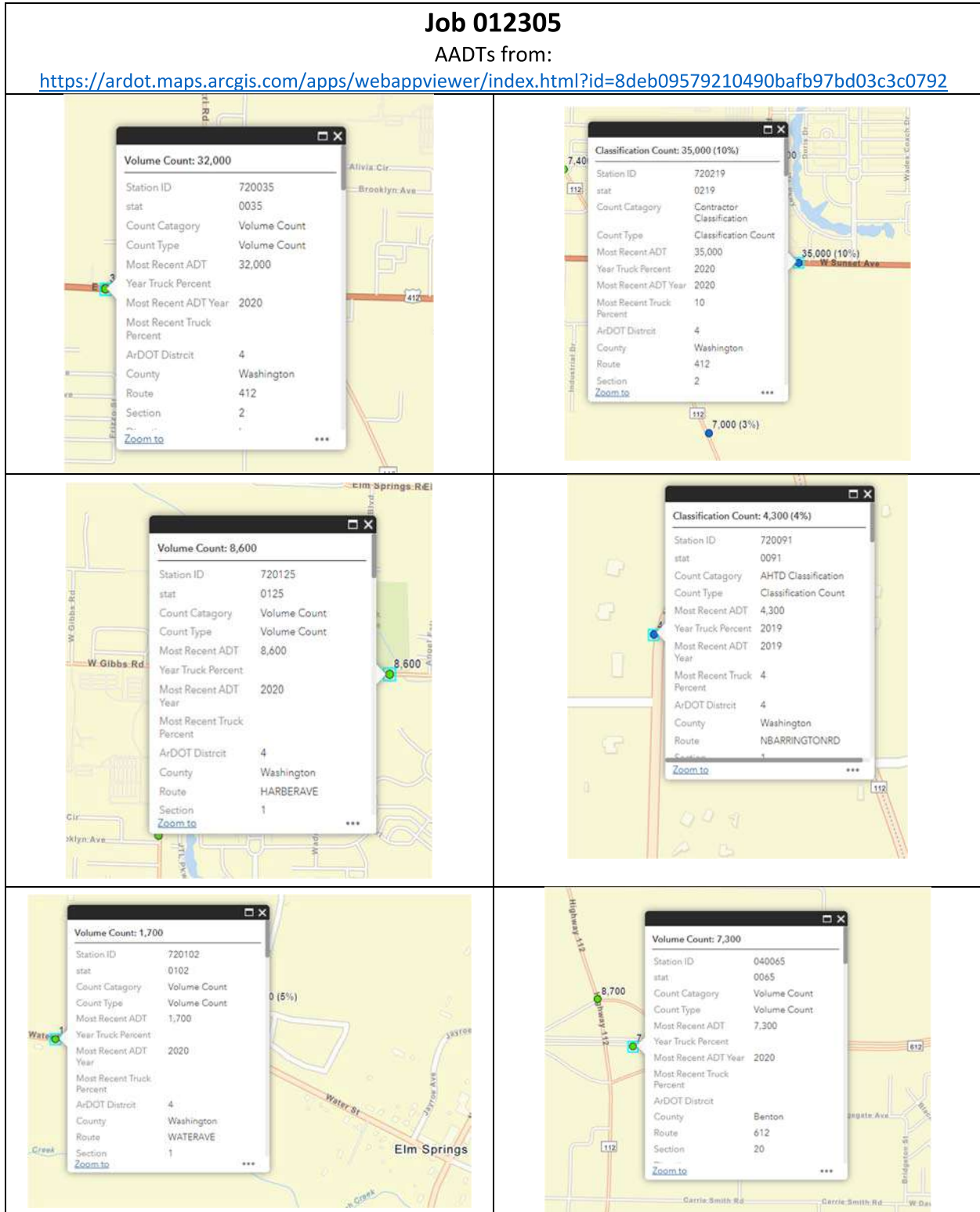
Job #	Road	From	To	Average Annual Daily Traffic (AADT)	Design Hour Volume (DHV)	% AADT Trucks	DHV Trucks	Peak			Off Peak				
								Total	Autos	MTs	HTs	Total	Autos	MTs	HTs
012305		Hwy 412	Springdale Bypass (S)	20,300	2,233	6%	89	1,117	1,072	36	8	1,117	1,072	36	8
090513		Springdale Bypass	W. Wallis Road	28,700	3,157	4%	84	1,579	1,537	34	8	1,579	1,537	34	8
090514	Hwy 112	W Wallis Road	Pleasant Grove Road (S)	21,000	2,310	4%	62	1,155	1,124	25	6	1,155	1,124	25	6
		Pleasant Grove Road	Hwy 12 (S)	16,500	1,815	6%	73	908	871	30	7	908	871	30	7
012305	E Henri de Tonti	west of Hwy 112		68,150	7,496	10%	500	3,748	3,498	203	48	3,748	3,498	203	48
		east of Hwy 112		74,539	8,199	10%	547	4,100	3,826	222	52	4,100	3,826	222	52
		east of Hwy 112		18,315	2,015	4%	54	1,007	980	22	5	1,007	980	22	5
		west of Hwy 112		9,158	1,007	4%	27	504	490	11	3	504	490	11	3
090513	Healing Springs	Water St		3,620	398	4%	11	199	194	4	1	199	194	4	1
		Springdale Bypass (Route 612)		15,547	1,710	4%	46	855	832	19	4	855	832	19	4
		E Lowell Ave	project limit	14,724	1,620	4%	43	810	788	17	4	810	788	17	4
		west of Hwy 112		14,278	1,571	4%	42	785	764	17	4	785	764	17	4
090514	Shores Ave (2019 AADT adjusted to 2020)	east of Hwy 112		3,570	393	4%	11	196	191	4	1	196	191	4	1
		east of Hwy 112		2,537	279	4%	7	140	136	3	1	140	136	3	1
		east of Hwy 112		2,250	248	4%	4	124	122	1	0	124	122	1	0
		west of Hwy 112		2,250	248	4%	4	124	122	1	0	124	122	1	0
090514	Pleasant Grove Rd	west of Hwy 112		2,250	248	4%	4	124	122	1	0	124	122	1	0
		east of Hwy 112		7,700	847	4%	23	424	412	9	2	424	412	9	2

AADTs – Local Roads (vehicles per day, vpd)

Job 012305

AADTs from:

<https://ardot.maps.arcgis.com/apps/webappviewer/index.html?id=8deb09579210490bafb97bd03c3c0792>

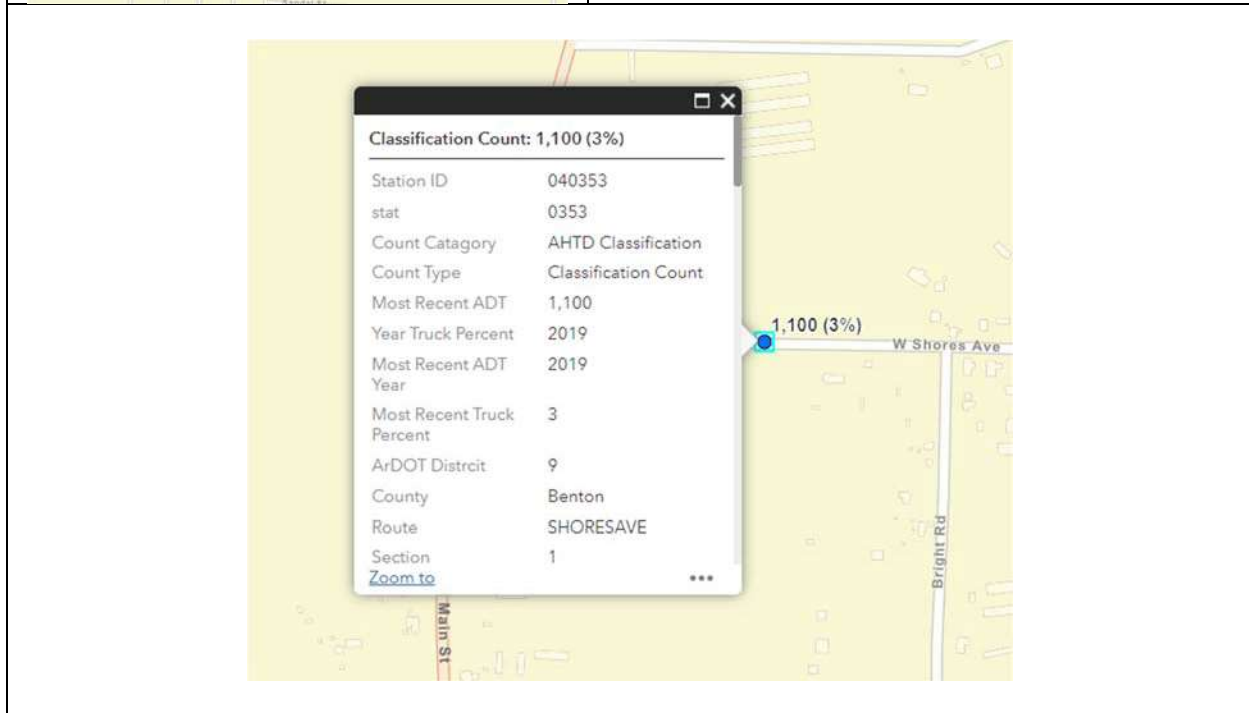


AADTs – Local Roads (vehicles per day, vpd)

Job 090513

AADTs from:

<https://ardot.maps.arcgis.com/apps/webappviewer/index.html?id=8deb09579210490bafb97bd03c3c0792>



AADTs – Local Roads (vehicles per day, vpd)

Job 012305:	Hwy 412 to Springdale Bypass		
overall % Trucks:	6%		
Annual Growth rate:	3.2%		
	Year		
	2020	2024	2044
E Henri de Tonti (west of 112)	32,000	36,297	68,150
E Henri de Tonti (east side)	35,000	39,700	74,539
Har-Ber Ave	8,600	9,755	18,315
N Barrington Rd	4,300	4,877	9,158
Water St	1,700	1,928	3,620
Springdale Bypass (Route 612)	7,300	8,280	15,547

Job 090513:	Springdale Bypass to W. Wallis Rd		
overall % Trucks:	4%		
Annual Growth rate:	3.4%		
	Year		
	2020	2024	2044
E Lowell Ave	6,600	7,544	14,724
Healing Springs	6,400	7,316	14,278
Shores Ave (2019 AADT adjusted to 2020)	1,137	1,300	2,537

Appendix D
Sound Levels and Impacts

Sound Levels and Impacts	Appendix Page
Job 012305, Alternative E2 Modified – sound levels	D-2
Job 012305, Alternative E2 Modified – aerials	D-6
Job 012305, Alternative E3 Modified – sound levels	D-15
Job 012305, Alternative E3 Modified - aerials	D-19
Job 090513, Alternative C3 Modified – sound levels	D-28
Job 090513, Alternative C3 Modified - aerials	D-32
Job 090514, Alternative B2 Modified – sound levels	D-39
Job 090514, Alternative B2 Modified - aerials	D-43
Job 090514, Alternative B3– sound levels	D-50
Job 090514, Alternative B3 - aerials	D-54

Sound Levels and impacts

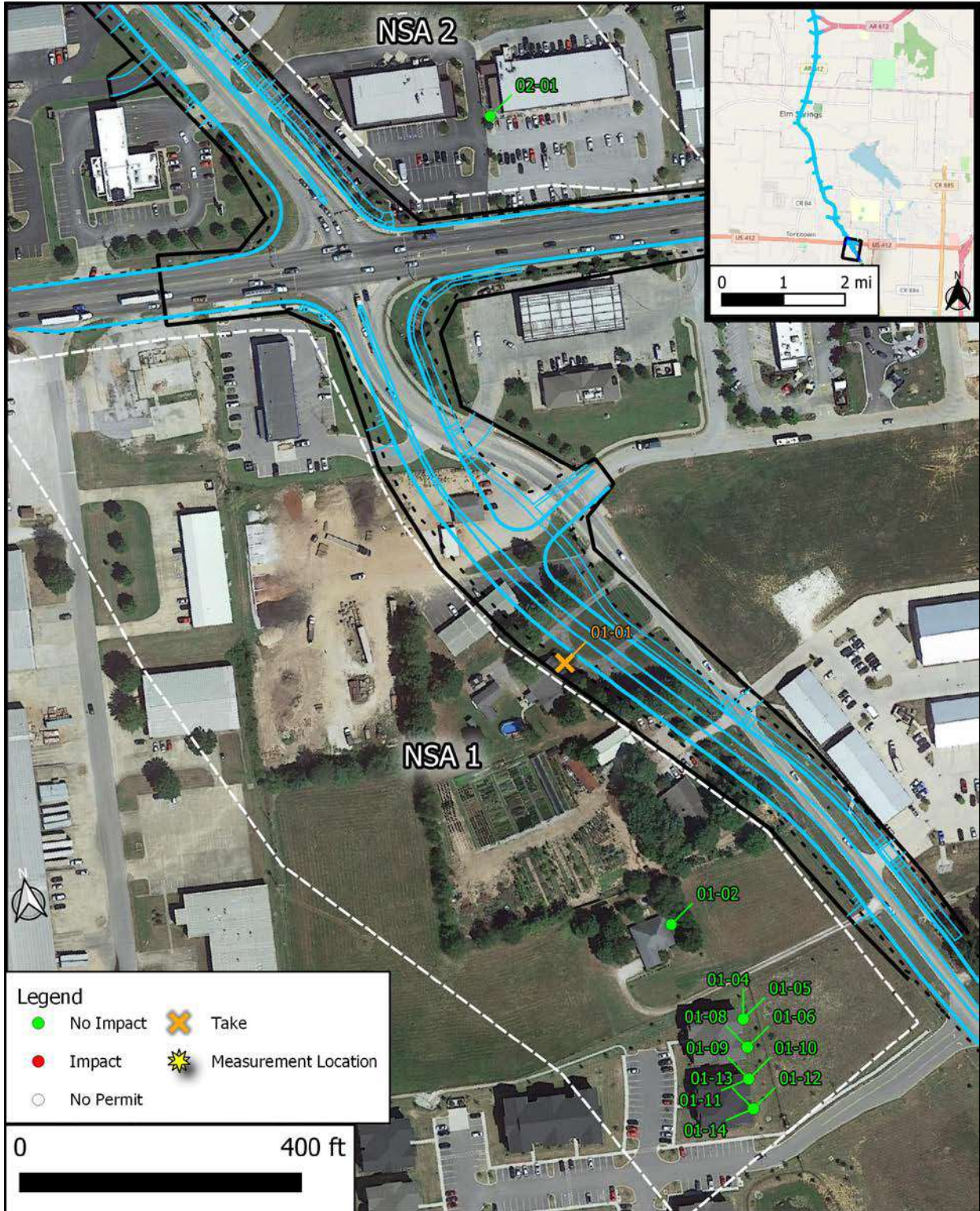
ARDOT Job 012305

Alternative E2 Modified

NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# of Receptors	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (or background)	Predicted Build, dBA (with 40 dBA Background)	Approach/ Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Receptors
01	01-01	193 S Maestri Rd (Take)	Take	1	Take	47.8	59.9	Take	Take	Take	Take	Take	0
	01-02	259 S Maestri Rd	B	1	Yes	47.8	54.0	59.9	No	5.9	No	No	0
	01-03	Highland Park Apts #1 1st fl	B	1	Yes	47.8	53.4	59.2	No	5.8	No	No	0
	01-04	Highland Park Apts #1 2nd fl	B	1	Yes	47.8	58.1	61.5	No	3.4	No	No	0
	01-05	Highland Park Apts #1 3rd fl	B	1	Yes	47.8	60.5	62.9	No	2.4	No	No	0
	01-06	Highland Park Apts #2 1st fl	B	1	Yes	47.8	52.6	58.2	No	5.6	No	No	0
	01-07	Highland Park Apts #2 2nd fl	B	1	Yes	47.8	57.2	60.5	No	3.3	No	No	0
	01-08	Highland Park Apts #2 3rd fl	B	1	Yes	47.8	59.9	62.4	No	2.5	No	No	0
	01-09	Highland Park Apts #3 1st fl	B	1	Yes	47.8	51.7	57.1	No	5.4	No	No	0
	01-10	Highland Park Apts #3 2nd fl	B	1	Yes	47.8	56.2	59.6	No	3.4	No	No	0
	01-11	Highland Park Apts #3 3rd fl	B	1	Yes	47.8	59.1	61.6	No	2.5	No	No	0
	01-12	Highland Park Apts #4 1st fl	B	1	Yes	47.8	51.1	56.3	No	5.2	No	No	0
	01-13	Highland Park Apts #4 2nd fl	B	1	Yes	47.8	55.5	59.1	No	3.6	No	No	0
	01-14	Highland Park Apts #4 3rd fl	B	1	Yes	47.8	58.5	61.0	No	2.5	No	No	0
02	02-01	Jose's Bar and Grill (E)	E	1	No	47.8	67.6	67.1	No	-0.5	No	No	0
03	03-01	Townhomes playground (C)	C	1	Yes	47.8	54.1	60.4	No	6.3	No	No	0
	03-02	Tuscany 393 A	B	1	Yes	47.8	62.2	64.6	No	2.4	No	No	0
	03-03	Tuscany 393 B	B	1	Yes	47.8	60.1	63.0	No	2.9	No	No	0
	03-04	Tuscany 393 C	B	1	Yes	47.8	58.1	61.8	No	3.7	No	No	0
	03-05	Tuscany 393 D	B	1	Yes	47.8	56.8	60.5	No	3.7	No	No	0
	03-06	Tuscany 415 A	B	1	Yes	47.8	54.9	56.6	No	1.7	No	No	0
	03-07	Tuscany 415 B	B	1	Yes	47.8	54.1	55.8	No	1.7	No	No	0
	03-08	Tuscany 415 C	B	1	Yes	47.8	53.3	54.8	No	1.5	No	No	0
	03-09	Tuscany 415 D	B	1	Yes	47.8	52.7	54.3	No	1.6	No	No	0
	03-10	Tuscany 435 A	B	1	Yes	47.8	51.3	53.1	No	1.8	No	No	0
	03-11	Tuscany 435 B	B	1	Yes	47.8	50.7	52.2	No	1.5	No	No	0
	03-12	Tuscany 435 C	B	1	No	47.8	49.0	50.7	No	1.7	No	No	0
	03-13	Tuscany 435 D	B	1	No	47.8	47.8	47.6	No	-0.2	No	No	0
	03-14	Tuscany 783 A	B	1	Yes	47.8	51.4	52.8	No	1.4	No	No	0
	03-15	Tuscany 783 B	B	1	Yes	47.8	52.2	53.5	No	1.3	No	No	0
	03-16	Tuscany 783 C	B	1	Yes	47.8	53.1	54.4	No	1.3	No	No	0
	03-17	Tuscany 783 D	B	1	Yes	47.8	54.0	55.0	No	1.0	No	No	0
	03-18	Tuscany 765 A	B	1	Yes	47.8	59.8	58.8	No	-1.0	No	No	0
	03-19	Tuscany 765 B	B	1	Yes	47.8	59.3	58.3	No	-1.0	No	No	0
	03-20	Tuscany 765 C	B	1	Yes	47.8	58.9	57.5	No	-1.4	No	No	0
	03-21	Tuscany 765 D	B	1	Yes	47.8	58.4	57.1	No	-1.3	No	No	0
	03-22	737 Via Firenze Ave	B	1	Yes	47.8	65.0	59.8	No	-5.2	No	No	0
	03-23	Sienna 885 A	B	1	No	47.8	51.1	57.0	No	5.9	No	No	0
	03-24	Sienna 885 B	B	1	No	47.8	49.5	55.3	No	5.8	No	No	0
	03-25	Sienna 885 C	B	1	No	47.8	48.5	54.4	No	5.9	No	No	0
	03-26	Sienna 885 D	B	1	No	47.8	47.8	53.3	No	5.5	No	No	0
	03-27	Sienna 885 E	B	1	No	47.8	47.8	52.5	No	4.7	No	No	0
	03-28	Sienna 842 A	B	1	No	47.8	54.4	60.3	No	5.9	No	No	0
	03-29	Sienna 842 B	B	1	No	47.8	53.5	59.6	No	6.1	No	No	0
	03-30	Sienna 842 C	B	1	No	47.8	52.7	58.9	No	6.2	No	No	0
	03-31	Sienna 842 D	B	1	No	47.8	51.6	58.0	No	6.4	No	No	0
	03-32	Sienna 842 E	B	1	No	47.8	50.6	57.3	No	6.7	No	No	0
	03-33	Sienna 886 A	B	1	No	47.8	49.0	55.1	No	6.1	No	No	0
	03-34	Sienna 886 B	B	1	No	47.8	47.8	52.6	No	4.8	No	No	0
	03-35	Sienna 886 C	B	1	No	47.8	47.8	51.0	No	3.2	No	No	0
	03-36	Sienna 886 D	B	1	No	47.8	47.8	49.7	No	1.9	No	No	0
	03-37	Sienna 843 A	B	1	No	47.8	47.8	50.5	No	2.7	No	No	0
	03-38	Sienna 843 B	B	1	No	47.8	47.8	47.2	No	-0.6	No	No	0
	03-39	Sienna 843 C	B	1	No	47.8	47.8	46.8	No	-1.0	No	No	0
	03-40	Sienna 843 D	B	1	No	47.8	47.8	46.5	No	-1.3	No	No	0
	03-41	Sienna 843 E	B	1	No	47.8	47.8	46.5	No	-1.3	No	No	0
	03-42	Sienna 844 A	B	1	No	47.8	47.9	52.6	No	4.7	No	No	0
	03-43	Sienna 844 B	B	1	No	47.8	47.8	47.6	No	-0.2	No	No	0
	03-44	Sienna 844 C	B	1	No	47.8	47.8	48.2	No	0.4	No	No	0
	03-45	Sienna 844 D	B	1	No	47.8	47.8	46.1	No	-1.7	No	No	0
	03-46	Sienna 844 E	B	1	No	47.8	47.8	46.5	No	-1.3	No	No	0
	03-47	Sienna 887 A	B	1	No	47.8	47.8	45.3	No	-2.5	No	No	0
	03-48	Sienna 887 B	B	1	No	47.8	47.8	45.4	No	-2.4	No	No	0
	03-49	Sienna 888 A	B	1	No	47.8	47.8	49.1	No	1.3	No	No	0
	03-50	Sienna 845 A	B	1	No	47.8	47.8	44.4	No	-3.4	No	No	0
	03-51	Sienna 845 B	B	1	No	47.8	47.8	43.4	No	-4.4	No	No	0
	03-52	Sienna 845 C	B	1	No	47.8	47.8	43.3	No	-4.5	No	No	0
	03-53	Sienna 845 D	B	1	No	47.8	47.8	43.2	No	-4.6	No	No	0
	03-54	759 Via Firenze Ave	B	1	No	47.8	57.5	56.0	No	-1.5	No	No	0
	03-55	773 Via Firenze Ave	B	1	No	47.8	54.1	54.4	No	0.3	No	No	0
	03-56	789 Via Firenze Ave	B	1	No	47.8	50.6	52.1	No	1.5	No	No	0
	03-57	805 Via Firenze Ave	B	1	No	47.8	48.6	51.0	No	2.4	No	No	0
	03-58	Tuscany Apartments (M) (NSA 03)	F	0	No	47.8	65.6	65.7	No	0.1	No	Measurement	0

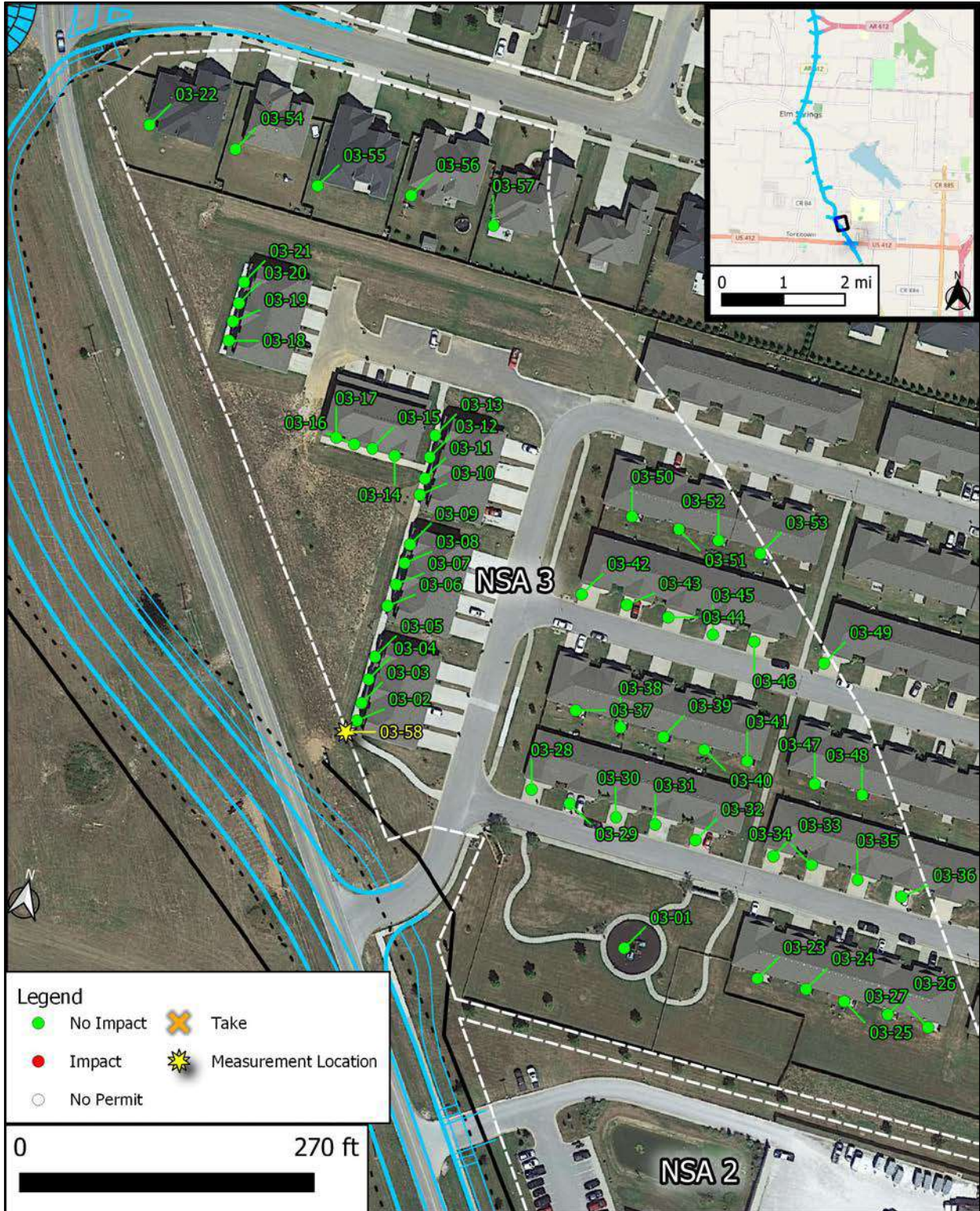
NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# of Receptors	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (or background)	Predicted Build, dBA (with 40 dBA Background)	Approach/ Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Receptors
04	04-01	519 Via Pisa Rd	B	1	Yes	47.8	66.6	62.7	No	-3.9	No	No	0
	04-02	531 Via Pisa Rd	B	1	Yes	47.8	65.4	63.3	No	-2.1	No	No	0
	04-03	545 Via Pisa Rd	B	1	Yes	47.8	66.2	64.3	No	-1.9	No	No	0
	04-04	563 Via Pisa Rd	B	1	Yes	47.8	65.8	65.0	No	-0.8	No	No	0
	04-05	8327 La Scala Ave	B	1	Yes	47.8	60.5	61.8	No	1.3	No	No	0
	04-06	658 Bella Vita St	B	1	Yes	47.8	66.5	68.0	Yes	1.5	No	Yes	1
	04-07	632 Bella Vita St	B	1	Yes	47.8	66.1	66.3	Yes	0.2	No	Yes	1
	04-08	612 Bella Vita St	B	1	Yes	47.8	66.7	66.3	Yes	-0.4	No	Yes	1
	04-09	584 Bella Vita St	B	1	Yes	47.8	65.6	64.5	No	-1.1	No	No	0
	04-10	560 Bella Vita St	B	1	Yes	47.8	64.1	63.5	No	-0.6	No	No	0
	04-11	536 Bella Vita St	B	1	Yes	47.8	63.3	63.6	No	0.3	No	No	0
	04-12	514 Bella Vita St	B	1	Yes	47.8	60.4	61.6	No	1.2	No	No	0
	04-13	484 Bella Vita St	B	1	Yes	47.8	56.8	59.5	No	2.7	No	No	0
	04-14	442 Bella Vita St	B	1	Yes	47.8	51.2	55.0	No	3.8	No	No	0
	04-15	418 Bella Vita St	B	1	Yes	47.8	49.7	54.1	No	4.4	No	No	0
	04-16	758 Via Firenze Ave	B	1	Yes	47.8	54.7	56.8	No	2.1	No	No	0
	04-17	774 Via Firenze Ave	B	1	Yes	47.8	51.4	54.7	No	3.3	No	No	0
	04-18	790 Via Firenze Ave	B	1	Yes	47.8	50.0	52.2	No	2.2	No	No	0
	04-19	804 Via Firenze Ave	B	1	Yes	47.8	48.4	50.9	No	2.5	No	No	0
	04-20	761 Via Lucca Ave	B	1	Yes	47.8	54.1	56.4	No	2.3	No	No	0
	04-21	775 Via Lucca Ave	B	1	Yes	47.8	51.0	53.1	No	2.1	No	No	0
	04-22	791 Via Lucca Ave	B	1	Yes	47.8	49.6	52.0	No	2.4	No	No	0
	04-23	807 Via Lucca Ave	B	1	Yes	47.8	48.6	51.1	No	2.5	No	No	0
	04-24	754 Via Lucca Ave	B	1	Yes	47.8	54.2	56.7	No	2.5	No	No	0
	04-25	772 Via Lucca Ave	B	1	Yes	47.8	51.2	54.6	No	3.4	No	No	0
	04-26	788 Via Lucca Ave	B	1	Yes	47.8	50.0	54.4	No	4.4	No	No	0
	04-27	806 Via Lucca Ave	B	1	Yes	47.8	48.5	53.0	No	4.5	No	No	0
	04-28	8301 La Scala Ave	B	1	Yes	47.8	54.2	58.1	No	3.9	No	No	0
	04-29	8281 La Scala Ave	B	1	Yes	47.8	51.8	56.8	No	5.0	No	No	0
	04-30	8255 La Scala Ave	B	1	Yes	47.8	50.3	55.3	No	5.0	No	No	0
	04-31	8227 La Scala Ave	B	1	Yes	47.8	48.5	53.5	No	5.0	No	No	0
	04-32	8300 La Scala Ave	B	1	Yes	47.8	55.0	59.4	No	4.4	No	No	0
	04-33	8280 La Scala Ave	B	1	Yes	47.8	52.7	57.8	No	5.1	No	No	0
	04-34	8254 La Scala Ave	B	1	Yes	47.8	51.0	56.3	No	5.3	No	No	0
	04-35	8315 San Marco Ave	B	1	Yes	47.8	55.1	59.5	No	4.4	No	No	0
	04-36	8281 San Marco Ave	B	1	Yes	47.8	52.7	57.6	No	4.9	No	No	0
	04-37	8253 San Marco Ave	B	1	Yes	47.8	50.0	55.3	No	5.3	No	No	0
	04-38	8332 San Marco Ave	B	1	Yes	47.8	54.5	58.6	No	4.1	No	No	0
	04-39	8298 San Marco Ave	B	1	Yes	47.8	51.9	56.7	No	4.8	No	No	0
	04-40	8272 San Marco Ave	B	1	Yes	47.8	50.3	55.4	No	5.1	No	No	0
	04-41	8339 La Casa Ave	B	1	Yes	47.8	52.4	56.8	No	4.4	No	No	0
	04-42	8313 La Casa Ave	B	1	Yes	47.8	49.8	54.7	No	4.9	No	No	0
	04-43	8338 La Casa Ave	B	1	Yes	47.8	48.3	53.0	No	4.7	No	No	0
	04-44	563 Via Pisa Rd (M) (NSA 04)	F	0	Yes	47.8	64.3	64.7	No	0.4	No	Measurement	0
05	05-01	West Elm Ln 1 (no permit)	G	0	Yes	47.8	59.9	65.2	No	5.3	No	No Permit	0
	05-02	West Elm Ln 2 (no permit)	G	0	Yes	47.8	65.3	71.3	No	6.0	No	No Permit	0
	05-03	West Elm Ln 3 (no permit)	G	0	Yes	47.8	58.7	65.0	No	6.3	No	No Permit	0
	05-04	144 West Elm Ln (permit)	B	1	Yes	47.8	56.3	61.3	No	5.0	No	No	0
	05-05	128 West Elm Ln (permit)	B	1	Yes	47.8	56.1	59.5	No	3.4	No	No	0
	05-06	West Elm Ln (Storms) (no permit)	G	0	Yes	47.8	60.6	62.9	No	2.3	No	No Permit	0
	05-07	West Elm Ln 4 (no permit)	G	0	Yes	47.8	51.7	57.2	No	5.5	No	No Permit	0
	05-08	147 West Elm (permit)	B	1	Yes	47.8	49.3	53.3	No	4.0	No	No	0
	05-09	West Elm Ln (Jech) (no permit)	G	0	Yes	47.8	51.4	53.8	No	2.4	No	No Permit	0
	05-10	West Elm Ln (Hankins) (no permit)	G	0	Yes	47.8	54.5	55.8	No	1.3	No	No Permit	0
05-11	109 West Elm (permit)	B	1	Yes	47.8	59.8	60.8	No	1.0	No	No	0	
06	06-01	1162 N Barrington Rd	B	1	No	47.8	56.4	60.8	No	4.4	No	No	0
	06-02	1087 N Maestri Rd	B	1	Yes	47.8	61.5	65.0	No	3.5	No	No	0
	06-03	1041 N Maestri Rd (Take)	Take	1	Take	47.8	67.4	Take	Take	Take	Take	Take	0
07	07-01	8757 W Gibbs Rd	B	1	Yes	47.8	54.6	60.4	No	5.8	No	No	0
	07-02	8736 W Gibbs Rd	B	1	Yes	47.8	50.6	55.3	No	4.7	No	No	0
	07-03	1214 N Maestri Rd	B	1	Yes	47.8	59.1	65.1	No	6.0	No	No	0
	07-04	1216 N Maestri Rd	B	1	Yes	47.8	57.6	63.2	No	5.6	No	No	0
	07-05	1220 N Maestri Rd	B	1	Yes	47.8	54.0	57.1	No	3.1	No	No	0
	07-06	1252 N Maestri Rd (Take)	Take	1	Take	47.8	67.0	Take	Take	Take	Take	Take	0
	07-07	1320 N Maestri Rd	B	1	Yes	47.8	54.0	56.9	No	2.9	No	No	0
08	07-08	21694 S Hwy 112	B	1	Yes	47.8	48.9	53.5	No	4.6	No	No	0
	08-01	21726 S Hwy 112	B	1	Yes	47.8	49.4	53.2	No	3.8	No	No	0
	08-02	21772 S Hwy 112	B	1	Yes	47.8	47.8	51.1	No	3.3	No	No	0
	08-03	392 S Elm St	B	1	Yes	47.8	58.1	61.5	No	3.4	No	No	0
	08-04	358 S Elm St	B	1	Yes	47.8	52.7	55.7	No	3.0	No	No	0
	08-05	344 S Elm St	B	1	Yes	47.8	62.8	61.1	No	-1.7	No	No	0
	08-06	105 School Ave (Take)	Take	1	Take	47.8	59.2	Take	Take	Take	Take	Take	0
	08-07	107 School Ave (Take)	Take	1	Take	47.8	56.8	Take	Take	Take	Take	Take	0
	08-08	109 School Ave	B	1	Yes	47.8	56.4	57.3	No	0.9	No	No	0
	08-09	201 School Ave	B	1	Yes	47.8	55.7	56.7	No	1.0	No	No	0
	08-10	203 School Ave	B	1	Yes	47.8	52.2	55.1	No	2.9	No	No	0
	08-11	257 E Lake Rd	B	1	Yes	47.8	49.0	53.1	No	4.1	No	No	0
	08-12	209 School Ave	B	1	Yes	47.8	57.4	58.1	No	0.7	No	No	0
	08-13	207 School Ave	B	1	Yes	47.8	55.8	56.6	No	0.8	No	No	0
	08-14	169 S Elm St	B	1	Yes	47.8	61.7	59.2	No	-2.5	No	No	0
08-15	100 S Elm St (MH) (Take)	Take	1	Take	47.8	58.2	Take	Take	Take	Take	Take	0	
08-16	104 S Elm St (MH) (Take)	Take	1	Take	47.8	53.6	Take	Take	Take	Take	Take	0	
09	09-01	208 School Ave	B	1	No	50.5	50.5	49.4	No	-1.1	No	No	0
	09-02	101 Lawn View Ln	B	1	No	50.5	50.5	50.1	No	-0.4	No	No	0
	09-03	329 Elm Springs Rd	B	1	No	50.5	50.5	49.8	No	-0.7	No	No	0

NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# of Receptors	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (or background)	Predicted Build, dBA (with 40 dBA Background)	Approach/Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Receptors
10	10-01	108 School Ave (Church property) (C)	C	1	Yes	50.5	50.8	59.4	No	8.6	No	No	0
	10-02	Elm Springs Church playground (C)	C	1	Yes	50.5	52.9	62.4	No	9.5	No	No	0
	10-03	Elm Springs Church (D)	D	1	No	25.5	35.0	35.0	No	0.0	No	No	0
	10-04	112 Church Ln (Chuch res. duplex)	B	2	No	50.5	50.5	51.8	No	1.3	No	No	0
	10-05	258 N Elm St (Take)	Take	1	Take	50.5	63.4	Take	Take	Take	Take	Take	0
	10-06	264 N Elm St (Take)	Take	1	Take	50.5	63.1	Take	Take	Take	Take	Take	0
	10-07	276 N Elm St (Take)	Take	1	Take	50.5	64.0	Take	Take	Take	Take	Take	0
	10-08	254 N Elm St	B	1	No	50.5	50.5	51.7	No	1.2	No	No	0
	10-09	205 Gumm St	B	1	No	50.5	50.5	48.0	No	-2.5	No	No	0
	10-10	244 Gumm St	B	1	No	50.5	50.5	50.3	No	-0.2	No	No	0
	10-11	255 Gumm St	B	1	No	50.5	50.5	46.5	No	-4.0	No	No	0
	10-12	209 Gumm St	B	1	No	50.5	50.5	51.8	No	1.3	No	No	0
	10-13	275 Elm Springs Rd	B	1	No	50.5	50.5	44.1	No	-6.4	No	No	0
	10-14	204 School Ave	B	1	No	50.5	57.2	58.0	No	0.8	No	No	0
	10-15	104 Church Ln	B	1	No	50.5	50.5	51.0	No	0.5	No	No	0
	10-16	112 Church Ln (M) (NSA 10)	F	0	No	50.5	50.5	53.6	No	3.1	No	Measurement	0
11	11-01	Elm Springs Trail (C)	C	1	No	50.5	50.9	57.8	No	6.9	No	No	0
	11-02	Elm Spr Prk BB Court (C)	C	1	No	50.5	51.2	58.9	No	7.7	No	No	0
	11-03	Elm Springs park bench (south)(C)	C	1	No	50.5	51.0	58.7	No	7.7	No	No	0
	11-04	Elm Springs Park Playground (C)	C	1	No	50.5	50.5	55.1	No	4.6	No	No	0
	11-05	Elm Springs park bench (north) (C)	C	1	No	50.5	50.5	55.2	No	4.7	No	No	0
	11-06	275 N Elm St (Take)	Take	1	Take	50.5	65.0	Take	Take	Take	Take	Take	0
	11-07	111 Jayroe Ave	B	1	No	50.5	50.5	52.2	No	1.7	No	No	0
	11-08	107 Jayroe Ave	B	1	No	50.5	50.5	51.5	No	1.0	No	No	0
	11-09	126 Water Ave	B	1	No	50.5	50.5	52.3	No	1.8	No	No	0
	11-10	168 Water Ave	B	1	No	50.5	51.7	54.2	No	2.5	No	No	0
12	12-01	478 N Elm St	B	1	Yes	47.8	55.6	61.2	No	5.6	No	No	0
	12-02	598 N Elm St (Take)	Take	1	Take	47.8	64.5	Take	Take	Take	Take	Take	0
	12-03	289 Hale Ave	B	1	No	47.8	49.7	56.2	No	6.5	No	No	0
	12-04	14364 Ar 112 Hwy (Take)	Take	1	Take	47.8	64.4	Take	Take	Take	Take	Take	0
	12-05	3065 Ar 112 Hwy	B	1	Yes	47.8	48.8	52.6	No	3.8	No	No	0
	12-06	9326 Greenbriar Estates Rd	B	1	Yes	47.8	53.6	57.8	No	4.2	No	No	0
	12-07	9250 Greenbriar Estates Rd	B	1	Yes	47.8	55.5	59.3	No	3.8	No	No	0
	12-08	9196 Greenbriar Estates Rd	B	1	Yes	47.8	56.9	60.9	No	4.0	No	No	0
	12-09	9128 Greenbriar Estates Rd	B	1	Yes	47.8	57.9	62.1	No	4.2	No	No	0
	12-10	9070 Greenbriar Estates Rd	B	1	Yes	47.8	58.2	62.6	No	4.4	No	No	0
	12-11	9002 Greenbriar Estates Rd	B	1	Yes	47.8	57.7	62.1	No	4.4	No	No	0
	12-12	3569 Ar 112 Hwy	B	1	Yes	47.8	63.5	66.3	Yes	2.8	No	Yes	1
	12-13	9015 Carrie Smith Rd	B	1	Yes	47.8	54.7	58.3	No	3.6	No	No	0
	12-14	292 Elm Springs Rd	B	1	No	47.8	47.8	52.3	No	4.5	No	No	0
	12-15	9129 Greenbriar Estates Rd	B	1	No	47.8	48.4	53.1	No	4.7	No	No	0
	12-16	8953 Greenbriar Estates Rd	B	1	No	47.8	48.1	52.4	No	4.3	No	No	0
	12-17	8956 Greenbriar Estates Rd	B	1	No	47.8	48.1	52.5	No	4.4	No	No	0
	12-18	8939 Carrie Smith Rd	B	1	No	47.8	47.8	46.8	No	-1.0	No	No	0
	12-19	9196 Greenbriar Estate (M) (NSA 12)	F	0	No	47.8	56.2	60.8	No	4.6	No	Measurement	0
13	13-01	9223 Amy Dr	B	1	Yes	47.8	59.6	63.3	No	3.7	No	No	0
	13-02	3174 Ar 112 Hwy	B	1	Yes	47.8	58.0	62.1	No	4.1	No	No	0
	13-03	3148 Ar 112 Hwy	B	1	Yes	47.8	55.5	60.5	No	5.0	No	No	0
	13-04	3096 Ar 112 Hwy	B	1	Yes	47.8	59.2	63.1	No	3.9	No	No	0
	13-05	3068 Ar 112 Hwy	B	1	Yes	47.8	59.2	63.0	No	3.8	No	No	0
	13-06	3026 Ar 112 Hwy	B	1	Yes	47.8	59.6	63.3	No	3.7	No	No	0
	13-07	2946 Ar 112 Hwy	B	1	Yes	47.8	59.3	65.3	No	6.0	No	No	0
	13-08	2916 Ar 112 Hwy	B	1	Yes	47.8	52.3	60.5	No	8.2	No	No	0
	13-09	507 N Elm	B	1	Yes	47.8	54.4	62.4	No	8.0	No	No	0
	13-10	485 N Elm St	B	1	Yes	47.8	53.9	61.6	No	7.7	No	No	0
	13-11	441 N Elm St	B	1	Yes	47.8	53.2	60.7	No	7.5	No	No	0
	13-12	433 N Elm St	B	1	No	47.8	47.8	51.1	No	3.3	No	No	0
	13-13	306 N Elm St (Take)	Take	1	Take	47.8	54.6	Take	Take	Take	Take	Take	0
	13-14	327 N Elm St (Take)	Take	1	Take	47.8	58.9	Take	Take	Take	Take	Take	0
14	14-01	9149 Marchant Rd	B	1	Yes	47.8	65.0	63.5	No	-1.5	No	No	0
	14-02	3604 Ar 112 Hwy	B	1	Yes	47.8	63.9	63.6	No	-0.3	No	No	0
	14-03	3547 Roma Dr	B	1	Yes	47.8	54.3	57.1	No	2.8	No	No	0
	14-04	3485 Roma Dr	B	1	Yes	47.8	52.5	56.3	No	3.8	No	No	0
	14-05	3423 Roma Dr	B	1	Yes	47.8	52.1	56.6	No	4.5	No	No	0
	14-06	3378 Ar 112 Hwy	B	1	Yes	47.8	57.6	61.5	No	3.9	No	No	0
	14-07	3324 Ar 112 Hwy	B	1	Yes	47.8	59.4	62.8	No	3.4	No	No	0
	14-08	9268 Amy Dr	B	1	Yes	47.8	51.3	56.5	No	5.2	No	No	0
15	15-01	3843 Ar 112 Hwy	B	1	Yes	47.8	56.7	59.6	No	2.9	No	No	0
	15-02	3947 Ar 112 Hwy	B	1	Yes	47.8	62.2	62.7	No	0.5	No	No	0
	15-03	4095 Ar 112 Hwy	B	1	Yes	47.8	63.6	65.4	No	1.8	No	No	0
16	16-01	4022 Als Dr	B	1	Yes	47.8	52.9	57.0	No	4.1	No	No	0



Job 012305, Alternative E2 Modified

NSA 1 and NSA2 results



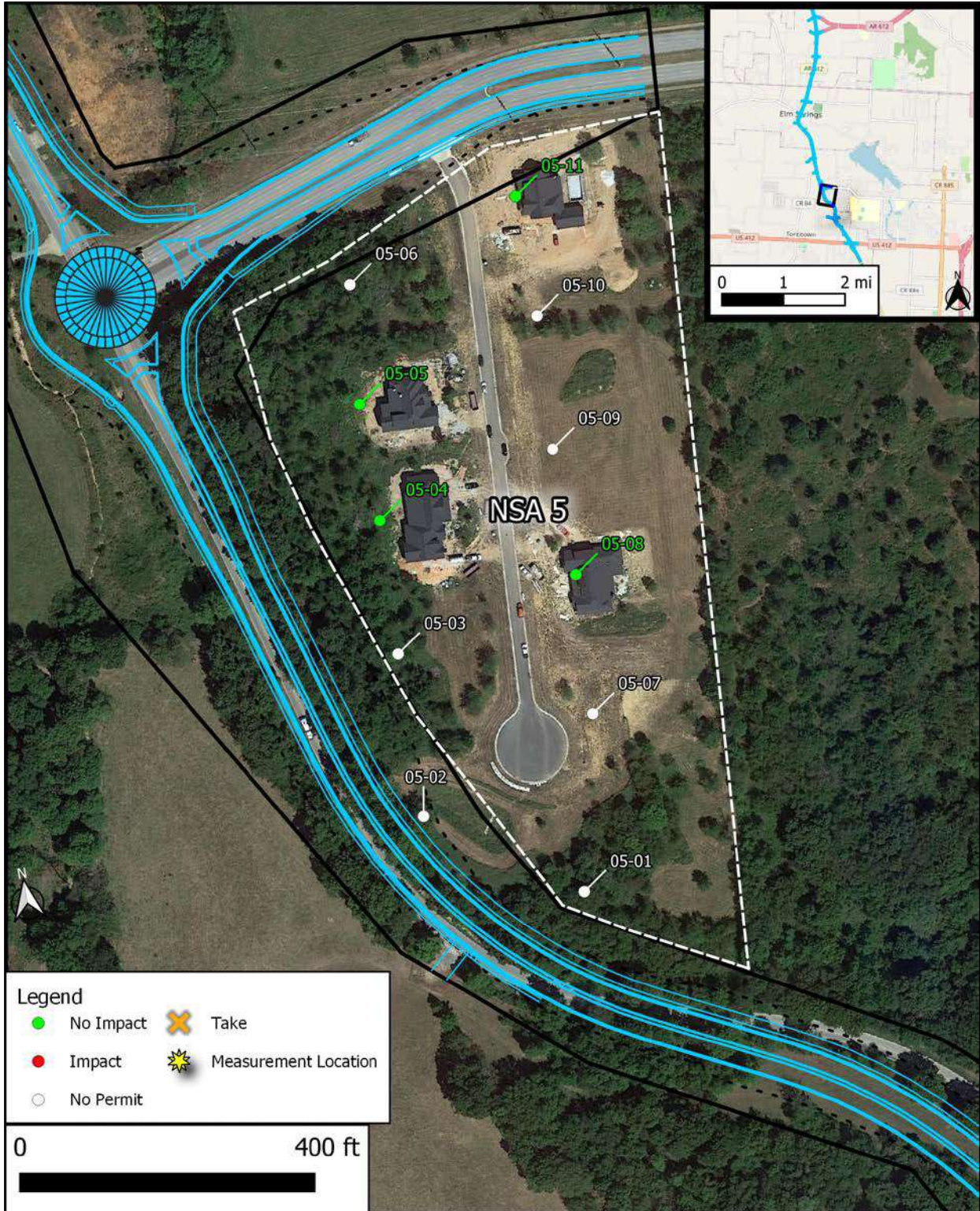
Job 012305, Alternative E2 Modified

NSA 3 results



Job 012305, Alternative E2 Modified

NSA 4 results



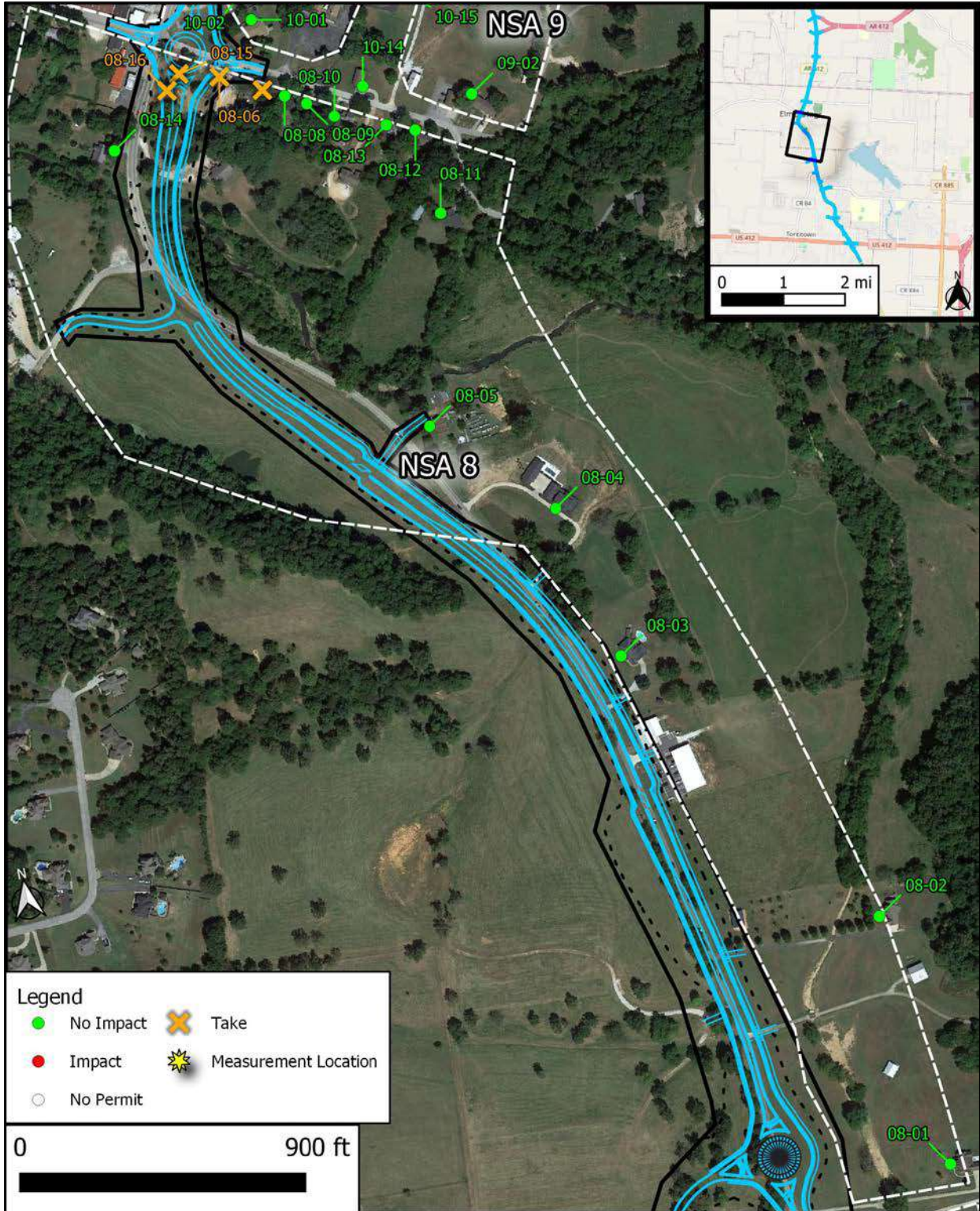
Job 012305, Alternative E2 Modified

NSA 5 results



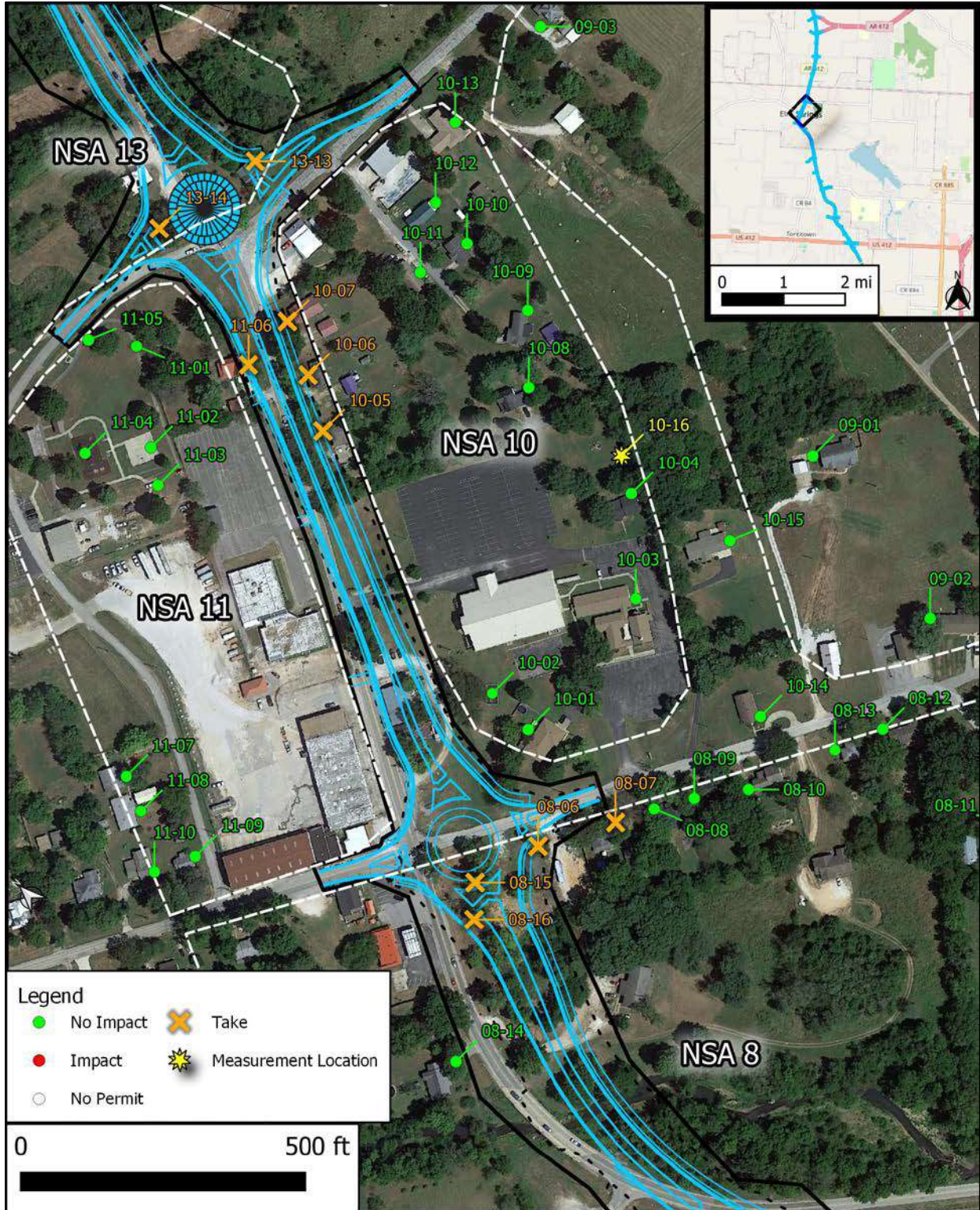
Job 012305, Alternative E2 Modified

NSA 6 and NSA 7 results



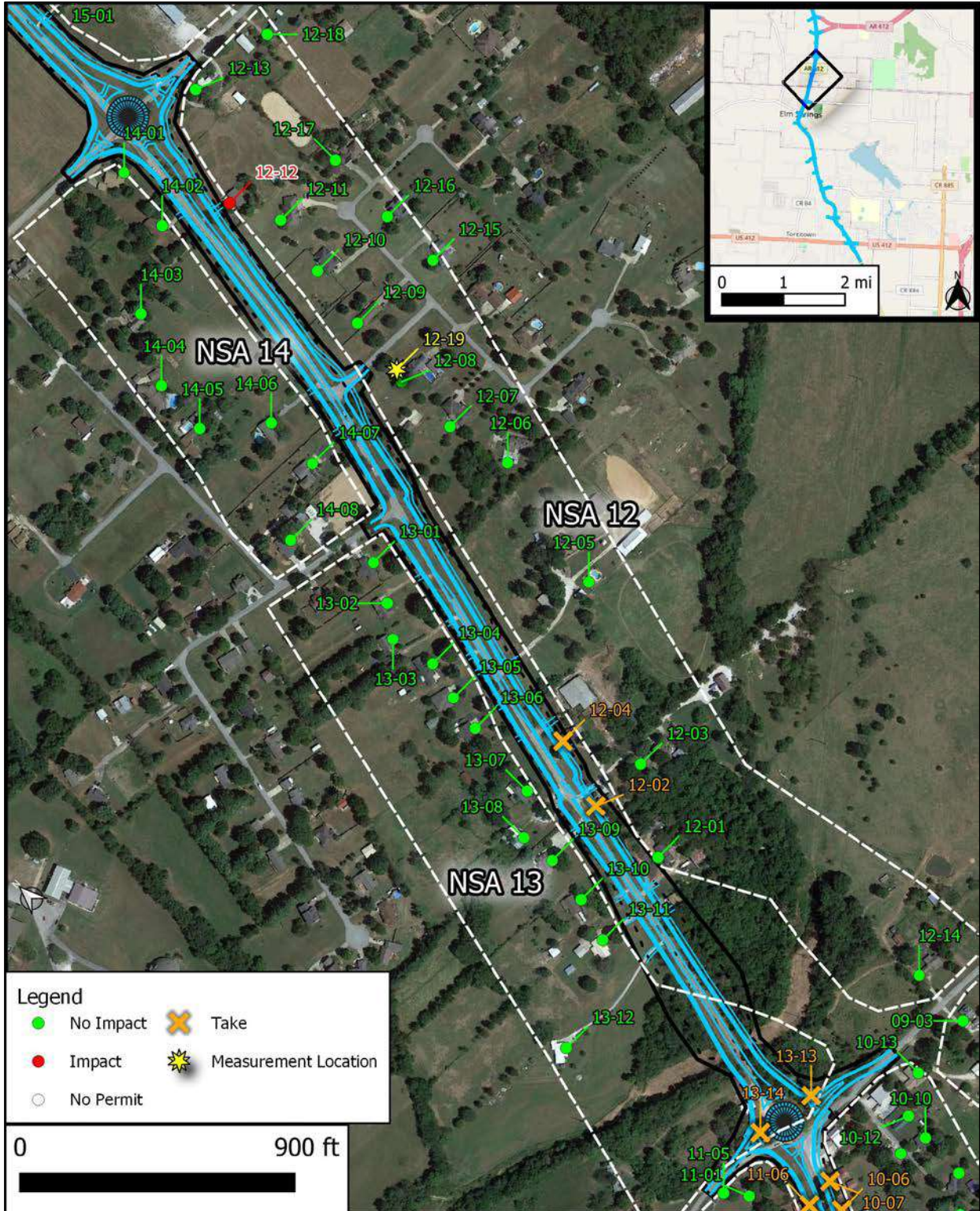
Job 012305, Alternative E2 Modified

NSA 8 results

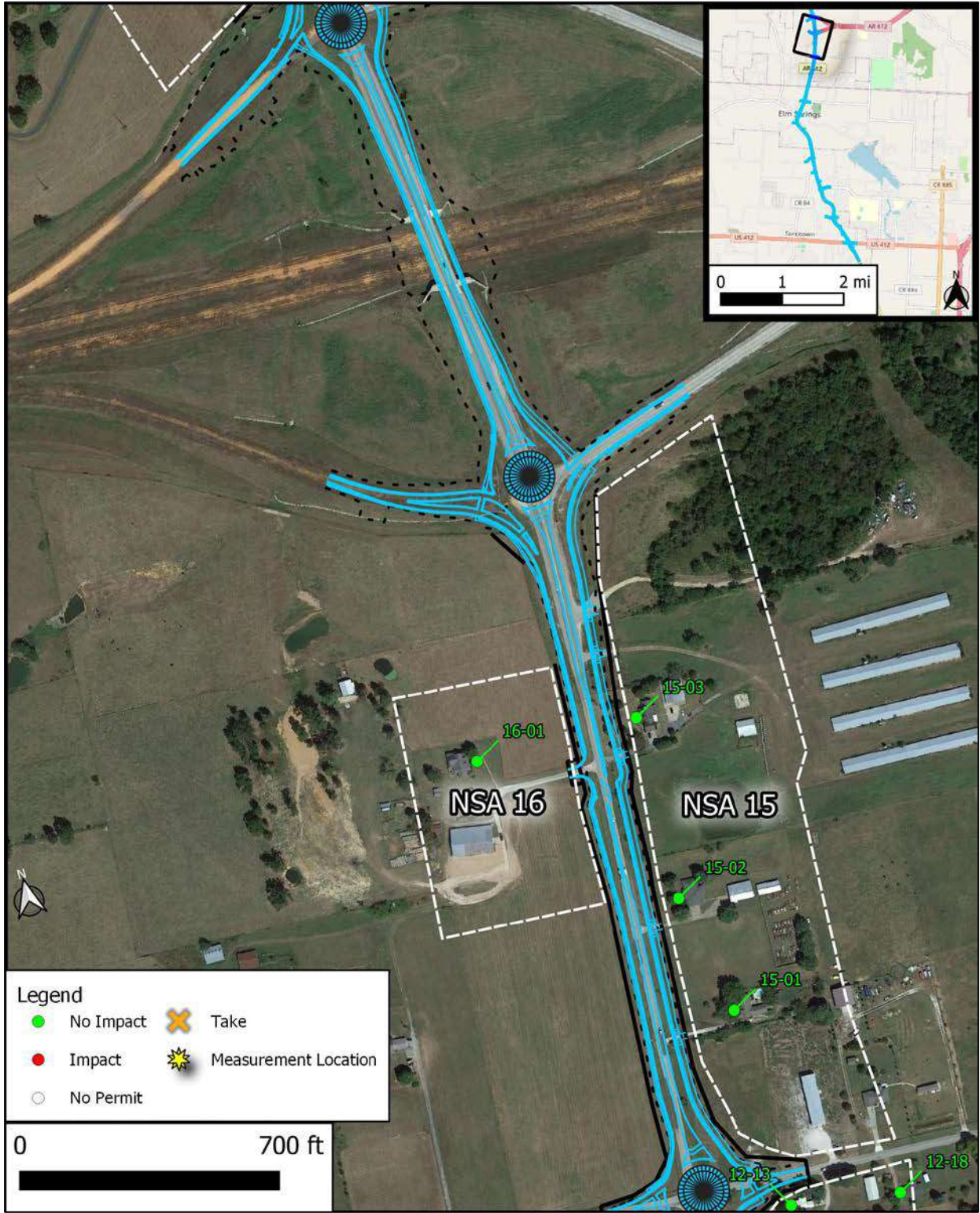


Job 012305, Alternative E2 Modified

NSA 10 and NSA 11 results



Job 012305, Alternative E2 Modified
NSA 12, NSA 13, and NSA 14 results



Job 012305, Alternative E2 Modified

NSA 15 and NSA 16 results

Sound Levels and impacts

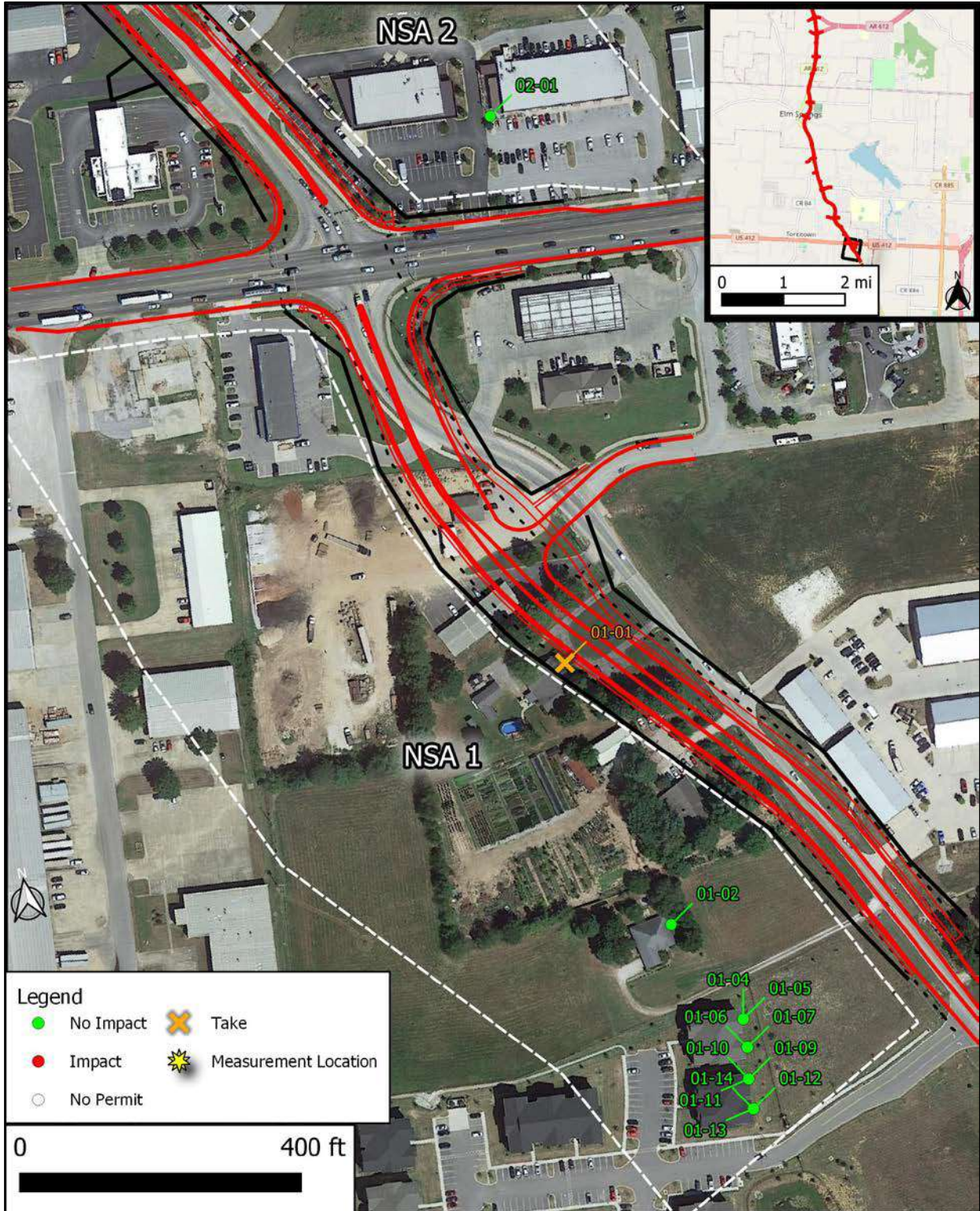
ARDOT Job 012305

Alternative E3 Modified

NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# of Receptors	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (or background)	Predicted (with 40 dBA Background)	Approach/ Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Receptors
01	01-01	193 S Maestri Rd (Take)	Take	1	Take	47.8	59.9	Take	Take	Take	Take	Take	0
	01-02	259 S Maestri Rd	B	1	Yes	47.8	54.0	59.9	No	5.9	No	No	0
	01-03	Highland Park Apts #1 1st fl	B	1	Yes	47.8	53.4	59.2	No	5.8	No	No	0
	01-04	Highland Park Apts #1 2nd fl	B	1	Yes	47.8	58.1	61.5	No	3.4	No	No	0
	01-05	Highland Park Apts #1 3rd fl	B	1	Yes	47.8	60.5	62.9	No	2.4	No	No	0
	01-06	Highland Park Apts #2 1st fl	B	1	Yes	47.8	52.6	58.2	No	5.6	No	No	0
	01-07	Highland Park Apts #2 2nd fl	B	1	Yes	47.8	57.2	60.5	No	3.3	No	No	0
	01-08	Highland Park Apts #2 3rd fl	B	1	Yes	47.8	59.9	62.4	No	2.5	No	No	0
	01-09	Highland Park Apts #3 1st fl	B	1	Yes	47.8	51.7	57.1	No	5.4	No	No	0
	01-10	Highland Park Apts #3 2nd fl	B	1	Yes	47.8	56.2	59.6	No	3.4	No	No	0
	01-11	Highland Park Apts #3 3rd fl	B	1	Yes	47.8	59.1	61.6	No	2.5	No	No	0
	01-12	Highland Park Apts #4 1st fl	B	1	Yes	47.8	51.1	56.3	No	5.2	No	No	0
	01-13	Highland Park Apts #4 2nd fl	B	1	Yes	47.8	55.5	59.1	No	3.6	No	No	0
	01-14	Highland Park Apts #4 3rd fl	B	1	Yes	47.8	58.5	61.0	No	2.5	No	No	0
02	02-01	Jose's Bar and Grill (E)	E	1	No	47.8	67.6	67.1	No	-0.5	No	No	0
03	03-01	Townhomes playground (C)	C	1	Yes	47.8	54.1	60.4	No	6.3	No	No	0
	03-02	Tuscany 393 A	B	1	Yes	47.8	62.2	64.6	No	2.4	No	No	0
	03-03	Tuscany 393 B	B	1	Yes	47.8	60.1	63.0	No	2.9	No	No	0
	03-04	Tuscany 393 C	B	1	Yes	47.8	58.1	61.8	No	3.7	No	No	0
	03-05	Tuscany 393 D	B	1	Yes	47.8	56.8	60.5	No	3.7	No	No	0
	03-06	Tuscany 415 A	B	1	Yes	47.8	54.9	56.6	No	1.7	No	No	0
	03-07	Tuscany 415 B	B	1	Yes	47.8	54.1	55.8	No	1.7	No	No	0
	03-08	Tuscany 415 C	B	1	Yes	47.8	53.3	54.8	No	1.5	No	No	0
	03-09	Tuscany 415 D	B	1	Yes	47.8	52.7	54.3	No	1.6	No	No	0
	03-10	Tuscany 435 A	B	1	Yes	47.8	51.3	53.1	No	1.8	No	No	0
	03-11	Tuscany 435 B	B	1	Yes	47.8	50.7	52.2	No	1.5	No	No	0
	03-12	Tuscany 435 C	B	1	No	47.8	49.0	50.7	No	1.7	No	No	0
	03-13	Tuscany 435 D	B	1	No	47.8	47.8	47.6	No	-0.2	No	No	0
	03-14	Tuscany 783 A	B	1	Yes	47.8	51.4	52.8	No	1.4	No	No	0
	03-15	Tuscany 783 B	B	1	Yes	47.8	52.2	53.5	No	1.3	No	No	0
	03-16	Tuscany 783 C	B	1	Yes	47.8	53.1	54.4	No	1.3	No	No	0
	03-17	Tuscany 783 D	B	1	Yes	47.8	54.0	55.0	No	1.0	No	No	0
	03-18	Tuscany 765 A	B	1	Yes	47.8	59.8	58.8	No	-1.0	No	No	0
	03-19	Tuscany 765 B	B	1	Yes	47.8	59.3	58.3	No	-1.0	No	No	0
	03-20	Tuscany 765 C	B	1	Yes	47.8	58.9	57.5	No	-1.4	No	No	0
	03-21	Tuscany 765 D	B	1	Yes	47.8	58.4	57.1	No	-1.3	No	No	0
	03-22	737 Via Firenze Ave	B	1	Yes	47.8	65.0	59.8	No	-5.2	No	No	0
	03-23	Sienna 885 A	B	1	No	47.8	51.1	57.0	No	5.9	No	No	0
	03-24	Sienna 885 B	B	1	No	47.8	49.5	55.3	No	5.8	No	No	0
	03-25	Sienna 885 C	B	1	No	47.8	48.5	54.4	No	5.9	No	No	0
	03-26	Sienna 885 D	B	1	No	47.8	47.8	53.3	No	5.5	No	No	0
	03-27	Sienna 885 E	B	1	No	47.8	47.8	52.5	No	4.7	No	No	0
	03-28	Sienna 842 A	B	1	No	47.8	54.4	60.3	No	5.9	No	No	0
	03-29	Sienna 842 B	B	1	No	47.8	53.5	59.6	No	6.1	No	No	0
	03-30	Sienna 842 C	B	1	No	47.8	52.7	58.9	No	6.2	No	No	0
	03-31	Sienna 842 D	B	1	No	47.8	51.6	58.0	No	6.4	No	No	0
	03-32	Sienna 842 E	B	1	No	47.8	50.6	57.3	No	6.7	No	No	0
	03-33	Sienna 886 A	B	1	No	47.8	49.0	55.1	No	6.1	No	No	0
	03-34	Sienna 886 B	B	1	No	47.8	47.8	52.6	No	4.8	No	No	0
	03-35	Sienna 886 C	B	1	No	47.8	47.8	51.0	No	3.2	No	No	0
	03-36	Sienna 886 D	B	1	No	47.8	47.8	49.7	No	1.9	No	No	0
	03-37	Sienna 843 A	B	1	No	47.8	47.8	50.5	No	2.7	No	No	0
	03-38	Sienna 843 B	B	1	No	47.8	47.8	47.2	No	-0.6	No	No	0
	03-39	Sienna 843 C	B	1	No	47.8	47.8	46.8	No	-1.0	No	No	0
	03-40	Sienna 843 D	B	1	No	47.8	47.8	46.5	No	-1.3	No	No	0
	03-41	Sienna 843 E	B	1	No	47.8	47.8	46.5	No	-1.3	No	No	0
	03-42	Sienna 844 A	B	1	No	47.8	47.9	52.6	No	4.7	No	No	0
	03-43	Sienna 844 B	B	1	No	47.8	47.8	47.6	No	-0.2	No	No	0
	03-44	Sienna 844 C	B	1	No	47.8	47.8	48.2	No	0.4	No	No	0
	03-45	Sienna 844 D	B	1	No	47.8	47.8	46.1	No	-1.7	No	No	0
	03-46	Sienna 844 E	B	1	No	47.8	47.8	46.5	No	-1.3	No	No	0
	03-47	Sienna 887 A	B	1	No	47.8	47.8	45.3	No	-2.5	No	No	0
	03-48	Sienna 887 B	B	1	No	47.8	47.8	45.4	No	-2.4	No	No	0
	03-49	Sienna 888 A	B	1	No	47.8	47.8	49.1	No	1.3	No	No	0
	03-50	Sienna 845 A	B	1	No	47.8	47.8	44.4	No	-3.4	No	No	0
	03-51	Sienna 845 B	B	1	No	47.8	47.8	43.4	No	-4.4	No	No	0
	03-52	Sienna 845 C	B	1	No	47.8	47.8	43.3	No	-4.5	No	No	0
	03-53	Sienna 845 D	B	1	No	47.8	47.8	43.2	No	-4.6	No	No	0
	03-54	759 Via Firenze Ave	B	1	No	47.8	57.5	56.0	No	-1.5	No	No	0
	03-55	773 Via Firenze Ave	B	1	No	47.8	54.1	54.4	No	0.3	No	No	0
	03-56	789 Via Firenze Ave	B	1	No	47.8	50.6	52.1	No	1.5	No	No	0
	03-57	805 Via Firenze Ave	B	1	No	47.8	48.6	51.0	No	2.4	No	No	0
	03-58	Tuscany Apartments (M) (NSA 03)	F	0	No	47.8	65.6	65.7	No	0.1	No	Meas. Location	0

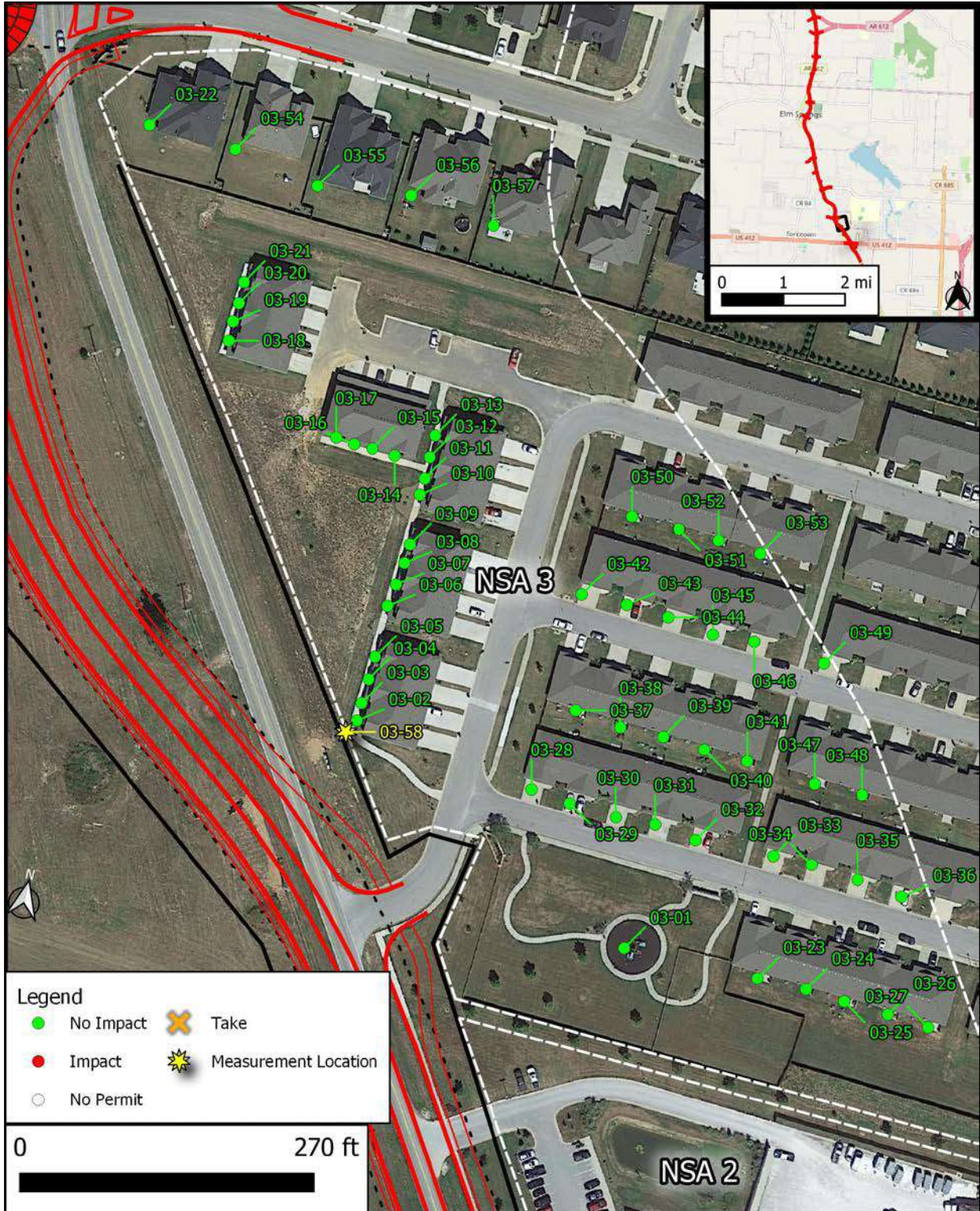
NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# of Receptors	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (or background)	Predicted Build, dBA (with 40 dBA Background)	Approach/ Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Receptors
04	04-01	519 Via Pisa Rd	B	1	Yes	47.8	66.6	62.7	No	-3.9	No	No	0
	04-02	531 Via Pisa Rd	B	1	Yes	47.8	65.4	63.3	No	-2.1	No	No	0
	04-03	545 Via Pisa Rd	B	1	Yes	47.8	66.2	64.3	No	-1.9	No	No	0
	04-04	563 Via Pisa Rd	B	1	Yes	47.8	65.8	65.0	No	-0.8	No	No	0
	04-05	8327 La Scala Ave	B	1	Yes	47.8	60.5	61.8	No	1.3	No	No	0
	04-06	658 Bella Vita St	B	1	Yes	47.8	66.5	68.0	Yes	1.5	No	Yes	1
	04-07	632 Bella Vita St	B	1	Yes	47.8	66.1	66.3	Yes	0.2	No	Yes	1
	04-08	612 Bella Vita St	B	1	Yes	47.8	66.7	66.3	Yes	-0.4	No	Yes	1
	04-09	584 Bella Vita St	B	1	Yes	47.8	65.6	64.5	No	-1.1	No	No	0
	04-10	560 Bella Vita St	B	1	Yes	47.8	64.1	63.5	No	-0.6	No	No	0
	04-11	536 Bella Vita St	B	1	Yes	47.8	63.3	63.6	No	0.3	No	No	0
	04-12	514 Bella Vita St	B	1	Yes	47.8	60.4	61.6	No	1.2	No	No	0
	04-13	484 Bella Vita St	B	1	Yes	47.8	56.8	59.5	No	2.7	No	No	0
	04-14	442 Bella Vita St	B	1	Yes	47.8	51.2	55.0	No	3.8	No	No	0
	04-15	418 Bella Vita St	B	1	Yes	47.8	49.7	54.1	No	4.4	No	No	0
	04-16	758 Via Firenze Ave	B	1	Yes	47.8	54.7	56.8	No	2.1	No	No	0
	04-17	774 Via Firenze Ave	B	1	Yes	47.8	51.4	54.7	No	3.3	No	No	0
	04-18	790 Via Firenze Ave	B	1	Yes	47.8	50.0	52.2	No	2.2	No	No	0
	04-19	804 Via Firenze Ave	B	1	Yes	47.8	48.4	50.9	No	2.5	No	No	0
	04-20	761 Via Lucca Ave	B	1	Yes	47.8	54.1	56.4	No	2.3	No	No	0
	04-21	775 Via Lucca Ave	B	1	Yes	47.8	51.0	53.1	No	2.1	No	No	0
	04-22	791 Via Lucca Ave	B	1	Yes	47.8	49.6	52.0	No	2.4	No	No	0
	04-23	807 Via Lucca Ave	B	1	Yes	47.8	48.6	51.1	No	2.5	No	No	0
	04-24	754 Via Lucca Ave	B	1	Yes	47.8	54.2	56.7	No	2.5	No	No	0
	04-25	772 Via Lucca Ave	B	1	Yes	47.8	51.2	54.6	No	3.4	No	No	0
	04-26	788 Via Lucca Ave	B	1	Yes	47.8	50.0	54.4	No	4.4	No	No	0
	04-27	806 Via Lucca Ave	B	1	Yes	47.8	48.5	53.0	No	4.5	No	No	0
	04-28	8301 La Scala Ave	B	1	Yes	47.8	54.2	58.1	No	3.9	No	No	0
	04-29	8281 La Scala Ave	B	1	Yes	47.8	51.8	56.8	No	5.0	No	No	0
	04-30	8255 La Scala Ave	B	1	Yes	47.8	50.3	55.3	No	5.0	No	No	0
	04-31	8227 La Scala Ave	B	1	Yes	47.8	48.5	53.5	No	5.0	No	No	0
	04-32	8300 La Scala Ave	B	1	Yes	47.8	55.0	59.4	No	4.4	No	No	0
	04-33	8280 La Scala Ave	B	1	Yes	47.8	52.7	57.8	No	5.1	No	No	0
	04-34	8254 La Scala Ave	B	1	Yes	47.8	51.0	56.3	No	5.3	No	No	0
	04-35	8315 San Marco Ave	B	1	Yes	47.8	55.1	59.5	No	4.4	No	No	0
	04-36	8281 San Marco Ave	B	1	Yes	47.8	52.7	57.6	No	4.9	No	No	0
	04-37	8253 San Marco Ave	B	1	Yes	47.8	50.0	55.3	No	5.3	No	No	0
	04-38	8332 San Marco Ave	B	1	Yes	47.8	54.5	58.6	No	4.1	No	No	0
	04-39	8298 San Marco Ave	B	1	Yes	47.8	51.9	56.7	No	4.8	No	No	0
	04-40	8272 San Marco Ave	B	1	Yes	47.8	50.3	55.4	No	5.1	No	No	0
	04-41	8339 La Casa Ave	B	1	Yes	47.8	52.4	56.8	No	4.4	No	No	0
	04-42	8313 La Casa Ave	B	1	Yes	47.8	49.8	54.7	No	4.9	No	No	0
	04-43	8338 La Casa Ave	B	1	Yes	47.8	48.3	53.0	No	4.7	No	No	0
	04-44	563 Via Pisa Rd (M) (NSA 04)	F	0	Yes	47.8	64.3	64.7	No	0.4	No	Meas. Location	0
05	05-01	West Elm Ln 1 (no permit)	G	0	Yes	47.8	59.9	65.2	No	5.3	No	No Permit	0
	05-02	West Elm Ln 2 (no permit)	G	0	Yes	47.8	65.3	71.3	No	6.0	No	No Permit	0
	05-03	West Elm Ln 3 (no permit)	G	0	Yes	47.8	68.7	65.0	No	6.3	No	No Permit	0
	05-04	144 West Elm Ln	B	1	Yes	47.8	56.3	61.3	No	5.0	No	No	0
	05-05	128 West Elm Ln	B	1	Yes	47.8	56.1	59.5	No	3.4	No	No	0
	05-06	West Elm Ln (Storms) (no permit)	G	0	Yes	47.8	60.6	62.9	No	2.3	No	No Permit	0
	05-07	West Elm Ln 4 (no permit)	G	0	Yes	47.8	51.7	57.2	No	5.5	No	No Permit	0
	05-08	147 West Elm	B	1	Yes	47.8	49.3	53.3	No	4.0	No	No	0
	05-09	West Elm Ln (Jech) (no permit)	G	0	Yes	47.8	51.4	53.8	No	2.4	No	No Permit	0
	05-10	West Elm Ln (Hankins) (no permit)	G	0	Yes	47.8	54.5	55.8	No	1.3	No	No Permit	0
	05-11	109 West Elm	B	1	Yes	47.8	59.8	60.8	No	1.0	No	No	0
06	06-01	1162 N Barrington Rd	B	1	No	47.8	56.4	60.8	No	4.4	No	No	0
	06-02	1087 N Maestri Rd	B	1	Yes	47.8	61.5	65.1	No	3.6	No	No	0
	06-03	1041 N Maestri Rd (Take)	Take	1	Take	47.8	67.4	Take	Take	Take	Take	Take	0
07	07-01	8757 W Gibbs Rd	B	1	Yes	47.8	54.6	60.1	No	5.5	No	No	0
	07-02	8736 W Gibbs Rd	B	1	Yes	47.8	50.6	55.2	No	4.6	No	No	0
	07-03	1214 N Maestri Rd	B	1	Yes	47.8	59.1	65.0	No	5.9	No	No	0
	07-04	1216 N Maestri Rd	B	1	Yes	47.8	57.6	63.3	No	5.7	No	No	0
	07-05	1220 N Maestri Rd	B	1	Yes	47.8	54.0	57.1	No	3.1	No	No	0
	07-06	1252 N Maestri Rd (Take)	Take	1	Take	47.8	67.0	Take	Take	Take	Take	Take	0
	07-07	1320 N Maestri Rd	B	1	Yes	47.8	54.0	56.9	No	2.9	No	No	0
07-08	21694 S Hwy 112	B	1	Yes	47.8	48.9	53.5	No	4.6	No	No	0	
08	08-01	21726 S Hwy 112	B	1	Yes	47.8	49.4	53.2	No	3.8	No	No	0
	08-02	21772 S Hwy 112	B	1	Yes	47.8	47.8	50.8	No	3.0	No	No	0
	08-03	392 S Elm St	B	1	Yes	47.8	58.1	61.3	No	3.2	No	No	0
	08-04	358 S Elm St	B	1	Yes	47.8	52.7	56.5	No	3.8	No	No	0
	08-05	344 S Elm St (Take)	Take	1	Take	47.8	62.8	Take	Take	Take	Take	Take	0
	08-06	105 School Ave	B	1	Yes	47.8	59.2	61.0	No	1.8	No	No	0
	08-07	107 School Ave	B	1	Yes	47.8	56.8	59.1	No	2.3	No	No	0
	08-08	109 School Ave	B	1	Yes	47.8	56.4	58.1	No	1.7	No	No	0
	08-09	201 School Ave (Take)	Take	1	Take	47.8	55.7	Take	Take	Take	Take	Take	0
	08-10	203 School Ave (Take)	Take	1	Take	47.8	52.2	Take	Take	Take	Take	Take	0
	08-11	257 E Lake Rd	B	1	Yes	47.8	49.0	55.6	No	6.6	No	No	0
	08-12	209 School Ave (Take)	Take	1	Take	47.8	57.4	Take	Take	Take	Take	Take	0
	08-13	207 School Ave (Take)	Take	1	Take	47.8	55.8	Take	Take	Take	Take	Take	0
	08-14	169 S Elm St	B	1	Yes	47.8	61.7	49.2	No	-12.5	No	No	0
08-15	100 S Elm St (MH)	B	1	Yes	47.8	58.2	56.0	No	-2.2	No	No	0	
08-16	104 S Elm St (MH)	B	1	Yes	47.8	53.6	52.3	No	-1.3	No	No	0	
09	09-01	208 School Ave	B	1	No	50.5	50.5	57.0	No	6.5	No	No	0
	09-02	101 Lawn View Ln	B	1	No	50.5	50.5	54.5	No	4.0	No	No	0
	09-03	329 Elm Springs Rd	B	1	No	50.5	50.5	56.0	No	5.5	No	No	0

NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# of Receptors	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (or background)	Predicted Build, dBA (with 40 dBA Background)	Approach/ Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Receptors
10	10-01	108 School Ave (Church property) (C)	C	1	Yes	50.5	50.8	50.1	No	-0.7	No	No	0
	10-02	Elm Springs Church playground (C)	C	1	Yes	50.5	52.9	52.5	No	-0.4	No	No	0
	10-03	Elm Springs Church (D)	D	1	No	25.5	35.0	37.3	No	2.3	No	No	0
	10-04	112 Church Ln (Church res. duplex)	B	2	No	50.5	50.5	66.1	Yes	15.6	Yes	Yes	2
	10-05	258 N Elm St	B	1	Yes	50.5	63.4	50.2	No	-13.2	No	No	0
	10-06	264 N Elm St	B	1	Yes	50.5	63.1	51.1	No	-12.0	No	No	0
	10-07	276 N Elm St	B	1	Yes	50.5	64.0	52.6	No	-11.4	No	No	0
	10-08	254 N Elm St	B	1	No	50.5	50.5	60.3	No	9.8	No	No	0
	10-09	205 Gumm St	B	1	No	50.5	50.5	62.6	No	12.1	Yes	Yes	1
	10-10	244 Gumm St	B	1	No	50.5	50.5	62.2	No	11.7	Yes	Yes	1
	10-11	255 Gumm St	B	1	No	50.5	50.5	55.7	No	5.2	No	No	0
	10-12	209 Gumm St (Take)	Take	1	Take	50.5	50.5	Take	Take	Take	Take	Take	0
	10-13	275 Elm Springs Rd (Take)	Take	1	Take	50.5	50.5	Take	Take	Take	Take	Take	0
	10-14	204 School Ave (Take)	Take	1	Take	50.5	57.2	Take	Take	Take	Take	Take	0
	10-15	104 Church Ln (Take)	Take	1	Take	50.5	50.5	Take	Take	Take	Take	Take	0
	10-16	112 Church Ln (M) (NSA 10)	F	0	No	50.5	50.5	67.9	No	17.4	Yes	Meas. Location	0
11	11-01	Elm Springs Trail (C)	C	1	No	50.5	50.9	50.8	No	-0.1	No	No	0
	11-02	Elm Spr Prk BB Court (C)	C	1	No	50.5	51.2	50.1	No	-1.1	No	No	0
	11-03	Elm Springs park bench (south)(C)	C	1	No	50.5	51.0	50.1	No	-0.9	No	No	0
	11-04	Elm Springs Park Playground (C)	C	1	No	50.5	50.5	50.1	No	-0.4	No	No	0
	11-05	Elm Springs park bench (north) (C)	C	1	No	50.5	50.5	50.5	No	0.0	No	No	0
	11-06	275 N Elm St	B	1	No	50.5	65.0	51.7	No	-13.3	No	No	0
	11-07	111 Jayroe Ave	B	1	No	50.5	50.5	46.9	No	-3.6	No	No	0
	11-08	107 Jayroe Ave	B	1	No	50.5	50.5	47.8	No	-2.7	No	No	0
	11-09	126 Water Ave	B	1	No	50.5	50.5	51.1	No	0.6	No	No	0
	11-10	168 Water Ave	B	1	No	50.5	51.7	52.2	No	0.5	No	No	0
	12-01	478 N Elm St	B	1	Yes	47.8	55.6	61.5	No	5.9	No	No	0
12	12-02	598 N Elm St (Take)	Take	1	Take	47.8	64.5	Take	Take	Take	Take	Take	0
	12-03	289 Hale Ave	B	1	No	47.8	49.7	56.0	No	6.3	No	No	0
	12-04	14364 Ar 112 Hwy (Take)	Take	1	Take	47.8	64.4	Take	Take	Take	Take	Take	0
	12-05	3065 Ar 112 Hwy	B	1	Yes	47.8	48.8	51.6	No	2.8	No	No	0
	12-06	9326 Greenbriar Estates Rd	B	1	Yes	47.8	53.6	56.6	No	3.0	No	No	0
	12-07	9250 Greenbriar Estates Rd	B	1	Yes	47.8	55.5	58.4	No	2.9	No	No	0
	12-08	9196 Greenbriar Estates Rd	B	1	Yes	47.8	56.9	60.9	No	4.0	No	No	0
	12-09	9128 Greenbriar Estates Rd	B	1	Yes	47.8	57.9	61.6	No	3.7	No	No	0
	12-10	9070 Greenbriar Estates Rd	B	1	Yes	47.8	58.2	61.7	No	3.5	No	No	0
	12-11	9002 Greenbriar Estates Rd	B	1	Yes	47.8	57.7	60.7	No	3.0	No	No	0
	12-12	3569 Ar 112 Hwy	B	1	Yes	47.8	63.5	65.3	No	1.8	No	No	0
	12-13	9015 Carrie Smith Rd	B	1	Yes	47.8	54.7	57.7	No	3.0	No	No	0
	12-14	292 Elm Springs Rd	B	1	No	47.8	47.8	56.4	No	8.6	No	No	0
	12-15	9129 Greenbriar Estates Rd	B	1	No	47.8	48.4	53.8	No	5.4	No	No	0
	12-16	8953 Greenbriar Estates Rd	B	1	No	47.8	48.1	53.5	No	5.4	No	No	0
	12-17	8956 Greenbriar Estates Rd	B	1	No	47.8	48.1	52.6	No	4.5	No	No	0
	12-18	8939 Carrie Smith Rd	B	1	No	47.8	47.8	47.1	No	-0.7	No	No	0
	12-19	9196 Greenbriar Estate (M) (NSA 12)	F	0	No	47.8	56.2	60.6	No	4.4	No	Meas. Location	0
	13	13-01	9223 Amy Dr	B	1	Yes	47.8	59.6	63.3	No	3.7	No	No
13-02		3174 Ar 112 Hwy	B	1	Yes	47.8	58.0	62.0	No	4.0	No	No	0
13-03		3148 Ar 112 Hwy	B	1	Yes	47.8	55.5	60.5	No	5.0	No	No	0
13-04		3096 Ar 112 Hwy	B	1	Yes	47.8	59.2	63.0	No	3.8	No	No	0
13-05		3068 Ar 112 Hwy	B	1	Yes	47.8	59.2	63.1	No	3.9	No	No	0
13-06		3026 Ar 112 Hwy	B	1	Yes	47.8	59.6	63.4	No	3.8	No	No	0
13-07		2946 Ar 112 Hwy	B	1	Yes	47.8	59.3	65.5	No	6.2	No	No	0
13-08		2916 Ar 112 Hwy	B	1	Yes	47.8	52.3	61.3	No	9.0	No	No	0
13-09		507 N Elm	B	1	Yes	47.8	54.4	63.1	No	8.7	No	No	0
13-10		485 N Elm St	B	1	Yes	47.8	53.9	62.5	No	8.6	No	No	0
13-11		441 N Elm St	B	1	Yes	47.8	53.2	59.0	No	5.8	No	No	0
13-12		433 N Elm St	B	1	No	47.8	47.8	51.9	No	4.1	No	No	0
13-13		306 N Elm St	B	1	Yes	47.8	54.6	57.1	No	2.5	No	No	0
13-14		327 N Elm St	B	1	No	47.8	58.9	51.3	No	-7.6	No	No	0
14	14-01	9149 Marchant Rd	B	1	Yes	47.8	65.0	63.2	No	-1.8	No	No	0
	14-02	3604 Ar 112 Hwy	B	1	Yes	47.8	63.9	63.5	No	-0.4	No	No	0
	14-03	3547 Roma Dr	B	1	Yes	47.8	54.3	57.1	No	2.8	No	No	0
	14-04	3485 Roma Dr	B	1	Yes	47.8	52.5	56.4	No	3.9	No	No	0
	14-05	3423 Roma Dr	B	1	Yes	47.8	52.1	56.9	No	4.8	No	No	0
	14-06	3378 Ar 112 Hwy	B	1	Yes	47.8	57.6	61.6	No	4.0	No	No	0
	14-07	3324 Ar 112 Hwy	B	1	Yes	47.8	59.4	62.9	No	3.5	No	No	0
	14-08	9268 Amy Dr	B	1	Yes	47.8	51.3	56.9	No	5.6	No	No	0
15	15-01	3843 Ar 112 Hwy	B	1	Yes	47.8	56.7	59.3	No	2.6	No	No	0
	15-02	3947 Ar 112 Hwy	B	1	Yes	47.8	62.2	62.4	No	0.2	No	No	0
	15-03	4095 Ar 112 Hwy	B	1	Yes	47.8	63.6	62.3	No	-1.3	No	No	0
16	16-01	4022 Als Dr	B	1	Yes	47.8	52.9	56.7	No	3.8	No	No	0



Job 012305, Alternative E3 Modified

NSA 1 and NSA2 results



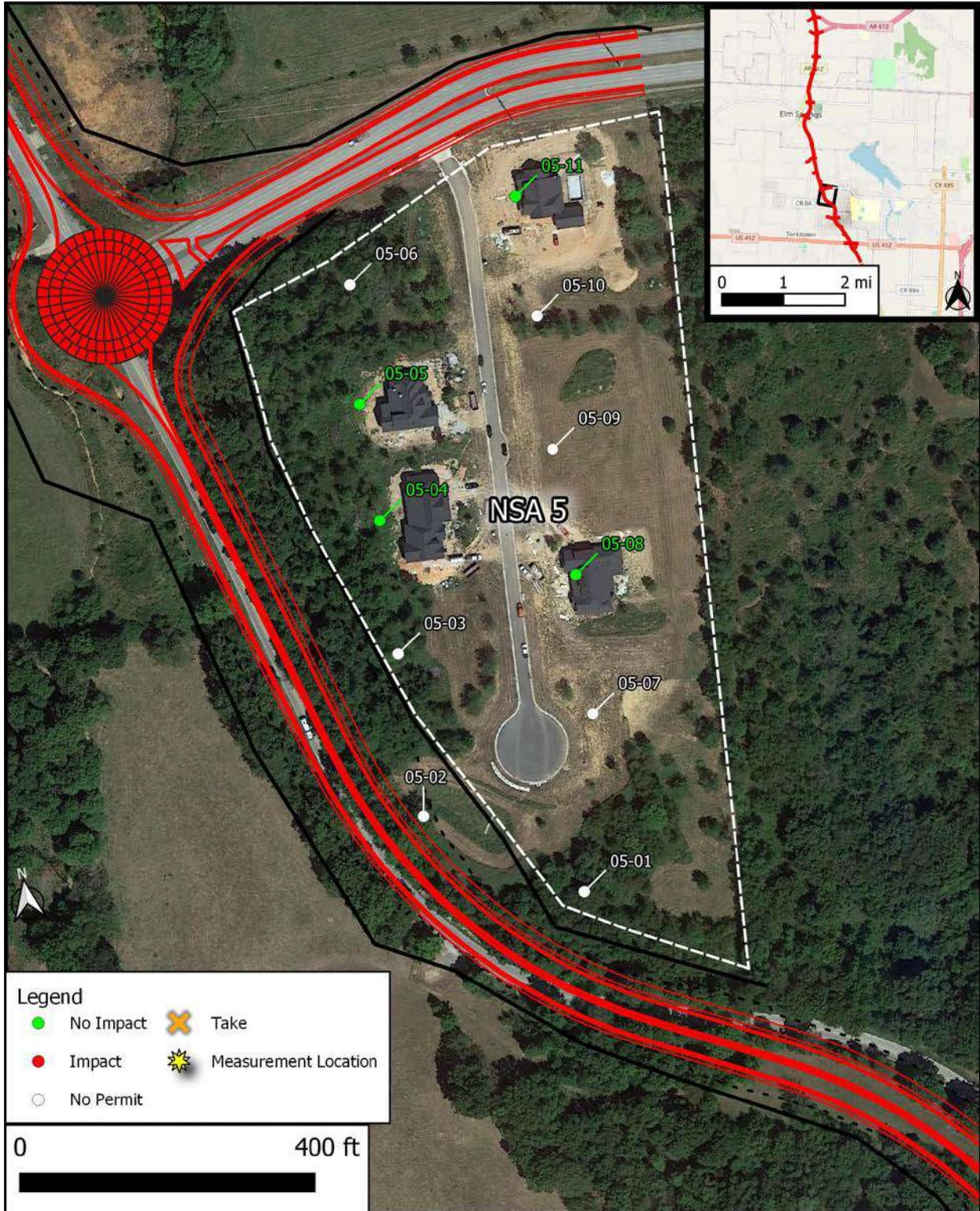
Job 012305, Alternative E3 Modified

NSA 3 results



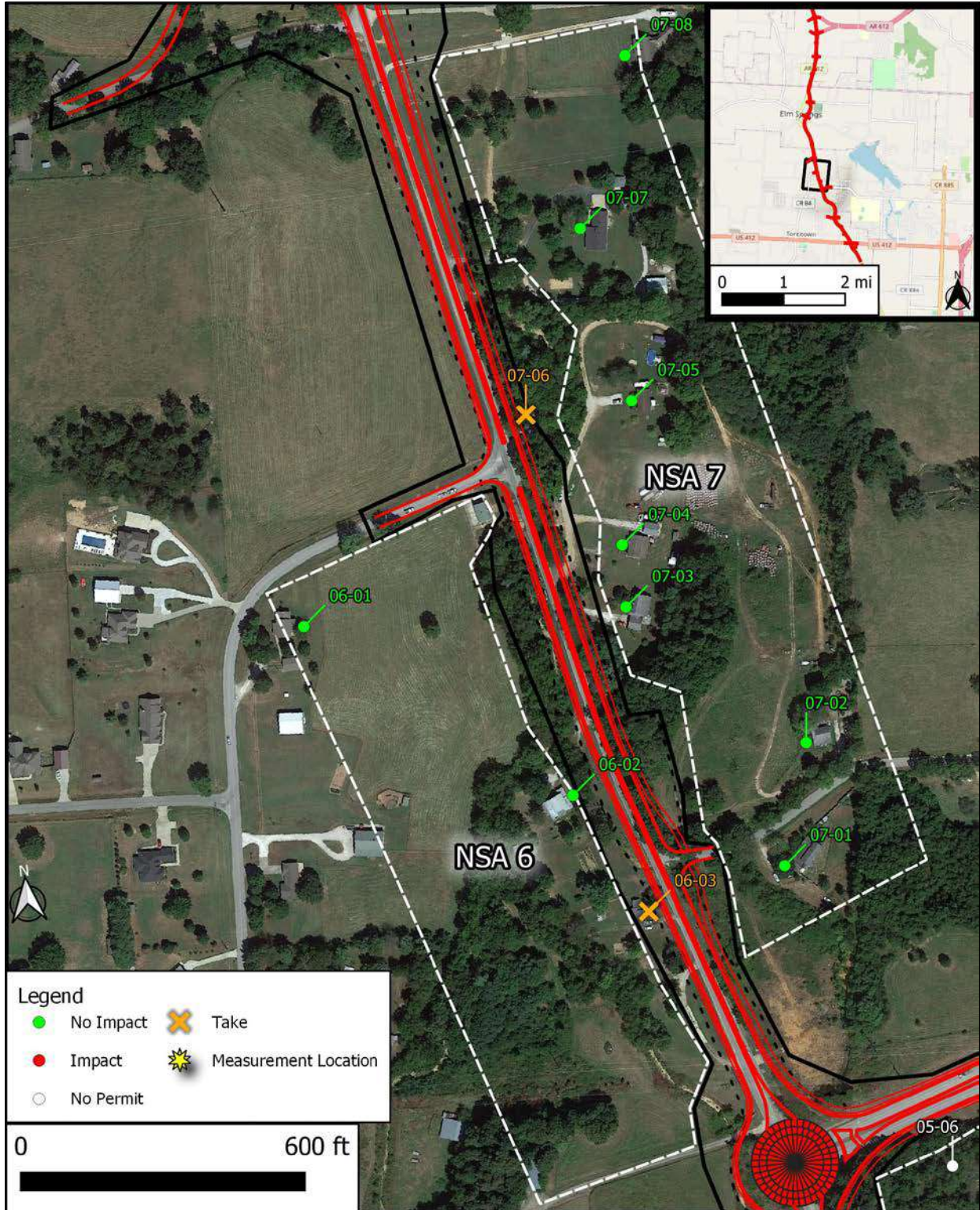
Job 012305, Alternative E3 Modified

NSA 4 results



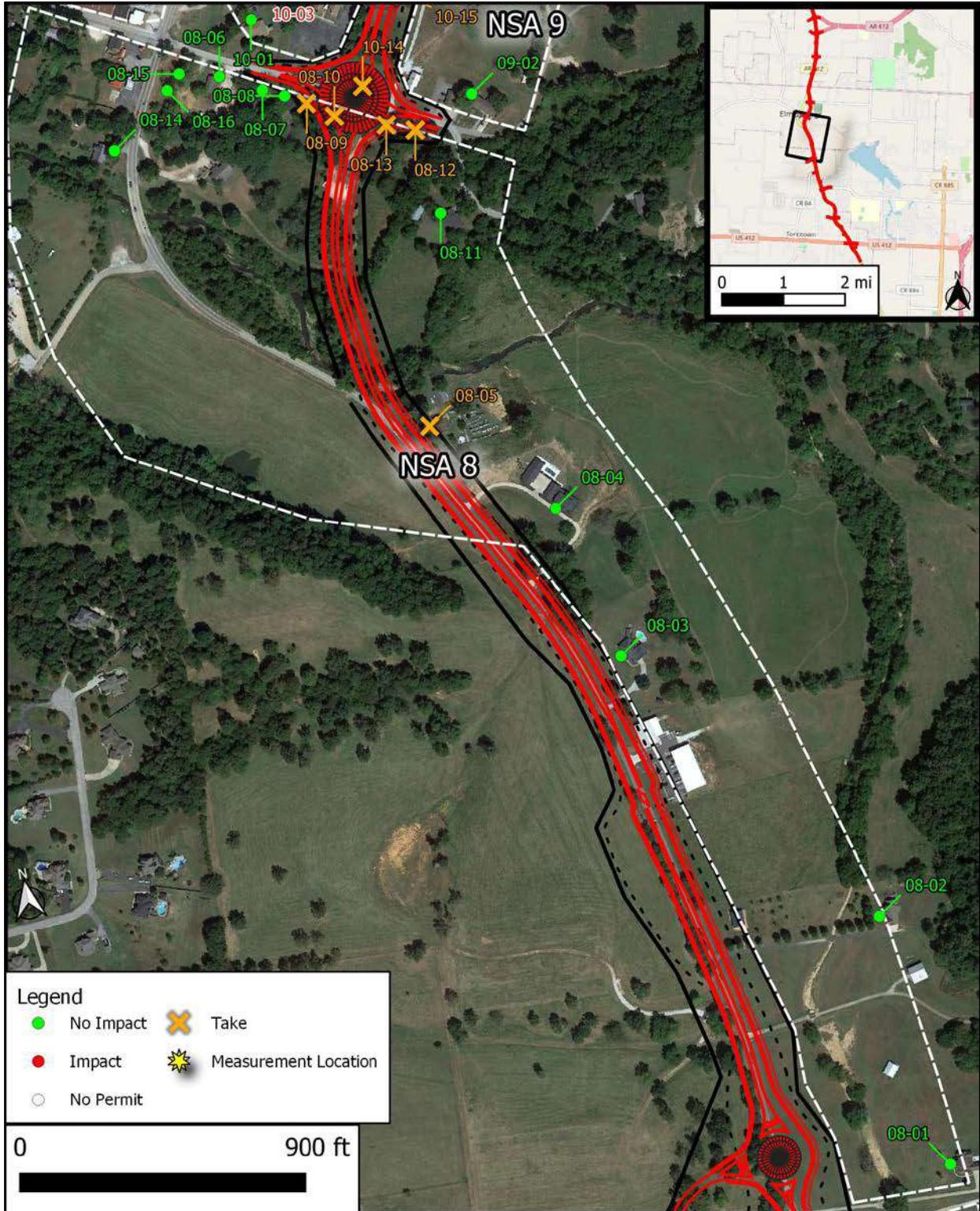
Job 012305, Alternative E3 Modified

NSA 5 results



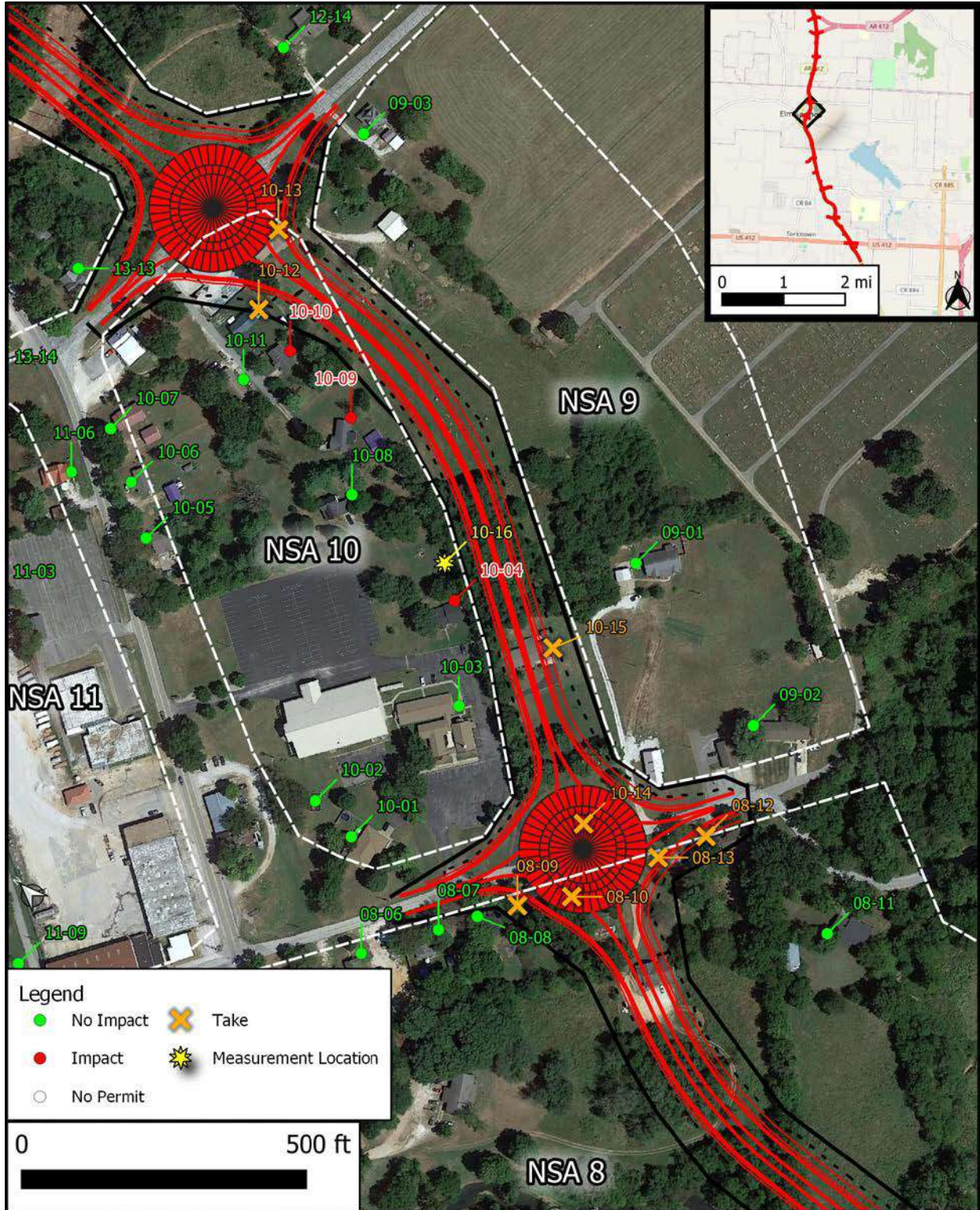
Job 012305, Alternative E3 Modified

NSA 6 and NSA 7 results



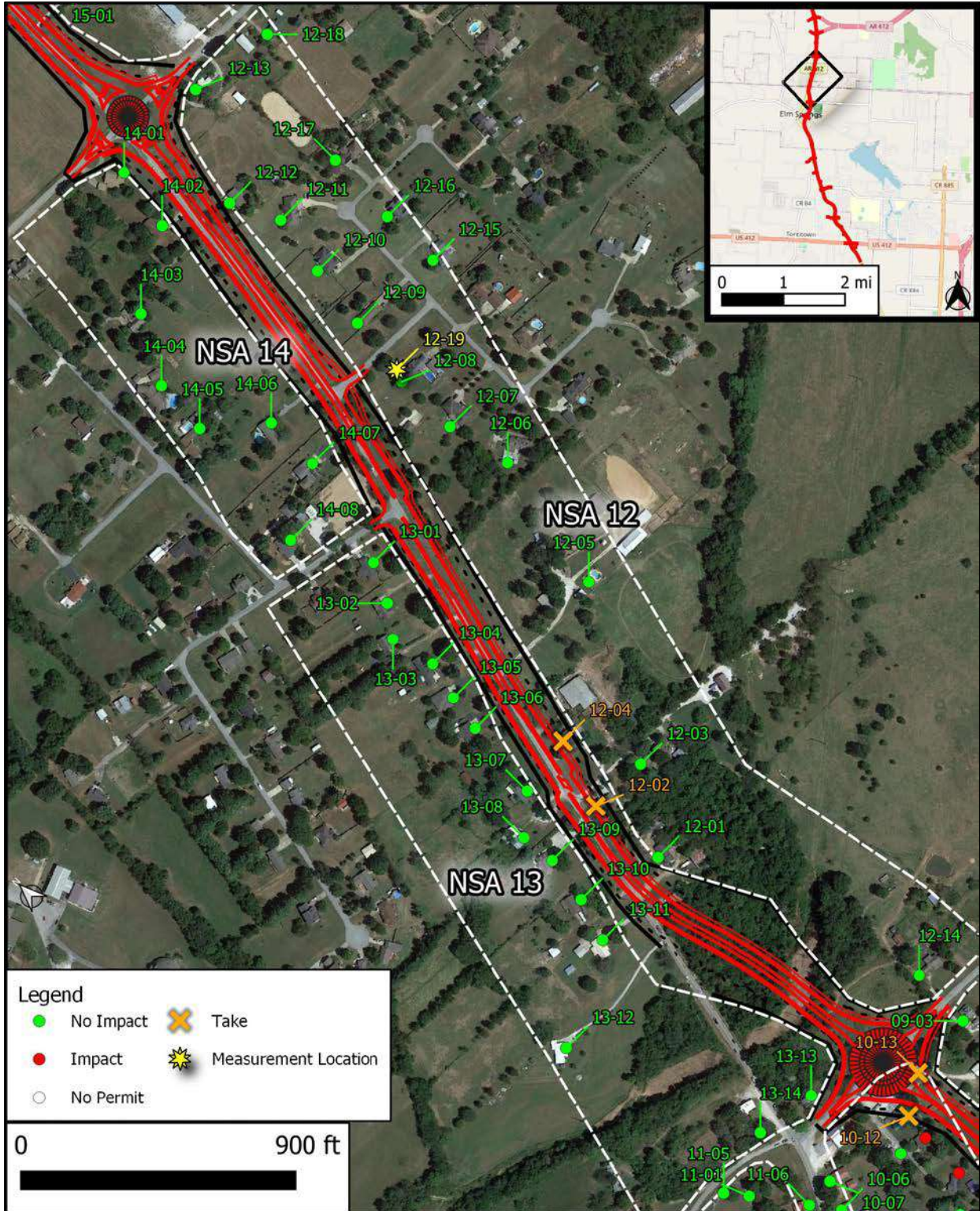
Job 012305, Alternative E3 Modified

NSA 8 results

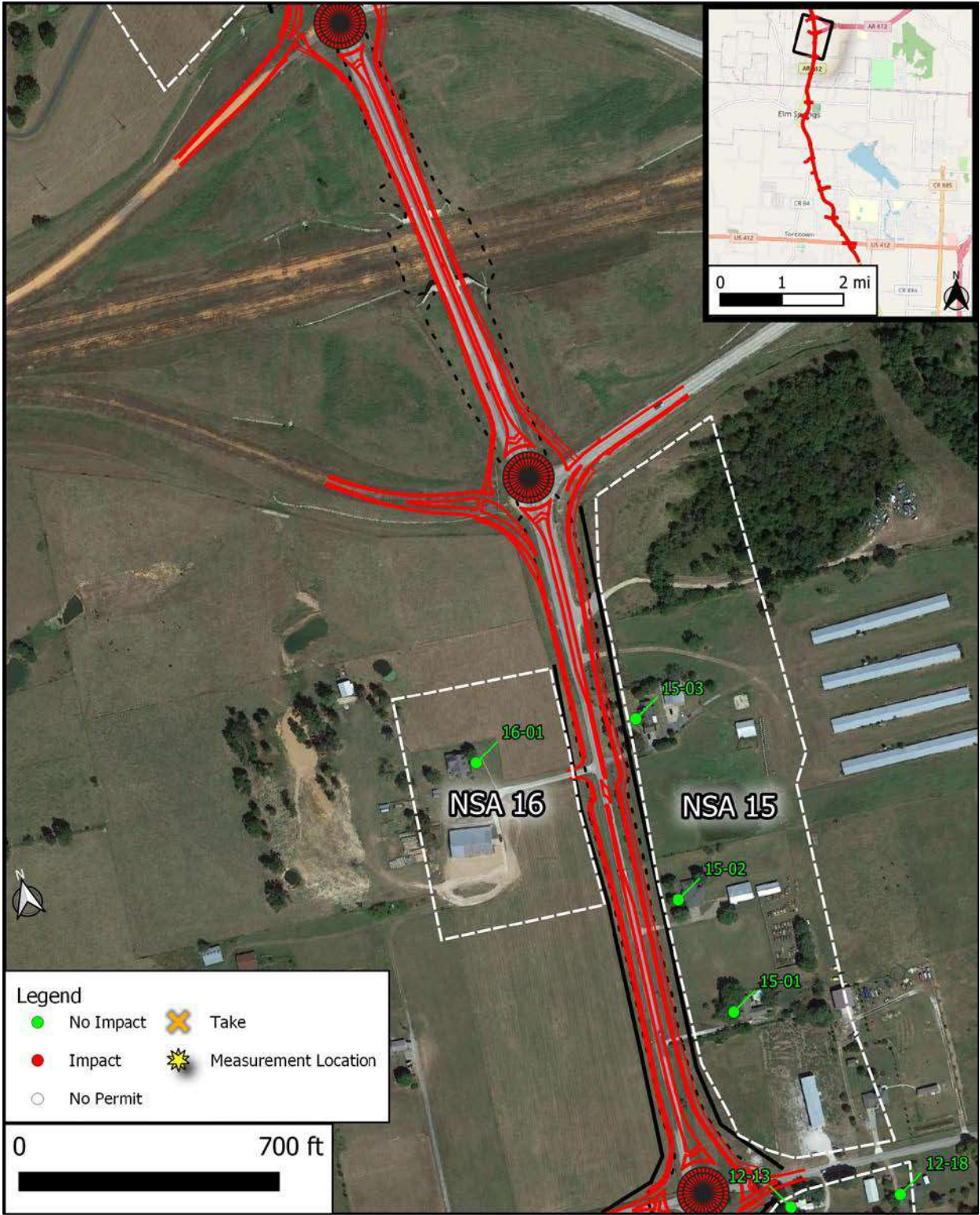


Job 012305, Alternative E3 Modified

NSA 9 and NSA 10 results



Job 012305, Alternative E3 Modified
NSA 12, NSA 13, and NSA 14 results



Job 012305, Alternative E3 Modified

NSA 15 and NSA 16 results

Sound Levels and impacts

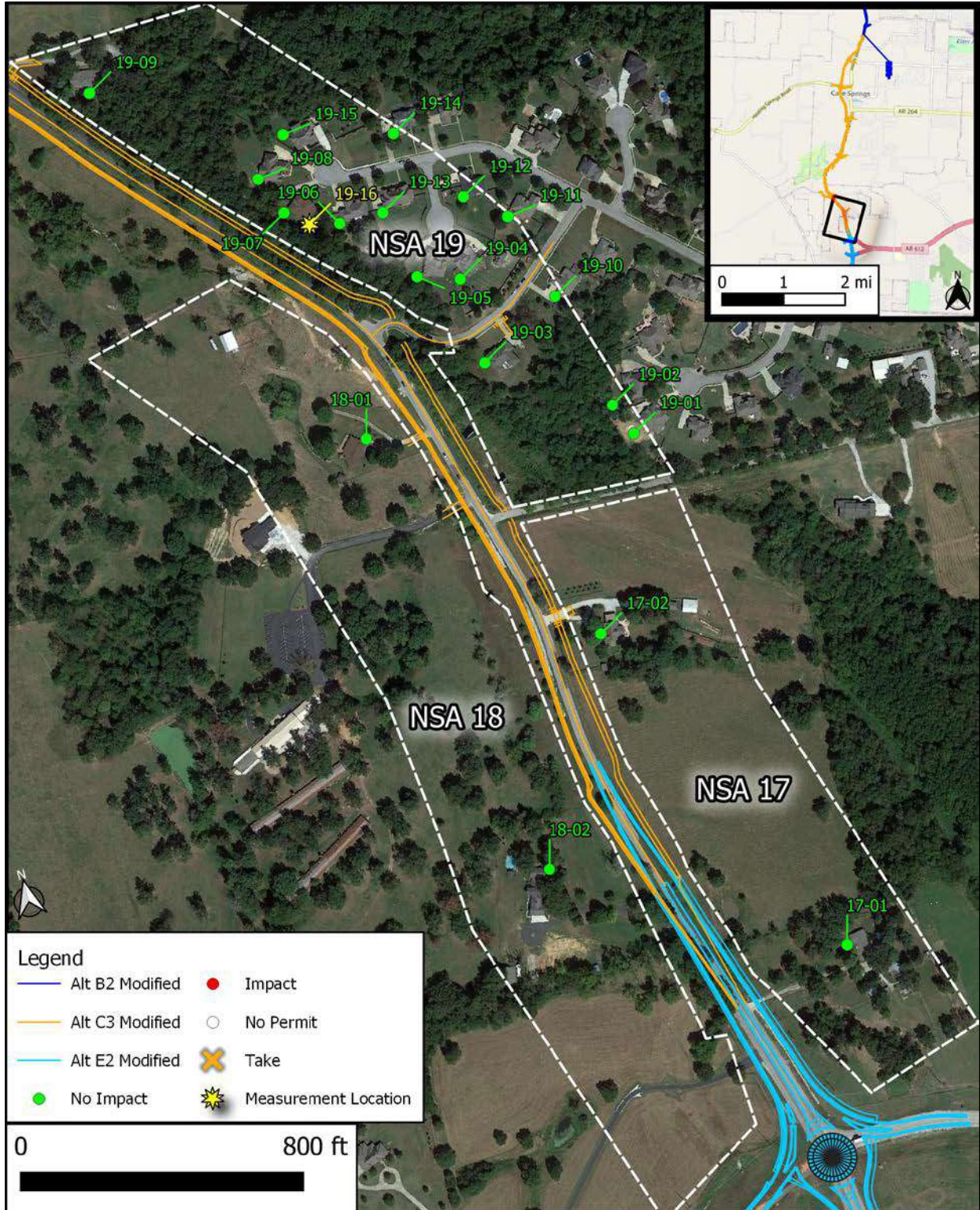
ARDOT Job 090513

Alternative C3 Modified

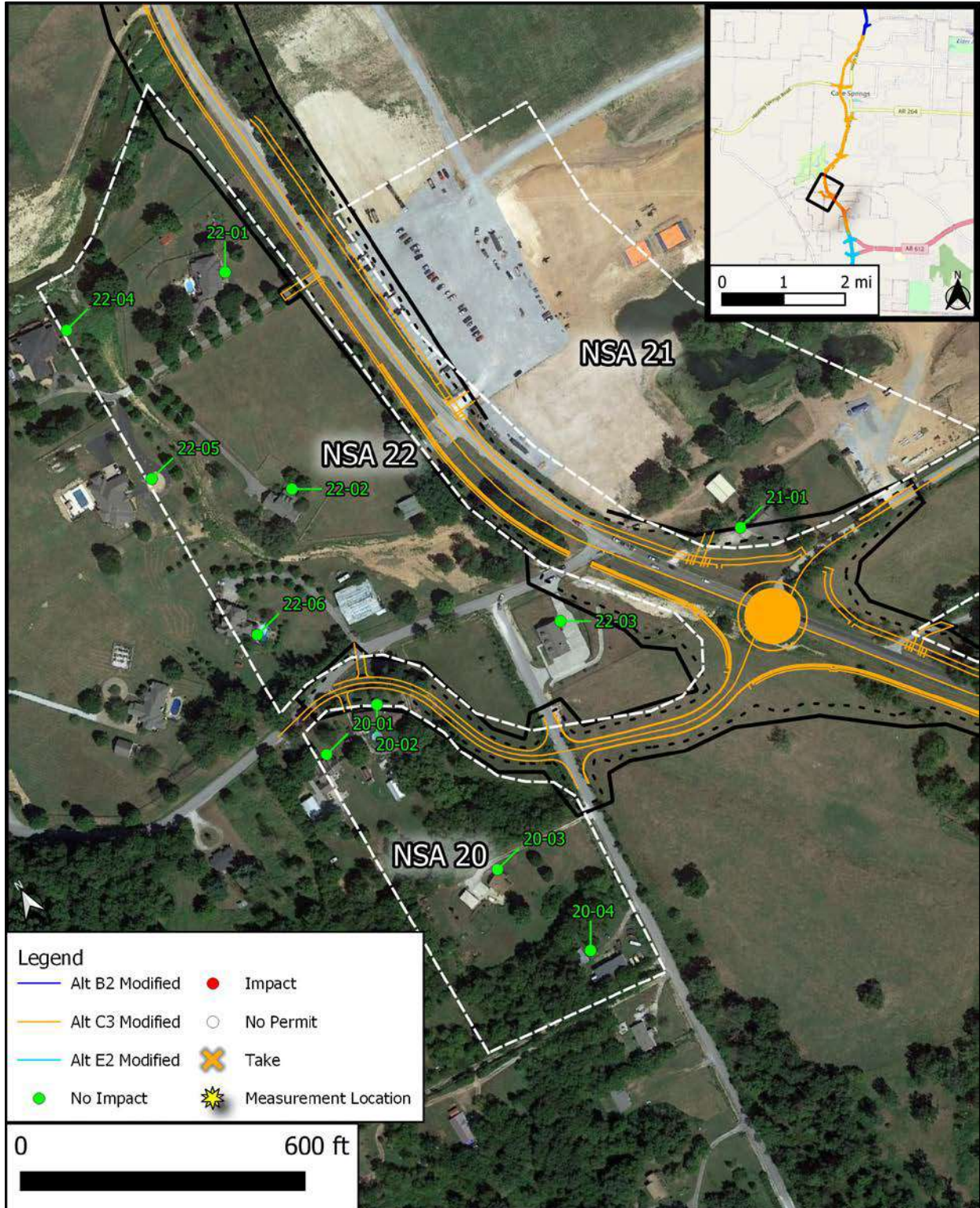
NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# of Receptors	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (or background)	Predicted Build, dBA (with 40 dBA Background)	Approach/ Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Receptors
17	17-01	4859 Ar Hwy 112	B	1	Yes	47.8	56.6	58.8	No	2.2	No	No	0
	17-02	5193 Ar 112 Hwy	B	1	Yes	47.8	62.2	65.6	No	3.4	No	No	0
18	18-01	5392 Ar 112 Hwy	B	1	Yes	47.8	60.0	63.9	No	3.9	No	No	0
	18-02	4984 Ar Hwy 112	B	1	Yes	47.8	59.7	62.0	No	2.3	No	No	0
19	19-01	13198 Rusty Blackhaw Ct	B	1	Yes	47.8	55.9	58.4	No	2.5	No	No	0
	19-02	13199 Rusty Blackhaw Ct	B	1	Yes	47.8	55.7	58.0	No	2.3	No	No	0
	19-03	9037 Spring Ridge Dr	B	1	Yes	47.8	61.2	63.9	No	2.7	No	No	0
	19-04	13062 Hickory Ct	B	1	Yes	47.8	54.4	57.4	No	3.0	No	No	0
	19-05	13063 Hickory Ct	B	1	Yes	47.8	61.3	63.4	No	2.1	No	No	0
	19-06	8961 Crest Ln	B	1	Yes	47.8	58.5	60.0	No	1.5	No	No	0
	19-07	8985 Crest Ln	B	1	Yes	47.8	60.8	63.5	No	2.7	No	No	0
	19-08	8984 Crest Ln	B	1	Yes	47.8	53.2	55.3	No	2.1	No	No	0
	19-09	5747 Ar 112 Hwy	B	1	Yes	47.8	55.2	58.9	No	3.7	No	No	0
	19-10	9013 Spring Ridge Dr	B	1	No	47.8	52.4	54.1	No	1.7	No	No	0
	19-11	8913 Crest Ln	B	1	No	47.8	47.8	48.6	No	0.8	No	No	0
	19-12	8925 Crest Ln	B	1	No	47.8	47.8	47.5	No	-0.3	No	No	0
	19-13	8949 Crest Ln	B	1	No	47.8	53.1	53.9	No	0.8	No	No	0
	19-14	8948 Crest Ln	B	1	No	47.8	47.8	47.5	No	-0.3	No	No	0
	19-15	8972 Crest Ln	B	1	No	47.8	47.8	48.0	No	0.2	No	No	0
	19-16	8985 Crest Ln (M) (NSA 19)	F	0	No	47.8	62.4	64.6	No	2.2	No	Measurement	0
20	20-01	9501 Wager Rd	B	1	Yes	47.8	47.8	51.9	No	4.1	No	No	0
	20-02	9447 Wager Rd	B	1	Yes	47.8	49.9	56.0	No	6.1	No	No	0
	20-03	12949 Kelly Rd	B	1	Yes	47.8	47.8	53.1	No	5.3	No	No	0
	20-04	12951 Kelly Rd	B	1	Yes	47.8	47.8	49.9	No	2.1	No	No	0
21	21-01	5877 Ar 112 Hwy	B	1	Yes	47.8	62.1	63.0	No	0.9	No	No	0
	22-01	1625 S Main St	B	1	Yes	47.8	57.9	63.6	No	5.7	No	No	0
22	22-02	1619 S Main St	B	1	Yes	47.8	52.3	59.0	No	6.7	No	No	0
	22-03	5873 Kelly Rd	B	1	Yes	47.8	57.7	63.6	No	5.9	No	No	0
	22-04	1631 S Main St	B	1	No	47.8	48.8	54.2	No	5.4	No	No	0
	22-05	1621 S Main St	B	1	No	47.8	47.8	53.1	No	5.3	No	No	0
	22-06	9466 Wager Rd	B	1	No	47.8	47.8	50.5	No	2.7	No	No	0
	23	23-01	Rv #32	C	1	Yes	47.8	62.3	63.8	No	1.5	No	No
23-02		Rv #31	C	1	Yes	47.8	61.5	63.8	No	2.3	No	No	0
23-03		Rv #30	C	1	Yes	47.8	61.2	63.8	No	2.6	No	No	0
23-04		Rv #29	C	1	Yes	47.8	61.1	63.9	No	2.8	No	No	0
23-05		Rv #28	C	1	Yes	47.8	60.9	63.8	No	2.9	No	No	0
23-06		Rv #23-27	C	5	Yes	47.8	60.8	63.6	No	2.8	No	No	0
23-07		Rv #18-22	C	5	Yes	47.8	60.9	62.8	No	1.9	No	No	0
23-08		Rv #13-17	C	5	Yes	47.8	60.4	62.3	No	1.9	No	No	0
23-09		Rv #08-12	C	5	Yes	47.8	60.9	62.5	No	1.6	No	No	0
23-10		Rv #03-07	C	5	Yes	47.8	60.1	62.1	No	2.0	No	No	0
23-11		Rv #02	C	1	Yes	47.8	59.5	62.1	No	2.6	No	No	0
23-12		Rv #01	C	1	Yes	47.8	59.3	62.4	No	3.1	No	No	0
23-13		Rv #33	C	1	No	47.8	58.0	60.4	No	2.4	No	No	0
23-14		Rv #34	C	1	No	47.8	58.1	60.3	No	2.2	No	No	0
23-15		Rv #35	C	1	No	47.8	58.1	60.2	No	2.1	No	No	0
23-16		Rv #36-40	C	5	No	47.8	57.6	60.5	No	2.9	No	No	0
23-17		Rv #41-45	C	5	No	47.8	57.4	60.1	No	2.7	No	No	0
23-18		Rv #46-50	C	5	No	47.8	57.3	59.9	No	2.6	No	No	0
23-19		Rv #51-55	C	5	No	47.8	57.2	59.6	No	2.4	No	No	0
23-20		Rv #56-58	C	3	No	47.8	57.0	59.6	No	2.6	No	No	0
23-21		Rv #59	C	1	No	47.8	56.6	59.2	No	2.6	No	No	0
23-22		Rv #60	C	1	No	47.8	56.4	59.3	No	2.9	No	No	0
23-23		Rv #61	C	1	No	47.8	56.5	59.4	No	2.9	No	No	0
23-24		The Creeks practice green (C)	C	1	Yes	47.8	57.3	62.1	No	4.8	No	No	0
23-25		The Creeks Club house deck (C)	C	1	Yes	47.8	58.3	61.6	No	3.3	No	No	0
23-26		The Creeks driving range (C)	C	1	Yes	47.8	59.9	64.5	No	4.6	No	No	0
23-27		Rv #73	C	1	No	47.8	54.1	57.6	No	3.5	No	No	0
23-28		Rv #72	C	1	No	47.8	54.2	57.7	No	3.5	No	No	0
23-29		Rv #71	C	1	No	47.8	54.4	57.8	No	3.4	No	No	0
23-30		Rv #70	C	1	No	47.8	54.7	57.9	No	3.2	No	No	0
23-31		Rv #65-69	C	5	No	47.8	54.7	57.9	No	3.2	No	No	0
23-32		Rv #62-64	C	3	No	47.8	54.6	57.9	No	3.3	No	No	0
23-33		Rv #74	C	1	No	47.8	52.9	56.2	No	3.3	No	No	0
23-34		Rv #75	C	1	No	47.8	51.1	54.4	No	3.3	No	No	0
23-35		Rv #76	C	1	No	47.8	51.5	54.6	No	3.1	No	No	0
23-36		Rv #77	C	1	No	47.8	51.4	54.7	No	3.3	No	No	0
23-37		Rv #78-79	C	2	No	47.8	49.9	53.9	No	4.0	No	No	0
23-38		Rv #94-95	C	2	No	47.8	50.3	54.1	No	3.8	No	No	0
23-39		Rv #92-93	C	2	No	47.8	49.5	53.6	No	4.1	No	No	0
23-40		Rv #96-97	C	2	No	47.8	50.2	54.1	No	3.9	No	No	0
23-41		Rv #98-99	C	2	No	47.8	49.8	53.7	No	3.9	No	No	0
23-42		Rv #107-108	C	2	No	47.8	51.5	54.8	No	3.3	No	No	0
23-43		Rv #105-106	C	2	No	47.8	51.0	54.4	No	3.4	No	No	0
23-44		Rv #103-104	C	2	No	47.8	50.5	54.1	No	3.6	No	No	0
23-45		Rv #109-110	C	2	No	47.8	53.5	56.3	No	2.8	No	No	0
23-46		Rv #111-112	C	2	No	47.8	52.7	55.5	No	2.8	No	No	0
23-47		Rv #113	C	1	No	47.8	52.3	55.3	No	3.0	No	No	0
23-48		Rv Patio (C)	C	1	No	47.8	53.3	56.3	No	3.0	No	No	0
23-49		The Creeks Golf Course green (C)	C	1	No	47.8	51.6	54.5	No	2.9	No	No	0

NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# of Receptors	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (or background)	Predicted Build, dBA (with 40 dBA Background)	Approach/Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Receptors
24	24-01	1363 Duffers Ct	B	1	Yes	47.8	63.3	67.3	Yes	4.0	No	Yes	1
	24-02	1359 Duffers Ct	B	1	Yes	47.8	63.1	67.6	Yes	4.5	No	Yes	1
	24-03	1355 Duffers Ct	B	1	Yes	47.8	60.5	66.0	Yes	5.5	No	Yes	1
	24-04	1351 Duffers Ct	B	1	Yes	47.8	60.8	66.6	Yes	5.8	No	Yes	1
	24-05	1260 S Main St	B	1	Yes	47.8	57.4	62.5	No	5.1	No	No	0
	24-06	101 Brown Rd (MH)	B	1	Yes	47.8	53.6	59.7	No	6.1	No	No	0
	24-07	128 Brown Rd (Take)	Take	1	Take	47.8	61.9	Take	Take	Take	Take	Take	0
	24-08	1110 S Main St	B	1	Yes	47.8	59.2	65.4	No	6.2	No	No	0
	24-09	970 S Main St	B	1	Yes	47.8	63.9	71.2	Yes	7.3	No	Yes	1
	24-10	1358 Duffers Ct	B	1	No	47.8	47.8	52.2	No	4.4	No	No	0
	24-11	1354 Duffers Ct	B	1	No	47.8	47.8	51.6	No	3.8	No	No	0
	24-12	1350 Duffers Ct	B	1	No	47.8	47.8	55.2	No	7.4	No	No	0
	24-13	129 Brown Rd	B	1	No	47.8	50.1	56.7	No	6.6	No	No	0
	24-14	1351 Duffers Ct (M) (NSA 24)	F	0	No	47.8	59.5	66.5	No	7.0	No	Measurement	0
25	25-01	1015 S Main St	B	1	Yes	47.8	60.4	65.2	No	4.8	No	No	0
	25-02	101 Pebble Beach Dr	B	1	Yes	47.8	69.2	71.0	Yes	1.8	No	Yes	1
	25-03	1052 Sawgrass Rd	B	1	Yes	47.8	67.0	69.4	Yes	2.4	No	Yes	1
	25-04	1054 Sawgrass Rd	B	1	Yes	47.8	66.9	69.2	Yes	2.3	No	Yes	1
	25-05	1056 Sawgrass Rd	B	1	Yes	47.8	66.1	68.1	Yes	2.0	No	Yes	1
	25-06	1058 Sawgrass Rd	B	1	Yes	47.8	67.3	67.9	Yes	0.6	No	Yes	1
	25-07	1060 Sawgrass Rd	B	1	Yes	47.8	67.6	67.5	Yes	-0.1	No	Yes	1
	25-08	1062 Sawgrass Rd	B	1	Yes	47.8	68.1	66.9	Yes	-1.2	No	Yes	1
	25-09	1064 Sawgrass Rd (permit) (Take)	Take	1	Take	47.8	67.4	Take	Take	Take	Take	Take	0
	25-10	103 Pebble Beach Dr	B	1	No	47.8	58.8	64.0	No	5.2	No	No	0
	25-11	105 Pebble Beach Dr	B	1	No	47.8	54.5	59.3	No	4.8	No	No	0
	25-12	210 Pebble Beach Dr	B	1	No	47.8	49.9	53.5	No	3.6	No	No	0
	25-13	203 Pebble Beach Dr	B	1	No	47.8	48.5	52.3	No	3.8	No	No	0
	25-14	205 Pebble Beach Dr	B	1	No	47.8	47.8	50.6	No	2.8	No	No	0
	25-15	200 Pebble Beach Dr	B	1	No	47.8	53.7	56.6	No	2.9	No	No	0
	25-16	202 Pebble Beach Dr	B	1	No	47.8	50.8	53.7	No	2.9	No	No	0
	25-17	204 Pebble Beach Dr	B	1	No	47.8	49.0	52.1	No	3.1	No	No	0
	25-18	206 Pebble Beach Dr	B	1	No	47.8	47.8	51.2	No	3.4	No	No	0
	25-19	201 Deere Run Dr	B	1	No	47.8	54.4	57.0	No	2.6	No	No	0
	25-20	203 Deere Run Dr	B	1	No	47.8	51.0	53.9	No	2.9	No	No	0
	25-21	205 Deere Run Dr	B	1	No	47.8	49.1	52.2	No	3.1	No	No	0
	25-22	207 Deere Run Dr	B	1	No	47.8	47.8	51.1	No	3.3	No	No	0
	25-23	200 Deere Run Dr	B	1	No	47.8	55.1	56.6	No	1.5	No	No	0
	25-24	202 Deere Run Dr	B	1	No	47.8	52.0	54.1	No	2.1	No	No	0
	25-25	204 Deere Run Dr	B	1	No	47.8	50.2	52.5	No	2.3	No	No	0
	25-26	206 Deere Run Dr	B	1	No	47.8	48.8	51.2	No	2.4	No	No	0
	25-27	203 Doral Dr	B	1	No	47.8	54.2	55.9	No	1.7	No	No	0
	25-28	205 Doral Dr	B	1	No	47.8	51.6	53.5	No	1.9	No	No	0
	25-29	207 Doral Dr	B	1	No	47.8	50.1	52.3	No	2.2	No	No	0
	25-30	209 Doral Dr	B	1	No	47.8	48.9	51.4	No	2.5	No	No	0
	25-31	1052 Sawgrass Rd (M) (NSA 25)	F	0	No	47.8	65.3	66.1	No	0.8	No	Measurement	0
26	26-01	599 S Main St	B	1	Yes	47.8	51.3	59.4	No	8.1	No	No	0
27a	27a-01	650 S Main St	B	1	Yes	47.8	62.3	70.0	Yes	7.7	No	Yes	1
	27a-02	636 S Main St	B	1	Yes	47.8	64.1	69.8	Yes	5.7	No	Yes	1
	27a-03	590 S Main St	B	1	Yes	47.8	63.9	66.9	Yes	3.0	No	Yes	1
	27a-04	572 S Main St	B	1	Yes	47.8	66.1	64.9	No	-1.2	No	No	0
	27a-05	535 S Main St (take)	Take	1	Take	47.8	57.3	Take	Take	Take	Take	Take	0
	27a-06	592 S Main St	B	1	No	47.8	48.8	56.3	No	7.5	No	No	0
	27a-07	534 S Main St (take)	Take	1	Take	47.8	66.4	Take	Take	Take	Take	Take	0
	27a-08	111 E Johnson Ave (no permit)	G	0	No	47.8	67.9	61.1	No	-6.8	No	No Permit	0
27b	27b-01	517 S Main St (take)	Take	1	Take	47.8	55.2	Take	Take	Take	Take	Take	0
	27b-02	501 S Main St (take)	Take	1	Take	47.8	56.5	Take	Take	Take	Take	Take	0
	27b-03	479 S Main St	B	1	Yes	47.8	58.9	61.8	No	2.9	No	No	0
	27b-04	471 S Main St	B	1	Yes	47.8	56.1	63.0	No	6.9	No	No	0
	27b-05	441 S Main St	B	1	Yes	47.8	57.9	61.5	No	3.6	No	No	0
	27b-06	478 S Main St	B	1	No	47.8	65.1	60.9	No	-4.2	No	No	0
	27b-07	448 S Main St	B	1	No	47.8	65.2	60.8	No	-4.4	No	No	0
	27b-08	416 S Main St	B	1	No	47.8	61.2	56.7	No	-4.5	No	No	0
	27b-09	517 Main St (M) (NSA 27)	F	0	Yes	47.8	57.1	63.3	No	6.2	No	Measurement	0

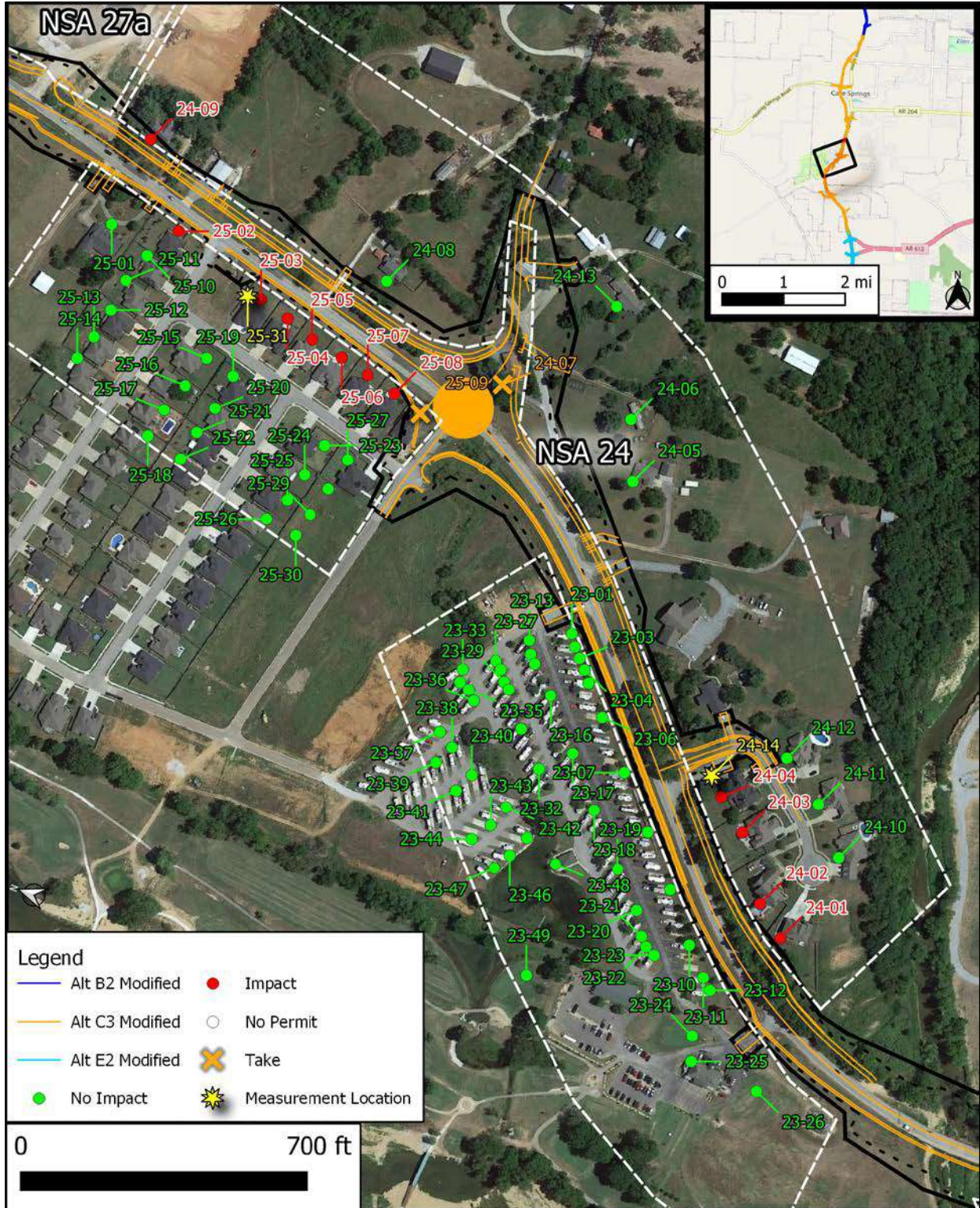
NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# of Receptors	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (or background)	Predicted Build, dBA (with 40 dBA Background)	Approach/ Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Receptors
28	28-01	245 S Chestnut St	B	1	Yes	48.3	48.3	62.8	No	14.5	Yes	Yes	1
	28-02	211 S Chestnut St	B	1	Yes	48.3	48.3	60.9	No	12.6	Yes	Yes	1
	28-03	201 S Chestnut St	B	1	Yes	48.3	48.3	60.6	No	12.3	Yes	Yes	1
	28-04	175 W Glenwood Ave	B	1	Yes	48.3	48.3	61.8	No	13.5	Yes	Yes	1
	28-05	151 S Allen St	B	1	Yes	48.3	48.3	62.8	No	14.5	Yes	Yes	1
	28-06	141 S Allen St	B	1	Yes	48.3	48.3	61.9	No	13.6	Yes	Yes	1
	28-07	257 Healing Springs Rd	B	1	Yes	48.3	48.3	66.1	Yes	17.8	Yes	Yes	1
	28-08	208a (Osage Vista)	G	0	Yes	48.3	48.3	64.1	No	15.8	Yes	No Permit	0
	28-09	208b (Osage Vista)	G	0	Yes	48.3	48.3	64.0	No	15.7	Yes	No Permit	0
	28-10	208c (Osage Vista)	G	0	Yes	48.3	48.3	63.9	No	15.6	Yes	No Permit	0
	28-11	208d (Osage Vista)	G	0	Yes	48.3	48.3	63.7	No	15.4	Yes	No Permit	0
	28-12	208e (Osage Vista)	G	0	Yes	48.3	48.3	63.6	No	15.3	Yes	No Permit	0
	28-13	203a (Osage Vista)	B	1	Yes	48.3	48.3	63.4	No	15.1	Yes	Yes	1
	28-14	203b (Osage Vista)	B	1	Yes	48.3	48.3	63.3	No	15.0	Yes	Yes	1
	28-15	203c (Osage Vista)	B	1	Yes	48.3	48.3	63.2	No	14.9	Yes	Yes	1
	28-16	203d (Osage Vista)	B	1	Yes	48.3	48.3	63.0	No	14.7	Yes	Yes	1
	28-17	203e (Osage Vista)	B	1	Yes	48.3	48.3	63.1	No	14.8	Yes	Yes	1
	28-18	202a (Osage Vista)	B	1	Yes	48.3	48.3	62.9	No	14.6	Yes	Yes	1
	28-19	202b (Osage Vista)	B	1	Yes	48.3	48.3	62.8	No	14.5	Yes	Yes	1
	28-20	202c (Osage Vista)	B	1	Yes	48.3	48.3	62.6	No	14.3	Yes	Yes	1
	28-21	202d (Osage Vista)	B	1	Yes	48.3	48.3	62.6	No	14.3	Yes	Yes	1
	28-22	202e (Osage Vista)	B	1	Yes	48.3	49.3	62.6	No	13.3	Yes	Yes	1
	28-23	IRWP Learning Center (Cat D)	D	1	No	23.3	35.0	35.0	No	0.0	No	No	0
	28-24	131 W Glenwood Ave	B	1	No	48.3	50.8	53.8	No	3.0	No	No	0
	28-25	153 W Glenwood Ave	B	1	No	48.3	48.3	59.5	No	11.2	Yes	Yes	1
	28-26	Cave Springs Amer Legion (C)	C	1	No	48.3	48.3	56.9	No	8.6	No	No	0
	28-27	151 S Chestnut St	B	1	No	48.3	48.3	55.3	No	7.0	No	No	0
	28-28	135 S Chestnut St	B	1	No	48.3	48.3	53.6	No	5.3	No	No	0
	28-29	148 S Allen St	B	1	No	48.3	48.3	59.6	No	11.3	Yes	Yes	1
	28-30	134 S Allen St	B	1	No	48.3	48.3	59.3	No	11.0	Yes	Yes	1
	28-31	115 S Allen St	B	1	No	48.3	48.3	59.7	No	11.4	Yes	Yes	1
	28-32	169 W Midway Ave	B	1	No	48.3	48.3	57.0	No	8.7	No	No	0
	28-33	163 W Midway Ave	B	1	No	48.3	48.3	52.5	No	4.2	No	No	0
	28-34	210a (Osage Vista Townhomes)	B	1	No	48.3	48.3	58.6	No	10.3	Yes	Yes	1
	28-35	210b (Osage Vista Townhomes)	B	1	No	48.3	48.3	57.4	No	9.1	No	No	0
	28-36	210c (Osage Vista Townhomes)	B	1	No	48.3	48.3	56.5	No	8.2	No	No	0
	28-37	210d (Osage Vista Townhomes)	B	1	No	48.3	48.3	55.7	No	7.4	No	No	0
	28-38	210e (Osage Vista Townhomes)	B	1	No	48.3	48.3	56.0	No	7.7	No	No	0
	28-39	201a (Osage Vista Townhomes)	B	1	No	48.3	48.3	55.4	No	7.1	No	No	0
	28-40	201b (Osage Vista Townhomes)	B	1	No	48.3	48.3	54.1	No	5.8	No	No	0
	28-41	201c (Osage Vista Townhomes)	B	1	No	48.3	48.3	53.6	No	5.3	No	No	0
	28-42	201d (Osage Vista Townhomes)	B	1	No	48.3	48.3	53.6	No	5.3	No	No	0
	28-43	201e (Osage Vista Townhomes)	B	1	No	48.3	48.3	54.7	No	6.4	No	No	0
	28-44	200a (Osage Vista Townhomes)	B	1	No	48.3	48.3	54.9	No	6.6	No	No	0
	28-45	200b (Osage Vista Townhomes)	B	1	No	48.3	48.3	54.9	No	6.6	No	No	0
	28-46	200c (Osage Vista Townhomes)	B	1	No	48.3	48.6	55.4	No	6.8	No	No	0
	28-47	200d (Osage Vista Townhomes)	B	1	No	48.3	49.8	56.1	No	6.3	No	No	0
	28-48	200e (Osage Vista Townhomes)	B	1	No	48.3	51.4	57.1	No	5.7	No	No	0
	28-49	213 N Allen St (Take)	Take	1	Take	48.3	58.0	Take	Take	Take	Take	Take	0
	28-50	169 W Stroud St	B	1	No	48.3	48.3	51.1	No	2.8	No	No	0
	28-51	170 Stroud St	B	1	No	48.3	52.0	53.9	No	1.9	No	No	0
	28-52	202 Allen St (Take)	Take	1	Take	48.3	59.5	Take	Take	Take	Take	Take	0
	28-53	271 Healing Springs Rd (Take)	Take	1	Take	48.3	56.0	Take	Take	Take	Take	Take	0
	28-54	245 Healing Springs Rd (Take)	Take	1	Take	48.3	48.3	Take	Take	Take	Take	Take	0
	28-55	Osage Vista Twnhmes (M) (NSA 28)	F	0	Yes	48.3	48.3	71.1	No	22.8	Yes	Measurement	0
29	29-01	365 Main St	B	1	Yes	47.8	47.8	56.2	No	8.4	No	No	0
	29-02	377 Main St	B	1	Yes	47.8	48.2	54.4	No	6.2	No	No	0
	29-03	451 N Main St	B	1	Yes	47.8	47.8	56.0	No	8.2	No	No	0
	29-04	Church Of Christ: 476 N Main St (D)	D	1	Yes	22.8	37.4	35.0	No	-2.4	No	No	0
	29-05	522 N Main St	B	1	Yes	47.8	61.3	55.5	No	-5.8	No	No	0
	29-06	550 N Main St	B	1	Yes	47.8	62.8	56.7	No	-6.1	No	No	0
	29-07	451 N Main St (M) (NSA 29)	F	0	Yes	47.8	55.6	55.6	No	0.0	No	Measurement	0
	29-08	527 N Main St	B	1	Yes	47.8	50.4	58.8	No	8.4	No	No	0
30	30-01	571 N Main St	B	1	Yes	47.8	55.1	59.4	No	4.3	No	No	0
31a	31a-01	202 Sands Rd (take)	Take	1	Take	47.8	66.7	Take	Take	Take	Take	Take	0
	31a-02	274 Sands Rd	B	1	Yes	47.8	55.4	62.4	No	7.0	No	No	0
	31a-03	868 N Main St	B	1	Yes	47.8	67.9	71.4	Yes	3.5	No	Yes	1
32a	32a-01	925 N Main St	B	1	Yes	47.8	55.2	58.8	No	3.6	No	No	0
	32a-02	124 Evening Star Rd	B	1	Yes	47.8	52.9	56.6	No	3.7	No	No	0



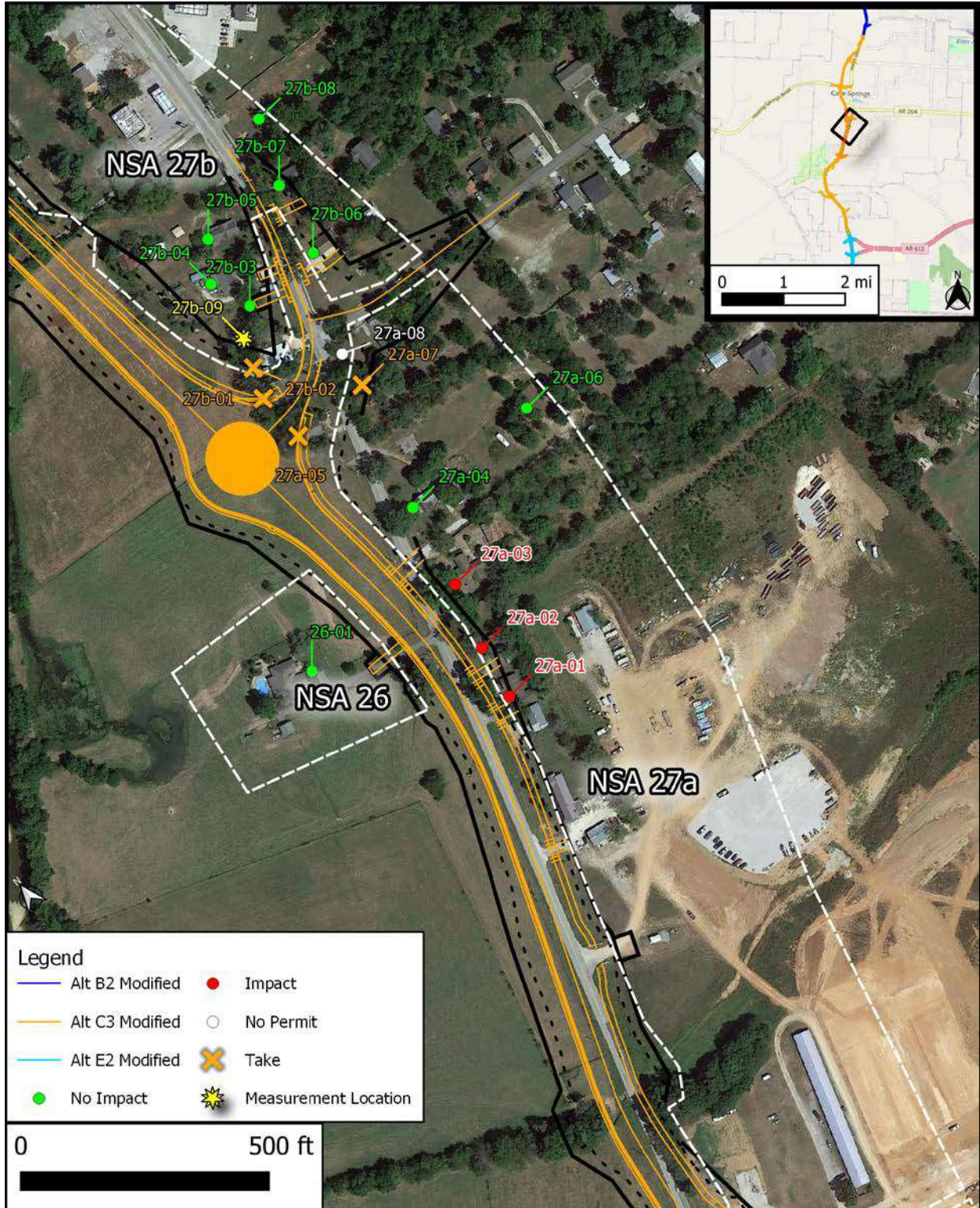
Job 090513, Alternative C3 Modified
NSA 17, NSA 18, and NSA 19 results



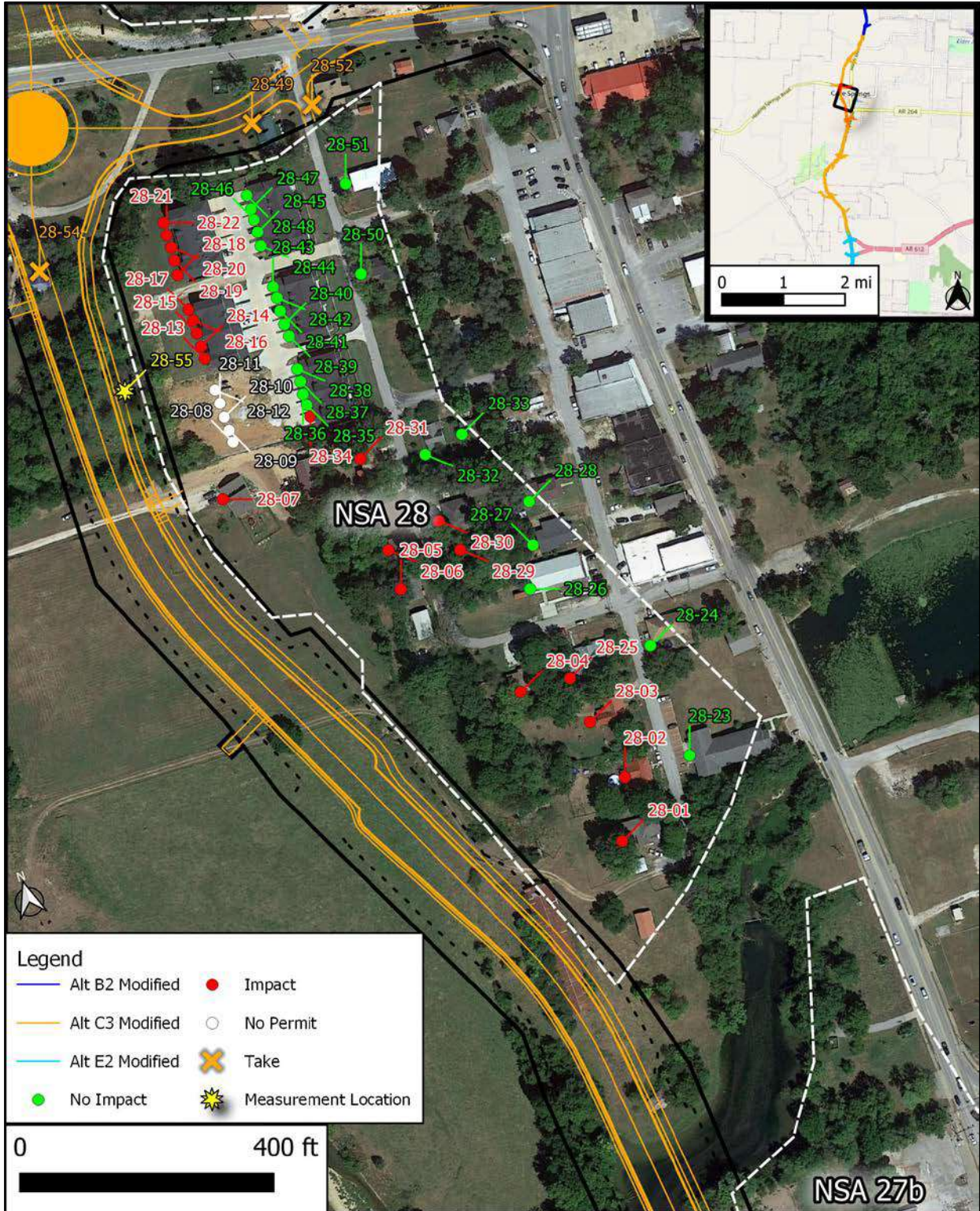
Job 090513, Alternative C3 Modified
NSA 20, NSA 21, and NSA 22 results



Job 090513, Alternative C3 Modified
NSA 23, NSA 24, and NSA 25 results

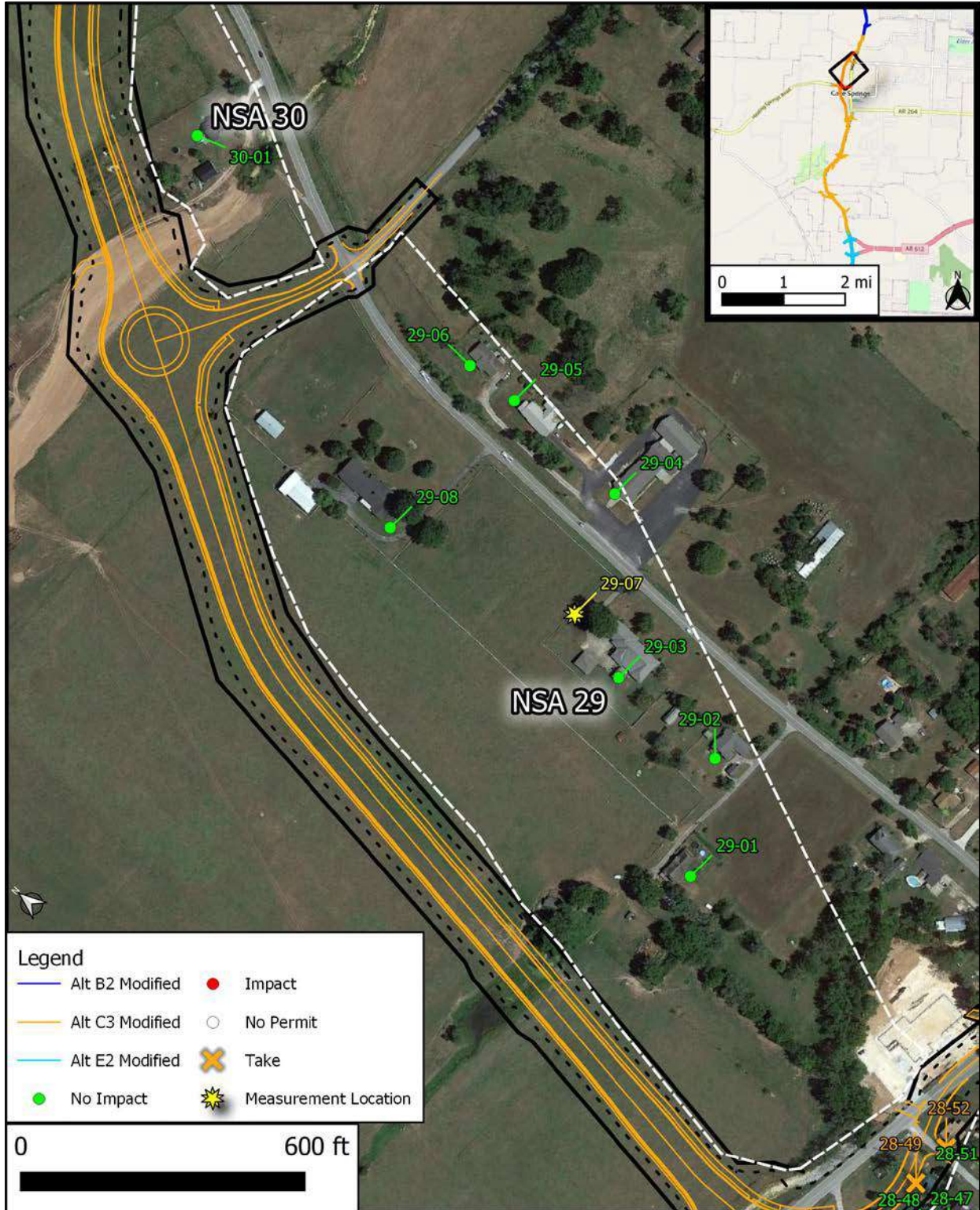


Job 090513, Alternative C3 Modified
NSA 26, NSA 27a, and NSA 27b results



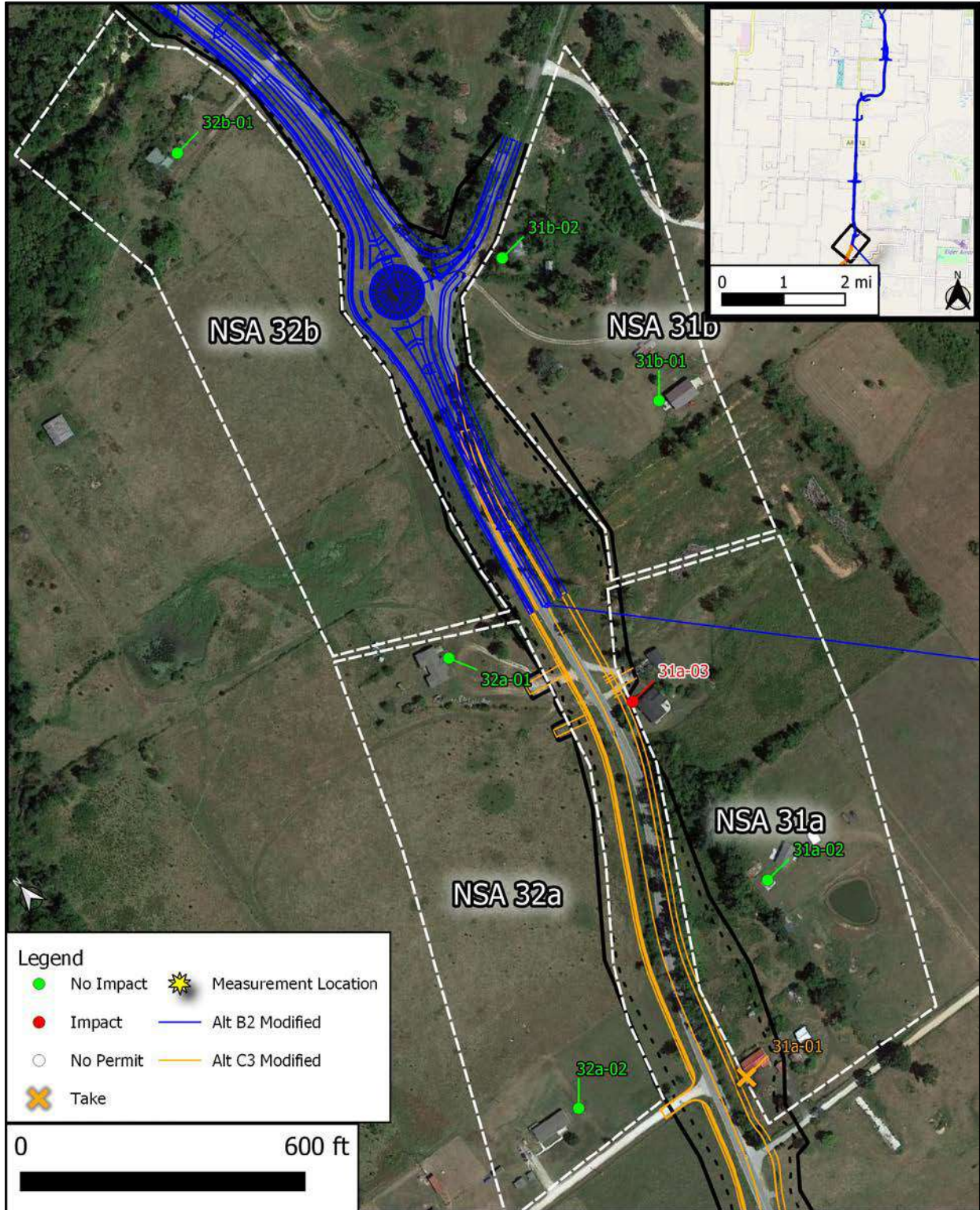
Job 090513, Alternative C3 Modified

NSA 28 results



Job 090513, Alternative C3 Modified

NSA 29 and NSA 30 results



Job 090513, Alternative C3 Modified: NSA 31a, NSA 32a results

Job 090514, Alternative B2 Modified: NSA 31b, NSA 32b results

Sound Levels and impacts

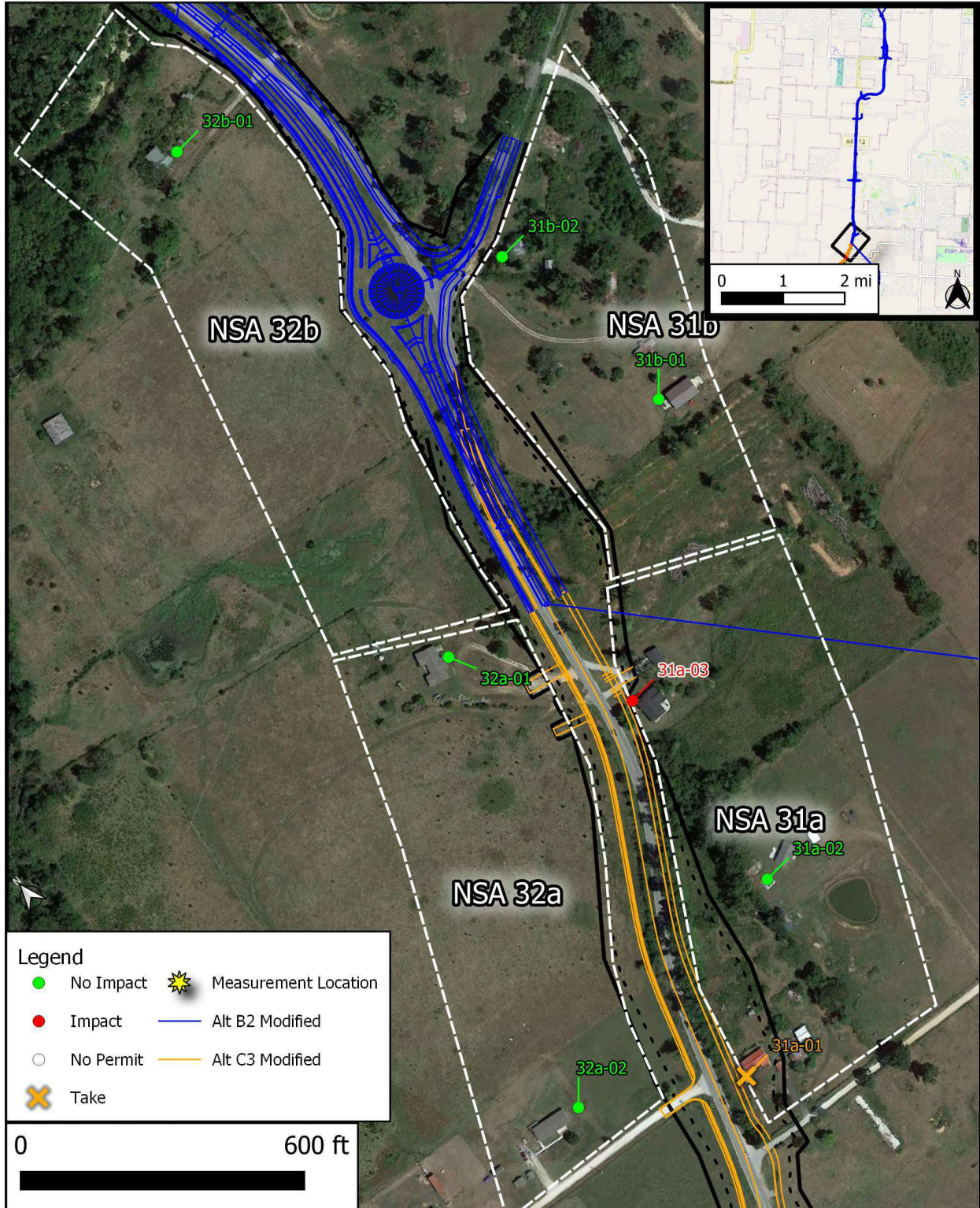
ARDOT Job 090514

Alternative B2 Modified

NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# of Receptors	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (or background)	Predicted Build, dBA (with 40 dBA Background)	Approach/ Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Receptors
31b	31b-01	445 W Wallis Rd	B	1	Yes	47.8	51.7	55.8	No	4.1	No	No	0
	31b-02	401 W Wallis Rd	B	1	Yes	47.8	56.6	63.6	No	7.0	No	No	0
32b	32b-01	975 N Main St	B	1	Yes	47.8	56.7	59.2	No	2.5	No	No	0
	33-01	1704 N Main St (Take)	Take	1	Take	47.8	69.0	Take	Take	Take	Take	Take	0
33	33-02	1766 Hwy 112 (Take)	Take	1	Take	47.8	70.4	Take	Take	Take	Take	Take	0
	33-03	11th hole green (C)	C	1	Yes	47.8	50.2	51.5	No	1.3	No	No	0
	33-04	12th hole tee-1 (C) (take by devel)	Take	0	Take	47.8	55.1	Take	Take	Take	Take	Take	0
	33-05	12th hole tee-2 (C)	C	1	Yes	47.8	53.1	53.7	No	0.6	No	No	0
	33-06	12th hole tee-3 (C)	C	1	Yes	47.8	52.2	52.9	No	0.7	No	No	0
	33-07	12th hole tee-4 (C) (take by devel)	Take	0	Take	47.8	51.6	Take	Take	Take	Take	Take	0
	33-08	12th hole tee-5 (C) (take by devel)	Take	0	Take	47.8	51.2	Take	Take	Take	Take	Take	0
34	34-01	8222 W Pleasant Grove Rd	B	1	Yes	47.8	56.6	58.6	No	2.0	No	No	0
35	35-01	8117 W Isleworth Ct (no permit)	G	0	Yes	47.8	65.2	67.2	No	2.0	No	No Permit	0
	35-02	8113 W Isleworth Ct (no permit)	G	0	Yes	47.8	66.6	68.0	No	1.4	No	No Permit	0
	35-03	8111 W Isleworth Ct (no permit)	G	0	Yes	47.8	67.6	68.9	No	1.3	No	No Permit	0
	35-04	8109 W Isleworth Ct (no permit)	G	0	Yes	47.8	67.5	68.8	No	1.3	No	No Permit	0
	35-05	8106 W Isleworth Ct	B	1	Yes	47.8	57.9	61.3	No	3.4	No	No	0
	35-06	14th hole tee-1 (C) (Take)	Take	1	Take	47.8	63.4	Take	Take	Take	Take	Take	0
	35-07	14th hole tee-2 (C) (Take)	Take	1	Take	47.8	65.2	Take	Take	Take	Take	Take	0
	35-08	14th hole tee-3 (C)	C	1	Yes	47.8	63.4	62.8	No	-0.6	No	No	0
	35-09	14th hole tee-4 (C)	C	1	Yes	47.8	64.0	62.8	No	-1.2	No	No	0
	35-10	14th hole tee-5 (C)	C	1	Yes	47.8	62.6	64.0	No	1.4	No	No	0
	35-11	8105 W Isleworth Ct (no permit)	G	0	No	47.8	57.7	59.4	No	1.7	No	No Permit	0
	35-12	8103 W Isleworth Ct (no permit)	G	0	No	47.8	53.5	55.3	No	1.8	No	No Permit	0
	35-13	4400 S Exeter Dr (no permit)	G	0	No	47.8	51.5	53.2	No	1.7	No	No Permit	0
	35-14	4314 S Exeter Dr (no permit)	G	0	No	47.8	50.9	53.3	No	2.4	No	No Permit	0
	35-15	4312 S Exeter Dr (no permit)	G	0	No	47.8	51.2	53.1	No	1.9	No	No Permit	0
	35-16	4310 S Exeter Dr (no permit)	G	0	No	47.8	51.2	51.6	No	0.4	No	No Permit	0
	35-17	4308 S Exeter Dr (no permit)	G	0	No	47.8	51.3	52.5	No	1.2	No	No Permit	0
	35-18	4306 S Exeter Dr	B	1	No	47.8	52.6	54.4	No	1.8	No	No	0
	35-19	4304 S Exeter Dr (permit)	B	1	No	47.8	53.7	57.4	No	3.7	No	No	0
	35-20	4302 S Exeter Dr	B	1	No	47.8	54.4	58.1	No	3.7	No	No	0
	35-21	4300 S Exeter Dr (no permit)	G	0	No	47.8	54.4	58.2	No	3.8	No	No Permit	0
	35-22	4214 S Exeter Dr	B	1	No	47.8	54.5	58.3	No	3.8	No	No	0
	35-23	4212 S Exeter Dr (permit)	B	1	No	47.8	54.2	58.3	No	4.1	No	No	0
	35-24	4210 S Exeter Dr (no permit)	G	0	No	47.8	54.7	58.5	No	3.8	No	No Permit	0
	35-25	4208 S Exeter Dr (permit)	B	1	No	47.8	54.5	58.4	No	3.9	No	No	0
	35-26	4206 S Exeter Dr (no permit)	G	0	No	47.8	54.5	58.3	No	3.8	No	No Permit	0
	35-27	14th hole green (C)	C	1	No	47.8	59.1	61.8	No	2.7	No	No	0
	35-28	4204 S Exeter Dr	B	1	No	47.8	53.9	57.7	No	3.8	No	No	0
	35-29	15th hole tee-1 (C)	Take	0	Take	47.8	63.2	Take	Take	Take	Take	Take	0
	35-30	8112 W Kettering Ct	B	1	Yes	47.8	60.9	63.6	No	2.7	No	No	0
	35-31	8118 W Isleworth Ct	B	1	No	47.8	47.8	51.6	No	3.8	No	No	0
	35-32	8116 W Isleworth Ct (no permit)	G	0	No	47.8	53.3	58.5	No	5.2	No	No Permit	0
	35-33	8114 W Isleworth Ct	B	1	No	47.8	53.2	58.9	No	5.7	No	No	0
	35-34	8112 W Isleworth Ct	B	1	No	47.8	53.1	59.4	No	6.3	No	No	0
	35-35	8110 W Isleworth Ct (no permit)	G	0	No	47.8	54.2	60.2	No	6.0	No	No Permit	0
	35-36	8108 W Isleworth Ct (no permit)	G	0	No	47.8	55.8	59.5	No	3.7	No	No Permit	0
	35-37	13th hole tee-1 (C)	C	1	No	47.8	48.6	52.1	No	3.5	No	No	0
	35-38	13th hole tee-2 (C)	C	1	No	47.8	48.1	51.0	No	2.9	No	No	0
	35-39	4412 S Exeter Dr (no permit)	G	0	No	47.8	47.8	47.0	No	-0.8	No	No Permit	0
	35-40	4410 S Exeter Dr (no permit)	G	0	No	47.8	47.8	48.8	No	1.0	No	No Permit	0
	35-41	4408 S Exeter Dr (no permit)	G	0	No	47.8	47.8	49.9	No	2.1	No	No Permit	0
	35-42	4406 S Exeter Dr	B	1	No	47.8	47.8	50.1	No	2.3	No	No	0
	35-43	4404 S Exeter Dr (permit)	B	1	No	47.8	48.1	51.1	No	3.0	No	No	0
	35-44	13th hole green (C)	C	1	No	47.8	47.8	52.0	No	4.2	No	No	0
	35-45	4402 S Exeter Dr	B	1	No	47.8	48.4	51.9	No	3.5	No	No	0
	35-46	4401 S Exeter Dr (no permit)	G	0	No	47.8	47.8	47.1	No	-0.7	No	No Permit	0
	35-47	4311 S Exeter Dr (no permit)	G	0	No	47.8	49.4	50.1	No	0.7	No	No Permit	0
35-48	4309 S Exeter Dr (no permit)	G	0	No	47.8	49.5	50.5	No	1.0	No	No Permit	0	
35-49	4303 S Exeter Dr (no permit)	G	0	No	47.8	49.2	49.6	No	0.4	No	No Permit	0	
35-50	8008 W Dorchester St	B	1	No	47.8	48.9	50.2	No	1.3	No	No	0	
35-51	4213 S Exeter Dr (no permit)	G	0	No	47.8	48.8	50.7	No	1.9	No	No Permit	0	
35-52	4211 S Exeter Dr (no permit)	G	0	No	47.8	49.1	51.4	No	2.3	No	No Permit	0	
35-53	8009 W Elsworth St	B	1	No	47.8	49.0	51.7	No	2.7	No	No	0	
35-54	15th hole tee-2 (C)	C	1	No	47.8	58.4	61.3	No	2.9	No	No	0	
35-55	15th hole tee-3 (C)	C	1	No	47.8	54.3	57.7	No	3.4	No	No	0	
35-56	15th hole tee-4 (C)	C	1	No	47.8	52.4	56.2	No	3.8	No	No	0	
35-57	15th hole tee-5 (C)	C	1	No	47.8	51.2	55.4	No	4.2	No	No	0	
35-58	8110 W Kettering Ct	B	1	No	47.8	57.7	60.7	No	3.0	No	No	0	
35-59	8108 W Kettering Ct (no permit)	G	0	No	47.8	55.2	58.6	No	3.4	No	No Permit	0	
35-60	8106 W Kettering Ct	B	1	No	47.8	53.3	57.1	No	3.8	No	No	0	
35-61	8104 W Kettering Ct	B	1	No	47.8	52.2	55.7	No	3.5	No	No	0	
35-62	8102 W Kettering Ct	B	1	No	47.8	51.1	54.9	No	3.8	No	No	0	
35-63	8100 W Kettering Ct	B	1	No	47.8	49.4	53.9	No	4.5	No	No	0	
35-64	8020 W Kettering Ct	B	1	No	47.8	48.6	52.9	No	4.3	No	No	0	
35-65	8018 W Kettering Ct (no permit)	G	0	No	47.8	48.1	52.3	No	4.2	No	No Permit	0	
35-66	8106 W Isleworth Ct (M) (NSA 35)	F	0	Yes	47.8	61.2	65.5	No	4.3	No	Measurement	0	
36	36-01	2625 N Main St	B	1	Yes	47.8	65.7	67.2	Yes	1.5	No	Yes	1
	36-02	2349 N Main St	B	1	Yes	47.8	67.3	69.0	Yes	1.7	No	Yes	1
	36-03	104 W Lillard Ln	B	1	Yes	47.8	51.4	54.0	No	2.6	No	No	0
37	37-01	3179 Ar Hwy 112	B	1	Yes	47.8	61.1	58.8	No	-2.3	No	No	0
	37-02	125 Chattin Cir	B	1	No	47.8	66.3	53.4	No	-12.9	No	No	0
	37-03	3194 Hwy 112	B	1	Yes	47.8	65.3	53.7	No	-11.6	No	No	0
	37-04	101 Averie Ln	B	1	Yes	47.8	68.4	54.8	No	-13.6	No	No	0
	37-05	100 Averie Ln (permitted)	B	1	Yes	47.8	66.9	54.7	No	-12.2	No	No	0
	37-06	3220 Ar 112 Hwy	B	1	Yes	47.8	65.6	54.3	No	-11.3	No	No	0
	37-07	3474 Ar 112 Hwy	B	1	Yes	47.8	66.0	58.5	No	-7.5	No	No	0
	37-08	3473 AR Hwy 112 (M) (NSA 37)	F	0	Yes	47.8	65.0	59.1	No	-5.9	No	Measurement	0
38	38-01	3561 Ar 112 Hwy	B	1	Yes	47.8	62.5	53.1	No	-9.4	No	No	0

NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# of Receptors	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (or background)	Predicted Build, dBA (with 40 dBA Background)	Approach/ Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Receptors
39a	39a-01	2801 Ozark Acres Dr	B	1	Yes	47.8	47.8	61.7	No	13.9	Yes	Yes	1
	39a-02	2899 Ozark Acres	B	1	Yes	47.8	47.8	61.6	No	13.8	Yes	Yes	1
	39a-03	2995 Ozark Acres Dr	B	1	Yes	47.8	47.8	58.7	No	10.9	Yes	Yes	1
	39a-04	2804 Ozark Acres	B	1	No	47.8	47.8	49.7	No	1.9	No	No	0
	39a-05	2900 Ozark Acres Dr	B	1	No	47.8	47.8	54.2	No	6.4	No	No	0
	39a-06	2908 Ozark Acres Dr	B	1	No	47.8	47.8	54.5	No	6.7	No	No	0
	39a-07	3203 Ozark Acres Dr	B	1	No	47.8	47.8	49.3	No	1.5	No	No	0
	39a-08	3160 Ozark Acres Dr	B	1	No	47.8	47.8	47.5	No	-0.3	No	No	0
	39a-09	3307 Ozark Acres Dr	B	1	Yes	47.8	47.8	51.5	No	3.7	No	No	0
	39a-10	4134 Cook Rd (pool house)	B	1	Yes	47.8	47.8	55.8	No	8.0	No	No	0
39b	39b-01	4001 Cook Rd	B	1	Yes	47.8	47.8	55.3	No	7.5	No	No	0
	39b-02	4006 Cook Rd	B	1	Yes	47.8	47.8	58.5	No	10.7	Yes	Yes	1
	39b-03	4010 Cook Rd	B	1	Yes	47.8	47.8	58.7	No	10.9	Yes	Yes	1
	39b-04	4100 Cook Rd	B	1	Yes	47.8	47.8	59.2	No	11.4	Yes	Yes	1
	39b-05	4149 Cook Rd	B	1	Yes	47.8	47.8	57.9	No	10.1	Yes	Yes	1
40	40-01	717 Elk Rd (Take)	Take	0	Take	47.8	47.8	Take	Take	Take	Take	Take	0
	40-02	711 Elk Rd	B	1	Yes	47.8	51.4	59.4	No	8.0	No	No	0
	40-03	First Christian Church pergola (C)	C	1	Yes	47.8	47.8	60.3	No	12.5	Yes	Yes	1
	40-04	4048 Caerleon Cir	B	1	Yes	47.8	47.8	62.1	No	14.3	Yes	Yes	1
	40-05	4052 Caerleon Cir	B	1	Yes	47.8	47.8	63.3	No	15.5	Yes	Yes	1
	40-06	4060 Caerleon Cir	B	1	Yes	47.8	47.8	62.7	No	14.9	Yes	Yes	1
	40-07	4064 Caerleon Cir	B	1	Yes	47.8	47.8	64.1	No	16.3	Yes	Yes	1
	40-08	4068 Caerleon Cir	B	1	Yes	47.8	47.8	64.4	No	16.6	Yes	Yes	1
	40-09	4072 Caerleon Cir	B	1	Yes	47.8	47.8	64.6	No	16.8	Yes	Yes	1
	40-10	4076 Caerleon Cir	B	1	Yes	47.8	47.8	63.7	No	15.9	Yes	Yes	1
	40-11	4080 Caerleon Cir	B	1	Yes	47.8	47.8	59.6	No	11.8	Yes	Yes	1
	40-12	3670 Ar 112 Hwy (Take)	Take	1	Take	47.8	47.8	Take	Take	Take	Take	Take	0
	40-13	4100 SW H St	B	1	No	47.8	48.6	54.7	No	6.1	No	No	0
	40-14	4044 Caerleon Cir	B	1	No	47.8	47.8	56.0	No	8.2	No	No	0
	40-15	4045 Caerleon Cir	B	1	No	47.8	47.8	55.3	No	7.5	No	No	0
	40-16	4057 Caerleon Cir	B	1	No	47.8	47.8	54.5	No	6.7	No	No	0
	40-17	4061 Caerleon Cir	B	1	No	47.8	47.8	55.6	No	7.8	No	No	0
	40-18	4065 Caerleon Cir	B	1	No	47.8	47.8	54.8	No	7.0	No	No	0
	40-19	4069 Caerleon Cir	B	1	No	47.8	47.8	54.8	No	7.0	No	No	0
	40-20	4073 Caerleon Cir	B	1	No	47.8	47.8	53.7	No	5.9	No	No	0
	40-21	4084 Caerleon Cir	B	1	No	47.8	47.8	55.1	No	7.3	No	No	0
	40-22	4040 Caerleon Cir	B	1	No	47.8	47.8	51.6	No	3.8	No	No	0
	40-23	4041 Caerleon Cir	B	1	No	47.8	47.8	50.3	No	2.5	No	No	0
	40-24	4105 Caerleon Cir	B	1	No	47.8	47.8	52.1	No	4.3	No	No	0
	40-25	4101 Caerleon Cir	B	1	No	47.8	47.8	51.1	No	3.3	No	No	0
	40-26	4097 Caerleon Cir	B	1	No	47.8	47.8	50.2	No	2.4	No	No	0
	40-27	4093 Caerleon Cir	B	1	No	47.8	47.8	52.0	No	4.2	No	No	0
	40-28	4088 Caerleon Cir	B	1	No	47.8	47.8	55.1	No	7.3	No	No	0
	40-29	3552 Ar 112 Hwy	B	1	Yes	47.8	59.1	60.6	No	1.5	No	No	0
	40-30	6003 SW Dryden Rd (permitted)	B	1	Yes	47.8	47.8	51.2	No	3.4	No	No	0
	40-31	1101 SW Allegheny Ave (no permit)	B	1	Yes	47.8	47.8	51.6	No	3.8	No	No	0
	40-32	1103 SW Allegheny Ave (no permit)	B	1	Yes	47.8	47.8	51.1	No	3.3	No	No	0
	40-33	1105 SW Allegheny Ave (no permit)	B	1	Yes	47.8	47.8	50.5	No	2.7	No	No	0
	40-34	1107 SW Allegheny Ave (no permit)	B	1	Yes	47.8	48.7	50.7	No	2.0	No	No	0
	40-35	4056/4060 Caerleon Cir (M) (NSA 40)	F	0	No	47.8	47.8	65.4	No	17.6	Yes	Measurement	0
41	41-01	776 Elk Rd	B	1	Yes	47.8	47.8	56.6	No	8.8	No	No	0
	41-02	784 Elk Rd	B	1	Yes	47.8	48.9	57.8	No	8.9	No	No	0
	41-03	800 Elk Rd	B	1	No	47.8	47.8	54.3	No	6.5	No	No	0
	41-04	848 Elk Rd	B	1	Yes	47.8	47.8	50.2	No	2.4	No	No	0
	41-05	891 Elk Rd	B	1	Yes	47.8	47.8	49.6	No	1.8	No	No	0

NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# of Receptors	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (or background)	Predicted Build, dBA (with 40 dBA Background)	Approach/ Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Receptors
42	42-01	4701 SW Westchester Rd	B	1	Yes	47.8	64.5	63.4	No	-1.1	No	No	0
	42-02	4705 SW Westchester Rd	B	1	Yes	47.8	65.4	62.8	No	-2.6	No	No	0
	42-03	4707 SW Westchester Rd	B	1	Yes	47.8	65.1	61.7	No	-3.4	No	No	0
	42-04	4801 SW Westchester Rd	B	1	Yes	47.8	66.6	61.2	No	-5.4	No	No	0
	42-05	4803 SW Westchester Rd	B	1	Yes	47.8	66.7	60.2	No	-6.5	No	No	0
	42-06	4901 SW Westchester Rd	B	1	Yes	47.8	66.0	59.4	No	-6.6	No	No	0
	42-07	4903 SW Westchester Rd	B	1	Yes	47.8	65.8	59.0	No	-6.8	No	No	0
	42-08	5001 SW Westchester Rd	B	1	Yes	47.8	65.1	57.7	No	-7.4	No	No	0
	42-09	5003 SW Westchester Rd	B	1	Yes	47.8	66.2	57.8	No	-8.4	No	No	0
	42-10	5005 SW Westchester Rd	B	1	Yes	47.8	65.9	57.1	No	-8.8	No	No	0
	42-11	5007 SW Westchester Rd	B	1	Yes	47.8	65.9	56.5	No	-9.4	No	No	0
	42-12	5101 SW Westchester Rd	B	1	Yes	47.8	66.4	56.4	No	-10.0	No	No	0
	42-13	5103 SW Westchester Rd	B	1	Yes	47.8	65.7	55.5	No	-10.2	No	No	0
	42-14	5105 SW Westchester Rd	B	1	Yes	47.8	65.7	55.7	No	-10.0	No	No	0
	42-15	5201 SW Westchester Rd	B	1	Yes	47.8	66.2	55.6	No	-10.6	No	No	0
	42-16	5203 SW Westchester Rd	B	1	No	47.8	66.4	54.9	No	-11.5	No	No	0
	42-17	701 SW Glen Arbor Ave	B	1	Yes	47.8	64.8	53.5	No	-11.3	No	No	0
	42-18	706 SW Edinburgh Ave	B	1	No	47.8	47.8	52.4	No	4.6	No	No	0
	42-19	704 SW Edinburgh Ave	B	1	No	47.8	48.2	54.4	No	6.2	No	No	0
	42-20	702 SW Edinburgh Ave	B	1	No	47.8	50.8	56.7	No	5.9	No	No	0
	42-21	700 SW Edinburgh Ave	B	1	No	47.8	54.8	59.3	No	4.5	No	No	0
	42-22	705 SW Edinburgh Ave	B	1	No	47.8	47.8	49.4	No	1.6	No	No	0
	42-23	703 SW Edinburgh Ave	B	1	No	47.8	47.8	51.1	No	3.3	No	No	0
	42-24	701 SW Edinburgh Ave	B	1	No	47.8	51.4	54.3	No	2.9	No	No	0
	42-25	700 SW Thorncroft Ave	B	1	No	47.8	51.6	54.1	No	2.5	No	No	0
	42-26	702 SW Thorncroft Ave	B	1	No	47.8	48.1	50.7	No	2.6	No	No	0
	42-27	704 SW Thorncroft Ave	B	1	No	47.8	47.8	49.0	No	1.2	No	No	0
	42-28	701 SW Thorncroft Ave	B	1	No	47.8	51.8	52.8	No	1.0	No	No	0
	42-29	703 SW Thorncroft Ave	B	1	No	47.8	47.8	48.4	No	0.6	No	No	0
	42-30	705 SW Thorncroft Ave	B	1	No	47.8	47.8	47.4	No	-0.4	No	No	0
	42-31	Pool (C)	C	1	No	47.8	47.8	45.0	No	-2.8	No	No	0
	42-32	BB Court (C)	C	1	No	47.8	48.9	48.9	No	0.0	No	No	0
	42-33	700 SW Avon Glen Pl	B	1	No	47.8	49.6	49.2	No	-0.4	No	No	0
	42-34	5104 SW Westchester Rd	B	1	No	47.8	49.7	49.2	No	-0.5	No	No	0
	42-35	5200 SW Westchester Rd	B	1	No	47.8	50.0	49.1	No	-0.9	No	No	0
	42-36	5202 SW Westchester Rd	B	1	No	47.8	51.1	48.0	No	-3.1	No	No	0
	42-37	703 SW Glen Arbor Ave	B	1	No	47.8	65.7	51.0	No	-14.7	No	No	0
	42-38	705 SW Glen Arbor Ave	B	1	No	47.8	66.4	48.6	No	-17.8	No	No	0
	42-39	5299 SW H St (Take)	Take	1	Take	47.8	54.4	Take	Take	Take	Take	Take	0
	42-40	4701 SW Westchester (M)(NSA 42)	F	0	No	47.8	67.8	66.5	No	-1.3	No	Measurement	0
43	43-01	Mercy Clinic Primary Care patio (E)	E	1	No	47.8	58.5	61.9	No	3.4	No	No	0
	43-02	4652 SW H St	B	1	No	47.8	57.5	63.2	No	5.7	No	No	0



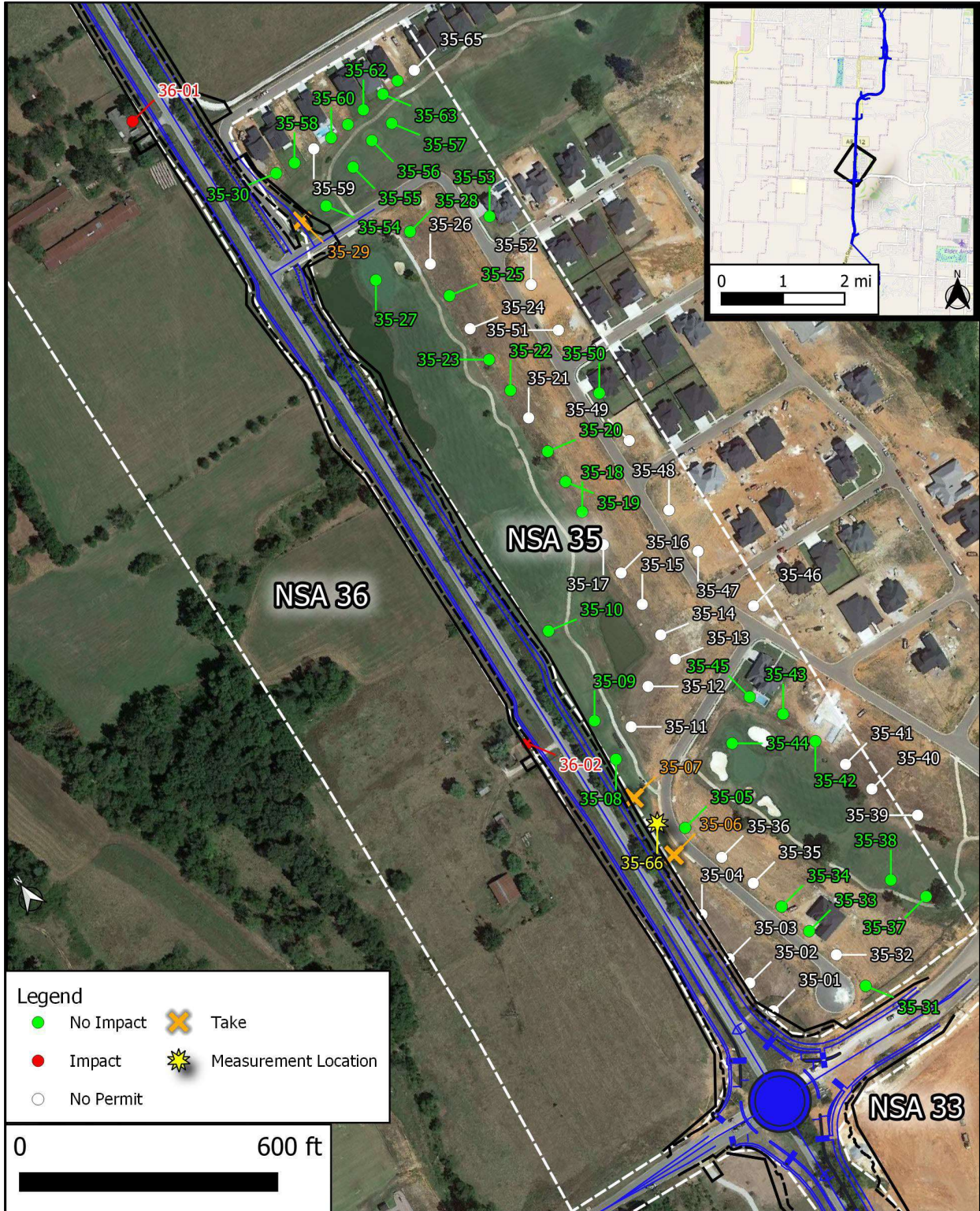
Job 090513, Alternative C3 Modified: NSA 31a, NSA 32a results

Job 090514, Alternative B2 Modified: NSA 31b, NSA 32b results



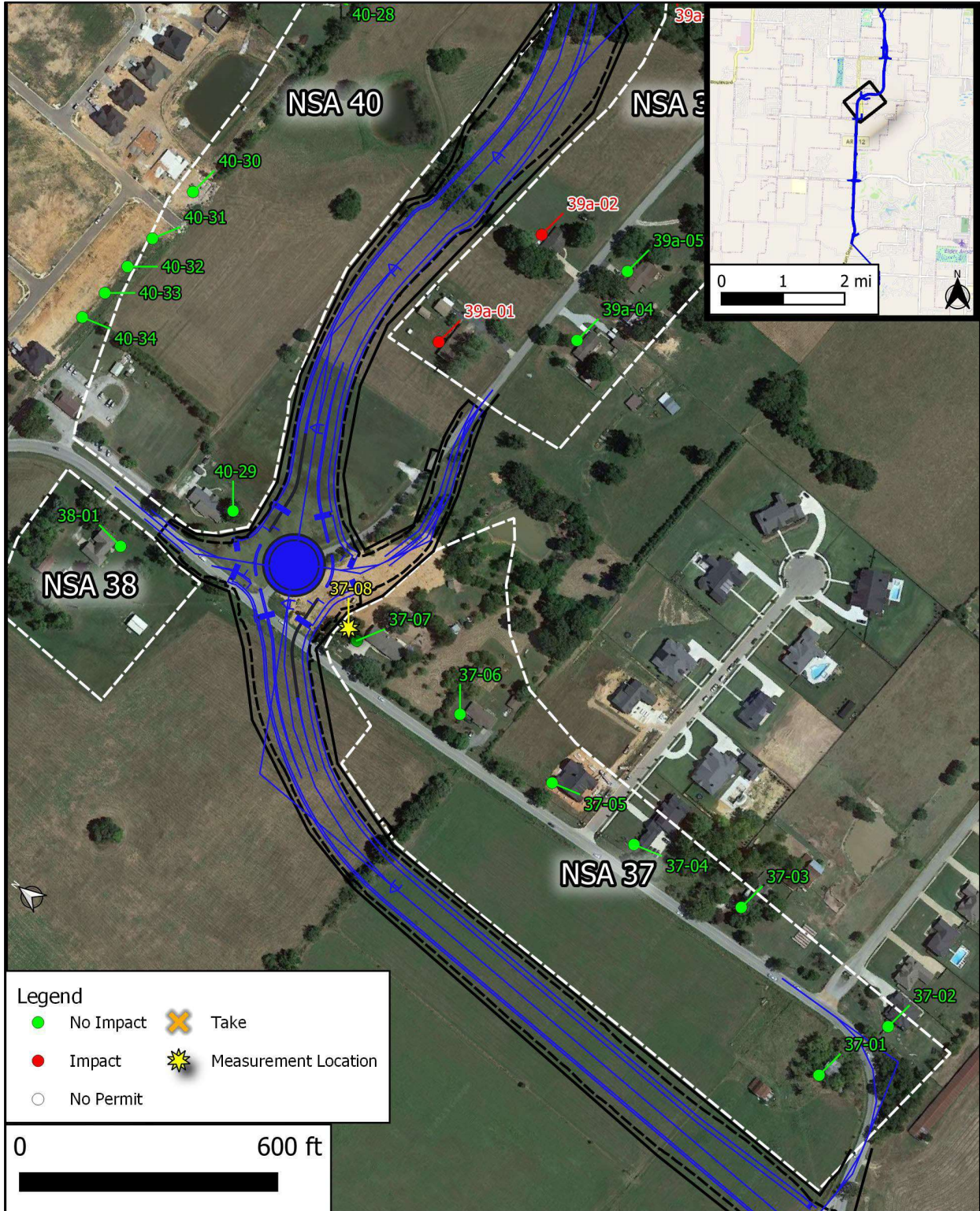
Job 090514, Alternative B2 Modified

NSA 33 and NSA 34 results



Job 090514, Alternative B2 Modified

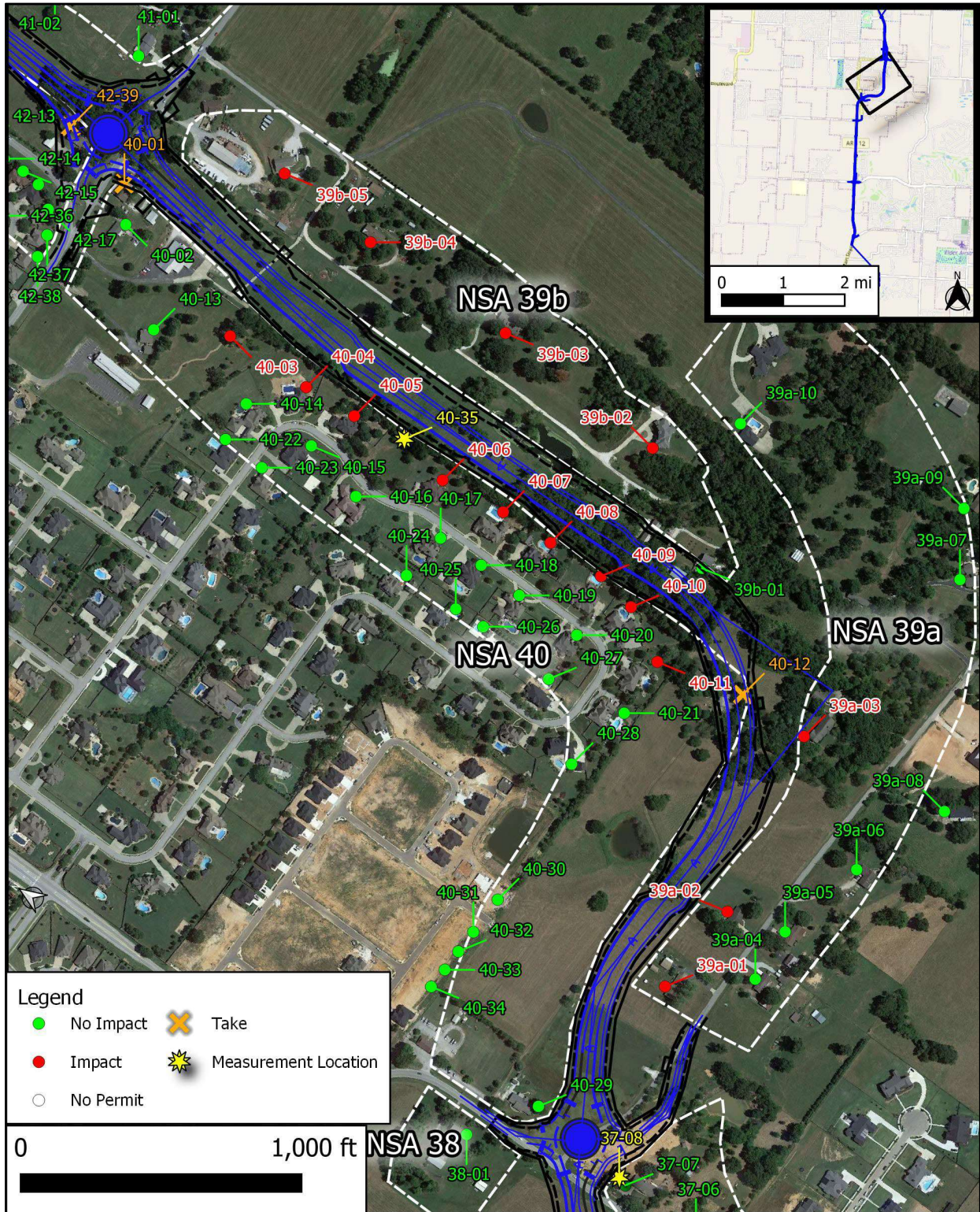
NSA 35 and NSA 36 results



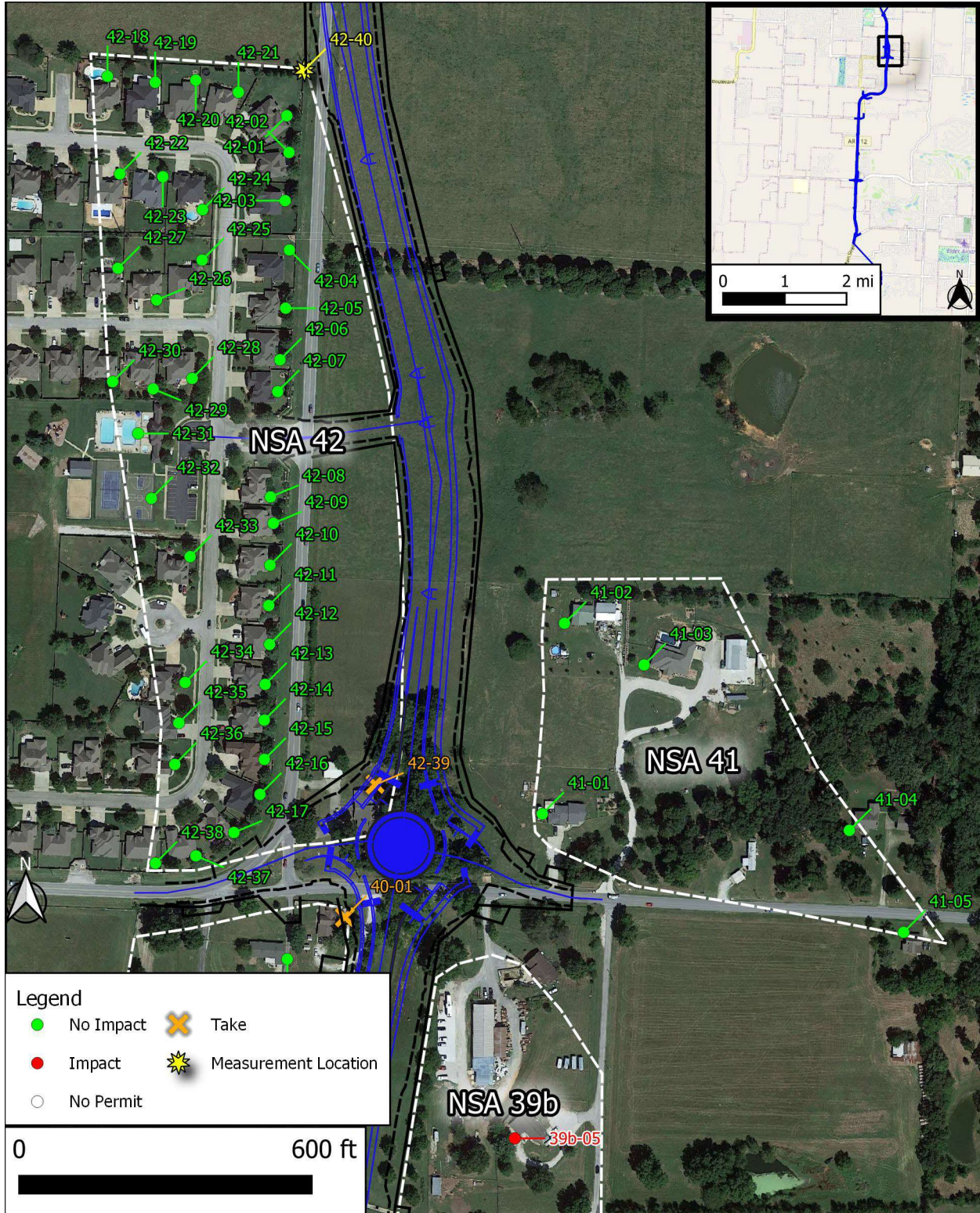
Job 090514, Alternative B2 Modified

NSA 37 and NSA 38 results

jam

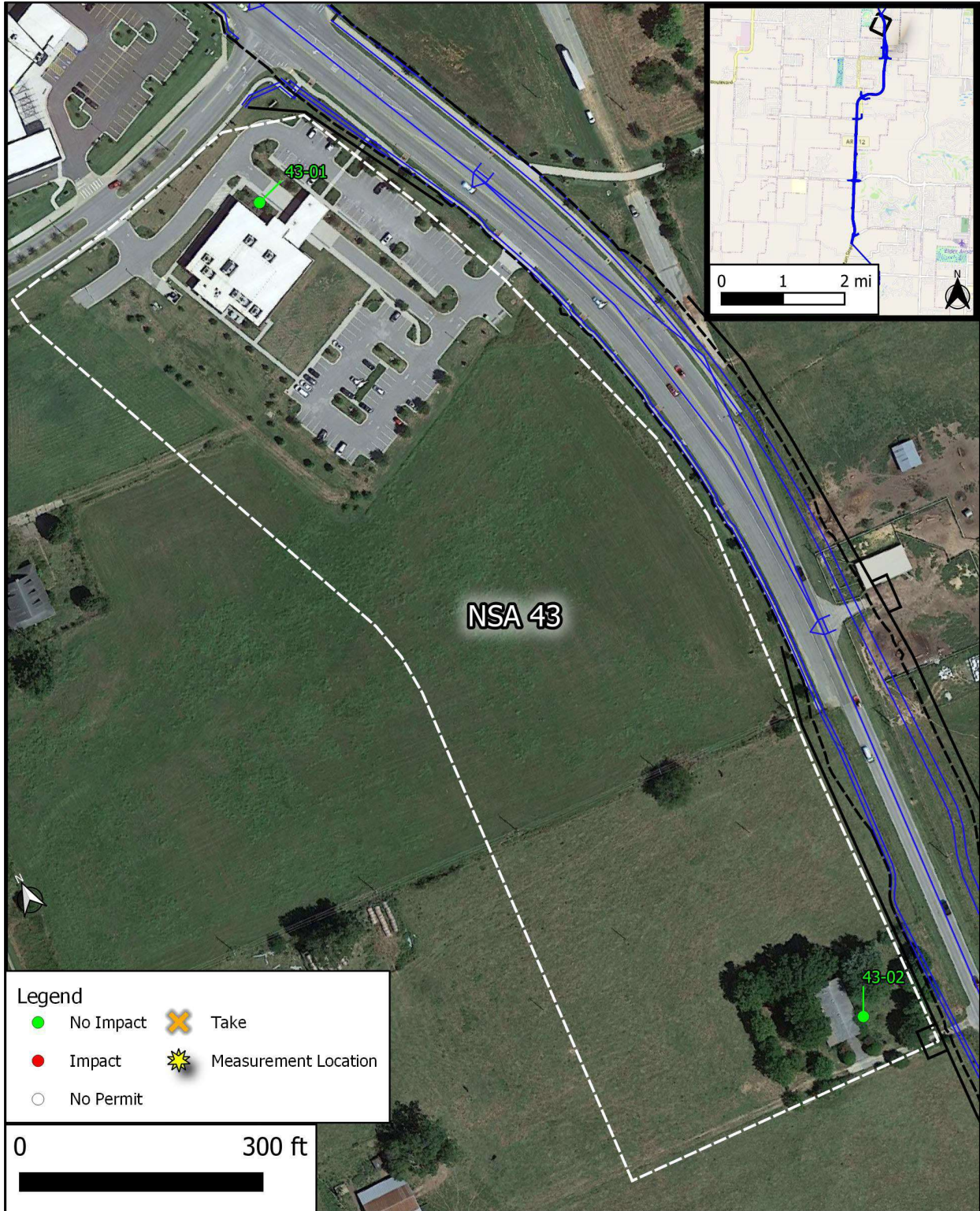


Job 090514, Alternative B2 Modified
NSA 39a, NSA 39b, and NSA 40 results



Job 090514, Alternative B2 Modified

NSA 41 and NSA 42 results



Job 090514, Alternative B2 Modified

NSA 43 results

Sound Levels and impacts

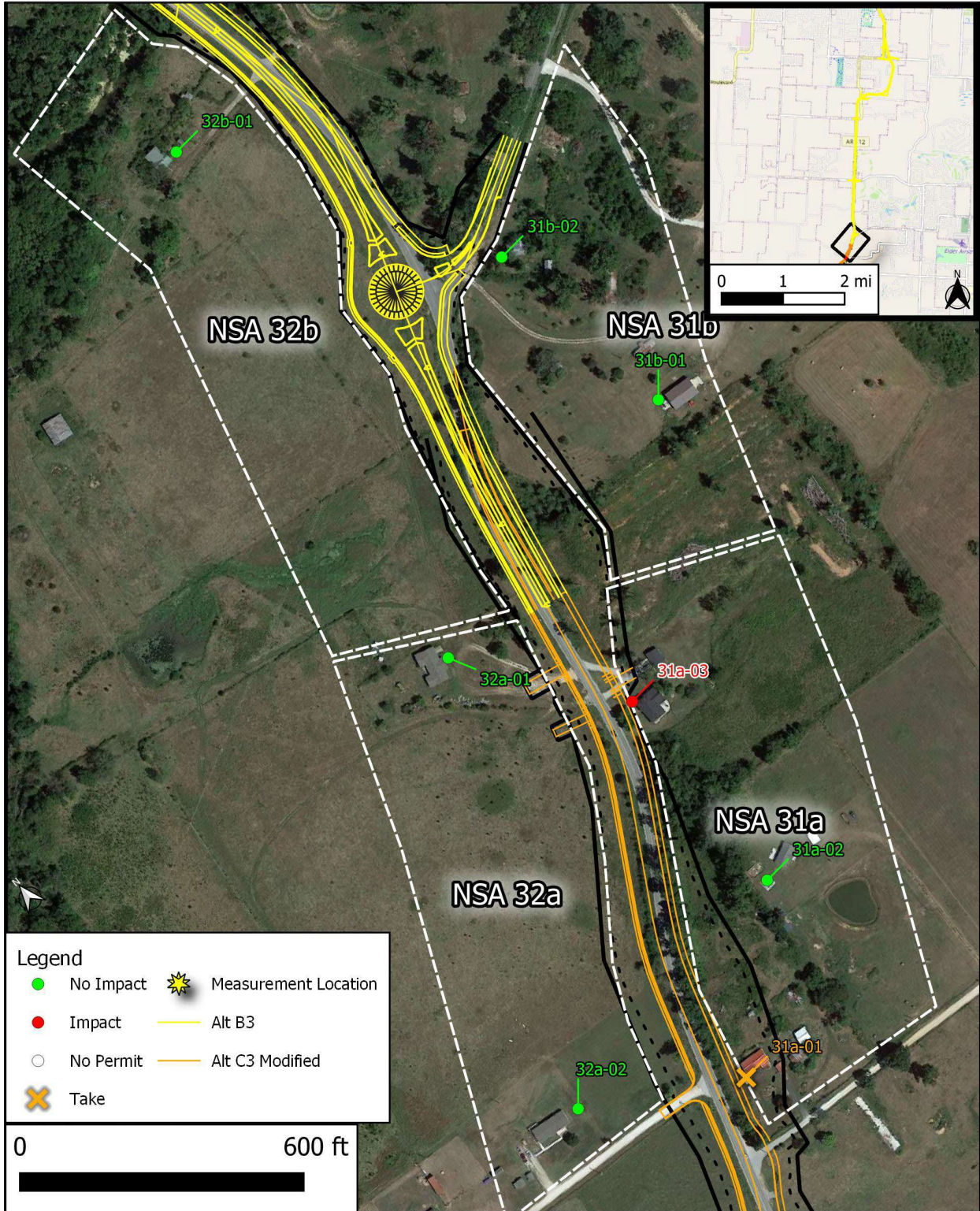
ARDOT Job 090514

Alternative B3

NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# of Receptors	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (or background)	Predicted Build, dBA (with 40 dBA Background)	Approach/ Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Receptors
31b	31b-01	445 W Wallis Rd	B	1	Yes	47.8	51.7	55.8	No	4.1	No	No	0
	31b-02	401 W Wallis Rd	B	1	Yes	47.8	56.6	63.6	No	7.0	No	No	0
32b	32b-01	975 N Main St	B	1	Yes	47.8	56.7	59.2	No	2.5	No	No	0
33	33-01	1704 N Main St (Take)	Take	1	Take	47.8	69.0	Take	Take	Take	Take	Take	0
	33-02	1766 Hwy 112 (Take)	Take	1	Take	47.8	70.4	Take	Take	Take	Take	Take	0
	33-03	11th hole green (C)	C	1	Yes	47.8	50.2	51.5	No	1.3	No	No	0
	33-04	12th hole tee-1 (C) (take by devel)	Take	0	Take	47.8	55.1	Take	Take	Take	Take	Take	0
	33-05	12th hole tee-2 (C)	C	1	Yes	47.8	53.1	53.7	No	0.6	No	No	0
	33-06	12th hole tee-3 (C)	C	1	Yes	47.8	52.2	52.9	No	0.7	No	No	0
	33-07	12th hole tee-4 (C) (take by devel)	Take	0	Take	47.8	51.6	Take	Take	Take	Take	Take	0
	33-08	12th hole tee-5 (C) (take by devel)	Take	0	Take	47.8	51.2	Take	Take	Take	Take	Take	0
34	34-01	8222 W Pleasant Grove Rd	B	1	Yes	47.8	56.6	58.6	No	2.0	No	No	0
35	35-01	8117 W Isleworth Ct (no permit)	G	0	Yes	47.8	65.2	67.2	No	2.0	No	No Permit	0
	35-02	8113 W Isleworth Ct (no permit)	G	0	Yes	47.8	66.6	68.0	No	1.4	No	No Permit	0
	35-03	8111 W Isleworth Ct (no permit)	G	0	Yes	47.8	67.6	68.9	No	1.3	No	No Permit	0
	35-04	8109 W Isleworth Ct (no permit)	G	0	Yes	47.8	67.5	68.8	No	1.3	No	No Permit	0
	35-05	8106 W Isleworth Ct	B	1	Yes	47.8	57.9	61.3	No	3.4	No	No	0
	35-06	14th hole tee-1 (C) (Take)	Take	1	Take	47.8	63.4	Take	Take	Take	Take	Take	0
	35-07	14th hole tee-2 (C) (Take)	Take	1	Take	47.8	65.2	Take	Take	Take	Take	Take	0
	35-08	14th hole tee-3 (C)	C	1	Yes	47.8	63.4	62.8	No	-0.6	No	No	0
	35-09	14th hole tee-4 (C)	C	1	Yes	47.8	64.0	62.8	No	-1.2	No	No	0
	35-10	14th hole tee-5 (C)	C	1	Yes	47.8	62.6	64.0	No	1.4	No	No	0
	35-11	8105 W Isleworth Ct (no permit)	G	0	No	47.8	57.7	59.4	No	1.7	No	No Permit	0
	35-12	8103 W Isleworth Ct (no permit)	G	0	No	47.8	53.5	55.3	No	1.8	No	No Permit	0
	35-13	4400 S Exeter Dr (no permit)	G	0	No	47.8	51.5	53.2	No	1.7	No	No Permit	0
	35-14	4314 S Exeter Dr (no permit)	G	0	No	47.8	50.9	53.3	No	2.4	No	No Permit	0
	35-15	4312 S Exeter Dr (no permit)	G	0	No	47.8	51.2	53.1	No	1.9	No	No Permit	0
	35-16	4310 S Exeter Dr (no permit)	G	0	No	47.8	51.2	51.6	No	0.4	No	No Permit	0
	35-17	4308 S Exeter Dr (no permit)	G	0	No	47.8	51.3	52.5	No	1.2	No	No Permit	0
	35-18	4306 S Exeter Dr	B	1	No	47.8	52.6	54.4	No	1.8	No	No	0
	35-19	4304 S Exeter Dr (permit)	B	1	No	47.8	53.7	57.4	No	3.7	No	No	0
	35-20	4302 S Exeter Dr	B	1	No	47.8	54.4	58.1	No	3.7	No	No	0
	35-21	4300 S Exeter Dr (no permit)	G	0	No	47.8	54.4	58.2	No	3.8	No	No Permit	0
	35-22	4214 S Exeter Dr	B	1	No	47.8	54.5	58.3	No	3.8	No	No	0
	35-23	4212 S Exeter Dr (permit)	B	1	No	47.8	54.2	58.3	No	4.1	No	No	0
	35-24	4210 S Exeter Dr (no permit)	G	0	No	47.8	54.7	58.5	No	3.8	No	No Permit	0
	35-25	4208 S Exeter Dr (permit)	B	1	No	47.8	54.5	58.4	No	3.9	No	No	0
	35-26	4206 S Exeter Dr (no permit)	G	0	No	47.8	54.5	58.3	No	3.8	No	No Permit	0
	35-27	14th hole green (C)	C	1	No	47.8	59.1	61.8	No	2.7	No	No	0
	35-28	4204 S Exeter Dr	B	1	No	47.8	53.9	57.7	No	3.8	No	No	0
	35-29	15th hole tee-1 (C) (Take)	Take	0	Take	47.8	63.2	Take	Take	Take	Take	Take	0
	35-30	8112 W Kettering Ct	B	1	Yes	47.8	60.9	63.6	No	2.7	No	No	0
	35-31	8118 W Isleworth Ct	B	1	No	47.8	47.8	51.6	No	3.8	No	No	0
	35-32	8116 W Isleworth Ct (no permit)	G	0	No	47.8	53.3	58.5	No	5.2	No	No Permit	0
	35-33	8114 W Isleworth Ct	B	1	No	47.8	53.2	58.9	No	5.7	No	No	0
	35-34	8112 W Isleworth Ct	B	1	No	47.8	53.1	59.4	No	6.3	No	No	0
	35-35	8110 W Isleworth Ct (no permit)	G	0	No	47.8	54.2	60.2	No	6.0	No	No Permit	0
	35-36	8108 W Isleworth Ct (no permit)	G	0	No	47.8	55.8	59.5	No	3.7	No	No Permit	0
	35-37	13th hole tee-1 (C)	C	1	No	47.8	48.6	52.1	No	3.5	No	No	0
	35-38	13th hole tee-2 (C)	C	1	No	47.8	48.1	51.0	No	2.9	No	No	0
	35-39	4412 S Exeter Dr (no permit)	G	0	No	47.8	47.8	47.0	No	-0.8	No	No Permit	0
	35-40	4410 S Exeter Dr (no permit)	G	0	No	47.8	47.8	48.8	No	1.0	No	No Permit	0
	35-41	4408 S Exeter Dr (no permit)	G	0	No	47.8	47.8	49.9	No	2.1	No	No Permit	0
	35-42	4406 S Exeter Dr	B	1	No	47.8	47.8	50.1	No	2.3	No	No	0
	35-43	4404 S Exeter Dr (permit)	B	1	No	47.8	48.1	51.1	No	3.0	No	No	0
	35-44	13th hole green (C)	C	1	No	47.8	47.8	52.0	No	4.2	No	No	0
	35-45	4402 S Exeter Dr	B	1	No	47.8	48.4	51.9	No	3.5	No	No	0
	35-46	4401 S Exeter Dr (no permit)	G	0	No	47.8	47.8	47.1	No	-0.7	No	No Permit	0
	35-47	4311 S Exeter Dr (no permit)	G	0	No	47.8	49.4	50.1	No	0.7	No	No Permit	0
	35-48	4309 S Exeter Dr (no permit)	G	0	No	47.8	49.5	50.5	No	1.0	No	No Permit	0
	35-49	4303 S Exeter Dr (no permit)	G	0	No	47.8	49.2	49.6	No	0.4	No	No Permit	0
	35-50	8008 W Dorchester St	B	1	No	47.8	48.9	50.2	No	1.3	No	No	0
	35-51	4213 S Exeter Dr (no permit)	G	0	No	47.8	48.8	50.7	No	1.9	No	No Permit	0
	35-52	4211 S Exeter Dr (no permit)	G	0	No	47.8	49.1	51.4	No	2.3	No	No Permit	0
	35-53	8009 W Elsworth St	B	1	No	47.8	49.0	51.7	No	2.7	No	No	0
	35-54	15th hole tee-2 (C)	C	1	No	47.8	58.4	61.3	No	2.9	No	No	0
	35-55	15th hole tee-3 (C)	C	1	No	47.8	54.3	57.7	No	3.4	No	No	0
	35-56	15th hole tee-4 (C)	C	1	No	47.8	52.4	56.2	No	3.8	No	No	0
	35-57	15th hole tee-5 (C)	C	1	No	47.8	51.2	55.4	No	4.2	No	No	0
35-58	8110 W Kettering Ct	B	1	No	47.8	57.7	60.7	No	3.0	No	No	0	
35-59	8108 W Kettering Ct (no permit)	G	0	No	47.8	55.2	58.6	No	3.4	No	No Permit	0	
35-60	8106 W Kettering Ct	B	1	No	47.8	53.3	57.1	No	3.8	No	No	0	
35-61	8104 W Kettering Ct	B	1	No	47.8	52.2	55.7	No	3.5	No	No	0	
35-62	8102 W Kettering Ct	B	1	No	47.8	51.1	54.9	No	3.8	No	No	0	
35-63	8100 W Kettering Ct	B	1	No	47.8	49.4	53.9	No	4.5	No	No	0	
35-64	8020 W Kettering Ct	B	1	No	47.8	48.6	52.9	No	4.3	No	No	0	
35-65	8018 W Kettering Ct (no permit)	G	0	No	47.8	48.1	52.3	No	4.2	No	No Permit	0	
35-66	8106 W Isleworth Ct (M) (NSA 35)	F	0	Yes	47.8	61.2	65.5	No	4.3	No	Measurement	0	
36	36-01	2625 N Main St	B	1	Yes	47.8	65.7	67.2	Yes	1.5	No	Yes	1
	36-02	2349 N Main St	B	1	Yes	47.8	67.3	69.0	Yes	1.7	No	Yes	1
	36-03	104 W Lillard Ln	B	1	Yes	47.8	51.4	54.0	No	2.6	No	No	0
37	37-01	3179 Ar Hwy 112	B	1	Yes	47.8	61.1	57.6	No	-3.5	No	No	0
	37-02	125 Chattin Cir	B	1	No	47.8	66.3	52.5	No	-13.8	No	No	0
	37-03	3194 Hwy 112	B	1	Yes	47.8	65.3	53.0	No	-12.3	No	No	0
	37-04	101 Averie Ln	B	1	Yes	47.8	68.4	54.1	No	-14.3	No	No	0
	37-05	100 Averie Ln (permitted)	B	1	Yes	47.8	66.9	54.1	No	-12.8	No	No	0
	37-06	3220 Ar 112 Hwy	B	1	Yes	47.8	65.6	54.0	No	-11.6	No	No	0
	37-07	3474 Ar 112 Hwy	B	1	Yes	47.8	66.0	58.1	No	-7.9	No	No	0
	37-08	3473 AR Hwy 112 (M) (NSA 37)	F	0	Yes	47.8	65.0	59.0	No	-6.0	No	Measurement	0

NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# of Receptors	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (or background)	Predicted Build, dBA (with 40 dBA Background)	Approach/ Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Receptors
38	38-01	3561 Ar 112 Hwy	B	1	Yes	47.8	62.5	52.9	No	-9.6	No	No	0
39a	39a-01	2801 Ozark Acres Dr	B	1	Yes	47.8	47.8	61.4	No	13.6	Yes	Yes	1
	39a-02	2899 Ozark Acres	B	1	Yes	47.8	47.8	61.2	No	13.4	Yes	Yes	1
	39a-03	2995 Ozark Acres Dr	B	1	Yes	47.8	47.8	62.2	No	14.4	Yes	Yes	1
	39a-04	2804 Ozark Acres	B	1	No	47.8	47.8	50.6	No	2.8	No	No	0
	39a-05	2900 Ozark Acres Dr	B	1	No	47.8	47.8	54.3	No	6.5	No	No	0
	39a-06	2908 Ozark Acres Dr	B	1	No	47.8	47.8	54.5	No	6.7	No	No	0
	39a-07	3203 Ozark Acres Dr	B	1	No	47.8	47.8	53.2	No	5.4	No	No	0
	39a-08	3160 Ozark Acres Dr	B	1	No	47.8	47.8	49.1	No	1.3	No	No	0
	39a-09	3307 Ozark Acres Dr	B	1	Yes	47.8	47.8	53.0	No	5.2	No	No	0
	39a-10	4134 Cook Rd (pool house)	B	1	Yes	47.8	47.8	63.4	No	15.6	Yes	Yes	1
39b	39b-01	4001 Cook Rd	B	1	Yes	47.8	47.8	56.2	No	8.4	No	No	0
	39b-02	4006 Cook Rd	B	1	Yes	47.8	47.8	68.6	Yes	20.8	Yes	Yes	1
	39b-03	4010 Cook Rd	B	1	Yes	47.8	47.8	57.9	No	10.1	Yes	Yes	1
	39b-04	4100 Cook Rd	B	1	Yes	47.8	47.8	53.3	No	5.5	No	No	0
	39b-05	4149 Cook Rd	B	1	Yes	47.8	47.8	55.1	No	7.3	No	No	0
40	40-01	717 Elk Rd (Take)	Take	1	Take	47.8	47.8	Take	Take	Take	Take	Take	0
	40-02	711 Elk Rd	B	1	Yes	47.8	51.4	51.5	No	0.1	No	No	0
	40-03	First Christian Church pergola (C)	C	1	Yes	47.8	47.8	48.0	No	0.2	No	No	0
	40-04	4048 Caerleon Cir	B	1	Yes	47.8	47.8	50.3	No	2.5	No	No	0
	40-05	4052 Caerleon Cir	B	1	Yes	47.8	47.8	50.6	No	2.8	No	No	0
	40-06	4060 Caerleon Cir	B	1	Yes	47.8	47.8	51.6	No	3.8	No	No	0
	40-07	4064 Caerleon Cir	B	1	Yes	47.8	47.8	53.0	No	5.2	No	No	0
	40-08	4068 Caerleon Cir	B	1	Yes	47.8	47.8	54.1	No	6.3	No	No	0
	40-09	4072 Caerleon Cir	B	1	Yes	47.8	47.8	54.7	No	6.9	No	No	0
	40-10	4076 Caerleon Cir	B	1	Yes	47.8	47.8	56.1	No	8.3	No	No	0
	40-11	4080 Caerleon Cir	B	1	Yes	47.8	47.8	57.0	No	9.2	No	No	0
	40-12	3670 Ar 112 Hwy	B	1	Yes	47.8	47.8	64.9	No	17.1	Yes	Yes	1
	40-13	4100 SW H St	B	1	No	47.8	48.6	47.1	No	-1.5	No	No	0
	40-14	4044 Caerleon Cir	B	1	No	47.8	47.8	48.7	No	0.9	No	No	0
	40-15	4045 Caerleon Cir	B	1	No	47.8	47.8	49.7	No	1.9	No	No	0
	40-16	4057 Caerleon Cir	B	1	No	47.8	47.8	49.2	No	1.4	No	No	0
	40-17	4061 Caerleon Cir	B	1	No	47.8	47.8	50.5	No	2.7	No	No	0
	40-18	4065 Caerleon Cir	B	1	No	47.8	47.8	51.1	No	3.3	No	No	0
	40-19	4069 Caerleon Cir	B	1	No	47.8	47.8	51.7	No	3.9	No	No	0
	40-20	4073 Caerleon Cir	B	1	No	47.8	47.8	52.4	No	4.6	No	No	0
	40-21	4084 Caerleon Cir	B	1	No	47.8	47.8	55.5	No	7.7	No	No	0
	40-22	4040 Caerleon Cir	B	1	No	47.8	47.8	47.0	No	-0.8	No	No	0
	40-23	4041 Caerleon Cir	B	1	No	47.8	47.8	48.0	No	0.2	No	No	0
	40-24	4105 Caerleon Cir	B	1	No	47.8	47.8	49.6	No	1.8	No	No	0
	40-25	4101 Caerleon Cir	B	1	No	47.8	47.8	50.1	No	2.3	No	No	0
	40-26	4097 Caerleon Cir	B	1	No	47.8	47.8	50.0	No	2.2	No	No	0
	40-27	4093 Caerleon Cir	B	1	No	47.8	47.8	52.3	No	4.5	No	No	0
	40-28	4088 Caerleon Cir	B	1	No	47.8	47.8	54.8	No	7.0	No	No	0
	40-29	3552 Ar 112 Hwy	B	1	Yes	47.8	59.1	60.6	No	1.5	No	No	0
	40-30	6003 SW Dryden Rd (permitted)	B	1	Yes	47.8	47.8	50.9	No	3.1	No	No	0
	40-31	1101 SW Alleghany Ave (no permit)	B	1	Yes	47.8	47.8	51.4	No	3.6	No	No	0
	40-32	1103 SW Alleghany Ave (no permit)	B	1	Yes	47.8	47.8	51.0	No	3.2	No	No	0
	40-33	1105 SW Alleghany Ave (no permit)	B	1	Yes	47.8	47.8	50.6	No	2.8	No	No	0
	40-34	1107 SW Alleghany Ave (no permit)	B	1	Yes	47.8	48.7	50.8	No	2.1	No	No	0
	40-35	4056/4060 Caerleon Cir (M) (NSA 40)	F	0	No	47.8	47.8	50.6	No	2.8	No	Measurement	0
41	41-01	776 Elk Rd (Take)	Take	1	Take	47.8	47.8	Take	Take	Take	Take	Take	0
	41-02	784 Elk Rd	B	1	Yes	47.8	48.9	61.7	No	12.8	Yes	Yes	1
	41-03	800 Elk Rd	B	1	No	47.8	47.8	56.3	No	8.5	No	No	0
	41-04	848 Elk Rd	B	1	Yes	47.8	47.8	50.8	No	3.0	No	No	0
	41-05	891 Elk Rd	B	1	Yes	47.8	47.8	50.8	No	3.0	No	No	0

NSA	Receiver Number	TNM Receiver Name	FHWA Activity Category	# of Receptors	1st row? (Yes/No)	Background level, dBA	Predicted Existing, dBA (or background)	Predicted Build, dBA (with 40 dBA Background)	Approach/ Exceed NAC?	Increase (dBA)	Substantial Increase?	Build Noise Impact?	Impacted Receptors
42	42-01	4701 SW Westchester Rd	B	1	Yes	47.8	64.5	64.0	No	-0.5	No	No	0
	42-02	4705 SW Westchester Rd	B	1	Yes	47.8	65.4	63.4	No	-2.0	No	No	0
	42-03	4707 SW Westchester Rd	B	1	Yes	47.8	65.1	62.2	No	-2.9	No	No	0
	42-04	4801 SW Westchester Rd	B	1	Yes	47.8	66.6	61.7	No	-4.9	No	No	0
	42-05	4803 SW Westchester Rd	B	1	Yes	47.8	66.7	60.5	No	-6.2	No	No	0
	42-06	4901 SW Westchester Rd	B	1	Yes	47.8	66.0	59.5	No	-6.5	No	No	0
	42-07	4903 SW Westchester Rd	B	1	Yes	47.8	65.8	59.1	No	-6.7	No	No	0
	42-08	5001 SW Westchester Rd	B	1	Yes	47.8	65.1	57.5	No	-7.6	No	No	0
	42-09	5003 SW Westchester Rd	B	1	Yes	47.8	66.2	57.5	No	-8.7	No	No	0
	42-10	5005 SW Westchester Rd	B	1	Yes	47.8	65.9	56.8	No	-9.1	No	No	0
	42-11	5007 SW Westchester Rd	B	1	Yes	47.8	65.9	56.1	No	-9.8	No	No	0
	42-12	5101 SW Westchester Rd	B	1	Yes	47.8	66.4	55.7	No	-10.7	No	No	0
	42-13	5103 SW Westchester Rd	B	1	Yes	47.8	65.7	54.5	No	-11.2	No	No	0
	42-14	5105 SW Westchester Rd	B	1	Yes	47.8	65.7	54.1	No	-11.6	No	No	0
	42-15	5201 SW Westchester Rd	B	1	Yes	47.8	66.2	53.5	No	-12.7	No	No	0
	42-16	5203 SW Westchester Rd	B	1	No	47.8	66.4	52.5	No	-13.9	No	No	0
	42-17	701 SW Glen Arbor Ave	B	1	Yes	47.8	64.8	49.4	No	-15.4	No	No	0
	42-18	706 SW Edinburgh Ave	B	1	No	47.8	47.8	52.7	No	4.9	No	No	0
	42-19	704 SW Edinburgh Ave	B	1	No	47.8	48.2	54.7	No	6.5	No	No	0
	42-20	702 SW Edinburgh Ave	B	1	No	47.8	50.8	57.0	No	6.2	No	No	0
	42-21	700 SW Edinburgh Ave	B	1	No	47.8	54.8	59.4	No	4.6	No	No	0
	42-22	705 SW Edinburgh Ave	B	1	No	47.8	47.8	49.7	No	1.9	No	No	0
	42-23	703 SW Edinburgh Ave	B	1	No	47.8	47.8	51.3	No	3.5	No	No	0
	42-24	701 SW Edinburgh Ave	B	1	No	47.8	51.4	54.6	No	3.2	No	No	0
	42-25	700 SW Thorncroft Ave	B	1	No	47.8	51.6	54.3	No	2.7	No	No	0
	42-26	702 SW Thorncroft Ave	B	1	No	47.8	48.1	50.7	No	2.6	No	No	0
	42-27	704 SW Thorncroft Ave	B	1	No	47.8	47.8	49.2	No	1.4	No	No	0
	42-28	701 SW Thorncroft Ave	B	1	No	47.8	51.8	52.3	No	0.5	No	No	0
	42-29	703 SW Thorncroft Ave	B	1	No	47.8	47.8	48.2	No	0.4	No	No	0
	42-30	705 SW Thorncroft Ave	B	1	No	47.8	47.8	46.6	No	-1.2	No	No	0
	42-31	Pool (C)	C	1	No	47.8	47.8	44.2	No	-3.6	No	No	0
	42-32	BB Court (C)	C	1	No	47.8	48.9	48.7	No	-0.2	No	No	0
	42-33	700 SW Avon Glen Pl	B	1	No	47.8	49.6	48.1	No	-1.5	No	No	0
	42-34	5104 SW Westchester Rd	B	1	No	47.8	49.7	47.2	No	-2.5	No	No	0
	42-35	5200 SW Westchester Rd	B	1	No	47.8	50.0	47.2	No	-2.8	No	No	0
	42-36	5202 SW Westchester Rd	B	1	No	47.8	51.1	46.6	No	-4.5	No	No	0
	42-37	703 SW Glen Arbor Ave	B	1	No	47.8	65.7	47.7	No	-18.0	No	No	0
	42-38	705 SW Glen Arbor Ave	B	1	No	47.8	66.4	46.1	No	-20.3	No	No	0
	42-39	5299 SW H St	B	1	No	47.8	54.4	58.7	No	4.3	No	No	0
	42-40	4701 SW Westchester (M)(NSA 42)	F	0	No	47.8	67.8	66.9	No	-0.9	No	Measurement	0
43	43-01	Mercy Clinic Primary Care patio (E)	E	1	No	47.8	58.5	62.2	No	3.7	No	No	0
	43-02	4652 SW H St	B	1	No	47.8	57.5	63.7	No	6.2	No	No	0



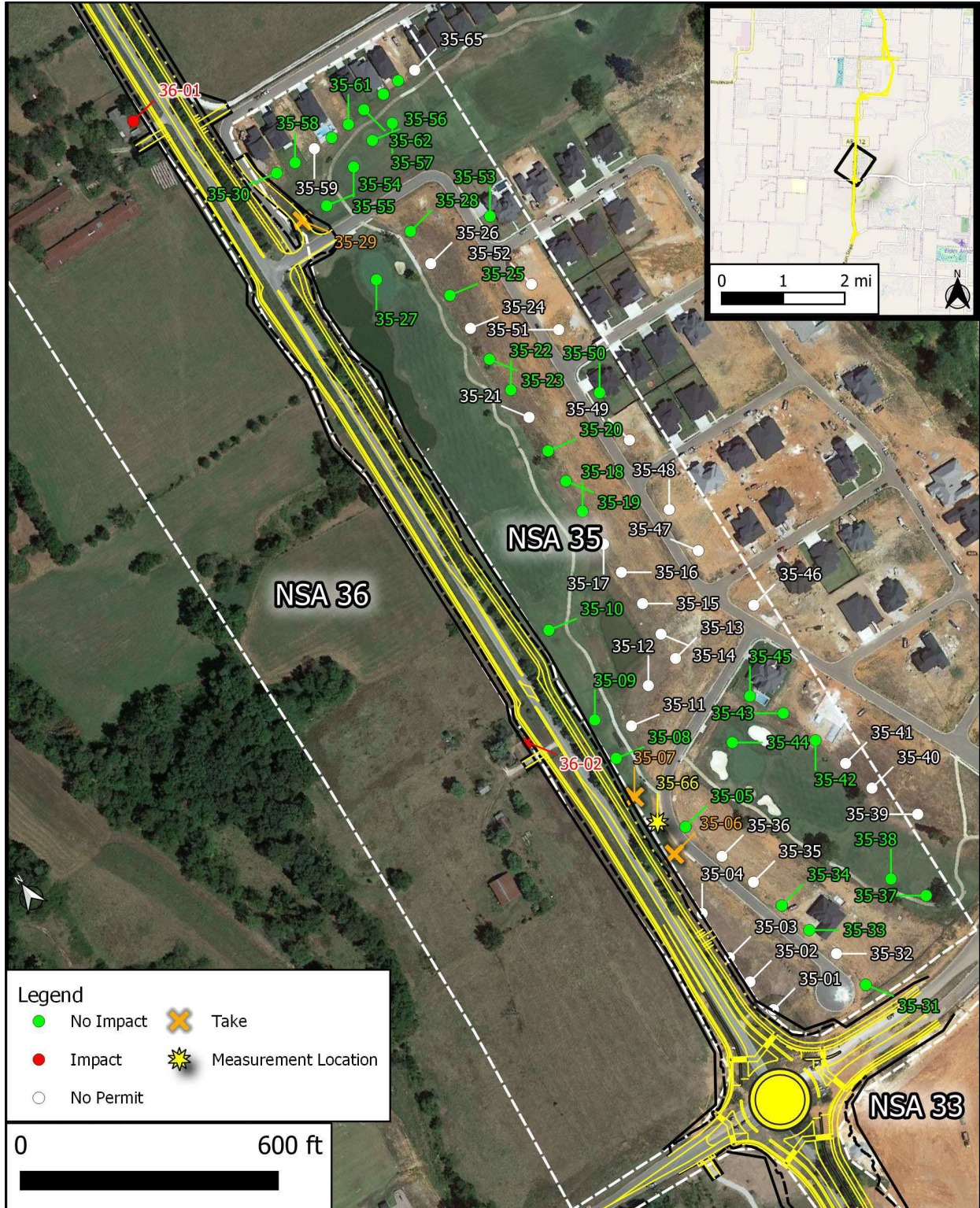
Job 090513, Alternative C3 Modified: NSA 31a, NSA 32a results

Job 090514, Alternative B3: NSA 31b, NSA 32b results



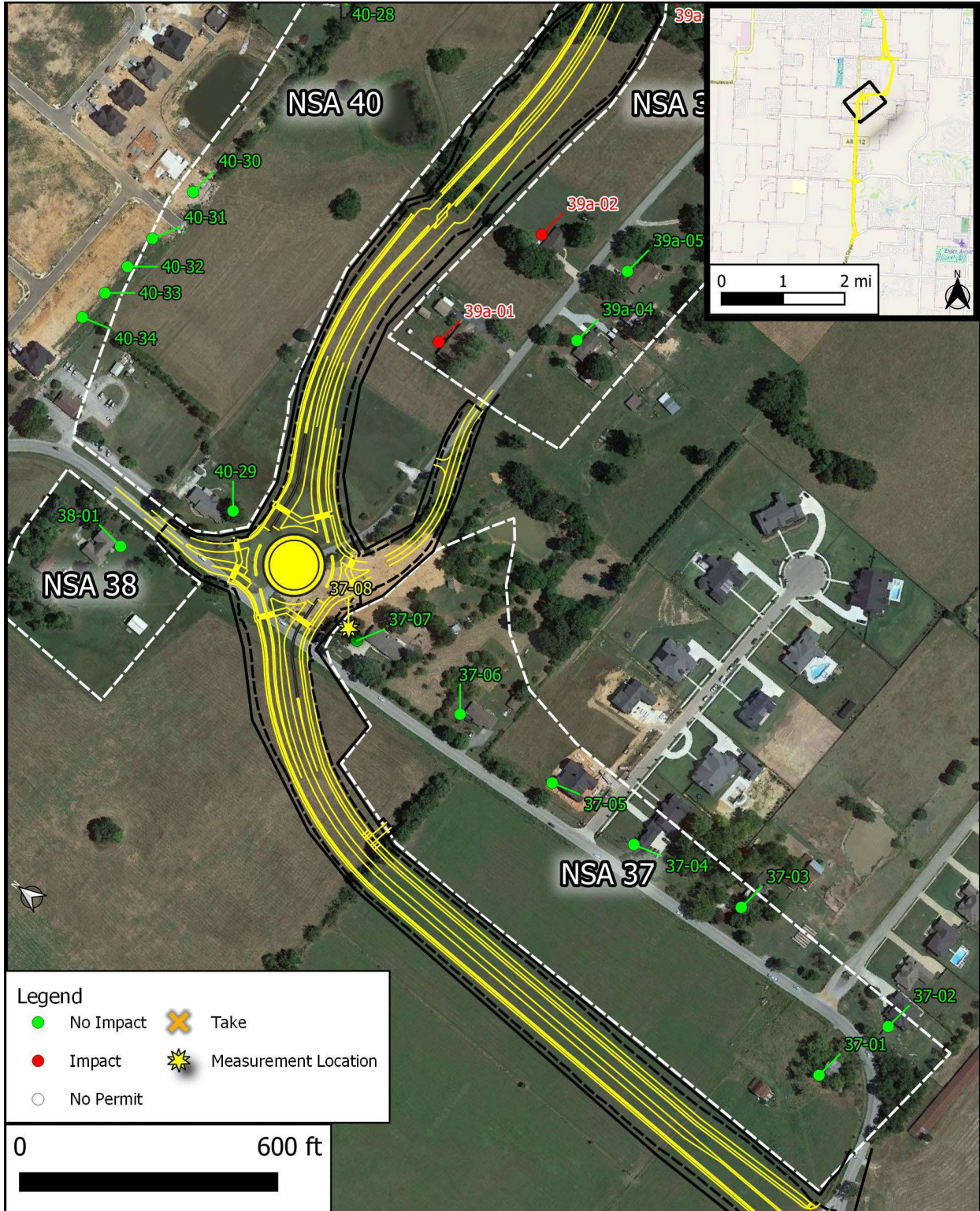
Job 090514, Alternative B3

NSA 33 and NSA 34 results



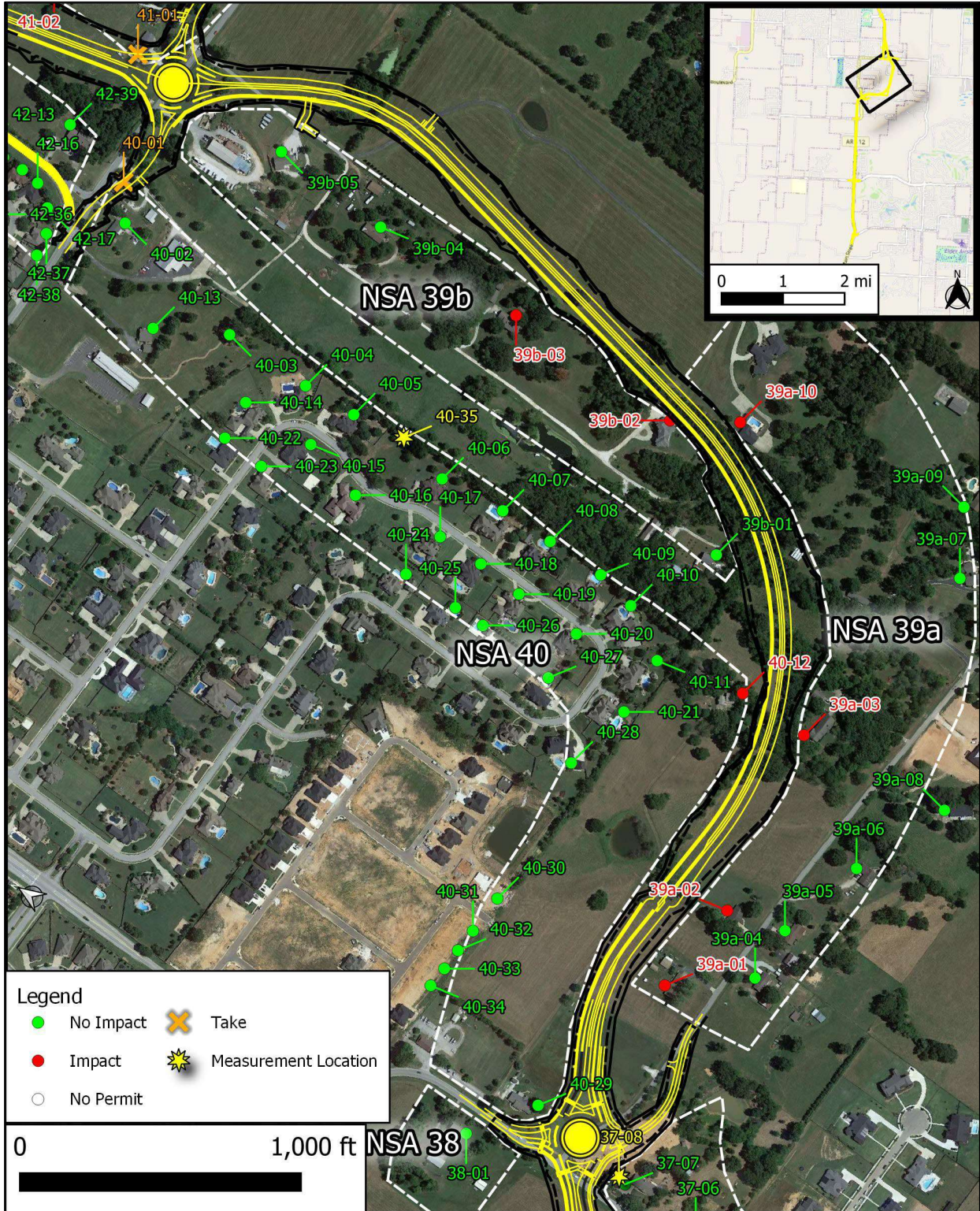
Job 090514, Alternative B3

NSA 35 and NSA 36 results

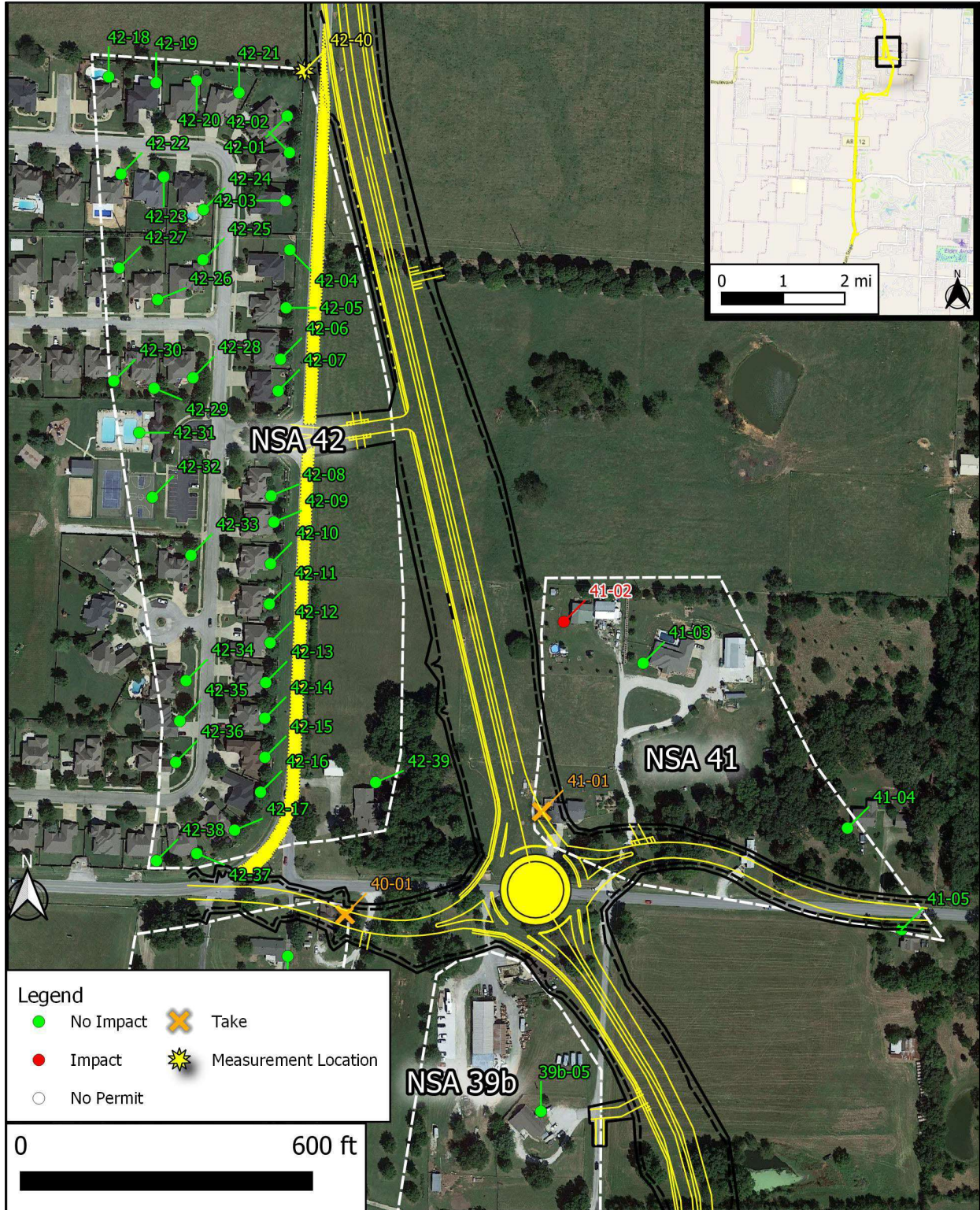


Job 090514, Alternative B3

NSA 37 and NSA 38 results



Job 090514, Alternative B3
NSA 39a, NSA 39b, and NSA 40 results



Job 090514, Alternative B3

NSA 41 and NSA 42 results



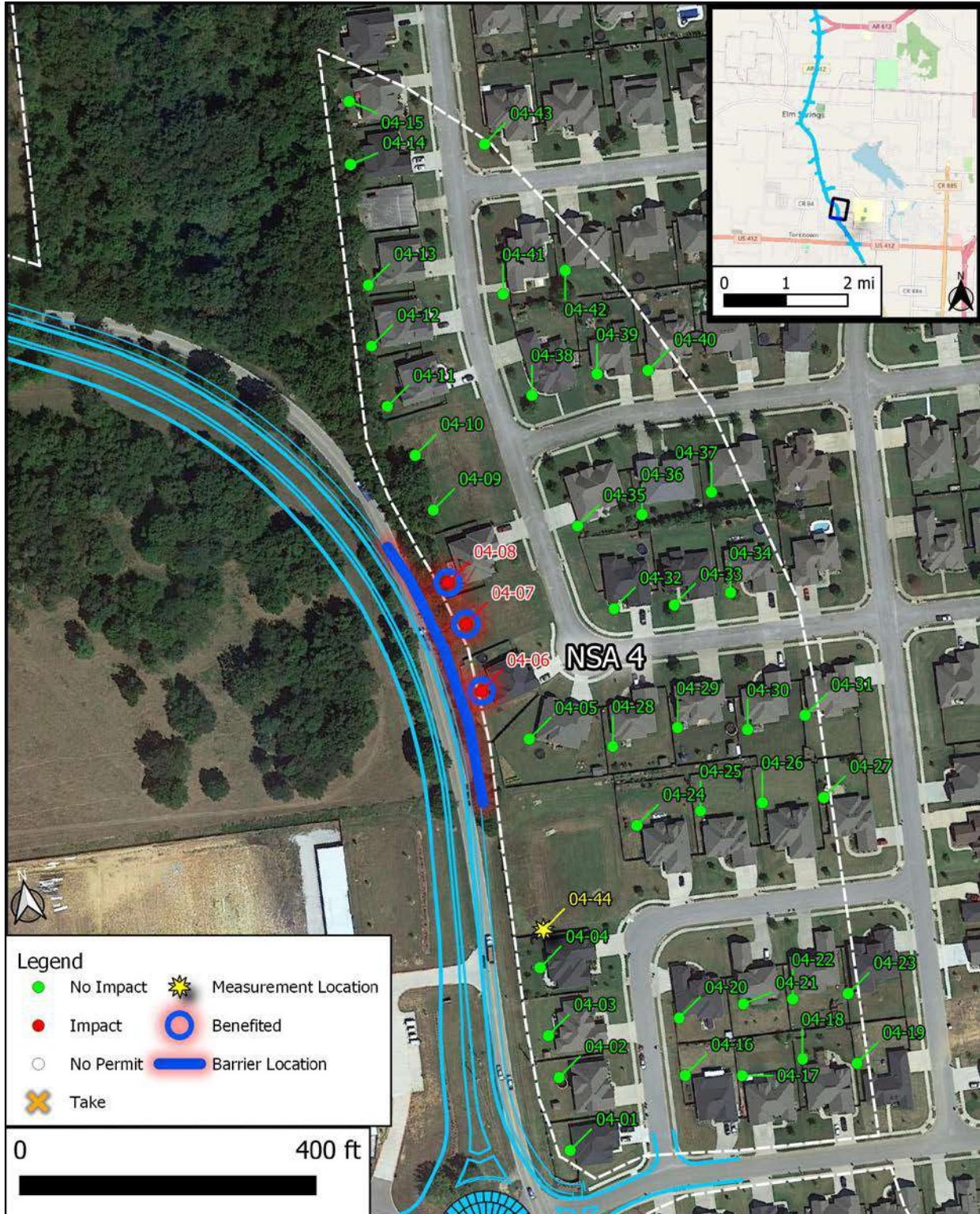
Job 090514, Alternative B3

NSA 43 results

Appendix E
Noise Barrier Designs and Evaluation Results

Noise Barrier Designs and Evaluation Results			Appendix Page
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Noise Abatement Evaluation
ARDOT Job 012305
Alternative E2 Modified and Alternative E3 Modified
NSA 4



NSA 4 (E2 Modified and E3 Modified) Proposed Barrier location and Benefited receivers

Project: Highway 112 (Springdale Bypass)		Total Impacted Receptors															
Noise Study Area: 4		Total Benefited Receptors															
Job: 012305		# of Benefited Receptors Receiving at Least 8 dB															
Alternative: E2 Modified, E3 Modified		# of Impacted Receptors Receiving at Least 5 dB															
		Feasible?															
		Reasonable (NRDG)?															
		Yes															
		Yes															
Receiver #	Receiver	Number of Receptors	FHWA Activity Category	1st row? (Yes/No)	Background Sound Level (dBA)	Worst Case Existing Sound Level (dBA)	No Barrier Loss (dBA)	With Barrier Leq (dBA)	Insertion Loss (dBA)	Increase (dBA)	Substantial Increase?	Approach/ Exceed NAC?	Impacted?	Benefited?	Number of Benefited Receptors	Benefited and Receiving 8 dB IL?	Number Receiving 8 dB
04-01	519 Via Pisa Rd	1	B	Yes	40	66.6	62.6	62.6	0.0	-4.0	No	No	No	No	0	No	0
04-02	531 Via Pisa Rd	1	B	Yes	40	65.4	63.2	63.2	0.0	-2.2	No	No	No	No	0	No	0
04-03	545 Via Pisa Rd	1	B	Yes	40	66.2	64.2	64.2	0.0	-2.0	No	No	No	No	0	No	0
04-04	563 Via Pisa Rd	1	B	Yes	40	65.8	65.0	65.0	0.0	-0.8	No	No	No	No	0	No	0
04-05	8327 La Scala Ave	1	B	Yes	40	60.5	61.7	57.9	3.8	1.2	No	No	No	No	0	No	0
04-06	658 Bella Vita St	1	B	Yes	40	66.5	66.1	59.2	8.8	1.5	No	Yes	Yes	Yes	1	Yes	1
04-07	632 Bella Vita St	1	B	Yes	40	66.1	66.2	58.6	7.6	0.1	No	Yes	Yes	Yes	1	No	0
04-08	612 Bella Vita St	1	B	Yes	40	66.7	66.2	60.0	6.2	-0.5	No	Yes	Yes	Yes	1	No	0
04-09	584 Bella Vita St	1	B	Yes	40	65.6	64.5	62.4	2.1	-1.1	No	No	No	No	0	No	0
04-10	560 Bella Vita St	1	B	Yes	40	64.1	63.4	62.5	0.9	-0.7	No	No	No	No	0	No	0
04-11	536 Bella Vita St	1	B	Yes	40	63.3	63.5	63.1	0.4	0.2	No	No	No	No	0	No	0
04-12	514 Bella Vita St	1	B	Yes	40	60.4	61.5	61.1	0.4	1.1	No	No	No	No	0	No	0
04-13	484 Bella Vita St	1	B	Yes	40	56.8	59.4	59.2	0.2	2.6	No	No	No	No	0	No	0
04-14	442 Bella Vita St	1	B	Yes	40	51.2	54.8	54.4	0.4	3.6	No	No	No	No	0	No	0
04-15	418 Bella Vita St	1	B	Yes	40	49.7	53.8	53.4	0.4	4.1	No	No	No	No	0	No	0
04-16	758 Via Firenze Ave	1	B	Yes	40	54.7	56.6	56.4	0.2	1.9	No	No	No	No	0	No	0
04-17	774 Via Firenze Ave	1	B	Yes	40	51.4	54.5	54.2	0.3	3.1	No	No	No	No	0	No	0
04-18	790 Via Firenze Ave	1	B	Yes	40	50.0	51.9	51.4	0.5	1.9	No	No	No	No	0	No	0
04-19	804 Via Firenze Ave	1	B	Yes	40	48.4	50.5	50.1	0.4	2.1	No	No	No	No	0	No	0
04-20	761 Via Lucca Ave	1	B	Yes	40	54.1	56.2	55.9	0.3	2.1	No	No	No	No	0	No	0
04-21	775 Via Lucca Ave	1	B	Yes	40	51.0	52.9	52.6	0.3	1.9	No	No	No	No	0	No	0
04-22	791 Via Lucca Ave	1	B	Yes	40	49.6	51.6	51.3	0.3	2.0	No	No	No	No	0	No	0
04-23	807 Via Lucca Ave	1	B	Yes	40	48.6	50.6	50.3	0.3	2.0	No	No	No	No	0	No	0
04-24	754 Via Lucca Ave	1	B	Yes	40	54.2	56.5	55.0	1.5	2.3	No	No	No	No	0	No	0
04-25	772 Via Lucca Ave	1	B	Yes	40	51.2	54.4	53.2	1.2	3.2	No	No	No	No	0	No	0
04-26	788 Via Lucca Ave	1	B	Yes	40	50.0	54.2	53.2	1.0	4.2	No	No	No	No	0	No	0
04-27	806 Via Lucca Ave	1	B	Yes	40	48.5	52.7	52.0	0.7	4.2	No	No	No	No	0	No	0
04-28	8301 La Scala Ave	1	B	Yes	40	54.2	58.0	54.7	3.3	3.8	No	No	No	No	0	No	0
04-29	8281 La Scala Ave	1	B	Yes	40	51.8	56.7	54.7	2.0	4.9	No	No	No	No	0	No	0
04-30	8255 La Scala Ave	1	B	Yes	40	50.3	55.1	53.8	1.3	4.8	No	No	No	No	0	No	0
04-31	8227 La Scala Ave	1	B	Yes	40	48.5	53.2	52.0	1.2	4.7	No	No	No	No	0	No	0
04-32	8300 La Scala Ave	1	B	Yes	40	55.0	59.3	56.1	3.2	4.3	No	No	No	No	0	No	0
04-33	8280 La Scala Ave	1	B	Yes	40	52.7	57.7	54.9	2.8	5.0	No	No	No	No	0	No	0
04-34	8254 La Scala Ave	1	B	Yes	40	51.0	56.1	53.9	2.2	5.1	No	No	No	No	0	No	0
04-35	8315 San Marco Ave	1	B	Yes	40	55.1	59.4	56.6	2.8	4.3	No	No	No	No	0	No	0
04-36	8281 San Marco Ave	1	B	Yes	40	52.7	57.5	54.8	2.7	4.8	No	No	No	No	0	No	0
04-37	8253 San Marco Ave	1	B	Yes	40	50.0	55.1	52.9	2.2	5.1	No	No	No	No	0	No	0
04-38	8332 San Marco Ave	1	B	Yes	40	54.5	58.4	56.7	1.7	3.9	No	No	No	No	0	No	0
04-39	8298 San Marco Ave	1	B	Yes	40	51.9	56.6	54.8	1.8	4.7	No	No	No	No	0	No	0
04-40	8272 San Marco Ave	1	B	Yes	40	50.3	55.2	53.6	1.6	4.9	No	No	No	No	0	No	0
04-41	8339 La Casa Ave	1	B	Yes	40	52.4	56.7	55.4	1.3	4.3	No	No	No	No	0	No	0
04-42	8313 La Casa Ave	1	B	Yes	40	49.8	54.6	53.3	1.3	4.8	No	No	No	No	0	No	0
04-43	8338 La Casa Ave	1	B	Yes	40	48.3	52.7	51.7	1.0	4.4	No	No	No	No	0	No	0
04-44	563 Via Pisa Rd (M) (NSA 04)	0	F	Yes	40	64.3	64.6	64.6	0.0	0.3	No	No	Measurement	Measurement	0	No	0

Project:	Highway 112 (Springdale Bypass)
Noise Study Area:	4
Job:	012305
Alternative:	E2 Modified, E3 Modified

Barrier Area	2,226
Total Length	371
Average Height	6.0
Total Cost	\$89,040
Number of Benefitted Residences	3
Cost per benefitted receptor	\$29,680
Reasonable (CPBR)?	Yes

From	To	Segment Length (ft.)	Wall Type ⁽¹⁾ ("FR" or "FA" or "S")	Barrier Height (ft)	Barrier Area (sq ft)	Segment Cost
150+00	150+50	53	FA	6	318	\$12,720.00
150+50	151+00	53	FA	6	318	\$12,720.00
151+00	151+50	53	FA	6	318	\$12,720.00
151+50	152+00	53	FA	6	318	\$12,720.00
152+00	152+50	53	FA	6	318	\$12,720.00
152+50	153+00	53	FA	6	318	\$12,720.00
153+00	end	53	FA	6	318	\$12,720.00

(1) FR = free standing reflective barrier; FA = free standing absorptive barrier; S = barrier on bridge structure.

(2) At beginning station.

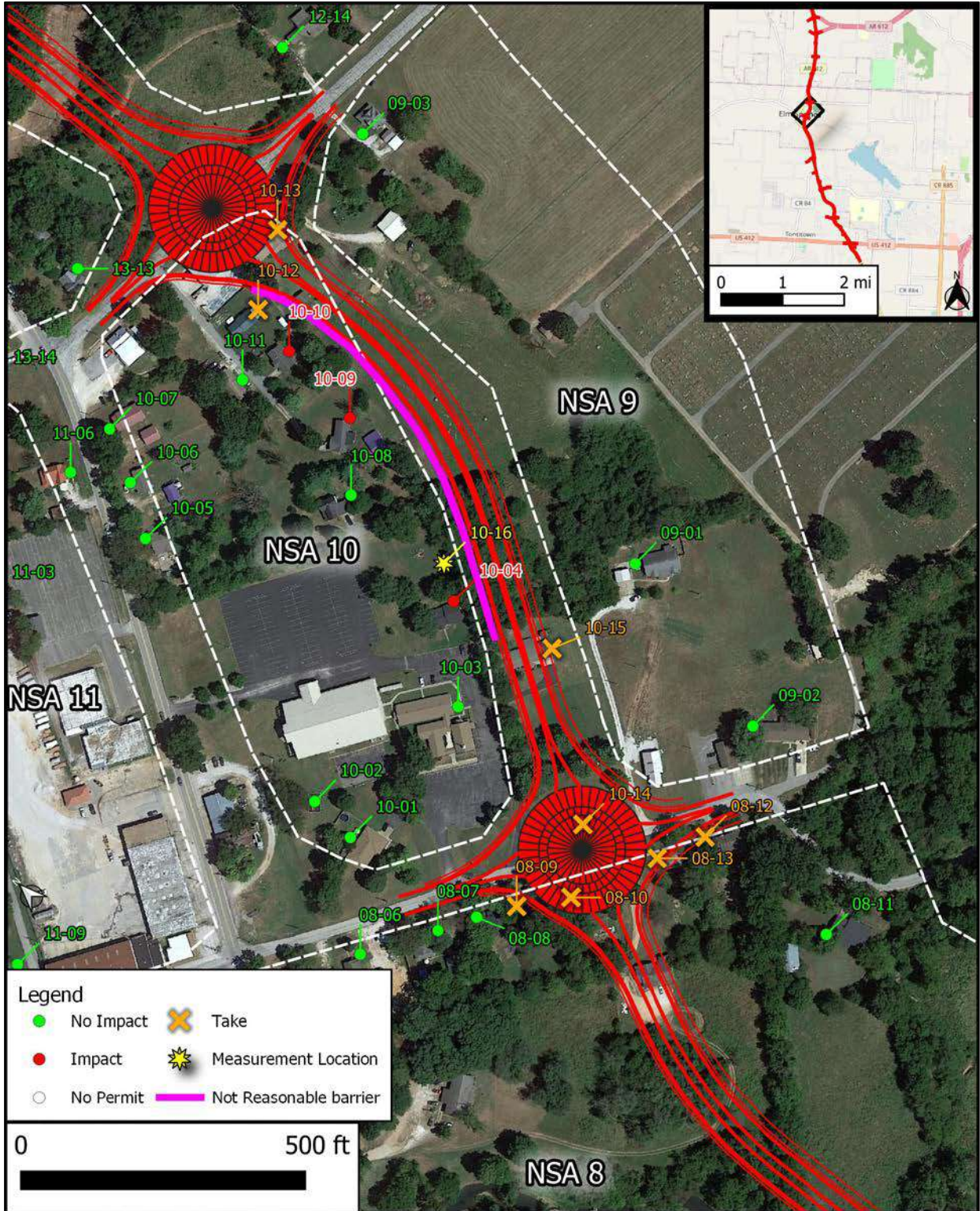
(3) \$35 per square foot for free-standing reflective Type I barriers, \$40 per square for free-standing absorptive barriers, and \$50 per square foot for barriers on structure

Noise Abatement Evaluation

ARDOT Job 012305

Alternative E3 Modified

NSA 10



NSA 10 (E3 Modified) Not Reasonable Barrier location

Project:		Highway 112 (Springdale Bypass)															
Noise Study Area:		10 (Absorptive Barrier)															
Job:		012305															
Alternative:		E3 Modified															
Total Impacted Receptors				4													
# of Benefited Receptors Receiving at Least 8 dB				5													
# of Impacted Receptors Receiving at Least 5 dB				4													
Feasible?				Yes													
Reasonable (NRDG)?				Yes													
Receiver #	Receiver	Number of Receptors	FHWA Activity Category	1st row? (Yes/No)	Background Sound Level (dBA)	Worst Case Existing Sound Level (dBA)	No Barrier L _{req} (dBA)	With Barrier Leq (dBA)	Insertion Loss (dBA)	Increase (dBA)	Substantial Increase?	Approach/ Exceed NAC?	Impacted?	Benefited?	Number of Benefited Receptors	Benefited and Receiving 8 dB IL?	Number Receiving 8 dB
10-01	108 School Ave (Church property)	1	C	Yes	40	50.8	50.0	49.7	0.3	-0.8	No	No	No	No	0	No	0
10-02	Elm Springs Church playground (C)	1	C	Yes	40	52.9	52.3	52.3	0.0	-0.6	No	No	No	No	0	No	0
10-03	Elm Springs Church (D)	1	D	No	40	35.0	36.9	36.1	0.8	1.9	No	No	No	No	0	No	0
10-04	112 Church Ln (Church res. duplex)	2	B	No	40	50.5	66.2	57.8	8.4	15.7	Yes	Yes	Yes	Yes	2	Yes	2
10-05	258 N Elm St	1	B	Yes	40	63.4	49.6	48.3	1.3	-13.8	No	No	No	No	0	No	0
10-06	276 N Elm St	1	B	Yes	40	63.1	50.3	49.3	1.0	-12.8	No	No	No	No	0	No	0
10-07	276 N Elm St	1	B	Yes	40	64.0	52.1	50.8	1.3	-11.9	No	No	No	No	0	No	0
10-08	254 N Elm St	1	B	No	40	50.5	60.2	54.8	5.4	9.7	No	No	No	Yes	1	No	0
10-09	205 Gumm St	1	B	No	40	50.5	61.4	56.1	5.3	10.9	Yes	No	Yes	Yes	1	No	0
10-10	244 Gumm St	1	B	No	40	50.5	61.0	55.1	5.9	10.5	Yes	No	Yes	Yes	1	No	0
10-11	255 Gumm St	1	B	No	40	50.5	55.5	51.6	3.9	5.0	No	No	No	No	0	No	0
10-16	112 Church Ln (M) (NSA 10)	0	F	No	40	50.5	67.9	60.9	7.0	17.4	Yes	No	/leas. Locatio	Mleas. Location	0	No	0
11-06	275 N Elm St (Take E2)	1	B	No	40	65.0	51.3	50.1	1.2	-13.7	No	No	No	No	0	No	0

Project:	Highway 112 (Springdale Bypass)
Noise Study Area:	10 (Absorptive Barrier)
Job:	012305
Alternative:	E3 Modified

Barrier Area	5,236
Total Length	775
Average Height	6.8
Total Cost	\$209,440
Number of Benefitted Residences	5
Cost per benefitted receptor	\$41,888
Reasonable (CPBR)?	No

From	To	Segment Length (ft.)	Wall Type ⁽¹⁾ ("FR" or "FA" or "S")	Barrier Height (ft)	Barrier Area (sq ft)	Segment Cost
250+00	249+50	49	FA	6	294	\$11,760.00
249+50	249+00	48	FA	6	288	\$11,520.00
249+00	248+00	98	FA	8	784	\$31,360.00
248+00	247+00	95	FA	8	760	\$30,400.00
247+00	246+00	95	FA	6	570	\$22,800.00
246+00	245+00	95	FA	6	570	\$22,800.00
245+00	244+00	95	FA	6	570	\$22,800.00
244+00	243+00	100	FA	6	600	\$24,000.00
243+00	end	100	FA	8	800	\$32,000.00

(1) FR = free standing reflective barrier; FA = free standing absorptive barrier; S = barrier on bridge structure.

(2) At beginning station.

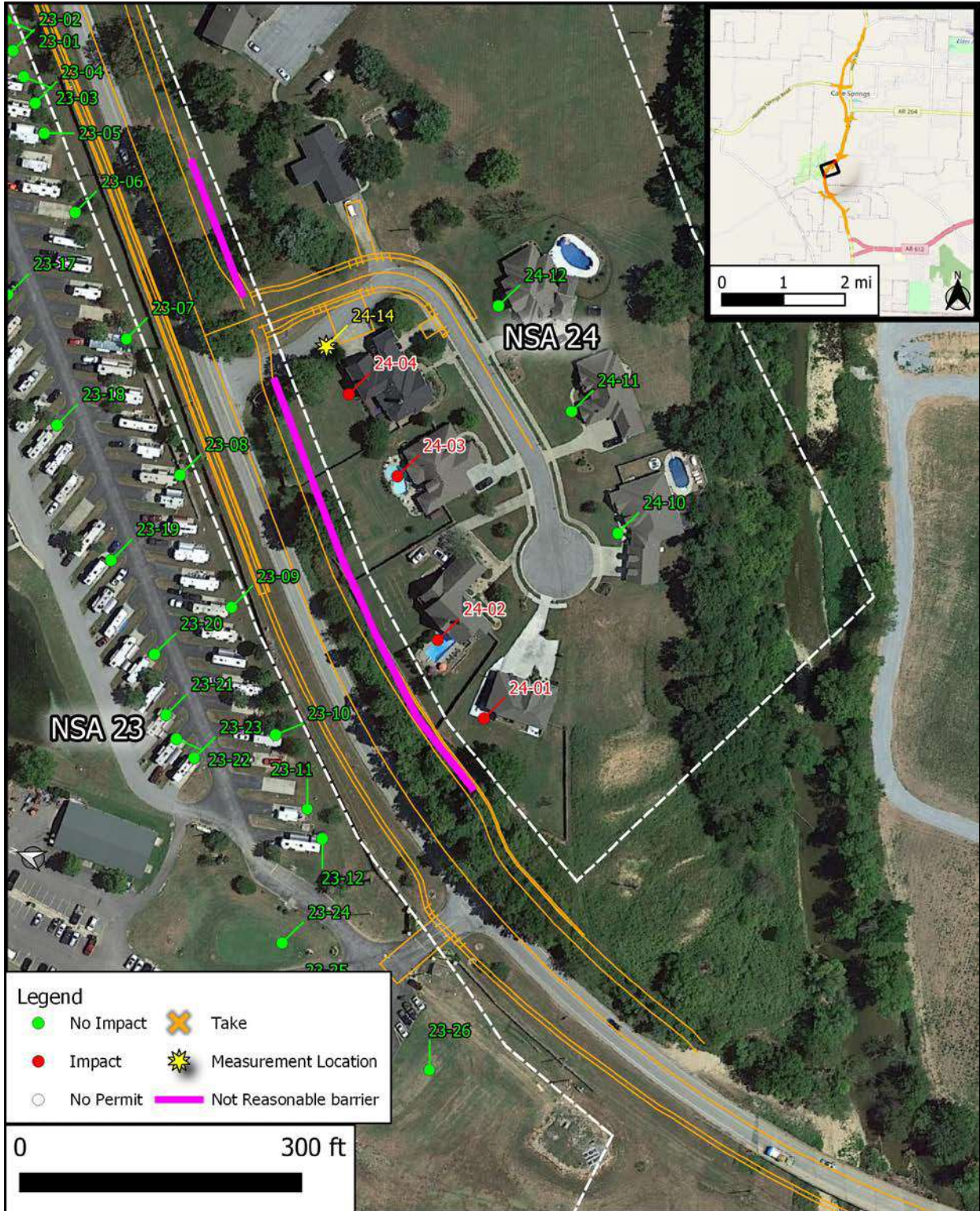
(3) \$35 per square foot for free-standing reflective Type I barriers, \$40 per square for free-standing absorptive barriers, and \$50 per square foot for barriers on structure

Noise Abatement Evaluation

ARDOT Job 090513

Alternative C3 Modified

NSA 24



NSA 24 (C3 Modified) Not Reasonable Barrier location

Project:		Highway 112 (Springdale Bypass)											Total Impacted Receptors				
Noise Study Area:		24											Total Benefited Receptors				
Job:		090513											# of Benefited Receptors Receiving at Least 8 dB				
Alternative:		C3 Modified											# of Impacted Receptors Receiving at Least 5 dB				
													Feasible?				
													Reasonable (NRDG)?				
													Yes				
													Yes				
Receiver #	Receiver	Number of Receptors	FHWA Activity Category	1st row? (Yes/No)	Background Sound Level (dBA)	Worst Case Existing Sound Level (dBA)	No Barrier L _{req} (dBA)	With Barrier Leq (dBA)	Insertion Loss (dBA)	Increase (dBA)	Substantial Increase?	Approach/Exceed NAC?	Impacted?	Benefited?	Number of Benefited Receptors	NRDG Benefited and Receiving 8 dB IL?	Number Receiving 8 dB
24-01	1363 Duffers Ct	1	B	Yes	40	63.3	67.4	62.0	5.4	4.1	No	Yes	Yes	Yes	1	No	0
24-02	1359 Duffers Ct	1	B	Yes	40	63.1	67.6	59.5	8.1	4.5	No	Yes	Yes	Yes	1	Yes	1
24-03	1355 Duffers Ct	1	B	Yes	40	60.5	66.0	60.0	6.0	5.5	No	Yes	Yes	Yes	1	No	0
24-04	1351 Duffers Ct	1	B	Yes	40	60.8	66.6	61.6	5.0	5.8	No	Yes	Yes	Yes	1	No	0
24-10	1358 Duffers Ct	1	B	No	40	47.8	51.0	50.1	0.9	3.2	No	No	No	No	0	No	0
24-11	1354 Duffers Ct	1	B	No	40	47.8	50.5	48.3	2.2	2.7	No	No	No	No	0	No	0
24-12	1350 Duffers Ct	1	B	No	40	47.8	54.5	53.3	1.2	6.7	No	No	No	No	0	No	0
24-14	1351 Duffers Ct (M) (NSA 24)	0	F	No	40	59.5	66.3	64.1	2.2	6.8	No	No	Measurement	Measurement	0	No	0

Project:	Highway 112 (Springdale Bypass)
Noise Study Area:	24
Job:	090513
Alternative:	C3 Modified

Barrier Area	6,340
Total Length	634
Average Height	10.0
Total Cost	\$221,900
Number of Benefitted Residences	4
Cost per benefitted receptor	\$55,475
Reasonable (CPBR)?	No

From	To	Segment Length (ft.)	Wall Type ⁽¹⁾ ("FR" or "FA" or "S")	Barrier Height (ft)	Barrier Area (sq ft)	Segment Cost
395+00	396+00	94	FR	10	940	\$32,900.00
396+00	397+00	95	FR	10	950	\$33,250.00
397+00	398+00	88	FR	10	880	\$30,800.00
398+00	399+00	107	FR	10	1,070	\$37,450.00
399+00	end	100	FR	16	1,600	\$56,000.00
401+00	401+50	50	FR	6	300	\$10,500.00
401+50	402+00	50	FR	6	300	\$10,500.00
402+00	end	50	FR	6	300	\$10,500.00

(1) FR = free standing reflective barrier; FA = free standing absorptive barrier; S = barrier on bridge structure.

(2) At beginning station.

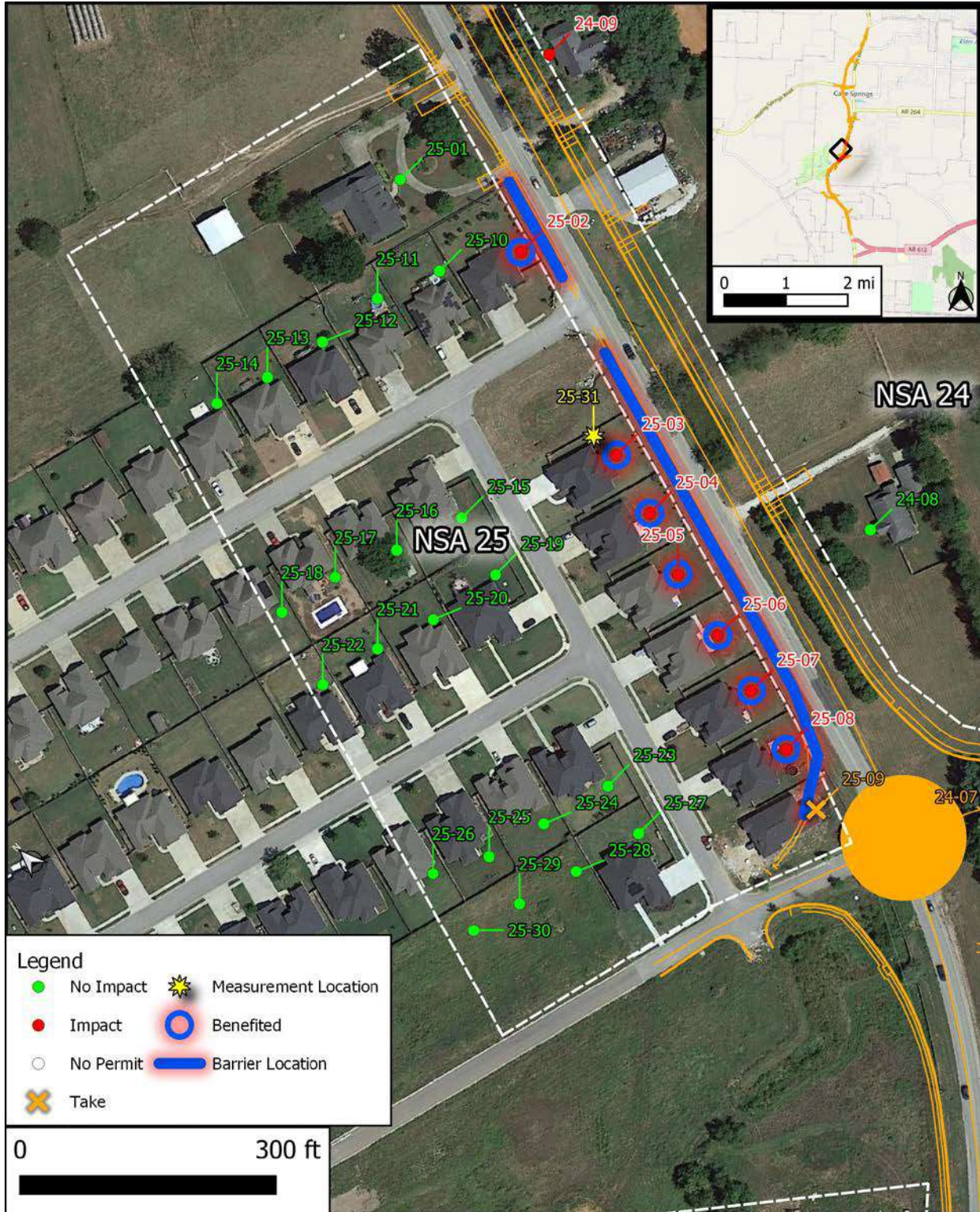
(3) \$35 per square foot for free-standing reflective Type I barriers, \$40 per square for free-standing absorptive barriers, and \$50 per square foot for barriers on structure

Noise Abatement Evaluation

ARDOT Job 090513

Alternative C3 Modified

NSA 25



NSA 25 (C3 Modified) Proposed Barrier location and Benefited receivers

Project:		Highway 112 (Springdale Bypass)		Total Impacted Receptors		7											
Noise Study Area:		25 (Absorptive Barrier)		Total Benefitted Receptors		7											
Job:		090513		# of Benefitted Receptors Receiving at Least 8 dB		4											
Alternative:		C3 Modified		# of Impacted Receptors Receiving at Least 5 dB		7											
				Feasible?		Yes											
				Reasonable (NRDG)?		Yes											
Receiver #	Receiver	Number of Receptors	FHWA Activity Category	1st row? (Yes/No)	Background Sound Level (dBA)	Worst Case Existing Sound Level (dBA)	No Barrier L _{eq} (dBA)	With Barrier Leq (dBA)	Insertion Loss (dBA)	Increase (dBA)	Substantial Increase?	Approach/Exceed NAC?	Impacted?	Benefitted?	Number of Benefitted Receptors	Benefitted and Receiving 8 dB IL?	Number Receiving 8 dB
25-01	1015 S Main St	1	B	Yes	40	60.4	65.1	64.1	1.0	4.7	No	No	No	No	0	No	0
25-02	101 Pebble Beach Dr	1	B	Yes	40	69.2	71.0	65.0	6.0	1.8	No	Yes	Yes	Yes	1	No	0
25-03	1052 Sawgrass Rd	1	B	Yes	40	67.0	69.2	61.7	7.5	2.2	No	Yes	Yes	Yes	1	No	0
25-04	1054 Sawgrass Rd	1	B	Yes	40	66.9	69.0	61.0	8.0	2.1	No	Yes	Yes	Yes	1	Yes	1
25-05	1056 Sawgrass Rd	1	B	Yes	40	66.1	67.9	59.9	8.0	1.8	No	Yes	Yes	Yes	1	Yes	1
25-06	1058 Sawgrass Rd	1	B	Yes	40	67.3	67.8	59.4	8.4	0.5	No	Yes	Yes	Yes	1	Yes	1
25-07	1060 Sawgrass Rd	1	B	Yes	40	67.6	67.4	59.0	8.4	-0.2	No	Yes	Yes	Yes	1	Yes	1
25-08	1062 Sawgrass Rd	1	B	Yes	40	66.1	66.8	60.0	6.8	-1.3	No	Yes	Yes	Yes	1	No	0
25-09	103 Pebble Beach Dr	1	B	No	40	56.8	63.9	61.6	2.3	5.1	No	No	No	No	0	No	0
25-10	105 Pebble Beach Dr	1	B	No	40	54.5	58.5	56.7	1.8	4.0	No	No	No	No	0	No	0
25-11	210 Pebble Beach Dr	1	B	No	40	49.9	53.1	52.4	0.7	3.2	No	No	No	No	0	No	0
25-12	203 Pebble Beach Dr	1	B	No	40	48.5	51.9	51.2	0.7	3.4	No	No	No	No	0	No	0
25-13	205 Pebble Beach Dr	1	B	No	40	47.8	49.9	49.3	0.6	2.1	No	No	No	No	0	No	0
25-14	200 Pebble Beach Dr	1	B	No	40	53.7	56.4	54.5	1.9	2.7	No	No	No	No	0	No	0
25-15	202 Pebble Beach Dr	1	B	No	40	50.8	53.5	51.8	1.7	2.7	No	No	No	No	0	No	0
25-16	204 Pebble Beach Dr	1	B	No	40	49.0	51.8	50.2	1.6	2.8	No	No	No	No	0	No	0
25-17	206 Pebble Beach Dr	1	B	No	40	47.8	50.9	49.7	1.2	3.1	No	No	No	No	0	No	0
25-18	201 Deere Run Dr	1	B	No	40	54.4	56.7	54.4	2.3	2.3	No	No	No	No	0	No	0
25-19	203 Deere Run Dr	1	B	No	40	51.0	53.7	51.6	2.1	2.7	No	No	No	No	0	No	0
25-20	205 Deere Run Dr	1	B	No	40	49.1	51.9	50.1	1.8	2.8	No	No	No	No	0	No	0
25-21	207 Deere Run Dr	1	B	No	40	47.8	50.7	49.1	1.6	2.9	No	No	No	No	0	No	0
25-22	200 Deere Run Dr	1	B	No	40	55.1	56.7	54.6	2.1	1.6	No	No	No	No	0	No	0
25-23	202 Deere Run Dr	1	B	No	40	52.0	54.2	52.5	1.7	2.2	No	No	No	No	0	No	0
25-24	204 Deere Run Dr	1	B	No	40	50.2	52.4	51.1	1.3	2.2	No	No	No	No	0	No	0
25-25	206 Deere Run Dr	1	B	No	40	48.8	51.1	50.2	0.9	2.3	No	No	No	No	0	No	0
25-26	203 Dorat Dr	1	B	No	40	54.2	55.7	54.5	1.2	1.5	No	No	No	No	0	No	0
25-27	205 Dorat Dr	1	B	No	40	51.6	53.5	52.2	1.3	1.9	No	No	No	No	0	No	0
25-28	207 Dorat Dr	1	B	No	40	50.1	52.2	51.1	1.1	2.1	No	No	No	No	0	No	0
25-29	209 Dorat Dr	1	B	No	40	48.9	51.3	50.4	0.9	2.4	No	No	No	No	0	No	0
25-30	1052 Sawgrass Rd (M) (NSA 25)	0	F	No	40	65.3	64.3	61.0	3.3	-1.0	No	No	Measurement	Measurement	0	No	0

Project:	Highway 112 (Springdale Bypass)
Noise Study Area:	25 (Absorptive Barrier)
Job:	090513
Alternative:	C3 Modified

Barrier Area	4,826
Total Length	736
Average Height	6.6
Total Cost	\$190,580
Number of Benefitted Residences	7
Cost per benefited receptor	\$27,226
Reasonable (CPBR)?	Yes

From	To	Segment Length (ft.)	Wall Type ⁽¹⁾ ("FR" or "FA" or "S")	Barrier Height (ft)	Barrier Area (sq ft)	Segment Cost
419+80	419+00	79	FA	6	474	\$18,960.00
419+00	end	49	FA	6	294	\$11,760.00
417+50	417+00	50	FA	6	300	\$12,000.00
417+00	415+00	200	FA	6	1,200	\$48,000.00
415+00	413+00	205	FA	8	1,640	\$65,600.00
412+00	end	71	FA	6	426	\$17,040.00

(1) FR = free standing reflective barrier; FA = free standing absorptive barrier; S = barrier on bridge structure.

(2) At beginning station.

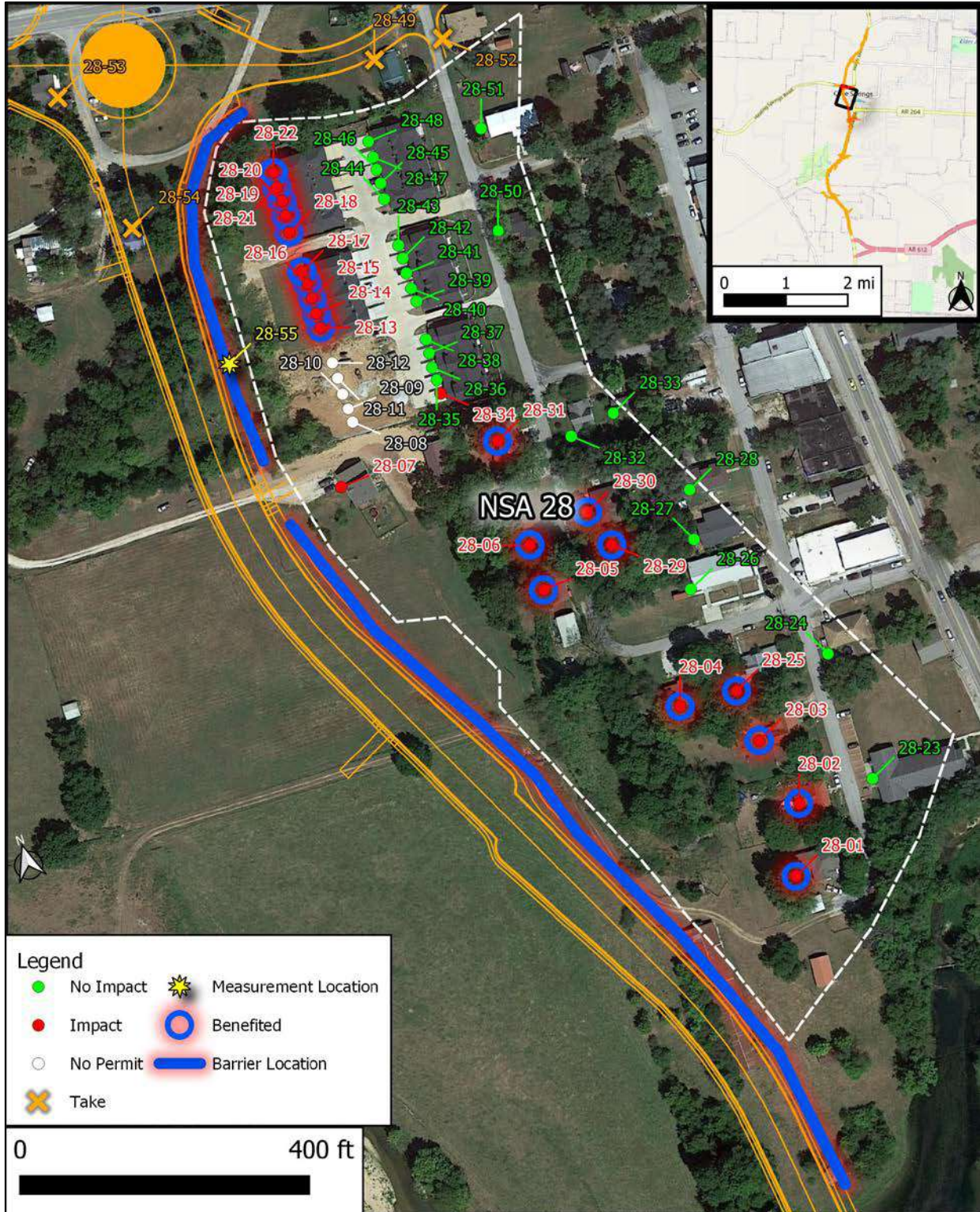
(3) \$35 per square foot for free-standing reflective Type I barriers, \$40 per square for free-standing absorptive barriers, and \$50 per square foot for barriers on structure

Noise Abatement Evaluation

ARDOT Job 090513

Alternative C3 Modified

NSA 28



NSA 28 Proposed Barrier location and Benefited receivers

Project: Highway 112 (Springdale Bypass)		Total Impacted Receptors															
Noise Study Area: 28		Total Benefited Receptors															
Job: 090513		# of Benefited Receptors Receiving at Least 8 dB															
Alternative: C3 Modified		# of Impacted Receptors Receiving at Least 5 dB Feasible?															
		Reasonable (NRDG)?															
		Benefited?															
		Number of Benefited Receptors															
		Benefited and Receiving 8 dB IL?															
		Number Receiving 8 dB															
		dB															
Receiver #	Receiver	Number of Receptors	FHWA Activity Category	1st row? (Yes/No)	Background Sound Level (dBA)	Worst Case Existing Sound Level (dBA)	No Barrier Leq (dBA)	With Barrier Leq (dBA)	Insertion Loss (dBA)	Increase (dBA)	Substantial Increase?	Approach/ Exceed NAC?	Impacted?	Benefited?	Number of Benefited Receptors	Benefited and Receiving 8 dB IL?	Number Receiving 8 dB
28-01	245 S Chestnut St	1	B	Yes	40	48.3	62.8	57.4	5.4	14.5	Yes	No	Yes	Yes	1	No	0
28-02	211 S Chestnut St	1	B	Yes	40	48.3	60.9	55.7	5.2	12.6	Yes	No	Yes	Yes	1	No	0
28-03	201 S Chestnut St	1	B	Yes	40	48.3	60.5	55.4	5.1	12.2	Yes	No	Yes	Yes	1	No	0
28-04	175 W Glenwood Ave	1	B	Yes	40	48.3	61.8	56.1	5.7	13.5	Yes	No	Yes	Yes	1	No	0
28-05	151 S Allen St	1	B	Yes	40	48.3	62.8	57.1	5.7	14.5	Yes	No	Yes	Yes	1	No	0
28-06	141 S Allen St	1	B	Yes	40	48.3	61.9	56.2	5.7	13.6	Yes	No	Yes	Yes	1	No	0
28-07	257 Healing Springs Rd	1	B	Yes	40	48.3	66.1	62.5	3.6	17.8	Yes	Yes	Yes	Yes	0	No	0
28-08	208a (Osage Vista)	0	G	Yes	40	48.3	64.1	60.0	4.1	15.8	Yes	No	No Permit	No Permit	0	No	0
28-09	208b (Osage Vista)	0	G	Yes	40	48.3	64.0	59.5	4.5	15.7	Yes	No	No Permit	No Permit	0	No	0
28-10	208c (Osage Vista)	0	G	Yes	40	48.3	63.9	58.9	5.0	15.6	Yes	No	No Permit	No Permit	0	No	0
28-11	208d (Osage Vista)	0	G	Yes	40	48.3	63.7	58.2	5.5	15.4	Yes	No	No Permit	No Permit	0	No	0
28-12	208e (Osage Vista)	0	G	Yes	40	48.3	63.6	57.5	6.1	15.3	Yes	No	No Permit	No Permit	0	No	0
28-13	203a (Osage Vista)	1	B	Yes	40	48.3	63.4	56.3	7.1	15.1	Yes	No	Yes	Yes	1	No	0
28-14	203b (Osage Vista)	1	B	Yes	40	48.3	63.3	55.8	7.5	15.0	Yes	No	Yes	Yes	1	No	0
28-15	203c (Osage Vista)	1	B	Yes	40	48.3	63.2	55.5	7.7	14.9	Yes	No	Yes	Yes	1	No	0
28-16	203d (Osage Vista)	1	B	Yes	40	48.3	63.1	55.2	7.9	14.8	Yes	No	Yes	Yes	1	No	0
28-17	203e (Osage Vista)	1	B	Yes	40	48.3	63.1	55.1	8.0	14.8	Yes	No	Yes	Yes	1	Yes	1
28-18	202a (Osage Vista)	1	B	Yes	40	48.3	62.9	55.0	7.9	14.6	Yes	No	Yes	Yes	1	No	0
28-19	202b (Osage Vista)	1	B	Yes	40	48.3	62.8	55.1	7.7	14.5	Yes	No	Yes	Yes	1	No	0
28-20	202c (Osage Vista)	1	B	Yes	40	48.3	62.6	55.2	7.4	14.3	Yes	No	Yes	Yes	1	No	0
28-21	202d (Osage Vista)	1	B	Yes	40	48.3	62.6	55.4	7.2	14.3	Yes	No	Yes	Yes	1	No	0
28-22	202e (Osage Vista)	1	B	Yes	40	49.3	62.6	55.7	6.9	13.3	Yes	No	Yes	Yes	1	No	0
28-23	IRWP Learning Center (Cat D)	1	D	No	40	35.0	30.2	27.9	2.3	-4.8	No	No	No	No	0	No	0
28-24	131 W Glenwood Ave	1	B	No	40	50.8	53.3	51.0	2.3	2.5	No	No	No	No	0	No	0
28-25	153 W Glenwood Ave	1	B	No	40	48.3	59.4	54.4	5.0	11.1	Yes	No	Yes	Yes	1	No	0
28-26	Cave Springs Amer Legion (C)	1	C	No	40	48.3	56.8	52.4	4.4	8.5	No	No	No	No	0	No	0
28-27	151 S Chestnut St	1	B	No	40	48.3	55.1	51.4	3.7	6.8	No	No	No	No	0	No	0
28-28	135 S Chestnut St	1	B	No	40	48.3	53.3	50.4	2.9	5.0	No	No	No	No	0	No	0
28-29	148 S Allen St	1	B	No	40	48.3	59.5	53.9	5.6	11.2	Yes	No	Yes	Yes	1	No	0
28-30	134 S Allen St	1	B	No	40	48.3	59.3	53.4	5.9	11.0	Yes	No	Yes	Yes	1	No	0
28-31	115 S Allen St	1	B	No	40	48.3	59.7	54.7	5.0	11.4	Yes	No	Yes	Yes	1	No	0
28-32	169 W Midway Ave	1	B	No	40	48.3	57.0	52.1	4.9	8.7	No	No	No	No	0	No	0
28-33	163 W Midway Ave	1	B	No	40	48.3	52.2	49.2	3.0	3.9	No	No	No	No	0	No	0
28-34	210a (Osage Vista Townhomes)	1	B	No	40	48.3	58.6	55.1	3.5	10.3	Yes	No	Yes	Yes	0	No	0
28-35	210b (Osage Vista Townhomes)	1	B	No	40	48.3	57.3	52.9	4.4	9.0	No	No	No	No	0	No	0
28-36	210c (Osage Vista Townhomes)	1	B	No	40	48.3	56.4	52.3	4.1	8.1	No	No	No	No	0	No	0
28-37	210d (Osage Vista Townhomes)	1	B	No	40	48.3	55.7	51.6	4.1	7.4	No	No	No	No	0	No	0
28-38	210e (Osage Vista Townhomes)	1	B	No	40	48.3	56.0	51.6	4.4	7.7	No	No	No	No	0	No	0
28-39	201a (Osage Vista Townhomes)	1	B	No	40	48.3	55.4	51.5	3.9	7.1	No	No	No	No	0	No	0
28-40	201b (Osage Vista Townhomes)	1	B	No	40	48.3	54.1	51.3	2.8	5.8	No	No	No	No	0	No	0
28-41	201c (Osage Vista Townhomes)	1	B	No	40	48.3	53.6	51.4	2.2	5.3	No	No	No	No	0	No	0
28-42	201d (Osage Vista Townhomes)	1	B	No	40	48.3	53.6	51.6	2.0	5.3	No	No	No	No	0	No	0
28-43	201e (Osage Vista Townhomes)	1	B	No	40	48.3	54.7	52.1	2.6	6.4	No	No	No	No	0	No	0
28-44	200a (Osage Vista Townhomes)	1	B	No	40	48.3	54.9	53.6	1.3	6.6	No	No	No	No	0	No	0
28-45	200b (Osage Vista Townhomes)	1	B	No	40	48.3	54.9	54.2	0.7	6.6	No	No	No	No	0	No	0

Project:		Highway 112 (Springdale Bypass)		Total Impacted Receptors		22											
Noise Study Area:		28		Total Benefited Receptors		20											
Job:		090513		# of Benefited Receptors Receiving at Least 8 dB		1											
Alternative:		C3 Modified		# of Impacted Receptors Receiving at Least 5 dB		20											
				Feasible?		Yes											
				Reasonable (NRDG)?		Yes											
Receiver #	Receiver	Number of Receptors	FHWA Activity Category	1st row? (Yes/No)	Background Sound Level (dBA)	Worst Case Existing Sound Level (dBA)	No Barrier Leq (dBA)	With Barrier Leq (dBA)	Insertion Loss (dBA)	Increase (dBA)	Substantial Increase?	Approach/Exceed NAC?	Impacted?	Benefited?	Number of Benefited Receptors	Benefited and Receiving 8 dB IL?	Number Receiving 8 dB
28-46	200c (Osage Vista Townhomes)	1	B	No	40	48.6	55.4	54.8	0.6	6.8	No	No	No	No	0	No	0
28-47	200d (Osage Vista Townhomes)	1	B	No	40	49.8	56.1	55.4	0.7	6.3	No	No	No	No	0	No	0
28-48	200e (Osage Vista Townhomes)	1	B	No	40	51.4	57.1	56.4	0.7	5.7	No	No	No	No	0	No	0
28-49	213 N Allen St (Take)	1	Take	No	40	58.0	Take	Take									
28-50	169 W Stroud St	1	B	No	40	48.3	50.7	49.8	0.9	2.4	No	No	No	No	0	No	0
28-51	170 Stroud St	1	B	No	40	52.0	53.9	53.7	0.2	1.9	No	No	No	No	0	No	0
28-52	202 Allen St (Take)	1	Take	No	40	59.5	Take	Take									
28-55	Osage Vista Townhomes (M) (NSA 28)	0	F	Yes	40	48.3	71.2	54.2	17.0	22.9	Yes	No	Measurement	Measurement	0	No	0

Project:	Highway 112 (Springdale Bypass)
Noise Study Area:	28
Job:	090513
Alternative:	C3 Modified

Barrier Area	17,610
Total Length	1,732
Average Height	10.2
Total Cost	\$704,400
Number of Benefited Residences	20
Cost per benefited receptor	\$35,220
Reasonable (CPBR)?	Yes

From	To	Segment Length (ft.)	Wall Type ⁽¹⁾ ("FR" or "FA" or "S")	Barrier Height (ft)	Barrier Area (sq ft)	Segment Cost
453+00	455+00	207	FA	8	1,656	\$66,240.00
455+00	457+00	208	FA	8	1,664	\$66,560.00
457+00	459+00	202	FA	8	1,616	\$64,640.00
459+00	460+00	100	FA	8	800	\$32,000.00
460+00	461+00	101	FA	10	1,010	\$40,400.00
461+00	462+00	99	FA	10	990	\$39,600.00
462+00	463+00	99	FA	10	990	\$39,600.00
464+00	end	94	FA	10	940	\$37,600.00
466+00	467+00	95	FA	12	1,140	\$45,600.00
467+00	468+00	99	FA	16	1,584	\$63,360.00
468+00	469+00	99	FA	16	1,584	\$63,360.00
469+00	470+00	98	FA	12	1,176	\$47,040.00
470+00	471+00	75	FA	12	900	\$36,000.00
471+00	end	62	FA	10	620	\$24,800.00

(1) FR = free standing reflective barrier; FA = free standing absorptive barrier; S = barrier on bridge structure.

(2) At beginning station.

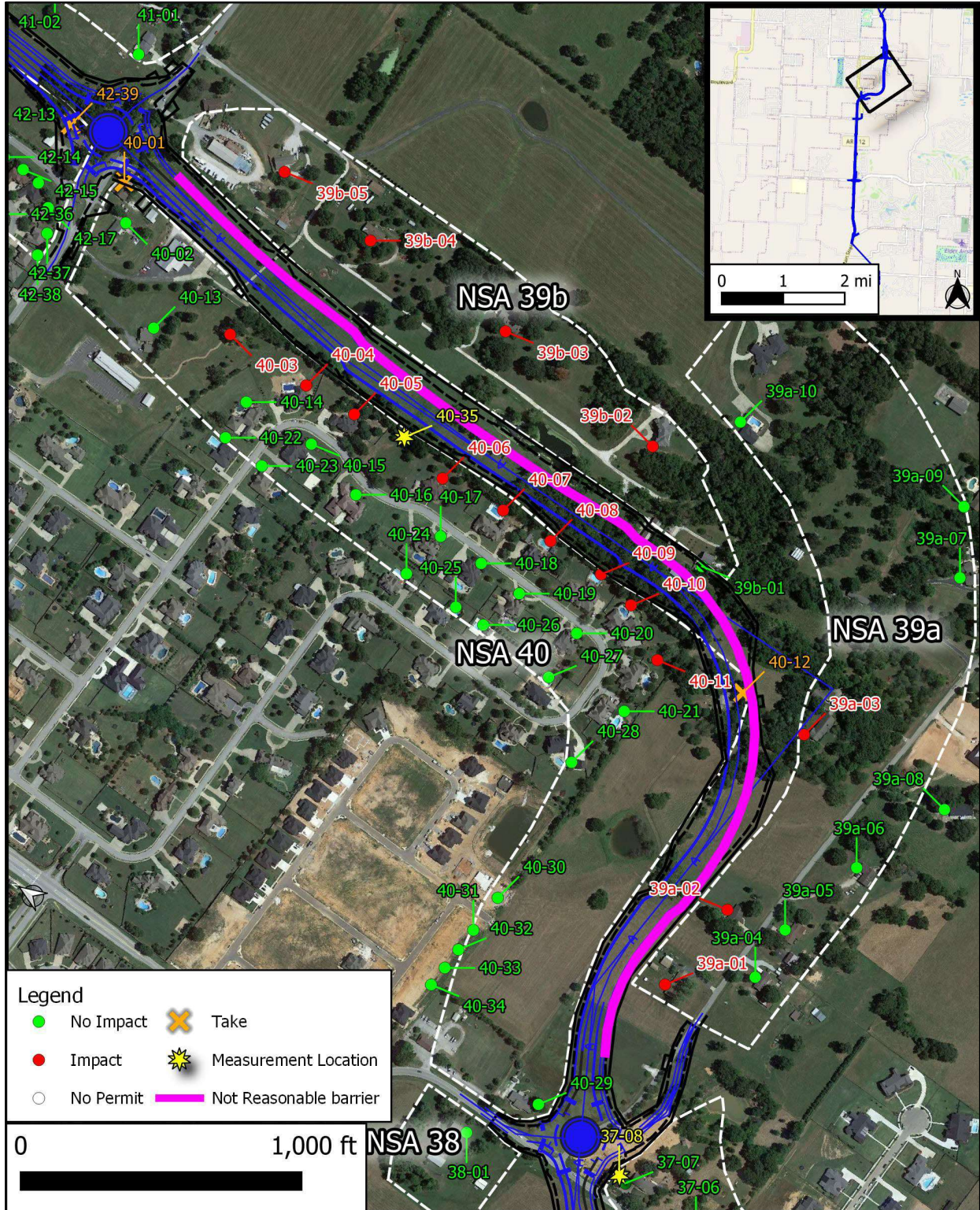
(3) \$35 per square foot for free-standing reflective Type I barriers, \$40 per square for free-standing absorptive barriers, and \$50 per square foot for barriers on structure

Noise Abatement Evaluation

ARDOT Job 090514

Alternative B2 Modified

NSA 39a & NSA 39b



NSAs 39a & 39b (B2 Modified): Not Reasonable Barrier location

Project:	Highway 112 (Springdale Bypass)
Noise Study Area:	39a-b
Job:	090514
Alternative:	B2

Receiver #	Receiver	Number of Receptors	FHWA Activity Category	1st row? (Yes/No)	Background Sound Level (dBA)	Worst Case Existing Sound Level (dBA)	No Barrier L _{eq} (dBA)	With Barrier Leq (dBA)	Insertion Loss (dBA)	Increase (dBA)	Substantial Increase?	Approach/ Exceed NAC?	Impacted?	Benefited?	Number of Benefited Receptors	NRDG		Total Impacted Receptors
																Benefited and Receiving 8 dB IL?	Number Benefited Receiving 8 dB	
38a-01	2801 Ozark Acres Dr	1	B	Yes	40	47.8	61.7	53.6	8.1	13.9	Yes	No	Yes	1	Yes	1	7	
38a-02	2899 Ozark Acres	1	B	Yes	40	47.8	61.6	56.4	5.2	13.8	Yes	No	Yes	1	No	0	8	
38a-03	2995 Ozark Acres Dr	1	B	Yes	40	47.8	58.7	53.2	5.5	10.9	Yes	No	Yes	1	No	0	1	
38b-01	4001 Cook Rd	1	B	Yes	40	47.8	55.3	52.5	2.8	7.5	No	No	No	0	No	0	7	
38b-02	4006 Cook Rd	1	B	Yes	40	47.8	58.5	52.5	6.0	10.7	Yes	No	Yes	1	No	0	7	
38b-03	4010 Cook Rd	1	B	Yes	40	47.8	58.7	52.7	6.0	10.9	Yes	No	Yes	1	No	0	7	
38b-04	4100 Cook Rd	1	B	Yes	40	47.8	58.2	54.2	5.0	11.4	Yes	No	Yes	1	No	0	7	
38b-05	4149 Cook Rd	1	B	Yes	40	47.8	57.9	52.5	5.4	10.1	Yes	No	Yes	1	No	0	7	
38a-04	2804 Ozark Acres	1	B	No	40	47.8	49.7	47.7	2.0	1.9	No	No	No	0	No	0	7	
38a-05	2900 Ozark Acres Dr	1	B	No	40	47.8	54.2	50.3	3.9	6.4	No	No	No	0	No	0	7	
38a-06	2908 Ozark Acres Dr	1	B	No	40	47.8	54.5	49.0	5.5	6.7	No	No	Yes	1	No	0	7	
38a-07	3203 Ozark Acres Dr	1	B	No	40	47.8	49.2	47.5	1.7	1.4	No	No	No	0	No	0	7	
38a-09	3307 Ozark Acres Dr	1	B	Yes	40	47.8	51.4	48.3	3.1	3.6	No	No	No	0	No	0	7	
38a-08	3160 Ozark Acres Dr	1	B	No	40	47.8	47.5	45.5	2.0	-0.3	No	No	No	0	No	0	7	
38a-10	4134 Cook Rd (pool house)	1	B	Yes	40	47.8	55.8	52.0	3.8	8.0	No	No	No	0	No	0	7	

Project:	Highway 112 (Springdale Bypass)
Noise Study Area:	39a-b
Job:	090514
Alternative:	B2

Barrier Area	29,642
Total Length	4,249
Average Height	7.0
Total Cost	\$1,185,680
Number of Benefitted Residences	8
Cost per benefitted receptor	\$148,210
Reasonable (CPBR)?	No

From	To	Segment Length (ft.)	Wall Type ⁽¹⁾ ("FR" or "FA" or "S")	Segment within 30 feet of roadway edge? ("Y" or "N")	Barrier Height (ft)	Barrier Area (sq ft)	Segment Cost
Barr::653+00	Barr::654+00	95	FA	N	6	570	\$22,800.00
Barr::654+00	Barr::655+00	92	FA	N	6	552	\$22,080.00
Barr::655+00	Barr::656+00	92	FA	N	10	920	\$36,800.00
Barr::656+00	Barr::657+00	93	FA	N	14	1,302	\$52,080.00
Barr::657+00	Barr::658+00	96	FA	N	12	1,152	\$46,080.00
Barr::658+00	Barr::659+00	99	FA	N	10	990	\$39,600.00
Barr::659+00	Barr::659+50	52	FA	N	8	416	\$16,640.00
Barr::659+50	Barr::660+00	51	FA	N	8	408	\$16,320.00
Barr::660+00	Barr::661+00	100	FA	N	10	1,000	\$40,000.00
Barr::661+00	Barr::662+00	107	FA	N	8	856	\$34,240.00
Barr::662+00	Barr::663+00	107	FA	N	6	642	\$25,680.00
Barr::663+00	Barr::664+00	107	FA	N	10	1,070	\$42,800.00
Barr::664+00	Barr::665+00	107	FA	N	8	856	\$34,240.00
Barr::665+00	Barr::666+00	107	FA	N	6	642	\$25,680.00
Barr::666+00	Barr::667+00	107	FA	N	6	642	\$25,680.00
Barr::667+00	Barr::668+00	107	FA	N	6	642	\$25,680.00
Barr::668+00	Barr::669+00	107	FA	N	6	642	\$25,680.00
Barr::669+00	Barr::670+00	107	FA	N	6	642	\$25,680.00
Barr::670+00	Barr::671+00	107	FA	N	6	642	\$25,680.00
Barr::671+00	Barr::672+00	107	FA	N	6	642	\$25,680.00
Barr::672+00	Barr::673+00	107	FA	N	6	642	\$25,680.00
Barr::673+00	Barr::674+00	99	FA	N	6	594	\$23,760.00
Barr::674+00	Barr::674+50	55	FA	N	6	330	\$13,200.00
Barr::674+50	Barr::675+00	48	FA	N	6	288	\$11,520.00
Barr::675+00	Barr::677+00	200	FA	N	6	1,200	\$48,000.00
Barr::677+00	Barr::679+00	200	FA	N	6	1,200	\$48,000.00
Barr::679+00	Barr::681+00	199	FA	N	6	1,194	\$47,760.00
Barr::681+00	Barr::683+00	199	FA	N	6	1,194	\$47,760.00
Barr::683+00	Barr::685+00	199	FA	N	6	1,194	\$47,760.00
Barr::685+00	Barr::686+00	98	FA	N	6	588	\$23,520.00
Barr::686+00	Barr::686+50	53	FA	N	8	424	\$16,960.00
Barr::686+50	Barr::687+00	49	FA	N	8	392	\$15,680.00
Barr::687+00	Barr::689+00	199	FA	N	8	1,592	\$63,680.00
Barr::689+00	Barr::691+00	198	FA	N	6	1,188	\$47,520.00
Barr::691+00	Barr::693+00	199	FA	N	6	1,194	\$47,760.00
Barr::693+00	end	200	FA	N	6	1,200	\$48,000.00

(1) FR = free standing reflective barrier, FA = free standing absorptive barrier, S = barrier on bridge structure.

(2) At beginning station.

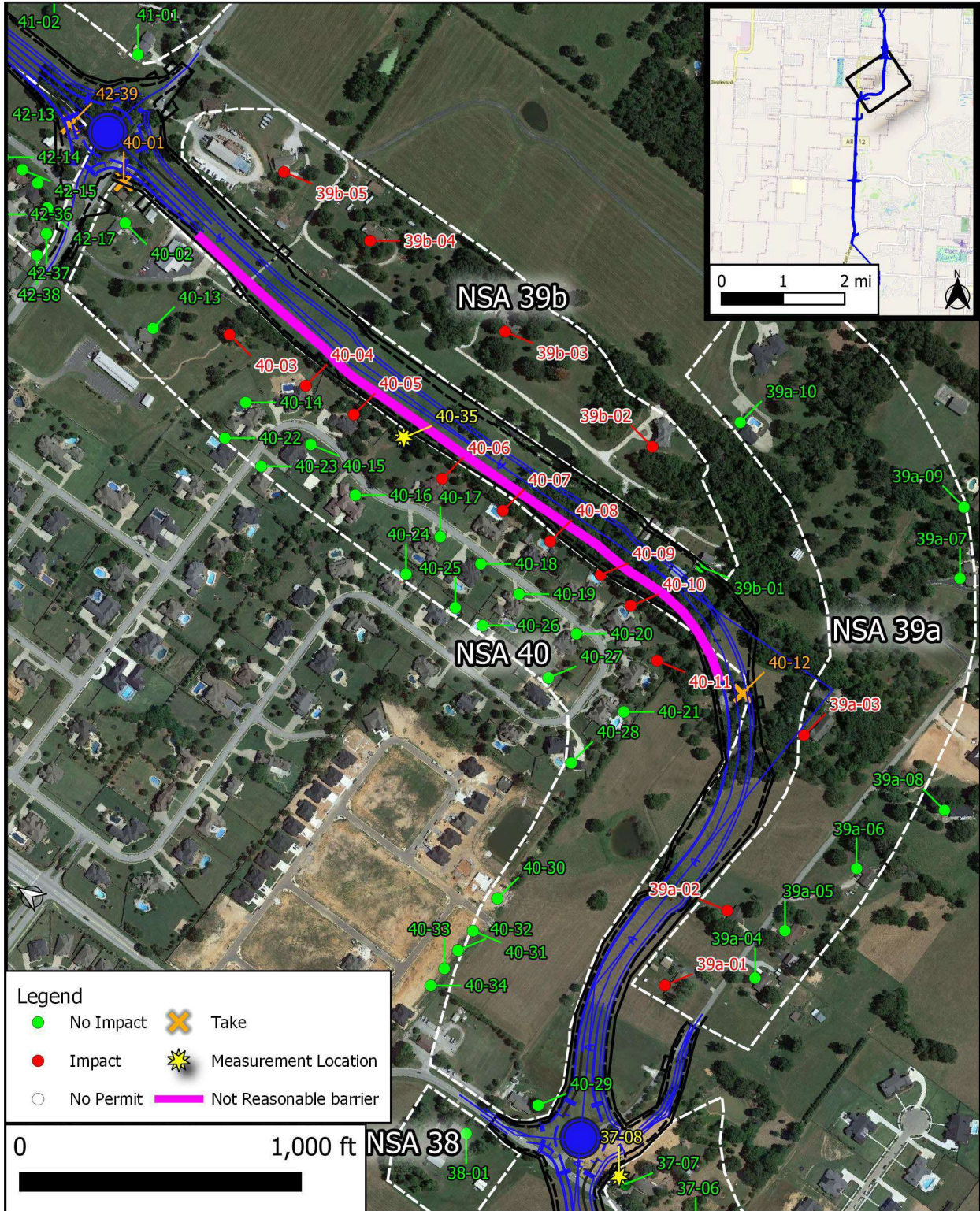
(3) \$35 per square foot for free-standing reflective Type I barriers, \$40 per square for free-standing absorptive barriers, and \$50 per square foot for barriers on structure

Noise Abatement Evaluation

ARDOT Job 090514

Alternative B2 Modified

NSA 40 (Case 1)



NSA 40 (B2 Modified) (Case 1: Sidewalk only): Not Reasonable Barrier location

Project: Highway 112 (Springdale Bypass)														Total Impacted Receptors			
Noise Study Area: 40 (Case 1: west of sidewalk only)														Total Benefited Receptors			
Job: 090514														# of Benefited Receptors Receiving at Least 8 dB			
Alternative: B2														# of Impacted Receptors Receiving at Least 5 dB			
														Feasible?			
														Reasonable (NRDG)?			
														Yes			
														Yes			
Receiver #	Receiver	Number of Receptors	FHWA Activity Category	1st row? (Yes/No)	Background Sound Level (dBA)	Worst Case Existing Sound Level (dBA)	No Barrier Leq (dBA)	With Barrier Leq (dBA)	Insertion Loss (dBA)	Increase (dBA)	Substantial Increase?	Approach/ Exceed NAC?	Impacted?	Benefited?	Number of Benefited Receptors	Benefited and Receiving 8 dB IL?	Number Receiving 8 dB
40-01	717 Elk Rd	0	Take	Yes	40	47.8	Take	Take						No	0	No	0
40-02	711 Elk Rd	1	B	Yes	40	51.4	59.4	59.2	0.2	8.0	No	No	No	No	0	No	0
40-03	First Christian Church pergola (C)	1	C	Yes	40	47.8	60.3	54.7	5.6	12.5	Yes	No	Yes	Yes	1	No	0
40-04	4048 Caerleon Cir	1	B	Yes	40	47.8	62.1	56.9	5.2	14.3	Yes	No	Yes	Yes	1	No	0
40-05	4052 Caerleon Cir	1	B	Yes	40	47.8	63.3	57.9	5.4	15.5	Yes	No	Yes	Yes	1	No	0
40-06	4060 Caerleon Cir	1	B	Yes	40	47.8	62.7	57.0	5.7	14.9	Yes	No	Yes	Yes	1	No	0
40-07	4064 Caerleon Cir	1	B	Yes	40	47.8	64.1	58.4	5.7	16.3	Yes	No	Yes	Yes	1	No	0
40-08	4068 Caerleon Cir	1	B	Yes	40	47.8	64.4	59.4	5.0	16.6	Yes	No	Yes	Yes	1	No	0
40-09	4072 Caerleon Cir	1	B	Yes	40	47.8	64.6	56.3	8.3	16.8	Yes	No	Yes	Yes	1	Yes	1
40-10	4076 Caerleon Cir	1	B	Yes	40	47.8	63.7	57.3	6.4	15.9	Yes	No	Yes	Yes	1	No	0
40-11	4080 Caerleon Cir	1	B	Yes	40	47.8	59.6	54.6	5.0	11.8	Yes	No	Yes	Yes	1	No	0
40-12	3670 Ar 112 Hwy	1	Take	Yes	40	47.8	Take	Take									
40-13	4100 SW H St	1	B	No	40	48.6	54.7	50.5	4.2	6.1	No	No	No	No	0	No	0
40-14	4044 Caerleon Cir	1	B	No	40	47.8	55.9	51.5	4.4	8.1	No	No	No	No	0	No	0
40-15	4045 Caerleon Cir	1	B	No	40	47.8	55.3	51.3	4.0	7.5	No	No	No	No	0	No	0
40-16	4057 Caerleon Cir	1	B	No	40	47.8	54.5	50.3	4.2	6.7	No	No	No	No	0	No	0
40-17	4061 Caerleon Cir	1	B	No	40	47.8	55.6	51.1	4.5	7.8	No	No	No	No	0	No	0
40-18	4065 Caerleon Cir	1	B	No	40	47.8	54.8	50.8	4.0	7.0	No	No	No	No	0	No	0
40-19	4069 Caerleon Cir	1	B	No	40	47.8	54.8	50.8	4.0	7.0	No	No	No	No	0	No	0
40-20	4073 Caerleon Cir	1	B	No	40	47.8	53.7	51.5	2.2	5.9	No	No	No	No	0	No	0
40-21	4084 Caerleon Cir	1	B	No	40	47.8	55.1	55.0	0.1	7.3	No	No	No	No	0	No	0
40-22	4040 Caerleon Cir	1	B	No	40	47.8	51.5	48.1	3.4	3.7	No	No	No	No	0	No	0
40-23	4041 Caerleon Cir	1	B	No	40	47.8	50.2	48.1	2.1	2.4	No	No	No	No	0	No	0
40-24	4105 Caerleon Cir	1	B	No	40	47.8	52.1	49.2	2.9	4.3	No	No	No	No	0	No	0
40-25	4101 Caerleon Cir	1	B	No	40	47.8	51.1	49.4	1.7	3.3	No	No	No	No	0	No	0
40-26	4097 Caerleon Cir	1	B	No	40	47.8	50.1	49.3	0.8	2.3	No	No	No	No	0	No	0
40-27	4093 Caerleon Cir	1	B	No	40	47.8	51.9	51.6	0.3	4.1	No	No	No	No	0	No	0
40-28	4088 Caerleon Cir	1	B	No	40	47.8	55.1	55.1	0.0	7.3	No	No	No	No	0	No	0
40-29	3552 Ar 112 Hwy	1	B	Yes	40	59.1	60.6	60.6	0.0	1.5	No	No	No	No	0	No	0
40-30	6003 SW Dryden Rd (permitted)	1	B	Yes	40	47.8	51.2	51.2	0.0	3.4	No	No	No	No	0	No	0
40-31	1101 SW Alleghany Ave (no permit)	1	B	Yes	40	47.8	51.5	51.5	0.0	3.7	No	No	No	No	0	No	0
40-32	1103 SW Alleghany Ave (no permit)	1	B	Yes	40	47.8	51.1	51.0	0.1	3.3	No	No	No	No	0	No	0
40-33	1105 SW Alleghany Ave (no permit)	1	B	Yes	40	47.8	50.4	50.4	0.0	2.6	No	No	No	No	0	No	0
40-34	1107 SW Alleghany Ave (no permit)	1	B	Yes	40	48.7	50.5	50.5	0.0	1.8	No	No	No	No	0	No	0
40-35	4056/4060 Caerleon Cir (M) (NSA 4	0	F	No	40	47.8	65.4	58.0	7.4	17.6	Measurement	Measurement	Measurement	Measurement	0	No	0

Project:	Highway 112 (Springdale Bypass)
Noise Study Area:	40 (Case 1: west of sidewalk only)
Job:	090514
Alternative:	B2

Barrier Area	25,174
Total Length	2,479
Average Height	10.2
Total Cost	\$1,006,960
Number of Benefitted Residences	9
Cost per benefited receptor	\$111,884
Reasonable (CPBR)?	No

From	To	Segment Length (ft.)	Wall Type ⁽¹⁾ ("FR" or "FA" or "S")	Segment within 30 feet of roadway edge? ("Y" or "N")	Barrier Height (ft)	Barrier Area (sq ft)	Segment Cost
Bar:693+00 (EOP)	Bar:691+00 (EOP)	201	FA	N	6	1,206	\$48,240.00
Bar:691+00 (EOP)	Bar:689+00 (EOP)	201	FA	N	8	1,608	\$64,320.00
Bar:689+00 (EOP)	Bar:687+00 (EOP)	201	FA	N	10	2,010	\$80,400.00
Bar:687+00 (EOP)	Bar:686+00 (EOP)	101	FA	N	10	1,010	\$40,400.00
Bar:686+00 (EOP)	Bar:685+50 (EOP)	51	FA	N	8	408	\$16,320.00
Bar:685+50 (EOP)	Bar:685+00 (EOP)	50	FA	N	8	400	\$16,000.00
Bar:685+00 (EOP)	Bar:683+00 (EOP)	202	FA	N	10	2,020	\$80,800.00
Bar:683+00 (EOP)	Bar:681+00 (EOP)	201	FA	N	8	1,608	\$64,320.00
Bar:681+00 (EOP)	Bar:679+00 (EOP)	201	FA	N	10	2,010	\$80,400.00
Bar:679+00 (EOP)	Bar:677+00 (EOP)	200	FA	N	10	2,000	\$80,000.00
Bar:677+00 (EOP)	Bar:675+00 (EOP)	200	FA	N	10	2,000	\$80,000.00
Bar:675+00 (EOP)	Bar:674+00 (EOP)	101	FA	N	14	1,414	\$56,560.00
Bar:674+00 (EOP)	Bar:673+50 (EOP)	50	FA	N	12	600	\$24,000.00
Bar:673+50 (EOP)	Bar:673+00 (EOP)	50	FA	N	10	500	\$20,000.00
Bar:673+00 (EOP)	Bar:672+00 (EOP)	93	FA	N	12	1,116	\$44,640.00
Bar:672+00 (EOP)	Bar:671+00 (EOP)	94	FA	N	14	1,316	\$52,640.00
Bar:671+00 (EOP)	Bar:670+00 (EOP)	94	FA	N	16	1,504	\$60,160.00
Bar:670+00 (EOP)	Bar:669+00 (EOP)	94	FA	N	14	1,316	\$52,640.00
Bar:669+00 (EOP)	Bar:668+00 (EOP)	94	FA	N	12	1,128	\$45,120.00

(1) FR = free standing reflective barrier; FA = free standing absorptive barrier; S = barrier on bridge structure.

(2) At beginning station.

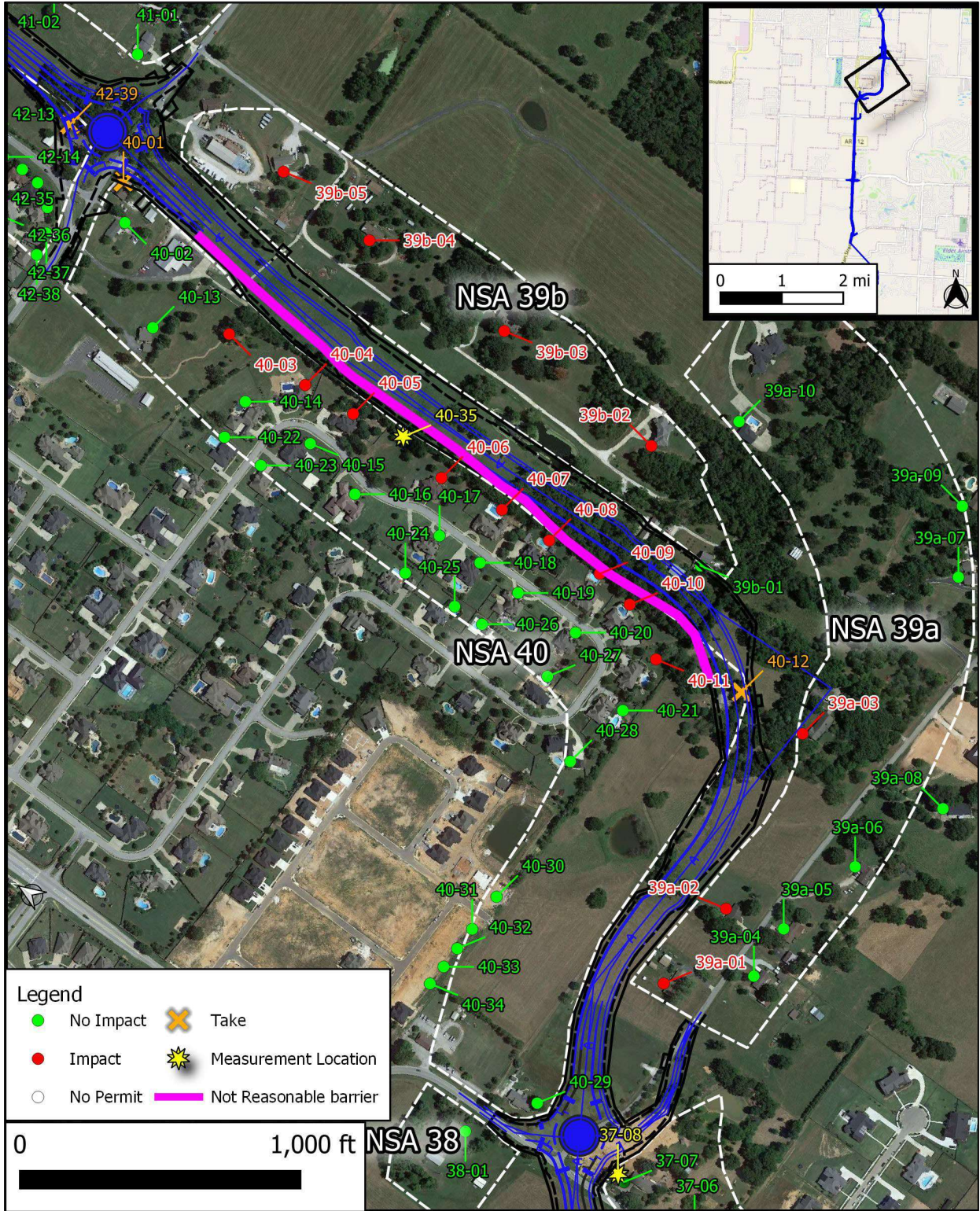
(3) \$35 per square foot for free-standing reflective Type I barriers, \$40 per square for free-standing absorptive barriers, and \$50 per square foot for barriers on structure

Noise Abatement Evaluation

ARDOT Job 090514

Alternative B2 Modified

NSA 40 (Case 2)



NSA 40 (B2 Modified) (Case 2: ROW and Sidewalk): Not Reasonable Barrier location

Project: Highway 112 (Springdale Bypass)														Total Impacted Receptors			
Noise Study Area: 40 (Case 2: ROW and West of sidewalk)														Total Benefitted Receptors			
Job: 090514														# of Benefitted Receptors Receiving at Least 8 dB			
Alternative: B2														# of Impacted Receptors Receiving at Least 5 dB			
														Feasible?			
														Reasonable (NRDG)?			
														Yes			
														Yes			
Receiver #	Receiver	Number of Receptors	FHWA Activity Category	1st row? (Yes/No)	Background Sound Level (dBA)	Worst Case Existing Sound Level (dBA)	No Barrier Leq (dBA)	With Barrier Leq (dBA)	Insertion Loss (dBA)	Increase (dBA)	Substantial Increase?	Approach/Exceed NAC?	Impacted?	Benefitted?	Number of Benefitted Receptors	Benefitted and Receiving 8 dB IL?	Number Receiving 8 dB
40-01	717 Elk Rd	0	Take	Yes	40	47.8	Take	Take	0.2	8.0	No	No	No	No	0	No	0
40-02	711 Elk Rd	1	B	Yes	40	51.4	59.4	59.2	5.6	12.5	Yes	No	Yes	Yes	1	No	0
40-03	First Christian Church pergola (C)	1	C	Yes	40	47.8	60.3	54.7	5.2	14.3	Yes	No	Yes	Yes	1	No	0
40-04	4048 Caerleon Cir	1	B	Yes	40	47.8	62.1	56.9	5.4	15.5	Yes	No	Yes	Yes	1	No	0
40-05	4052 Caerleon Cir	1	B	Yes	40	47.8	63.3	57.6	5.1	14.9	Yes	No	Yes	Yes	1	No	0
40-06	4060 Caerleon Cir	1	B	Yes	40	47.8	62.7	57.6	5.1	14.9	Yes	No	Yes	Yes	1	No	0
40-07	4064 Caerleon Cir	1	B	Yes	40	47.8	64.1	58.3	5.2	16.3	Yes	No	Yes	Yes	1	No	0
40-08	4068 Caerleon Cir	1	B	Yes	40	47.8	64.5	59.3	5.2	16.7	Yes	No	Yes	Yes	1	No	0
40-09	4072 Caerleon Cir	1	B	Yes	40	47.8	64.6	56.0	8.6	16.8	Yes	No	Yes	Yes	1	Yes	1
40-10	4076 Caerleon Cir	1	B	Yes	40	47.8	63.7	57.9	5.8	15.9	Yes	No	Yes	Yes	1	No	0
40-11	4080 Caerleon Cir	1	B	Yes	40	47.8	59.6	54.6	5.0	11.8	Yes	No	Yes	Yes	1	No	0
40-12	3670 Ar 112 Hwy	1	Take	Yes	40	47.8	Take	Take									
40-13	4100 SW H St	1	B	No	40	48.6	54.7	50.5	4.2	6.1	No	No	No	No	0	No	0
40-14	4044 Caerleon Cir	1	B	No	40	47.8	55.9	51.5	4.4	8.1	No	No	No	No	0	No	0
40-15	4045 Caerleon Cir	1	B	No	40	47.8	55.3	51.3	4.0	7.5	No	No	No	No	0	No	0
40-16	4057 Caerleon Cir	1	B	No	40	47.8	54.5	50.4	4.1	6.7	No	No	No	No	0	No	0
40-17	4061 Caerleon Cir	1	B	No	40	47.8	55.6	51.6	4.0	7.8	No	No	No	No	0	No	0
40-18	4065 Caerleon Cir	1	B	No	40	47.8	54.8	51.5	3.3	7.0	No	No	No	No	0	No	0
40-19	4069 Caerleon Cir	1	B	No	40	47.8	54.8	51.3	3.5	7.0	No	No	No	No	0	No	0
40-20	4073 Caerleon Cir	1	B	No	40	47.8	53.7	51.9	1.8	5.9	No	No	No	No	0	No	0
40-21	4084 Caerleon Cir	1	B	No	40	47.8	55.1	55.0	0.1	7.3	No	No	No	No	0	No	0
40-22	4040 Caerleon Cir	1	B	No	40	47.8	51.5	48.1	3.4	3.7	No	No	No	No	0	No	0
40-23	4041 Caerleon Cir	1	B	No	40	47.8	50.2	48.0	2.2	2.4	No	No	No	No	0	No	0
40-24	4105 Caerleon Cir	1	B	No	40	47.8	52.1	49.3	2.8	4.3	No	No	No	No	0	No	0
40-25	4101 Caerleon Cir	1	B	No	40	47.8	51.1	49.6	1.5	3.3	No	No	No	No	0	No	0
40-26	4097 Caerleon Cir	1	B	No	40	47.8	50.1	49.4	0.7	2.3	No	No	No	No	0	No	0
40-27	4093 Caerleon Cir	1	B	No	40	47.8	51.9	51.6	0.3	4.1	No	No	No	No	0	No	0
40-28	4088 Caerleon Cir	1	B	No	40	47.8	55.1	55.1	0.0	7.3	No	No	No	No	0	No	0
40-29	3552 Ar 112 Hwy	1	B	Yes	40	59.1	60.6	60.6	0.0	1.5	No	No	No	No	0	No	0
40-30	6003 SW Dryden Rd (permitted)	1	B	Yes	40	47.8	51.2	51.2	0.0	3.4	No	No	No	No	0	No	0
40-31	1101 SW Alleghany Ave (no permit)	1	B	Yes	40	47.8	51.5	51.5	0.0	3.7	No	No	No	No	0	No	0
40-32	1103 SW Alleghany Ave (no permit)	1	B	Yes	40	47.8	51.1	51.0	0.1	3.3	No	No	No	No	0	No	0
40-33	1105 SW Alleghany Ave (no permit)	1	B	Yes	40	47.8	50.4	50.4	0.0	2.6	No	No	No	No	0	No	0
40-34	1107 SW Alleghany Ave (no permit)	1	B	Yes	40	48.7	50.5	50.5	0.0	1.8	No	No	No	No	0	No	0
40-35	4056/4060 Caerleon Cir (M) (NSA 4	0	F	No	40	47.8	65.4	58.1	7.3	17.6	Measurement	Measurement	Measurement	Measurement	0	No	0

Project:	Highway 112 (Springdale Bypass)
Noise Study Area:	40 (Case 2: ROW and West of sidewalk)
Job:	090514
Alternative:	B2

Barrier Area	21,660
Total Length	2,467
Average Height	8.8
Total Cost	\$866,400
Number of Benefitted Residences	9
Cost per benefited receptor	\$96,267
Reasonable (CPBR)?	No

From	To	Segment Length (ft.)	Wall Type ⁽¹⁾ ("FR" or "FA" or "S")	Segment within 30 feet of roadway edge? ("Y" or "N")	Barrier Height (ft)	Barrier Area (sq ft)	Segment Cost
Bar:693+00 (EOP)	Bar:691+00 (EOP)	201	FA	N	6	1,206	\$48,240.00
Bar:691+00 (EOP)	Bar:689+00 (EOP)	201	FA	N	8	1,608	\$64,320.00
Bar:689+00 (EOP)	Bar:687+00 (EOP)	201	FA	N	10	2,010	\$80,400.00
Bar:687+00 (EOP)	Bar:686+00 (EOP)	101	FA	N	10	1,010	\$40,400.00
Bar:686+00 (EOP)	Bar:685+50 (EOP)	51	FA	N	8	408	\$16,320.00
Bar:685+50 (EOP)	Bar:685+00 (EOP)	50	FA	N	8	400	\$16,000.00
Bar:685+00 (EOP)	Bar:683+00 (EOP)	202	FA	N	10	2,020	\$80,800.00
Bar:683+00 (EOP)	Bar:681+00 (EOP)	201	FA	N	8	1,608	\$64,320.00
Bar:681+00 (EOP)	Bar:679+00 (ROW)	202	FA	N	8	1,616	\$64,640.00
Bar:679+00 (ROW)	Bar:678+00 (ROW)	100	FA	N	8	800	\$32,000.00
Bar:678+00 (ROW)	Bar:677+00 (ROW)	102	FA	N	8	816	\$32,640.00
Bar:677+00 (ROW)	Bar:676+00 (ROW)	101	FA	N	8	808	\$32,320.00
Bar:676+00 (ROW)	Bar:675+00 (ROW)	100	FA	N	6	600	\$24,000.00
Bar:675+00 (ROW)	Bar:674+00 (ROW)	100	FA	N	10	1,000	\$40,000.00
Bar:674+00 (ROW)	Bar:673+00 (ROW)	101	FA	N	12	1,212	\$48,480.00
Bar:673+00 (ROW)	Bar:672+00 (ROW)	87	FA	N	10	870	\$34,800.00
Bar:672+00 (ROW)	Bar:671+00 (ROW)	92	FA	N	12	1,104	\$44,160.00
Bar:671+00 (ROW)	Bar:670+00 (ROW)	92	FA	N	12	1,104	\$44,160.00
Bar:670+00 (ROW)	Bar:669+00 (ROW)	92	FA	N	10	920	\$36,800.00
Bar:669+00 (ROW)	Bar:668+00 (ROW)	90	FA	N	6	540	\$21,600.00

(1) FR = free standing reflective barrier; FA = free standing absorptive barrier; S = barrier on bridge structure.

(2) At beginning station.

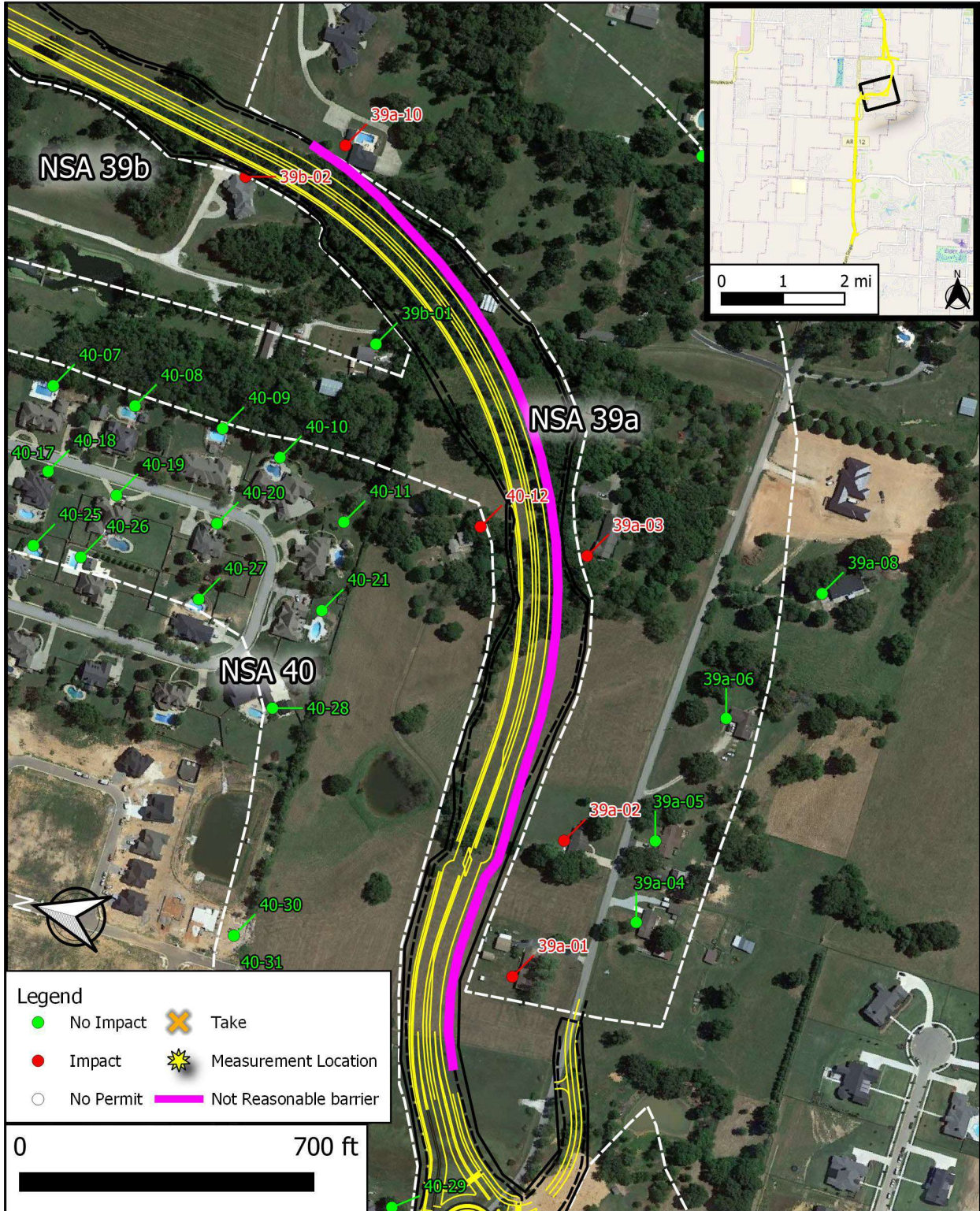
(3) \$35 per square foot for free-standing reflective Type I barriers, \$40 per square for free-standing absorptive barriers, and \$50 per square foot for barriers on structure

Noise Abatement Evaluation

ARDOT Job 090514

Alternative B3

NSA 39a



NSA 39a (B3): Not Reasonable Barrier location

Project:	Highway 112 (Springdale Bypass)
Noise Study Area:	39a
Job:	090514
Alternative:	B3

Receiver #	Receiver	Number of Receptors	FHWA Activity Category	1st row? (Yes/No)	Background Sound Level (dBA)	Worst Case Existing Sound Level (dBA)	No Barrier L _{eq} (dBA)	With Barrier Leq (dBA)	Insertion Loss (dBA)	Increase (dBA)	Substantial Increase?	Approach/ Exceed NAC?	Impacted?	Benefited?	Number of Benefited Receptors	NRDG		Total Impacted Receptors
																Benefited and Receiving 8 dB IL?	Number Benefited Receiving 8 dB	
38a-01	2801 Ozark Acres Dr	1	B	Yes	40	47.8	61.4	55.9	5.5	13.6	Yes	No	Yes	1	No	No	4	
38a-02	2899 Ozark Acres	1	B	Yes	40	47.8	61.2	56.0	5.2	13.4	Yes	No	Yes	1	No	No	5	
38a-03	2995 Ozark Acres Dr	1	B	Yes	40	47.8	62.2	54.0	8.2	14.4	Yes	No	Yes	1	Yes	Yes	1	
38a-04	2804 Ozark Acres	1	B	No	40	47.8	50.6	48.8	1.8	2.8	No	No	No	0	No	No	0	
38a-05	2900 Ozark Acres Dr	1	B	No	40	47.8	54.2	50.0	4.2	6.4	No	No	No	0	No	No	0	
38a-06	2908 Ozark Acres Dr	1	B	No	40	47.8	54.5	48.4	6.1	6.7	No	No	No	1	No	No	0	
38a-07	3203 Ozark Acres Dr	1	B	No	40	47.8	53.1	48.6	4.5	5.3	No	No	No	0	No	No	0	
38a-09	3307 Ozark Acres Dr	1	B	Yes	40	47.8	52.9	49.8	3.1	5.1	No	No	No	0	No	No	0	
38a-08	3160 Ozark Acres Dr	1	B	No	40	47.8	49.0	46.6	2.4	1.2	No	No	No	0	No	No	0	
38a-10	4134 Cook Rd (pool house)	1	B	Yes	40	47.8	63.5	58.0	5.5	15.7	Yes	No	Yes	1	No	No	0	

Project:	Highway 112 (Springdale Bypass)
Noise Study Area:	39a
Job:	090514
Alternative:	B3

Barrier Area	18,512
Total Length	2,454
Average Height	7.5
Total Cost	\$740,480
Number of Benefitted Residences	5
Cost per benefitted receptor	\$148,096
Reasonable (CPBR)?	No

From	To	Segment Length (ft.)	Wall Type ⁽¹⁾ ("FR" or "FA" or "S")	Segment within 30 feet of roadway edge? ("Y" or "N")	Barrier Height (ft)	Barrier Area (sq ft)	Segment Cost
Bar: 654+00 (EOP)	Bar: 655+00 (EOP)	92	FA	N	6	552	\$22,080.00
Bar: 655+00 (EOP)	Bar: 656+00 (EOP)	92	FA	N	6	552	\$22,080.00
Bar: 656+00 (EOP)	Bar: 657+00 (EOP)	93	FA	N	10	930	\$37,200.00
Bar: 657+00 (EOP)	Bar: 658+00 (EOP)	96	FA	N	8	768	\$30,720.00
Bar: 658+00 (EOP)	Bar: 659+00 (EOP)	98	FA	N	6	588	\$23,520.00
Bar: 659+00 (EOP)	Bar: 659+50 (EOP)	52	FA	N	6	312	\$12,480.00
Bar: 659+50 (EOP)	Bar: 660+00 (EOP)	53	FA	N	8	424	\$16,960.00
Bar: 660+00 (EOP)	Bar: 661+00 (EOP)	100	FA	N	10	1,000	\$40,000.00
Bar: 661+00 (EOP)	Bar: 662+00 (EOP)	101	FA	N	8	808	\$32,320.00
Bar: 662+00 (EOP)	Bar: 663+00 (EOP)	103	FA	N	8	824	\$32,960.00
Bar: 663+00 (EOP)	Bar: 664+00 (EOP)	105	FA	N	14	1,470	\$58,800.00
Bar: 664+00 (EOP)	Bar: 665+00 (EOP)	104	FA	N	6	624	\$24,960.00
Bar: 665+00 (EOP)	Bar: 666+00 (EOP)	105	FA	N	10	1,050	\$42,000.00
Bar: 666+00 (EOP)	Bar: 667+00 (EOP)	105	FA	N	12	1,260	\$50,400.00
Bar: 667+00 (EOP)	Bar: 668+00 (EOP)	105	FA	N	10	1,050	\$42,000.00
Bar: 668+00 (EOP)	Bar: 669+00 (EOP)	105	FA	N	6	630	\$25,200.00
Bar: 669+00 (EOP)	Bar: 670+00 (EOP)	105	FA	N	6	630	\$25,200.00
Bar: 670+00 (EOP)	Bar: 671+00 (EOP)	104	FA	N	6	624	\$24,960.00
Bar: 671+00 (EOP)	Bar: 672+00 (EOP)	105	FA	N	6	630	\$25,200.00
Bar: 672+00 (EOP)	Bar: 673+00 (EOP)	105	FA	N	6	630	\$25,200.00
Bar: 673+00 (EOP)	Bar: 674+00 (EOP)	104	FA	N	6	624	\$24,960.00
Bar: 674+00 (EOP)	Bar: 675+00 (EOP)	105	FA	N	6	630	\$25,200.00
Bar: 675+00 (EOP)	Bar: 676+00 (ROW)	105	FA	N	6	630	\$25,200.00
Bar: 676+00 (ROW)	Bar: 677+00 (ROW)	106	FA	N	6	636	\$25,440.00
Bar: 677+00 (ROW)	Bar: 678+00 (ROW)	106	FA	N	6	636	\$25,440.00

(1) FR = free standing reflective barrier; FA = free standing absorptive barrier; S = barrier on bridge structure.

(2) At beginning station.

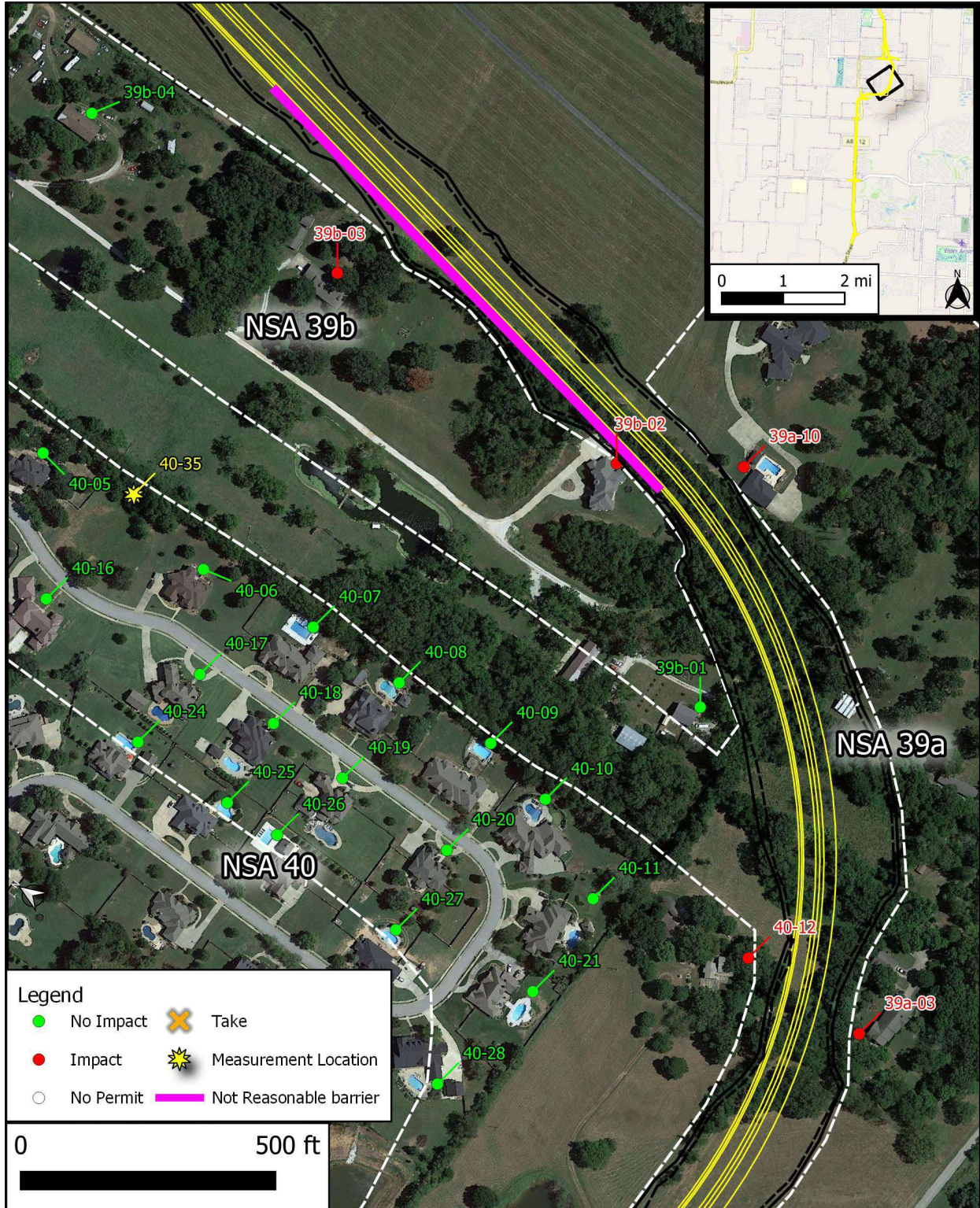
(3) \$35 per square foot for free-standing reflective Type I barriers, \$40 per square for free-standing absorptive barriers, and \$50 per square foot for barriers on structure

Noise Abatement Evaluation

ARDOT Job 090514

Alternative B3

NSA 39b



NSA 39b (B3): Not Reasonable Barrier location

Project:	Highway 112 (Springdale Bypass)
Noise Study Area:	39b
Job:	090514
Alternative:	B3

Receiver #	Receiver	Number of Receptors	FHWA Activity Category	1st row? (Yes/No)	Background Sound Level (dBA)	Worst Case Existing Sound Level (dBA)	No Barrier L _{eq} (dBA)	With Barrier Leq (dBA)	Insertion Loss (dBA)	Increase (dBA)	Substantial Increase?	Approach/ Exceed NAC?	Impacted?	Benefited?	Number of Benefited Receptors	NRDG		Total Impacted Receptors
																Benefited and Receiving 8 dB IL?	Number Receiving 8 dB	
38-01	3561 Ar 112 Hwy	1	B	Yes	40	62.5	49.9	49.9	0.0	-12.6	No	No	No	No	0	No	0	2
39b-05	4149 Cook Rd	1	B	Yes	40	47.8	55.0	55.0	0.0	7.2	No	No	No	No	0	No	0	2
39b-04	4100 Cook Rd	1	B	Yes	40	47.8	53.2	52.2	1.0	5.4	No	No	No	No	0	No	0	1
39b-03	4010 Cook Rd	1	B	Yes	40	47.8	57.9	52.9	5.0	10.1	Yes	No	Yes	Yes	1	No	0	1
39b-02	4006 Cook Rd	1	B	Yes	40	47.8	68.7	60.5	8.2	20.9	Yes	Yes	Yes	Yes	1	Yes	1	2
39b-01	4001 Cook Rd	1	B	Yes	40	47.8	56.2	56.1	0.1	8.4	No	No	No	No	0	No	0	1

Project:	Highway 112 (Springdale Bypass)
Noise Study Area:	39b
Job:	090514
Alternative:	B3

Barrier Area	8,384
Total Length	1,098
Average Height	7.6
Total Cost	\$335,360
Number of Benefited Residences	2
Cost per benefited receptor	\$167,680
Reasonable (CPBR)?	No

From	To	Segment Length (ft.)	Wall Type ⁽¹⁾ ("FR" or "FA" or "S")	Segment within 30 feet of roadway edge? ("Y" or "N")	Barrier Height (ft)	Barrier Area (sq ft)	Segment Cost
Bar: 689+00 (EOP)	Bar: 688+00 (EOP)	100	FA	N	6	600	\$24,000.00
Bar: 688+00 (EOP)	Bar: 687+00 (EOP)	100	FA	N	6	600	\$24,000.00
Bar: 687+00 (EOP)	Bar: 686+00 (EOP)	100	FA	N	10	1,000	\$40,000.00
Bar: 686+00 (EOP)	Bar: 685+00 (EOP)	100	FA	N	10	1,000	\$40,000.00
Bar: 685+00 (EOP)	Bar: 684+00 (EOP)	100	FA	N	10	1,000	\$40,000.00
Bar: 684+00 (EOP)	Bar: 683+00 (EOP)	100	FA	N	8	800	\$32,000.00
Bar: 683+00 (EOP)	Bar: 682+00 (EOP)	100	FA	N	6	600	\$24,000.00
Bar: 682+00 (EOP)	Bar: 681+00 (EOP)	100	FA	N	6	600	\$24,000.00
Bar: 681+00 (EOP)	Bar: 680+00 (EOP)	100	FA	N	6	600	\$24,000.00
Bar: 680+00 (EOP)	Bar: 679+00 (EOP)	100	FA	N	8	800	\$32,000.00
Bar: 679+00 (EOP)	Bar: 678+00 (EOP)	98	FA	N	8	784	\$31,360.00

(1) FR = free standing reflective barrier; FA = free standing absorptive barrier; S = barrier on bridge structure.

(2) At beginning station.

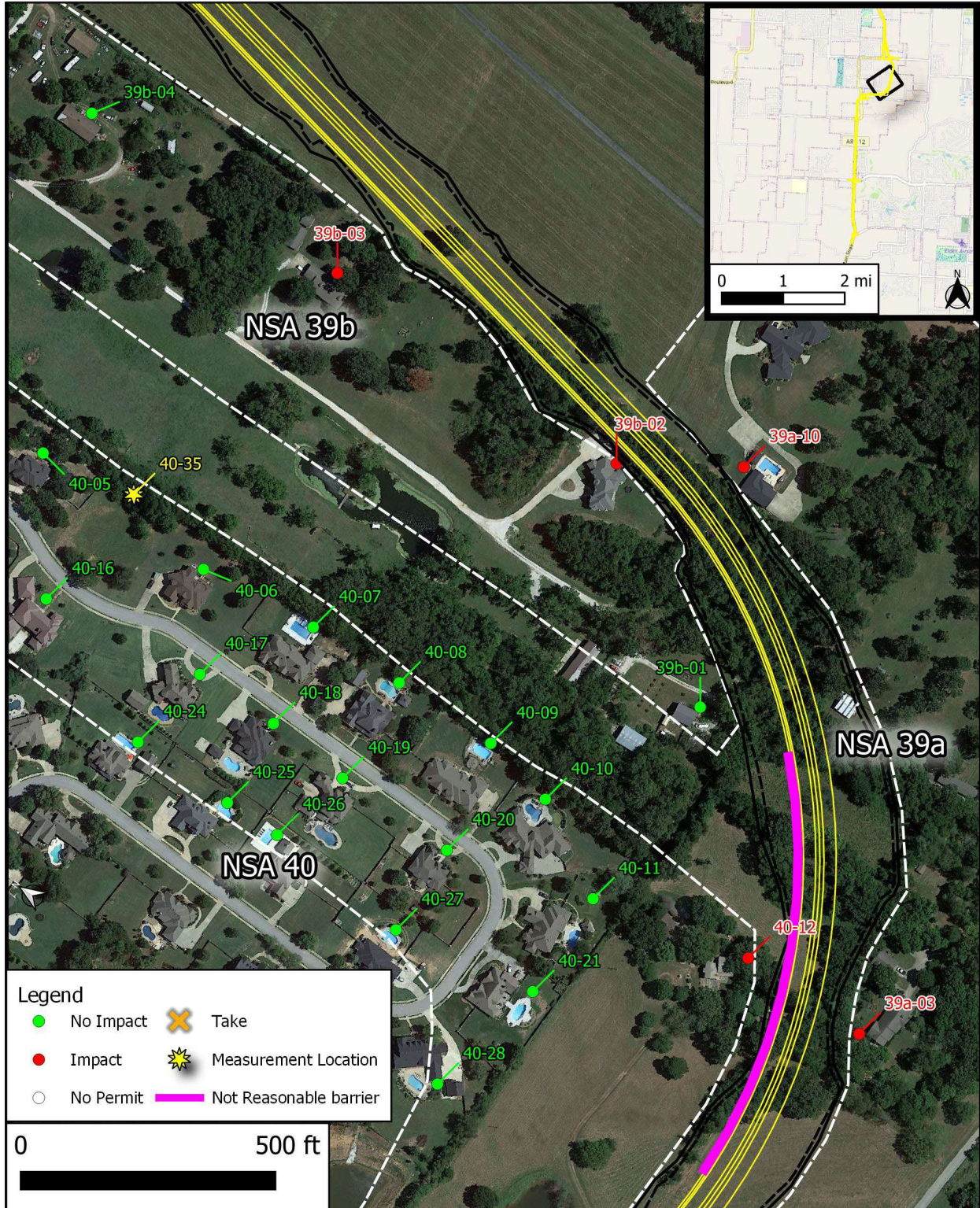
(3) \$35 per square foot for free-standing reflective Type I barriers, \$40 per square for free-standing absorptive barriers, and \$50 per square foot for barriers on structure

Noise Abatement Evaluation

ARDOT Job 090514

Alternative B3

NSA 40



NSA 40 (B3): Not Reasonable Barrier location

Project: Highway 112 (Springdale Bypass)														Total Impacted Receptors			
Noise Study Area: 40														Total Benefited Receptors			
Job: 090514														# of Benefited Receptors Receiving at Least 8 dB			
Alternative: B3														# of Impacted Receptors Receiving at Least 5 dB			
														Feasible?			
														Reasonable (NRDG)?			
														Yes			
														Yes			
Receiver #	Receiver	Number of Receptors	FHWA Activity Category	1st row? (Yes/No)	Background Sound Level (dBA)	Worst Case Existing Sound Level (dBA)	No Barrier Leq (dBA)	With Barrier Leq (dBA)	Insertion Loss (dBA)	Increase (dBA)	Substantial Increase?	Approach/Exceed NAC?	Impacted?	Benefited?	Number of Benefited Receptors	Benefited and Receiving 8 dB IL?	Number Receiving 8 dB
40-02	711 Elk Rd	1	B	Yes	40	51.4	51.1	51.1	0.0	-0.3	No	No	No	No	0	No	0
40-03	First Christian Church pergola (C)	1	C	Yes	40	47.8	47.7	47.7	0.0	-0.1	No	No	No	No	0	No	0
40-04	4048 Caerleon Cir	1	B	Yes	40	47.8	50.1	50.1	0.0	2.3	No	No	No	No	0	No	0
40-05	4052 Caerleon Cir	1	B	Yes	40	47.8	50.4	50.4	0.0	2.6	No	No	No	No	0	No	0
40-06	4060 Caerleon Cir	1	B	Yes	40	47.8	51.5	51.5	0.1	3.7	No	No	No	No	0	No	0
40-07	4064 Caerleon Cir	1	B	Yes	40	47.8	53.0	52.8	0.2	5.2	No	No	No	No	0	No	0
40-08	4068 Caerleon Cir	1	B	Yes	40	47.8	54.0	53.7	0.3	6.2	No	No	No	No	0	No	0
40-09	4072 Caerleon Cir	1	B	Yes	40	47.8	54.7	54.2	0.5	6.9	No	No	No	No	0	No	0
40-10	4076 Caerleon Cir	1	B	Yes	40	47.8	56.0	55.2	0.8	8.2	No	No	No	No	0	No	0
40-11	4080 Caerleon Cir	1	B	Yes	40	47.8	56.9	56.6	1.3	9.1	No	No	No	No	0	No	0
40-12	3670 Ar 112 Hwy	1	B	Yes	40	47.8	65.0	57.0	8.0	17.2	Yes	No	Yes	Yes	1	Yes	1
40-13	4100 SW H St	1	B	No	40	48.6	46.7	46.7	0.0	-1.9	No	No	No	No	0	No	0
40-14	4044 Caerleon Cir	1	B	No	40	47.8	48.5	48.4	0.1	0.7	No	No	No	No	0	No	0
40-15	4045 Caerleon Cir	1	B	No	40	47.8	49.5	49.5	0.0	1.7	No	No	No	No	0	No	0
40-16	4057 Caerleon Cir	1	B	No	40	47.8	49.2	49.1	0.1	1.4	No	No	No	No	0	No	0
40-17	4061 Caerleon Cir	1	B	No	40	47.8	50.3	50.2	0.1	2.5	No	No	No	No	0	No	0
40-18	4065 Caerleon Cir	1	B	No	40	47.8	50.9	50.7	0.2	3.1	No	No	No	No	0	No	0
40-19	4069 Caerleon Cir	1	B	No	40	47.8	51.5	51.3	0.2	3.7	No	No	No	No	0	No	0
40-20	4073 Caerleon Cir	1	B	No	40	47.8	52.3	51.9	0.4	4.5	No	No	No	No	0	No	0
40-21	4084 Caerleon Cir	1	B	No	40	47.8	55.5	54.6	0.9	7.7	No	No	No	No	0	No	0
40-22	4040 Caerleon Cir	1	B	No	40	47.8	46.6	46.6	0.0	-1.2	No	No	No	No	0	No	0
40-23	4041 Caerleon Cir	1	B	No	40	47.8	47.7	47.7	0.0	-0.1	No	No	No	No	0	No	0
40-24	4105 Caerleon Cir	1	B	No	40	47.8	49.4	49.4	0.0	1.6	No	No	No	No	0	No	0
40-25	4101 Caerleon Cir	1	B	No	40	47.8	49.9	49.7	0.2	2.1	No	No	No	No	0	No	0
40-26	4097 Caerleon Cir	1	B	No	40	47.8	49.6	49.4	0.2	1.8	No	No	No	No	0	No	0
40-27	4093 Caerleon Cir	1	B	No	40	47.8	52.0	51.5	0.5	4.2	No	No	No	No	0	No	0
40-28	4088 Caerleon Cir	1	B	No	40	47.8	54.7	54.3	0.4	6.9	No	No	No	No	0	No	0
40-29	3552 Ar 112 Hwy	1	B	Yes	40	59.1	59.8	59.8	0.0	0.7	No	No	No	No	0	No	0
40-30	6003 SW Dryden Rd (permitted)	1	B	Yes	40	47.8	50.7	50.1	0.6	2.9	No	No	No	No	0	No	0
40-31	1101 SW Alleghany Ave (no permit)	1	B	Yes	40	47.8	51.2	50.8	0.4	3.4	No	No	No	No	0	No	0
40-32	1103 SW Alleghany Ave (no permit)	1	B	Yes	40	47.8	50.3	50.3	0.4	2.9	No	No	No	No	0	No	0
40-33	1105 SW Alleghany Ave (no permit)	1	B	Yes	40	47.8	50.2	50.2	0.3	2.4	No	No	No	No	0	No	0
40-34	1107 SW Alleghany Ave (no permit)	1	B	Yes	40	48.7	49.7	49.3	0.4	1.0	No	No	No	No	0	No	0
40-35	4056/4060 Caerleon Cir (M) (NSA)	0	F	No	40	47.8	50.5	50.4	0.1	2.7	No	No	Measurement	Measurement	0	No	0

Project:	Highway 112 (Springdale Bypass)
Noise Study Area:	40
Job:	090514
Alternative:	B3

Barrier Area	8,064
Total Length	864
Average Height	9.3
Total Cost	\$322,560
Number of Benefited Residences	1
Cost per benefited receptor	\$322,560
Reasonable (CPBR)?	No

From	To	Segment Length (ft.)	Wall Type ⁽¹⁾ ("FR" or "FA" or "S")	Segment within 30 feet of roadway edge? ("Y" or "N")	Barrier Height (ft)	Barrier Area (sq ft)	Segment Cost
Bar: 672+00 (EOP)	Bar: 671+00 (EOP)	96	FA	N	6	576	\$23,040.00
Bar: 671+00 (EOP)	Bar: 670+00 (EOP)	96	FA	N	6	576	\$23,040.00
Bar: 670+00 (EOP)	Bar: 669+00 (EOP)	96	FA	N	8	768	\$30,720.00
Bar: 669+00 (EOP)	Bar: 668+00 (EOP)	96	FA	N	14	1,344	\$53,760.00
Bar: 668+00 (EOP)	Bar: 667+00 (EOP)	96	FA	N	18	1,728	\$69,120.00
Bar: 667+00 (EOP)	Bar: 666+00 (EOP)	96	FA	N	12	1,152	\$46,080.00
Bar: 666+00 (EOP)	Bar: 665+00 (EOP)	96	FA	N	8	768	\$30,720.00
Bar: 665+00 (EOP)	Bar: 664+00 (EOP)	96	FA	N	6	576	\$23,040.00
Bar: 664+00 (EOP)	Bar: 663+00 (EOP)	96	FA	N	6	576	\$23,040.00

(1) FR = free standing reflective barrier; FA = free standing absorptive barrier; S = barrier on bridge structure.

(2) At beginning station.

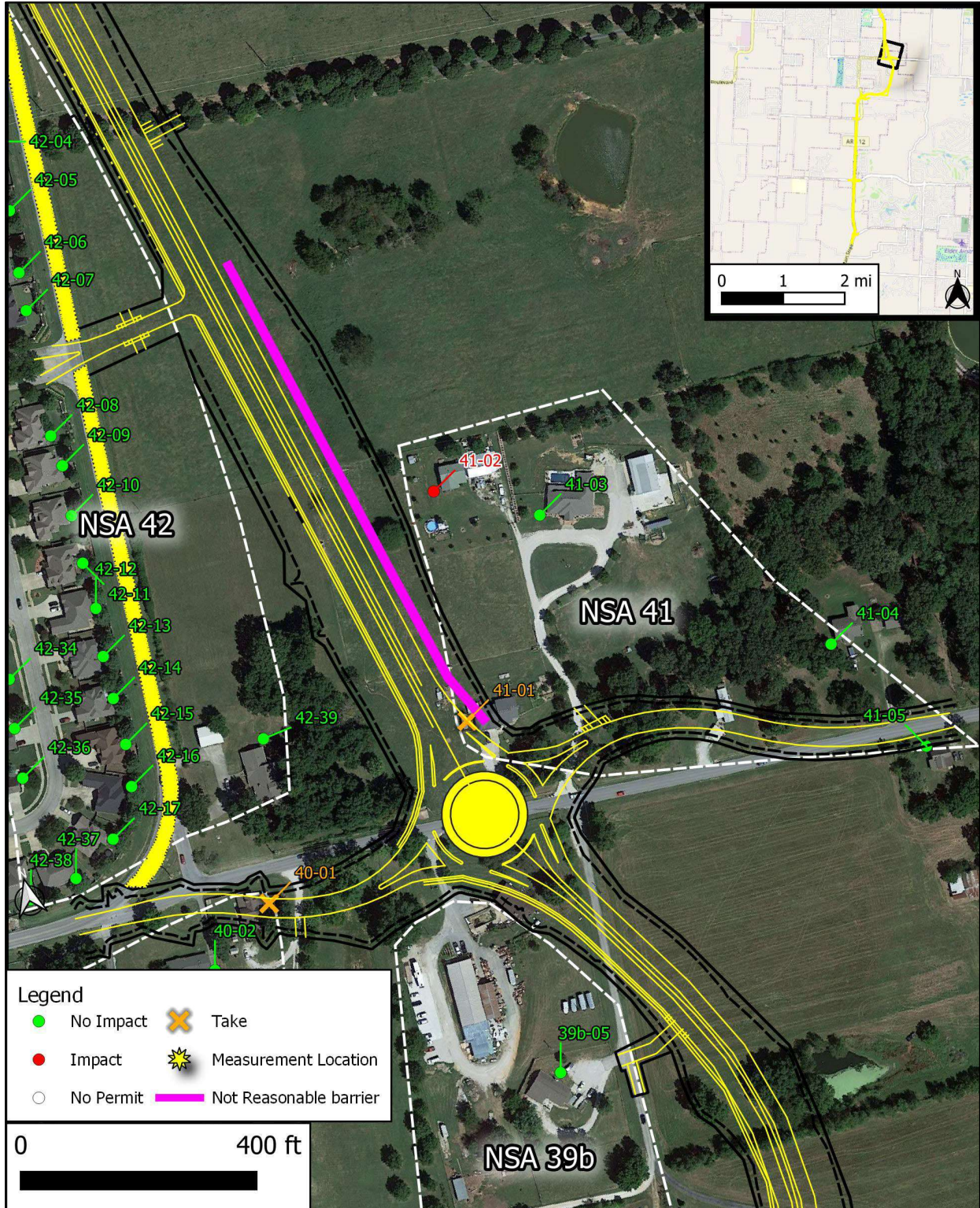
(3) \$35 per square foot for free-standing reflective Type I barriers, \$40 per square for free-standing absorptive barriers, and \$50 per square foot for barriers on structure

Noise Abatement Evaluation

ARDOT Job 090514

Alternative B3

NSA 41



NSA 41 (B3) Not Reasonable Barrier location

Project:		Highway 112 (Springdale Bypass)										Total Impacted Receptors		1			
Noise Study Area:		41										Total Benefited Receptors		2			
Job:		090514										# of Benefited Receptors Receiving at Least 8 dB		1			
Alternative:		B3										# of Impacted Receptors Receiving at Least 5 dB		1			
													Feasible?	Yes			
													Reasonable (NRDG)?	Yes			
													NRDG				
Receiver #	Receiver	Number of Receptors	FHWA Activity Category	1st row? (Yes/No)	Background Sound Level (dBA)	Worst Case Existing Sound Level (dBA)	No Barrier L _{eq} (dBA)	With Barrier Leq (dBA)	Insertion Loss (dBA)	Increase (dBA)	Substantial Increase?	Approach/ Exceed NAC?	Impacted?	Benefited?	Number of Benefited Receptors	Benefited and Receiving 8 dB IL?	Number Receiving 8 dB
41-01	776 Elk Rd (TAKE)	1	Take	Yes	40	47.8	Take	Take									
41-02	784 Elk Rd	1	B	Yes	40	49.9	61.7	53.6	8.1	12.8	Yes	No	Yes	Yes	1	Yes	1
41-03	800 Elk Rd	1	B	No	40	47.8	56.2	51.1	5.1	8.4	No	No	No	Yes	1	No	0
41-04	848 Elk Rd	1	B	Yes	40	47.8	50.2	49.3	0.9	2.4	No	No	No	No	0	No	0
41-05	891 Elk Rd	1	B	Yes	40	47.8	50.1	49.5	0.6	2.3	No	No	No	No	0	No	0

Project:	Highway 112 (Springdale Bypass)
Noise Study Area:	41
Job:	090514
Alternative:	B3

Barrier Area	10,400
Total Length	900
Average Height	11.6
Total Cost	\$416,000
Number of Benefited Residences	2
Cost per benefited receptor	\$208,000
Reasonable (CPBR)?	No

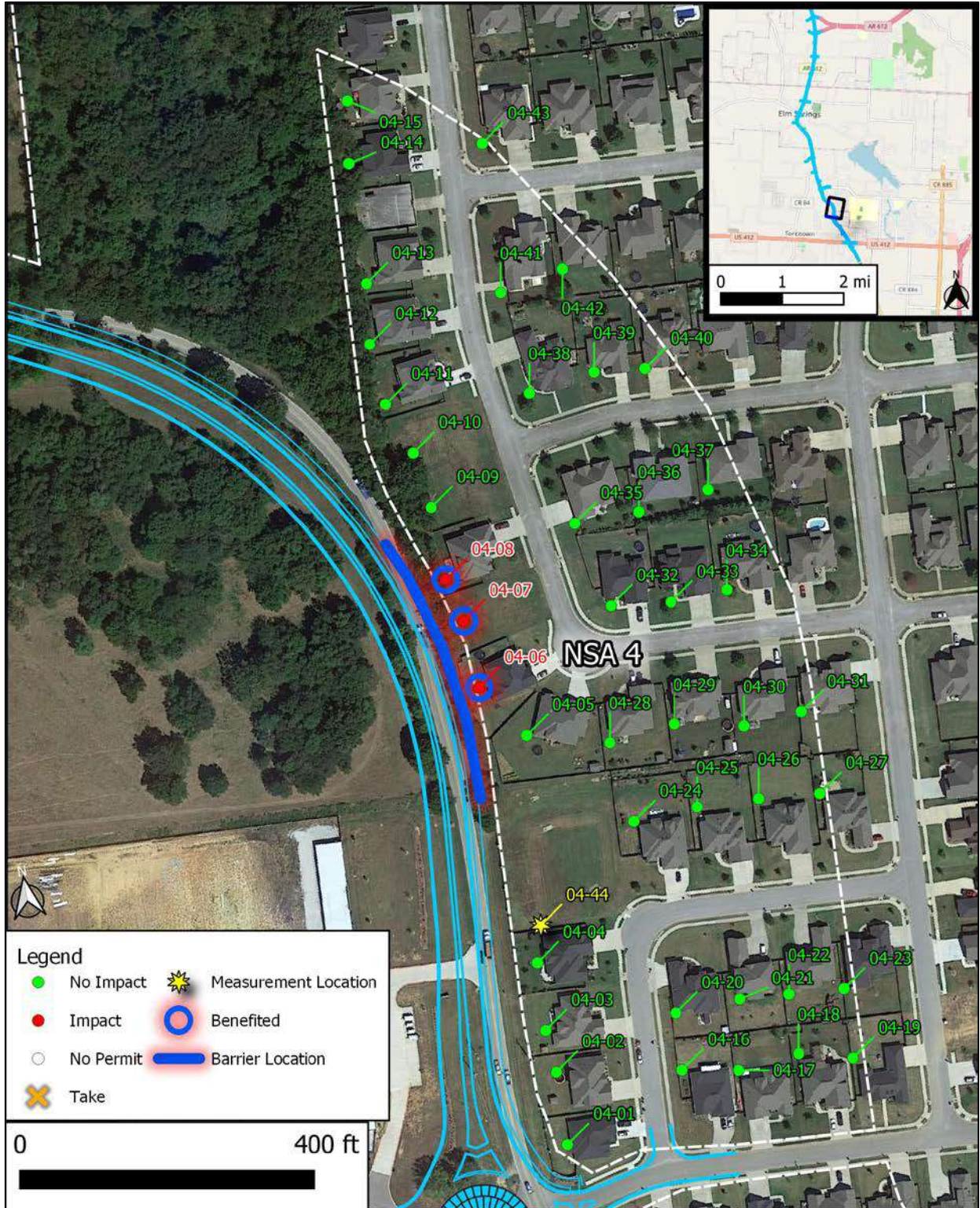
From	To	Segment Length (ft.)	Wall Type ⁽¹⁾ ("FR" or "FA" or "S")	Segment within 30 feet of roadway edge? ("Y" or "N")	Barrier Height (ft)	Barrier Area (sq ft)	Segment Cost
Bar: 703+00 (EOP)	Bar: 704+00 (EOP)	100	FA	N	6	600	\$24,000.00
Bar: 704+00 (EOP)	Bar: 705+00 (EOP)	100	FA	N	10	1,000	\$40,000.00
Bar: 705+00 (EOP)	Bar: 706+00 (EOP)	100	FA	N	14	1,400	\$56,000.00
Bar: 706+00 (EOP)	Bar: 707+00 (EOP)	100	FA	N	18	1,800	\$72,000.00
Bar: 707+00 (EOP)	Bar: 708+00 (EOP)	100	FA	N	18	1,800	\$72,000.00
Bar: 708+00 (EOP)	Bar: 709+00 (EOP)	100	FA	N	14	1,400	\$56,000.00
Bar: 709+00 (EOP)	Bar: 710+00 (EOP)	100	FA	N	10	1,000	\$40,000.00
Bar: 710+00 (EOP)	Bar: 711+00 (EOP)	100	FA	N	8	800	\$32,000.00
Bar: 711+00 (EOP)	Bar: 712+00 (EOP)	100	FA	N	6	600	\$24,000.00

(1) FR = free standing reflective barrier; FA = free standing absorptive barrier; S = barrier on bridge structure.

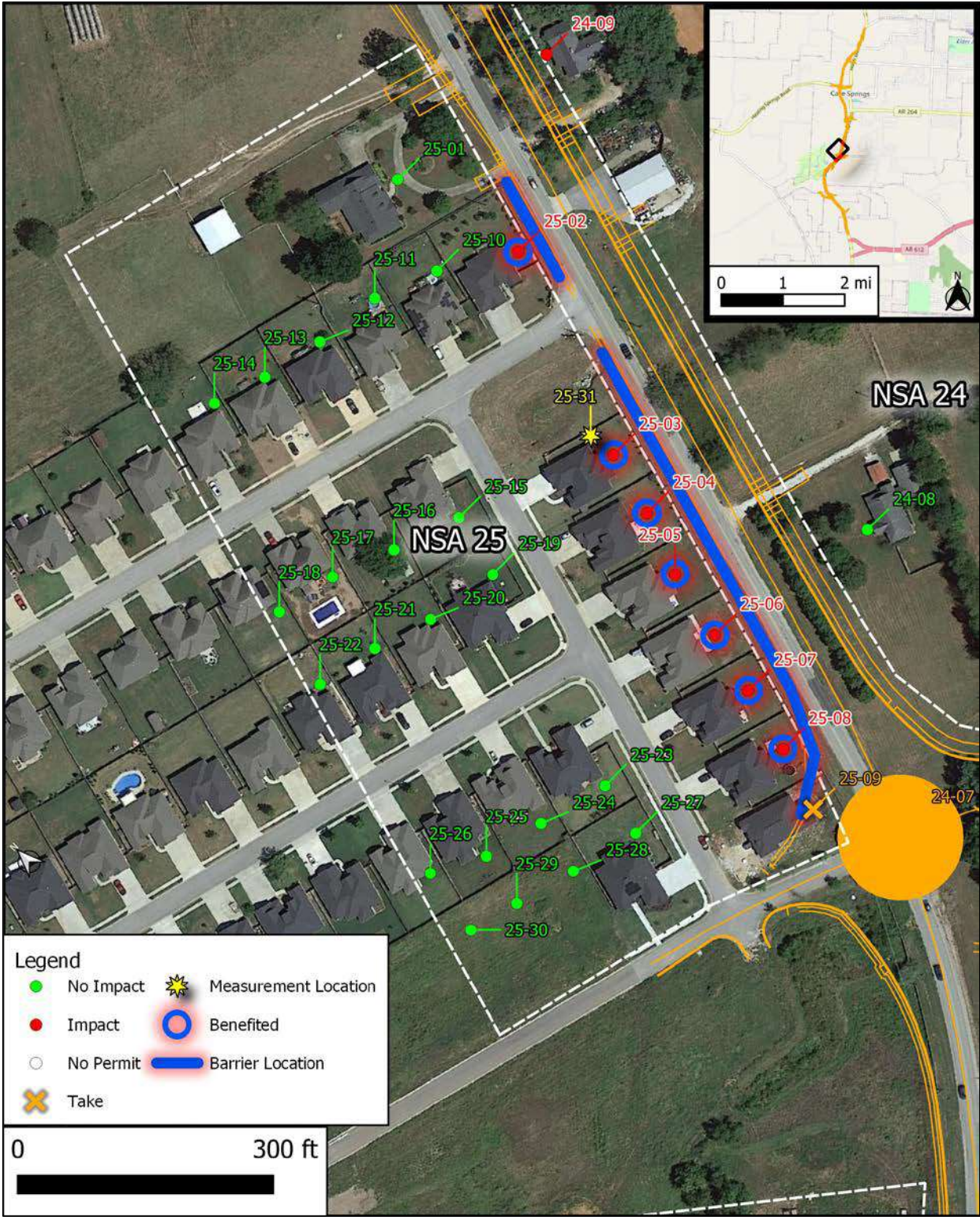
(2) At beginning station.

(3) \$35 per square foot for free-standing reflective Type I barriers, \$40 per square for free-standing absorptive barriers, and \$50 per square foot for barriers on structure

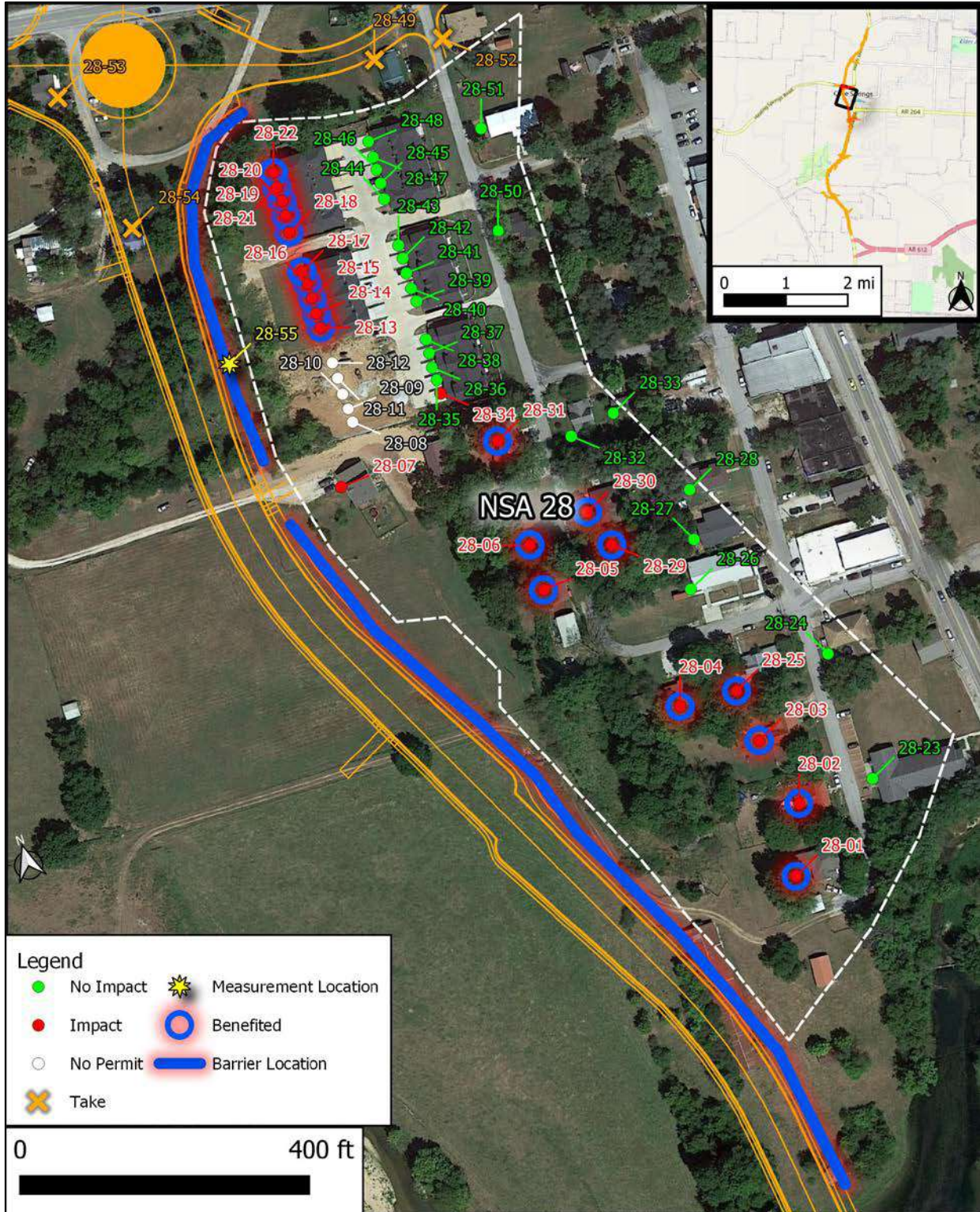
Appendix F
Preliminarily Feasible and Reasonable Noise Barriers



NSA 4 (E2 Modified and E3 Modified) Proposed Barrier location and Benefited receivers



NSA 25 (C3 Modified) Proposed Barrier location and Benefited receivers



NSA 28 (C3 Modified) Proposed Barrier location and Benefited receivers

**Appendix C – MEMORANDUM OF AGREEMENT and STATE
HISTORIC PRESERVATION OFFICER
CONSULTATION**



THE DEPARTMENT OF ARKANSAS
HERITAGE

Asa Hutchinson
Governor

Stacy Hurst
Director

February 5, 2019

**RECEIVED
ARDOT**

FEB 07 2019

**ENVIRONMENTAL
DIVISION**

Mr. John Fleming
Division Head
Environmental Division
Arkansas State Highway and Transportation Department
PO Box 2261
Little Rock, AR 72203-2261

Arkansas Arts Council

Arkansas Historic
Preservation Program

Arkansas Natural
Heritage Commission

Arkansas State Archives

Delta Cultural Center

Historic Arkansas Museum

Mosaic Templars
Cultural Center

Old State House Museum

RE: Benton County – General
Section 106 Review – FHWA
Request for Technical Assistance
ARDOT Job Number 012305
Hwy. 412 – Springdale Bypass (S)
Route 112, Sections 1 & 2
AHPP Tracking Number 102214.01

Dear Mr. Fleming:

This letter is written in response to an addendum to the proposed referenced project. The staff of the Arkansas Historic Preservation Program (AHPP) has reviewed the documents for the structures included in your letter of February 1, 2019. We concur that Structures A-E are eligible for inclusion in the National Register of Historic Places while Properties while Structures F-N are not.

Tribes that have expressed an interest in the area include the Cherokee Nation (Ms. Elizabeth Toombs), the Muscogee (Creek) Nation (Ms. Corain Lowe-Zepeda), the Osage Nation (Dr. Andrea Hunter), the Shawnee Tribe of Oklahoma (Ms. Tonya Tipton), and the United Keetoowah Band of Cherokee Indians (Ms. Sheila Bird, Erin Thomson, and Charlotte Wolfe). We recommend that they be consulted in accordance with 36 CFR § 800.2 (c) (2).

Once the undertaking is further along in the planning stages, we look forward to reviewing the proposed project. If you should have any questions or comments, please do not hesitate to contact Theresa Russell of my staff at (501)-324-9357.

Sincerely,

Scott Kaufman
Director, AHPP

cc: Mr. Randal Looney, Federal Highway Administration
Dr. Ann Early, Arkansas Archeological Survey
Crafton, Tull, & Associates, Inc.
Mr. C. Andrew Buchner, Panamerican Consultants, Inc.



ARKANSAS HISTORIC
PRESERVATION PROGRAM



1100 North Street
Little Rock, AR 72201

(501) 324-9880
fax: (501) 324-9184

info@arkansaspreservation.org
www.arkansaspreservation.com



Asa Hutchinson
Governor
Stacy Hurst
Secretary

July 19, 2021

Mr. John Fleming
Division Head
Environmental Division
Arkansas Department of Transportation
P.O. Box 2261
Little Rock, AR 72203-2261

Re: Benton and Washington Counties – Springdale
Architectural Resources Survey – FHWA
Hwy 412 – Springdale Bypass (S)
Route 112, Sections 1 & 2
Addendum Report – *Architectural Assessment for ARDOT Project No. 012305, Hwy 412-Springdale Bypass P.E., Washington and Benton Counties, Arkansas (July 2021)*
ARDOT Job Number 012305
AHPP Tracking Number 102214.02

Dear Mr. Fleming:

The staff of the Arkansas Historic Preservation Program (AHPP) reviewed the Architectural Resources Survey for the above-referenced job in Benton and Washington Counties. Based on the provided information, the AHPP concurs that Property 1, Property 3, Property 5, Property 7, Property 8, Property 9, Property 11, Property 12, and Property 13 are not eligible for inclusion in the National Register of Historic Places.

Thank you for the opportunity to review this Architectural Resources Survey. If you have any questions, please contact Eric Mills of my staff at (501) 324-9784 or eric.mills@arkansas.gov.

Sincerely,

for
Scott Kaufman
Director, AHPP

cc: Mr. Randal Looney, Federal Highway Administration



THE DEPARTMENT OF ARKANSAS
HERITAGE

Asa Hutchinson
Governor

Stacy Hurst
Director

April 11, 2019

Mr. John Fleming
Division Head
Environmental Division
Arkansas State Highway and Transportation Department
PO Box 2261
Little Rock, AR 72203-2261

Arkansas Arts Council

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Arkansas Historic
Preservation Program

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Arkansas Natural
Heritage Commission

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Arkansas State Archives

*

Delta Cultural Center

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Historic Arkansas Museum

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Mosaic Templars
Cultural Center

*

Old State House Museum

RE: Benton County – General
Section 106 Review – FHWA
Request for Technical Assistance
ARDOT Job Number 090512
Springdale Bypass – Hwy. 12 P.E.
Route 112, Section 2
AHPP Tracking Number 102215.01

Dear Mr. Fleming:

This letter is written in response to the addendum for the proposed project. The staff of the Arkansas Historic Preservation Program (AHPP) has reviewed the documentation for the structures included in your letter of April 9, 2019. We concur with your National Register of Historic Places (NRHP) eligibility status for these structures:

- Listed: Structure N/BE2127-Shore’s Warehouse
- Eligible: Structure B/BE3298-Jim Legg Barn 63
Structure J/BE2088-Shore’s House
Structure K/BE3286-House and Barn
Structure O/BE2128-Shore’s Hardware
Structure P/BE2130-Phillips-Ingalls Steel Building
- Not Eligible: Structure A, Structures C-F, Structures H and I, Structure L, Structure Q, Structure S, and Structure W
- Demolished: Structures G/BE3296, M/BE2131, R/BE3274, T/BE3292, and U/BE2087

It is the opinion of this office, at this time, that Structure V-Cave Springs Community Center is not eligible for listing in the NRHP. However, if the blue alignment alternative is selected, this structure will be avoided. Further assessment of the eligibility status of this structure can be made at a future date.

Tribes that have expressed an interest in the area include the Cherokee Nation (Ms. Elizabeth Toombs), the Muscogee (Creek) Nation (Ms. Corain Lowe-Zepeda), the Osage Nation (Dr. Andrea Hunter), the Shawnee Tribe of Oklahoma (Ms. Tonya Tipton), and the United Keetoowah Band of Cherokee



ARKANSAS HISTORIC
PRESERVATION PROGRAM



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fax: (501) 324-9184

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Indians (Ms. Erin Thomson and Charlotte Wolfe). We recommend that they be consulted in accordance with 36 CFR § 800.2 (c) (2).

Thank you for the opportunity to review this undertaking. If you should have any questions or comments, please do not hesitate to contact Theresa Russell of my staff at (501)-324-9357. Please refer to the AHPP Tracking Number listed above in all correspondence.

Sincerely,


FOR

Scott Kaufman
Director, AHPP

cc: Mr. Randal Looney, Federal Highway Administration
Dr. Ann Early, Arkansas Archeological Survey



Asa Hutchinson
Governor
Stacy Hurst
Secretary

May 12, 2022

Mr. John Fleming
Division Head
Environmental Division
Arkansas Department of Transportation
P.O. Box 2261
Little Rock, AR 72203-2261

Re: Benton and Washington Counties: General
Section 106 Review: FHWA
Proposed Undertaking: Springdale Bypass (S)
Route 112, Sections 1&2
Cultural Resources Survey Report: *Phase I Cultural Resources Survey for ARDOT Job No. 012305 Highway 112 Widening Elm Springs Washington and Benton Counties, Arkansas*
ARDOT Job Number: 012305
Commonwealth Heritage Group, Inc. Report Number: TN-0101
AHPP Tracking Number – 102214.03

Dear Mr. Fleming:

The staff of the Arkansas Historic Preservation Program (AHPP) reviewed the cultural resources survey report for the above-referenced undertaking in in Benton and Washington Counties, Arkansas. The proposed undertaking involves widening the corridor from US 412 at Log Mile 7.97 north to Log Mile 10.95 at Hale Ave. then north at Log Mile 0.00 to the Springdale Bypass at Log Mile 1.02.

Commonwealth Heritage Group, Inc. conducted a Phase I cultural resources survey of the area of potential effect (APE) to determine if any historic properties were present in the tract and if so, to make management recommendations regarding these properties. A total of 798 shovel tests were recorded, with one positive shovel test, 674 negative shovel tests, and 148 which could not be excavated.


The AHPP concurs with the finding that both archeological sites of 3WA0379 and 3WA1585 are **not eligible** for inclusion in the National Register of Historic Places (NRHP). The AHPP also has a preference for the selection of Alternate E3 as no further cultural resources assessment would be required. The selection of Alternate E2, as stated by Commonwealth, would result in an adverse effect to the 1920 Nelson Feed Building which is eligible for listing on the NRHP.

Tribes that have expressed an interest in the area include the Cherokee Nation, the Osage Nation, the Shawnee Tribe, and the United Keetoowah Band of Cherokee Indians. We recommend consultation in accordance with 36 CFR § 800.2(c)(2).

We appreciate the opportunity to review this undertaking. If you have any questions, please contact Kathryn Bryles at (501) 324-9784 or kathryn.bryles@arkansas.gov. Please refer to the AHPP Tracking Number above in any correspondence.

Sincerely,

Kathryn
Bryles

 Digitally signed by
Kathryn Bryles
Date: 2022.05.12
15:12:35 -05'00'

for
Scott Kaufman
Director, AHPP

cc: Dr. Melissa Zabecki, Arkansas Archeological Survey



Asa Hutchinson
Governor
Stacy Hurst
Secretary

May 12, 2022

Mr. John Fleming
Division Head
Environmental Division
Arkansas Department of Transportation
P.O. Box 2261
Little Rock, AR 72203-2261

Re: Benton County: General
Section 106 Review: FHwA
Proposed Undertaking: Springdale Bypass – Hwy. 1 P.E.
Route 112, Section 2
Cultural Resources Survey Report: *Phase I Cultural Resources Survey for ARDOT Job No. 090512, Springdale Bypass – Hwy. 12 P.E. Benton County, Arkansas*
Commonwealth Heritage Group, Inc. Report Number: TN-0102
AHPP Tracking Number – 102215.12

Dear Mr. Fleming:

The staff of the Arkansas Historic Preservation Program (AHPP) reviewed the cultural resources survey report for the above-referenced undertaking in Benton County, Arkansas. The proposed undertaking involves widening the corridor of Hwy. 112, with two new right-of-ways. The proposed corridor extends approximately 1,321 km and covers about 144.46 acres.

Commonwealth Heritage Group, Inc. conducted a Phase I cultural resources survey of the area of potential effect (APE) to determine if any historic properties were present in the tract and if so, to make management recommendations regarding these properties. A total of 1,239 shovel tests were recorded, with no positive shovel tests, 1,050 negative shovel tests, and 189 which could not be excavated.

The AHPP concurs with the finding that the archeological site 3BE0615, a historic cemetery, is undetermined in its eligibility for inclusion in the National Register of Historic Places (NRHP). The AHPP also concurs with Commonwealth that this site **should be avoided** by shifting the project's alignment to the west.


The AHPP concurs portion of site 3BE0737 within the APE is **not eligible** for inclusion in the NRHP. The AHPP also concurs that sites 3BE0738, 3BE0739, and 3BE0741 are **not eligible** for inclusion in the NRHP.

Tribes that have expressed an interest in the area include the Cherokee Nation, the Osage Nation, the Shawnee Tribe, and the United Keetoowah Band of Cherokee Indians. We recommend consultation in accordance with 36 CFR § 800.2(c)(2).

We appreciate the opportunity to review this undertaking. If you have any questions, please contact Kathryn Bryles at (501) 324-9784 or kathryn.bryles@arkansas.gov. Please refer to the AHPP Tracking Number above in any correspondence.

Sincerely,

Kathryn
Bryles

 Digitally signed by
Kathryn Bryles
Date: 2022.05.12
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for
Scott Kaufman
Director, AHPP

cc: Dr. Melissa Zabecki, Arkansas Archeological Survey



Sarah Huckabee Sanders
Governor
Mike Mills
Secretary

January 30, 2023

Mr. John Fleming
Division Head
Environmental Division
Arkansas Department of Transportation
P.O. Box 2261
Little Rock, AR 72203-2261

RE: Benton County: General
Section 106 Review: FHWA
Proposed Undertaking: Springdale Bypass - Hwy. 12 P.E.
Route 112, Section 2
ARDOT Number: 090512
AHPP Tracking Number: 102215.03

Dear Mr. Fleming:

The staff of the Arkansas Historic Preservation Program (AHPP) reviewed the project identification form for the abovementioned project located in Benton County, Arkansas. The proposed project involves widening 7.93 miles of Highway 112 between the Springdale Bypass to Highway 12.

The AHPP concurs with ARDOT's proposal to defer the completion of the Phase I survey until the preferred alignment is selected, the Finding of No Significant Impact is issued, and properties are acquired. The AHPP looks forward to receiving the addendum report once the Phase I work is completed.

Tribes that have expressed an interest in the area include the Cherokee Nation, the Osage Nation, the Shawnee Tribe, and the United Keetoowah Band of Cherokee Indians. We recommend consultation in accordance with 36 CFR § 800.2(c)(2).

Thank you for the opportunity to review this undertaking. Please refer to the AHPP Tracking Number listed above in all correspondence. If you have any questions, call Kathryn Bryles at 501-324-9784 or email kathryn.bryles@arkansas.gov.

Sincerely,

Kathryn Bryles

Digitally signed by Kathryn
Bryles
Date: 2023.01.30 12:27:33
-06'00'

for

Scott Kaufman
Director, AHPP

cc: Dr. Melissa Zabecki, Arkansas Archeological Survey
Mr. Randal Looney, Federal Highway Administration

Appendix D – SECTION 4(f) EVALUATION

**SECTION 4(F) EVALUATION AND DOCUMENTATION OF IMPACTS FOR
HISTORIC PROPERTIES**

ARDOT Job 012305
FAP NHPP-9253(86)
Hwy. 412 – Springdale Bypass (S)
Benton & Washington Counties

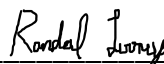
NELSON FEED BUILDING

Elm Springs, Arkansas

August 2023

Federal Highway Administration
Arkansas Department of Transportation

September 7, 2023
Date of Approval



Randal Looney
Environmental Coordinator
Federal Highway Administration

1 What is Section 4(f)?

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law as 49 U.S.C. § 303, protects public parks, recreation areas, wildlife/waterfowl refuges, and important historic sites from being harmfully affected by transportation projects. The U.S. Secretary of Transportation may approve a project that requires the use of land from a significant publicly-owned park, recreation area, wildlife or waterfowl refuge, or a historic site of national, state, or local significance only if the following determinations have been made:

- 1) There is no feasible and prudent alternative to the use of such land; and
- 2) All possible planning has been undertaken to minimize harm to the property resulting from such use.

These determinations, submitted pursuant to 49 U.S.C. § 303 and 23 U.S.C. § 138, are set forth in this Section 4(f) evaluation.

2 What is the proposed project and why is it needed?

The purpose of the proposed project is to address worsening traffic congestion, flooding issues, and the lack of bicycle and pedestrian facilities on Highway 112 in Benton and Washington Counties. The proposed project would widen and improve Highway 112 from Highway 412 to the Springdale Northern Bypass (Highway 612), as seen in Figure 1.

Over the past 30 years, both Benton and Washington Counties have seen substantial growth in population. This increased growth in population and economic development in the larger cities of Fayetteville, Springdale, Rogers, and Bentonville has led to urban sprawl. In addition, the project area and smaller cities along Highway 112 are also experiencing a substantial growth in population and, as a result, an increase in the number of commuters traveling to and from the suburbs and cities. Tontitown, at the south end of the project, has seen its population increase by 835% in the past 30 years. Review of the 2020 U.S. Census Bureau data indicated that none of the census tracts or census block groups within the project area had median household incomes below the poverty guidelines or minority populations greater than 50%. In accordance with the provisions of Executive Order 12898 and FHWA Order 6640.23A, no impacts to environmental justice populations are anticipated as a result of the proposed project.

As a result of the growing commuter population, traffic volumes on Highway 112 in the project area are projected to grow more than 37% between 2024 and 2044, even if the proposed project was not constructed. This section of Highway 112 is forecasted to experience severe traffic congestion in both the morning and afternoon peak traffic periods. The calculated level of service within the 20-year planning period (2044) is “very poor” for all sections of Highway 112, both northbound and southbound, if the project is not constructed.

Project Location

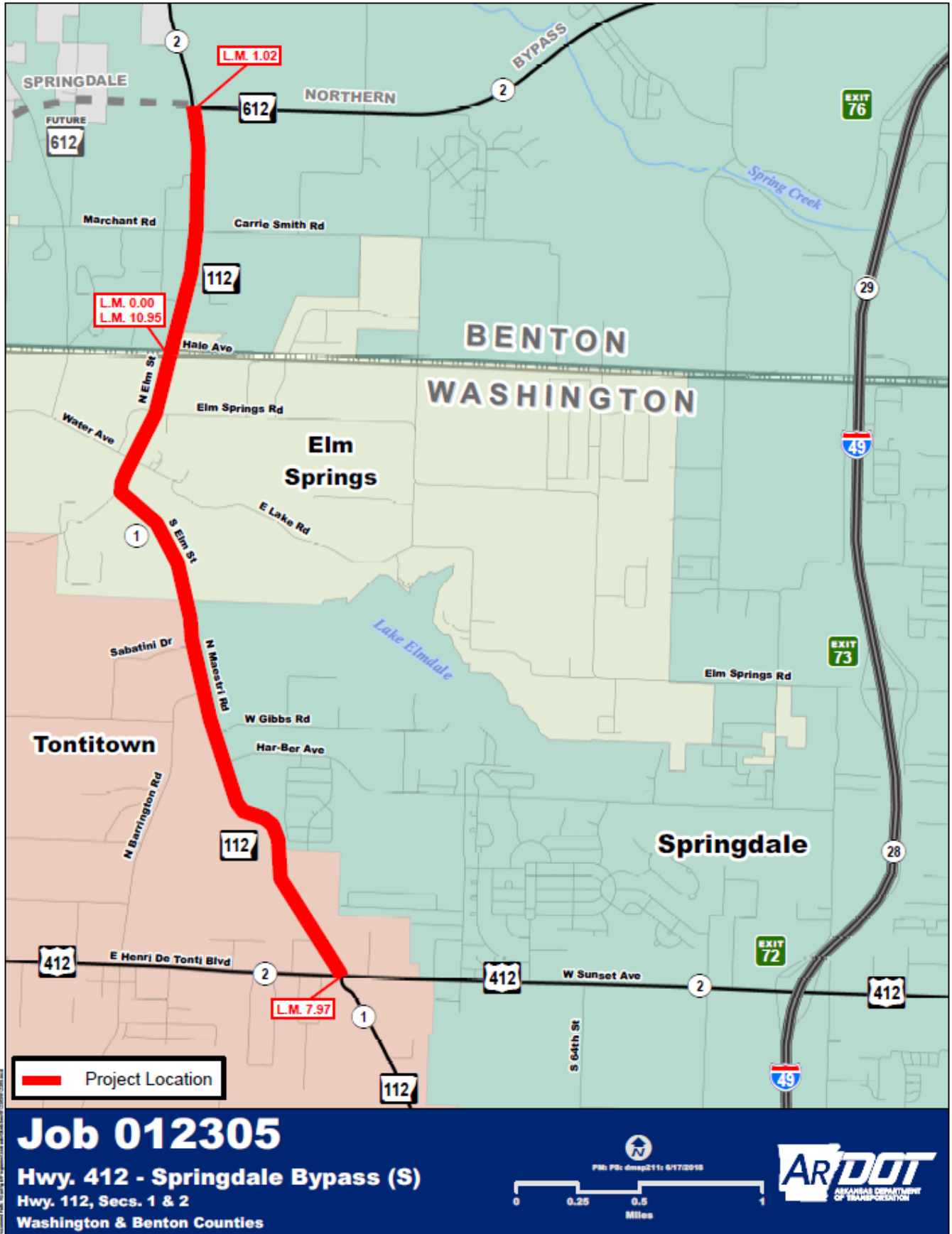


Figure 1

The project would address these congestion issues by widening the highway from two travel lanes to four travel lanes with a center median, providing partial access control. The proposed Highway 112 typical section can be seen in Figure 2. The additional highway capacity and partial access control provided by the center median would result in congestion levels improving from “very poor” in 2044 without construction of the project to “good” or “very good” through downtown Elm Springs in 2044 if the proposed project is constructed.

Highway 112 Proposed Typical Section

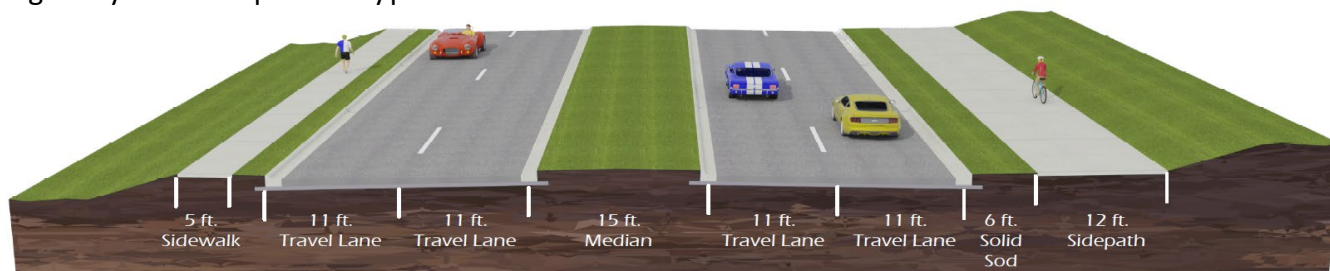


Figure 2

Sections of Highway 112 in the project area are prone to flooding. Hydraulic analyses recommended the reconstruction of Highway 112 and improving drainage and bridge structures to reduce the frequency of highway closures due to flood events. The proposed project would bring the highway and drainage structures to current flood design standards.

Highway 112 currently has no accommodations for bicyclists or pedestrians in the project area, with only 2-foot-wide shoulders. Bicyclists attempting to use the highway are forced to share the single travel lane with motorized vehicles, while pedestrians must use the narrow shoulder or walk off the paved roadway. The proposed 5-foot-wide sidewalks and 12-foot-wide sidepath, as seen in Figure 2, would provide safe, efficient accommodations for bicyclists and pedestrians.

3 What Section 4(f) property is involved in this project and why is it important?

Early in the project development, the Arkansas Department of Transportation (ARDOT) identified the Nelson Feed Building within the area of potential effect on a proposed alignment. The Nelson Feed Building is a 1940s feed mill and store located at 110 North Elm (also known as Highway 112) in Elm Springs, as seen in Figure 3. The building exhibits both a commercial form, in the store or warehouse section, and an agricultural form, in the feed bin section. The building is plain with exposed rafter tails and the window and door openings as its only adornment. The building has retained most of its integrity, with the garage door cut into the feed bins as the only change to the front façade occurring sometime between May 2014 and October 2016. In coordination with the State Historic Preservation Officer (SHPO), ARDOT determined that the Nelson Feed Building was eligible for inclusion in the National Register of Historic Places (NRHP). The NRHP-eligible status qualifies the Nelson Feed Building for protection under Section 4(f) as a historic site.

Nelson Feed Building



Figure 3

The Nelson Feed Building originally held Kever and Shaw Feeds, Inc. (Kever and Shaw), consisting of a poultry feed mill and hatchery. E.E. Kever and Willis Shaw began their partnership in the late 1930s. Shaw also ran a transportation service called Willis Shaw Express, founded in 1938.

Kever and Shaw owned the Nelson Feed Building by the late 1940s. In 1947, a fire burned down the garage where Kever and Shaw ran a spoke mill and coop factory business, as reported in the Northwest Arkansas Times. The report did not note the address of the rental garage. It is unknown in what year Kever and Shaw began the poultry feed mill or if that was the same business model as the coop factory.

The Nelson Feed Building is in a rural commercial area just north of a main intersection at Water/School Street and Highway 112. To the west of the intersection, the Elm Springs Commercial Historic District buildings, dating from 1914 through 1936, line Water Street. To the east of the intersection, along School Street, residential buildings and a church border the roadway.

The immediate setting of the Nelson Feed Building includes a truck scale, a small gravel parking lot, and a church to the north, with an unoccupied grass lot to the south. To the east of the building, a semi-circular gravel drive leads from the north parking lot around the back of the building, allowing customers access to the loading docks and feed bins, joining Elm Street again to the south. The business directly across Highway 112 from the

Nelson Feed Building housed Willis Shaw's trucking business, which began as Willis Shaw Produce and later became Willis Shaw Express.

According to the Arkansas Business Hall of Fame, Shaw pioneered the development of the long-haul transportation of live poultry and refrigerated and frozen foods. Lorene Shaw, his wife, served as a vital part of his success, working as a bookkeeper for his businesses. The Nelson Feed Building is associated with the rise and vertical integration of the poultry and trucking industries in northwest Arkansas. This building has held feed businesses from its construction through at least 2012, when it became known as Nelson Feed. By 2022, the building no longer housed a feed store, but it still served as a commercial building. Two tenants operated a towing service and a trash removal service. By June 2023, these tenants had relocated to Springdale, Arkansas. This property was determined eligible for inclusion in the NRHP under Criterion C, as a good example of an early twentieth century agricultural support facility, with local significance.

4 What alternatives were considered for the proposed project?

Three build alternatives (E1, E2, and E3) and the No Action Alternative were considered in Chapter 2 of the Environmental Assessment (EA) prepared for the proposed project and signed by the Federal Highway Administration (FHWA) on October 11, 2022. All build alternatives would fully address the project's purpose and need by providing a widened highway, improved flood design, and a sidewalk and sidepath for bicyclists and pedestrians. The location of the build alternatives can be seen on Figure 4.

The No Action Alternative would provide only routine maintenance for Highway 112 in the project area and would not address the purpose and need of the project. Highway 112 congestion would continue to worsen, as described in Section 1, the flooding issues would continue to impact the highway, and bicyclists and pedestrians would continue to be forced to use the existing travel lanes and narrow shoulders. The No Action Alternative was retained for a baseline comparison of impacts against the build alternatives, as required by 40 C.F.R. § 1502.14(c).

Alternative E1 followed the existing Highway 112 alignment with traffic signals and intersection improvements at Highway 412 and roundabouts added at five locations. The typical section would consist of four 11-foot-wide travel lanes with curb and gutter and a 15-foot-wide median with 5-foot-wide sidewalks on the east side of the highway and a 12-foot-wide sidepath on the west side. The bridge over Brush Creek south of Elm Springs and the bridge over Highway 612 would be replaced. Alternative E1 would require demolition of the Nelson Feed Building, a "use" of the Section 4(f) resource as permanent incorporation to a transportation facility, as described in 23 C.F.R. § 774.17. Alternative E1 was discarded from further consideration following early public involvement due to requiring more business relocations and fewer favorable public comments than the other alternatives.

Build Alternatives

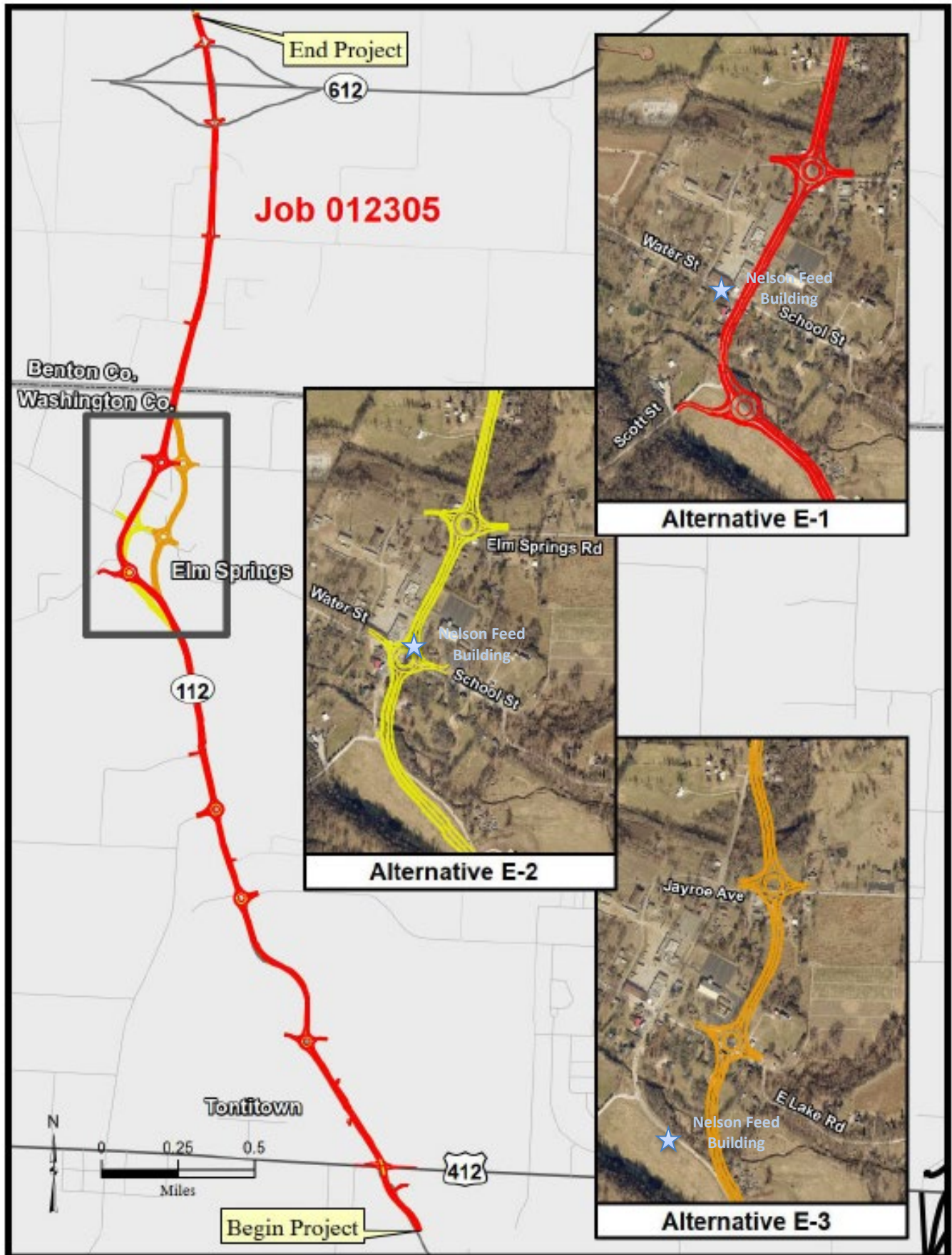


Figure 4

Alternative E2 also followed the existing alignment, except it would be constructed on new alignment south of Elm Springs, with a new bridge over Brush Creek. Alternative E2 would include traffic signals, intersection improvements at Highway 412, and five roundabouts and the same typical section as Alternative E1. The Nelson Feed Building would have to be demolished with Alternative E2, a “use” of the Section 4(f) resource as permanent incorporation to a transportation facility, as described in 23 C.F.R. § 774.17. Alternative E2 was carried through the EA for environmental impact analysis and public comment.

Alternative E3 was developed when the Nelson Feed Building was deemed eligible for the NRHP. Alternative E3 was developed as an avoidance alternative, as required by 49 U.S.C. § 303(c)(1) and 23 U.S.C § 138(a)(3)(A) and was identical to Alternative E1, including the same typical section, except offset on new alignment to the east in Elm Springs with two new roundabouts and a new bridge over Brush Creek. Alternative E3 was carried through the EA for environmental impact analysis and public comment.

Following the approval of the EA and the public hearing and comment period, ARDOT decision makers met to identify a Preferred Alternative for the proposed project. It was discovered that Alternative E3, the avoidance alternative, impacted a utility building that was estimated to cost \$12M and several years to relocate. Alternative E4 was developed by modifying Alternative E3 to avoid both the Nelson Feed Building and the utility building by shifting the alignment further east behind the utility building. Although relocations were minimized as much as possible during the development of Alternative E4, the alignment shift would have resulted in an additional five relocations compared to Alternative E3 and seven more relocations compared to Alternative E2. Due to the additional relocations, Alternative E4 was dropped from further consideration.

The three alternatives considered by decision makers can be seen in Figures 5, 6, and 7 and the impacts for all alternative can be seen in Table 1. Alternative E2 was identified as the Preferred Alternative by ARDOT decision makers because it met the project’s purpose and need while minimizing relocations and costs.

5 What coordination was done related to the Section 4(f) property impacts?

ARDOT consulted with the SHPO for the NRHP eligibility determination for the Nelson Feed Building (Structure E), with SHPO concurrence as eligible for the NRHP received in February 2019 (see attached). In March and November 2022 and April 2023, FHWA initiated consultation with United Keetoowah Band of Cherokee Indians in Oklahoma, the Osage Nation, the Caddo Nation, and the Shawnee Tribe. Two Tribes submitted responses. One Tribe responded with a request to review the cultural resources survey report. The SHPO and Tribe responses to the report agreed on the adverse effect to the Nelson Feed Building, requiring mitigation. Consultation with the SHPO and the Osage Nation for the Memorandum of Agreement (MOA) to resolve the adverse effects began in May 2023.

Table 1

Alternative Impact Comparison Table*

Resource	No Action Alternative	Alternative E2	Alternative E3	Alternative E4
Length	4.4 miles	4.3 miles	4.3 miles	4.3 miles
Right of Way Required	None	85.2 acres	90.3 acres	89.7 acres
Construction Cost	None	\$52.1M	\$51.9M	\$51.9M
Right of Way Cost	None	\$25.5M	\$39.9M	\$27.9M
Total Cost	None	\$77.5M	\$91.8M	\$79.8M
Wetland Impacts	None	0.6 acre	0.6 are	0.6 acre
Floodplain Impacts	None	6.4 acres	4.6 acres	4.2 acres
Stream Impacts	None	1,769 linear feet	1,804 linear feet	1,728 linear feet
Springs Impacted	None	None	None	None
Karst Recharge Area Impacts	None	36.5 acres	36.5 acres	36.5 acres
Bat Foraging Habitat Impacts	None	2.8 acres	4.2 acres	4.3 acres
Residential Relocations	None	7	12	15
Business Relocations	None	12	8	9
Landlord Relocations	None	2	3	4
Total Relocations	None	21	23	28
Historic Sites Impacted	None	1	0	0
Hazardous Materials Sites Impacted	None	1	1	1
Noise Receptors Impacted	17	4	7	7
Visual Quality Impacts	None	Minor	Minor	Minor

*This table has been updated since EA approval.

The Nelson Feed Building impacts were discussed in the Section 3.7 of the approved EA. The EA, in accordance with 23 C.F.R. §771.111, was available for public comment at the public hearing on December 13, 2022 and on the ARDOT website from November 30, 2022 to January 27, 2023. The public hearing had 246 attendees with 1,491 website views and 105 total comments received. Of the comment forms received, a total of 16 comments preferred the No Action Alternative, 55 preferred Alternative E2, 32 preferred Alternative E3, and eight did not indicate an alternative preference. No comments were received regarding the impacts to the Nelson Feed Building.

Alternative E2

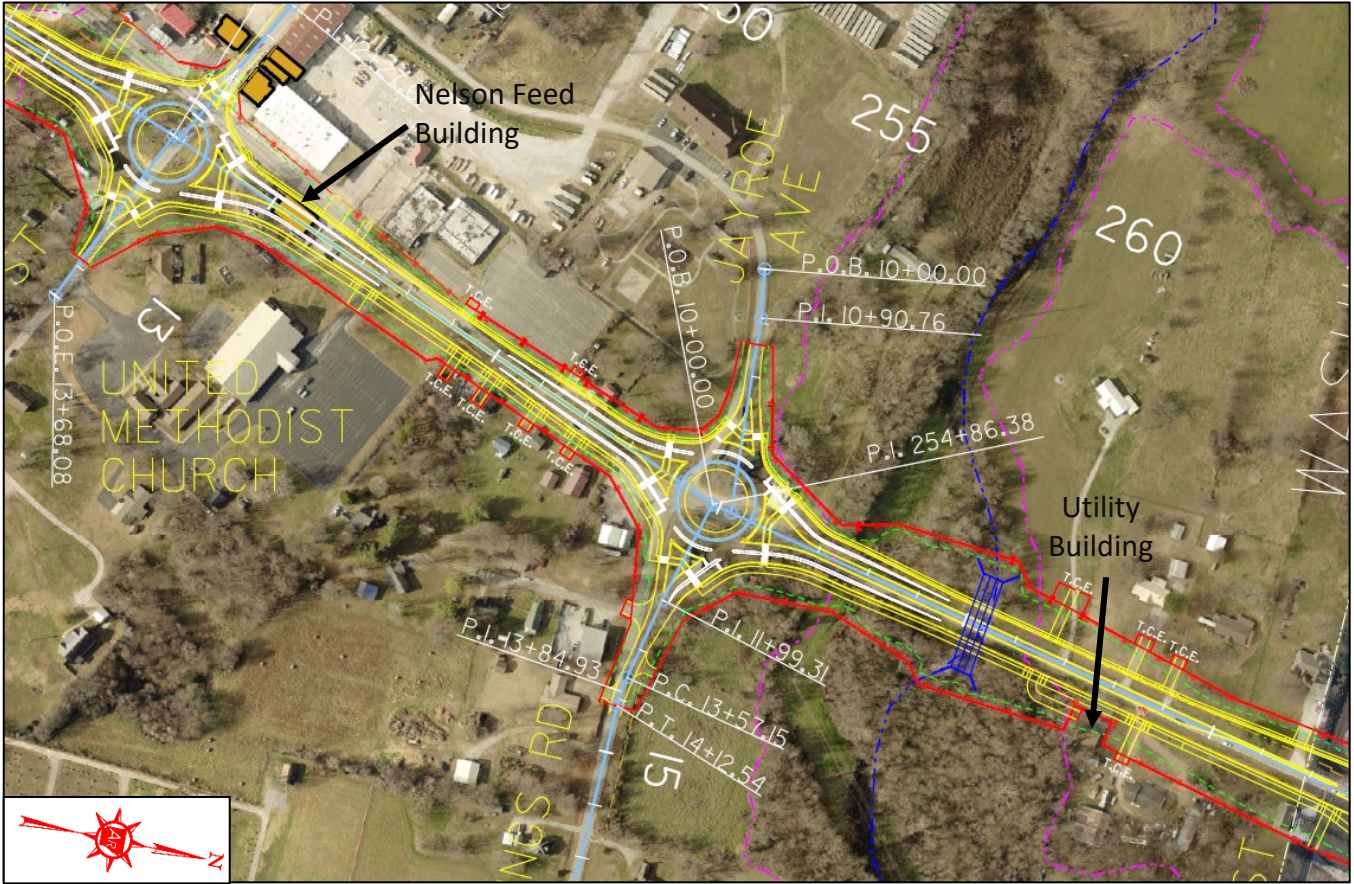


Figure 5

Alternative E3

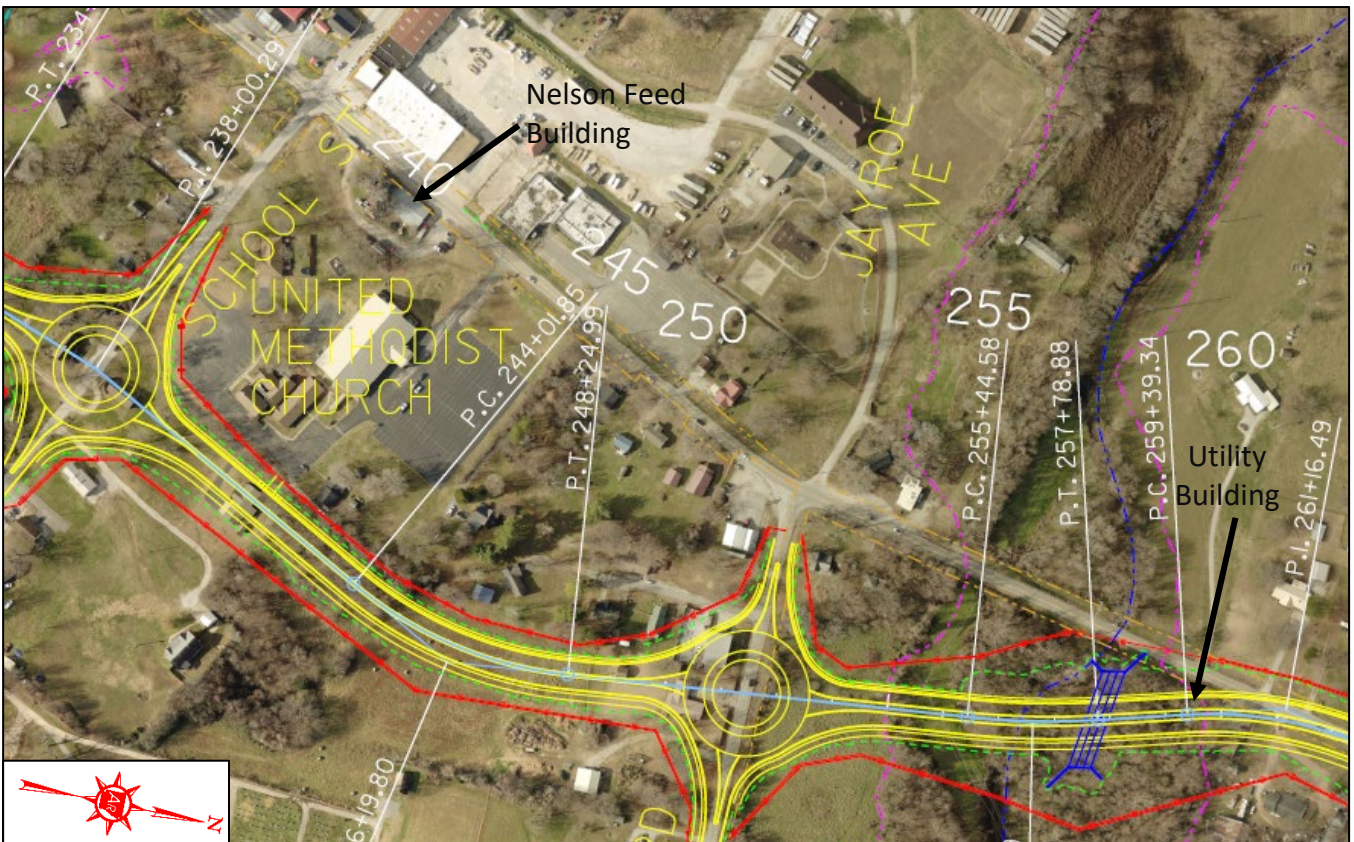


Figure 6

Alternative E4

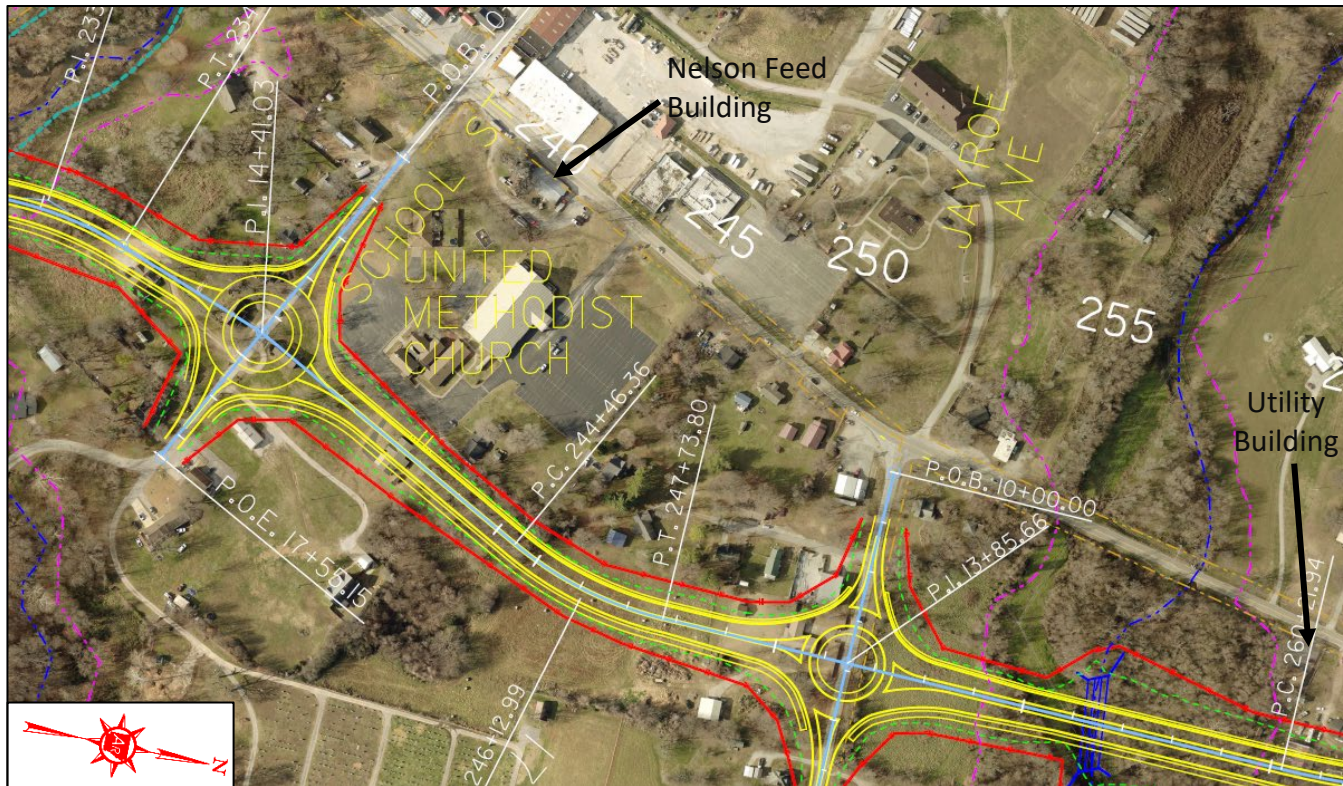


Figure 7

Per 23 C.F.R. § 774.5(a), the Department of Interior (DOI) was provided the opportunity to comment on the draft Section 4(f) evaluation. The DOI had no objection to the draft Section 4(f) evaluation and concurred with the Section 106 adverse effect determination and that there is no feasible and prudent avoidance alternative to the Section 4(f) use of the property. DOI coordination is attached.

6 What has been proposed to mitigate the impacts to the Section 4(f) property?

The FHWA and the SHPO reached an agreement through the Section 106 process (36 C.F.R. § 800) in the National Historic Preservation Act (16 U.S.C. § 470) on measures to minimize harm, which have been incorporated into this project. To resolve the adverse effect to the Nelson Feed Building, ARDOT drafted their standard mitigation measures into a MOA and consulted with FHWA and the SHPO staff.

In the MOA, FHWA, SHPO and ARDOT agreed that the Nelson Feed Building would be documented before demolition to the Arkansas Historic Preservation Program (AHPP) architectural documentation standards set forth in the AHPP's 2016 Survey Procedures Manual: Guidelines for Historic and Architectural Surveys in Arkansas. ARDOT staff also conducted additional research, and a brief written history will be added to the architectural documentation. ARDOT will provide the documentation for curation to the AHPP, Arkansas State Library, the Arkansas Studies Institute, the Arkansas State Archives, and the Torryson Library at the University of Central Arkansas. An executed copy of the MOA,

which includes all agreed-upon mitigation stipulations, is attached. No construction will be undertaken on the historic property until all fieldwork portions of the required mitigation have been completed.

7 What are the results of this Section 4(f) evaluation?

FHWA is required to select an alternative that avoids the use of the Section 4(f) resource if such an alternative is found that is both feasible and prudent, per 23 C.F.R. § 774.3(a). The No Action Alternative avoided use of the Nelson Feed Building and is feasible per 23 C.F.R. § 774.17 but does not meet the project’s purpose and need. Alternatives E3 and E4 avoided use of the Nelson Feed Building, are feasible, and meet the project’s purpose and need.

Alternative E3 would have impacted a utility building, adding unreasonable relocation costs and delays to the project schedule. Alternative E4 would have avoided the utility building but required seven additional relocations compared to Alternative E2. A summary of the factors required to be considered in determining whether an alternative is prudent under 23 C.F.R. § 774.17 can be found in Table 2.

Table 2

Avoidance Alternative Analysis

“Prudent” Alternative Factor Considered	No Action Alternative	Avoidance Alternative E3	Avoidance Alternative E4
(i) It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need	Yes	—	—
(ii) It results in unacceptable safety or operational problems	Yes	—	—
(iii) After reasonable mitigation, it still causes:			
(A) Severe social, economic, or environmental impacts			
(B) Severe disruption to established communities			
(C) Severe disproportionate impacts to minority or low income populations	—	Yes	Yes
(D) Severe impacts to environmental resources protected under other Federal statutes			
(iv) It results in additional construction, maintenance, or operational costs of an extraordinary magnitude	—	Yes	Yes
(v) It causes other unique problems or unusual factors	—	Yes	-
(vi) It involves multiple [above] factors...that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude	—	—	—

A summary of the alternative analysis can be found in Table 3.

Table 3

Section 4(f) Alternative Analysis Summary

Factor Considered	No Action Alternative	Alternative E1	Preferred Alternative E2	Avoidance Alternative E3	Avoidance Alternative E4
Feasible	Yes	Yes	Yes	Yes	Yes
Prudent	No	Yes	Yes	No	No
Uses Section 4(f) Property	No	Yes	Yes	No	No
Harm to Section 4(f) Property After Mitigation	None	Adverse Effect to Nelson Feed Building	Adverse Effect to Nelson Feed Building	None	None
Impact Comparison	None	More relocations	Fewer relocations and lower cost	Highest cost	Most relocations

When no feasible and prudent avoidance alternatives are identified, the remaining alternatives must be considered to determine which would cause the “least overall harm” to the Section 4(f) resource. The factors that are required to be considered in this analysis under 23 C.F.R. § 774.3(c)(1) for the use of a Section 4(f) property can be found in Table 4.

Based on the above considerations, there is no feasible and prudent alternative to the proposed use of the Nelson Feed Building, and the action includes all possible planning to minimize harm to the property resulting from such use. Alternatives E3 and E4, the avoidance alternatives, would result in severe adverse impacts, the magnitude of which substantially outweighs the importance of protecting the Section 4(f) property.

It is the recommendation of FHWA that Alternative E2 be identified as the Selected Alternative. Alternative E2 minimizes relocations and cost while fully meeting the project’s purpose and need. The Nelson Feed Building will be demolished by the construction of the Selected Alternative and will be documented to AHPP standards as mitigation for the adverse effect.

Table 4

Least Overall Harm Analysis

Factor Considered	Alternative E1	Preferred Alternative E2
(i) The ability to mitigate adverse impacts to each Section 4(f) property;	The adverse effect to the Nelson Feed Building will be mitigated through an MOA.	The adverse effect to the Nelson Feed Building will be mitigated through an MOA.
(ii) The relative severity of the remaining harm, after mitigation, to the protected features that qualify each Section 4(f) property for protection;	The building will be demolished, but the architectural documentation will be retained and provided for curation at several facilities.	The building will be demolished, but the architectural documentation will be retained and provided for curation at several facilities.
(iii) The relative significance of the Section 4(f) property;	The Nelson Feed Building is eligible for the NRHP under Criterion C, as a good example of an early twentieth century agricultural support facility.	The Nelson Feed Building is eligible for the NRHP under Criterion C, as a good example of an early twentieth century agricultural support facility.
(iv) The views of the official with jurisdiction over each Section 4(f) property;	The SHPO determined that mitigation was acceptable for the Nelson Feed Building.	The SHPO determined that mitigation was acceptable for the Nelson Feed Building.
(v) The degree to which each alternative meets the purpose and need for the project;	Fully meets the project purpose and need	Fully meets the project purpose and need
(vi) After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f);	More relocations	Fewer relocations
(vii) Substantial differences in costs among the alternatives.	Higher right of way and relocation costs	Lower right of way and relocation costs



THE DEPARTMENT OF ARKANSAS
HERITAGE

Asa Hutchinson
Governor

Stacy Hurst
Director

February 5, 2019

**RECEIVED
ARDOT**

FEB 07 2019

**ENVIRONMENTAL
DIVISION**

Mr. John Fleming
Division Head
Environmental Division
Arkansas State Highway and Transportation Department
PO Box 2261
Little Rock, AR 72203-2261

Arkansas Arts Council

Arkansas Historic
Preservation Program

Arkansas Natural
Heritage Commission

Arkansas State Archives

Delta Cultural Center

Historic Arkansas Museum

Mosaic Templars
Cultural Center

Old State House Museum

RE: Benton County – General
Section 106 Review – FHWA
Request for Technical Assistance
ARDOT Job Number 012305
Hwy. 412 – Springdale Bypass (S)
Route 112, Sections 1 & 2
AHPP Tracking Number 102214.01

Dear Mr. Fleming:

This letter is written in response to an addendum to the proposed referenced project. The staff of the Arkansas Historic Preservation Program (AHPP) has reviewed the documents for the structures included in your letter of February 1, 2019. We concur that Structures A-E are eligible for inclusion in the National Register of Historic Places while Properties while Structures F-N are not.

Tribes that have expressed an interest in the area include the Cherokee Nation (Ms. Elizabeth Toombs), the Muscogee (Creek) Nation (Ms. Corain Lowe-Zepeda), the Osage Nation (Dr. Andrea Hunter), the Shawnee Tribe of Oklahoma (Ms. Tonya Tipton), and the United Keetoowah Band of Cherokee Indians (Ms. Sheila Bird, Erin Thomson, and Charlotte Wolfe). We recommend that they be consulted in accordance with 36 CFR § 800.2 (c) (2).

Once the undertaking is further along in the planning stages, we look forward to reviewing the proposed project. If you should have any questions or comments, please do not hesitate to contact Theresa Russell of my staff at (501)-324-9357.

Sincerely,

Scott Kaufman
Director, AHPP

cc: Mr. Randal Looney, Federal Highway Administration
Dr. Ann Early, Arkansas Archeological Survey
Crafton, Tull, & Associates, Inc.
Mr. C. Andrew Buchner, Panamerican Consultants, Inc.



ARKANSAS HISTORIC
PRESERVATION PROGRAM



1100 North Street
Little Rock, AR 72201

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fax: (501) 324-9184

info@arkansaspreservation.org
www.arkansaspreservation.com

**MEMORANDUM OF AGREEMENT
AMONG THE
FEDERAL HIGHWAY ADMINISTRATION,
THE ARKANSAS STATE HISTORIC PRESERVATION OFFICER
AND THE ARKANSAS DEPARTMENT OF TRANSPORTATION
REGARDING
ARDOT JOB 012305
HWY. 412 – SPRINGDALE BYPASS (S)
HIGHWAY 112, BENTON & WASHINGTON COUNTIES, ARKANSAS
NELSON FEED BUILDING**

WHEREAS, the Federal Highway Administration (FHWA) and the Arkansas Department of Transportation (ARDOT) plan to carry out Job 012305, which is a federal undertaking as defined under 36 CFR § 800.16(y); and

WHEREAS, the undertaking consists of widening Hwy. 112 from a two-lane to a four-lane divided highway on existing and new location for 4.4 miles in order to improve safety, congestion, and reliability, in Benton and Washington Counties; and

WHEREAS, the FHWA has defined the undertaking's area of potential effect (APE) as the proposed right-of-way acquired for the widening of Hwy. 112; and

WHEREAS, the Arkansas FHWA Division Administrator is the "Agency Official" responsible for ensuring that the Program in Arkansas complies with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA) (54 U.S.C. § 306108), and codified in its implementing regulations, 36 *Code of Federal Regulations* (CFR) Part 800, as amended; and

WHEREAS, ARDOT administers Federal-aid projects throughout Arkansas as authorized by Title 23 U.S.C 302; and

WHEREAS, the responsibilities of the Arkansas State Historic Preservation Officer (SHPO) under Section 106 of the NHPA and 36 CFR Part 800 are to advise, assist, review, and consult with federal agencies as they carry out their historic preservation responsibilities; and

WHEREAS, ARDOT, in consultation with SHPO, has determined that the Nelson Feed Building (Building) at 110 N. Elm Street, in Elm Springs, is eligible for inclusion in the National Register of Historic Places under Criterion C (Design/Construction); and

WHEREAS, the Building will be demolished and results in an adverse effect for this undertaking; and

ARDOT Job 012305
Memorandum of Agreement
Page 2 of 7

WHEREAS, FHWA has consulted with the Osage Nation, the Caddo Nation, the United Keetoowah Band of Cherokee Indians in Oklahoma, and the Shawnee Tribe, regarding the effects of the undertaking on historic properties of religious or cultural significance; and

WHEREAS, in accordance with 36 CFR § 800.6(a)(1), the FHWA has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination, and the ACHP did not respond to the request for participation pursuant to 36 CFR § 800.6(a)(1)(iii); and

WHEREAS, the definitions set forth in 36 CFR § 800.16 are applicable throughout this Memorandum of Agreement (MOA).

NOW THEREFORE, the FHWA, the SHPO, and ARDOT agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the adverse effect of this undertaking on the historic property.

STIPULATIONS

The FHWA, through ARDOT, shall ensure that the following stipulations are carried out.

I. MITIGATION OF ADVERSE EFFECT TO THE HISTORIC PROPERTY

- A. ARDOT will produce architectural documentation for the Nelson Feed Building that meets the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* set forth in 48 FR 44716 and the Arkansas Historic Preservation Program's (AHPP) 2016 *Survey Procedures Manual: Guidelines for Historic and Architectural Surveys in Arkansas*. Documentation for the Building will include the AHPP Arkansas Architectural Resources Form and color digital photographs.
- B. The documentation will be provided for curation to the AHPP, the Arkansas State Library, the Arkansas Studies Institute, the Arkansas State Archives, and the Torreyson Library at the University of Central Arkansas.
- C. No construction will be undertaken on the historic property until all fieldwork portions of the required mitigation have been completed.

D. The FHWA shall ensure that adequate time and funding are provided in order to carry out all aspects of the required mitigation.

II. HUMAN REMAINS

Human remains are not expected to be discovered on this undertaking; however, if they are encountered during implementation of the project, all activity in the vicinity of the discovery shall cease. Procedures shall follow those as outlined in Stipulation XII of the *Programmatic Agreement Among the FHWA, the SHPO, the ACHP, the Osage Nation, and ARDOT Regarding Section 106 Implementation for Federal-Aid Transportation Projects*. The treatment of human remains shall follow the guidelines developed for the *Arkansas Burial Law* (Act 753 of 1991, as amended) and the ACHP's *Policy Statement Regarding Treatment of Burial Sites, Human Remains, and Funerary Objects* published February 23, 2007. As such a permit will be obtained from the AHPP prior to exaction of any remains.

III. DURATION

This MOA will expire if its terms are not carried out within ten (10) years from the date of its execution. Prior to such time, the FHWA may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation VIII below.

IV. PROFESSIONAL QUALIFICATIONS STANDARDS

The FHWA shall ensure that all historic preservation activities pursuant to this MOA are carried out by, or under the direct supervision of, a person or persons meeting the appropriate qualifications set forth in the Secretary of the Interior's professional qualification standards (36 CFR Part 61).

V. POST-REVIEW DISCOVERY SITUATIONS

Pursuant to 36 CFR § 800.13, if cultural material is discovered during implementation of the project, then procedures shall follow those as outlined in Stipulation XI of the *Programmatic Agreement Among the FHWA, the SHPO, the ACHP, the Osage Nation, and ARDOT Regarding Section 106 Implementation for Federal-Aid Transportation Projects*.

VI. DISPUTE RESOLUTION

Should the SHPO or any consulting party to this MOA object within thirty (30) calendar days to any findings, proposed actions or determinations made pursuant to this MOA, the FHWA shall consult with

the objecting party to resolve the objection. If the FHWA determines that the objection cannot be resolved, it shall request further comments from the ACHP pursuant to 36 CFR § 800.7. Any ACHP comment provided in response to such a request shall be taken into account by the FHWA in accordance with 36 CFR § 800.6(b)(2) with reference only to the subject of the dispute. The FHWA's responsibility to carry out all actions under this MOA that are not subject to dispute shall remain unchanged.

VII. MONITORING

The consulting parties or one or more parties in cooperation may monitor the undertaking and stipulations carried out pursuant to this MOA.

VIII. AMENDMENTS

Should any of the signatories to this MOA believe that the terms of this MOA are not being met or cannot be met, that party shall immediately notify the other signatories and request consultation to amend this MOA in accordance with 36 CFR § 800.6. The process to amend this MOA shall be conducted in a manner similar to that leading to the execution of this MOA.

IX. TERMINATION

If any signatory to this MOA determines that its terms of this MOA will not or cannot be carried out, that party shall immediately consult with other signatories to attempt to develop an amendment per Stipulation VIII, above. If within thirty (30) days an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories. In the event of termination, the FHWA shall comply with 36 CFR § 800.4 through 800.6 with regard to the undertaking covered by this MOA.

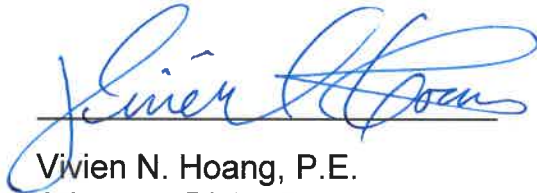
X. FULFILLMENT OF SECTION 106 RESPONSIBILITIES

Execution of this MOA and implementation of its terms evidences that the FHWA has taken into account the effect of the undertaking on the historic property and has fulfilled its Section 106 responsibilities under the NHPA of 1966, as amended.

ARDOT Job 012305
Memorandum of Agreement
Page 5 of 7

Signatory

FEDERAL HIGHWAY ADMINISTRATION



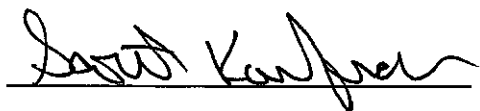
Vivien N. Hoang, P.E.
Arkansas Division Administrator

6/5/2023
Date

ARDOT Job 012305
Memorandum of Agreement
Page 6 of 7

Signatory

ARKANSAS STATE HISTORIC PRESERVATION OFFICER



Director Scott Kaufman
Arkansas State Historic Preservation Officer

5-19-23

Date

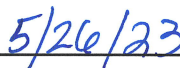
ARDOT Job 012305
Memorandum of Agreement
Page 7 of 7

Signatory

ARKANSAS DEPARTMENT OF TRANSPORTATION



Lorie H. Tudor, P.E. 
Director 



Date



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
1001 Indian School Road NW, Suite 348
Albuquerque, New Mexico 87104

Electronic Submittal Only
ER 23/0261

July 27, 2023

Mr. Randal J. Looney
Environmental Coordinator
Federal Highway Administration
Little Rock, AR 72201-3928

Subject: Comments on the Federal Highway Administration (FHWA) Section 4(f)
Evaluation for Highway 412 Springdale Bypass (S), Benton and Washington
Counties, Arkansas

Dear Mr. Looney:

The Department of the Interior (Department) has reviewed the FHWA and Arkansas Department of Transportation's (ARDOT) draft Section 4(f) evaluation for the Highway 412 Springdale Bypass (S) in Benton and Washington Counties, Arkansas. We understand the purpose of the proposed project is to address worsening traffic congestion, flooding issues, and the lack of bicycle and pedestrian facilities on Highway 112 in Benton and Washington Counties. The proposed project would widen and improve Highway 112 from Highway 412 to the Springdale Northern Bypass (Highway 612).

Section 4(f) of the U.S. Department of Transportation Act specifies that the Secretary of Transportation may approve a transportation program or project requiring the use of Section 4(f) property only if there is no prudent and feasible alternative that avoids the Section 4(f) properties and that the project includes all possible planning to minimize harm to the Section 4(f) properties; or, FHWA makes a finding that the project has a de minimis impact on the Section 4(f) property. One property within the area of potential effect of the proposed alignment, the Nelson Feed Building, is eligible for listing in the National Register of Historic Places (NRHP).

The Nelson Feed Building is a 1940s feed mill and store located at 110 North Elm (Highway 112) in Elm Springs, Arkansas. The building exhibits both a commercial form, in the store or warehouse section, and an agricultural form, in the feed bin section. The building has retained most of its integrity, with a front façade occurring sometime between May 2014 and October 2016. The Nelson Feed Building was determined eligible for inclusion in the NRHP under

Criterion C, as an example of an early twentieth century agricultural support facility with local significance. The Arkansas State Historic Preservation Officer (SHPO) concurred with this eligibility determination in February 2019.

Four build alternatives (E1, E2, E3, and E4) and the No Action Alternative were considered. FHWA concluded that there is no feasible and prudent alternative to the proposed use of the Nelson Feed Building, and the action includes all possible planning to minimize harm to the property resulting from such use. All alternatives were found to be feasible, but neither of the avoidance alternatives were found to be prudent due to their severe adverse impacts. The no-build alternative was also not prudent, because it does not meet the project's purpose and need. The remaining two build alternatives, Alternatives E1 and E2, were evaluated to determine which would cause the least overall harm to the Section 4(f) resource. Since both alternatives would result in the demolition of the Nelson Feed Building, these alternatives would cause the same degree of harm to the Section 4(f) property. It is the recommendation of FHWA that Alternative E2 be identified as the selected alternative as it would minimize relocations and cost while meeting the project's purpose and need.

The Nelson Feed Building will be demolished by the construction of the Selected Alternative, Alternative E2, and will be documented to Arkansas Historic Preservation Program (AHHP) standards as mitigation for the adverse effect. In March 2022, FHWA initiated consultation with United Keetoowah Band of Cherokee Indians in Oklahoma, the Osage Nation, the Caddo Nation, and the Shawnee Tribe, with additional consultation sent in November 2022 and April 2023. Two Tribes responded. In 2023, a Memorandum of Agreement (MOA) between ARDOT, FHWA, SHPO and the Osage Nation to resolve the adverse effects began in May 2023. The following mitigations were included in the MOA:

- Archival documentation for the property.
- A written history of the property to be included in the architectural documentation.
- Documentation would be provided for curation to the AHHP, Arkansas State Library, the Arkansas Studies Institute, the Arkansas State Archives, and the Torreyson Library at the University of Central Arkansas.
- No construction would be undertaken on the historic property until all fieldwork portions of the required mitigation have been completed.

The Department has reviewed the individual Section 4(f) evaluation provided by ARDOT for this project which focused on impacts the proposed action alignment would have on the Section 4(f) properties. The Department has no objection to the Section 4(f) evaluation of this project. The Department concurs with the determination that the proposed alternative would constitute an adverse effect to the Nelson Feed Building under Section 106 of the National Historic Preservation Act and concurs with ARDOT's determination that there is no feasible and prudent avoidance alternative to the Section 4(f) use of this historic property.

The Department has a continuing interest in working with ARDOT and FHWA to ensure that impacts to resources of concern to the Department are adequately addressed. For matters related to Nelson Feed Building, Section 4(f) property, please contact Rene Ohms, Acting Regional Environmental Coordinator, National Park Service - Regions 3, 4 and 5, at rene_ohms@nps.gov.

If you have any questions for the Department or need assistance, please contact me at 720-814-6167, or rebecca_collins@ios.doi.gov.

Sincerely,

**REBECCA
COLLINS**

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REBECCA COLLINS
Date: 2023.07.27
14:25:10 -06'00'

Rebecca Collins,
Regional Environmental Officer
Office of Environmental Policy and Compliance

Cc: Rene Ohms, National Park Service, rene_ohms@nps.gov
Roxanne Runkel, National Park Service, roxanne_runkel@nps.gov

Appendix E – U.S. FISH AND WILDLIFE SERVICE CONSULTATION



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Arkansas Ecological Service Field Office
110 South Amity Road, Suite 300
Conway, Arkansas 72032



July 17, 2023

Mr. John Fleming
c/o Mickey Matthews
Arkansas Department of Transportation
10324 Interstate 30
Little Rock, Arkansas 72209

Consultation Code: 2023-0088252

Dear Mr. Fleming:

The U.S. Fish and Wildlife Service (Service) reviewed your July 5, 2023, request, assessment, and determinations for Arkansas Department of Transportation (ArDOT) Job 090512/012305, Arkansas Highway 112 - Springdale Bypass (S) in Benton & Washington counties, Arkansas. ARDOT is planning to widen Arkansas Highway 112 from Highway 412 to Arkansas Highway 12, including construction of a sidewalk on one side and 12-foot mixed use trail on the other side. The project will include clearing 50.3 acres of suitable bat roosting habitat.

ARDOT determined the project will have no effect on the Piping Plover (*Charadrius melodus*), Eastern Black Rail (*Laterallus jamaicensis ssp. jamaicensis*), Red Knot (*Calidris canutus rufa*), Ozark Big-eared Bat (*Corynorhinus (=Plecotus) townsendii ingens*) and Missouri bladderpod (*Physaria filiformis*), due to limited scope of the project, lack of habitat, and distance to known populations. The project will not jeopardize the existence of the Alligator Snapping Turtle (*Macrochelys temminckii*), Tricolored Bat (*Perimyotis subflavus*), or Monarch Butterfly (*Danaus plexippus*). The Monarch Butterfly is a candidate species and as such is not federally protected under the Endangered Species Act. ARDOT made the determination that the project may affect, but is not likely to adversely affect Neosho Mucket (*Lampsilis rafinesqueana*). The nearest location of suitable habitat for Neosho Mucket is over ten miles downstream.

Numerous Gray Bats (*Myotis grisescens*) were captured during surveys. ARDOT made the determination that the project may affect, but is not likely to adversely affect Gray Bat (*Myotis grisescens*). The Indiana Bat (*Myotis sodalis*) and Northern Long-eared bat (*Myotis septentrionalis*) are presumed absent from the project area. Therefore, ARDOT determined that the project may affect, but is not likely to adversely affect these species. We cannot be reasonably certain that this action will have anything more than insignificant and/or discountable direct effects to the species from loss of foraging or sheltering habitat due to the extensive range and amount of available habitat, foraging behavior covering long distances and a variety of habitats, and BMPs being applied to minimize and/or avoid contaminant and sediment runoff into streams that might effect forage availability.

Mr. John Fleming

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The Benton County Cave Crayfish (*Cambarus aculabrum*) and Ozark Cavefish (*Troglichthys rosae*) are both cryptic subterranean species documented in the karst recharge areas where the proposed highway expansion will occur. Additional pollutants may infiltrate into the subterranean aquatic systems. However, due to the species' cryptic nature, ARDOT cannot be certain of the exact species distribution or to what extent it will be exposed to pollutants, nor the specific impacts if potential exposure occurs. Construction activities also may break into a void which could affect the species. However, ARDOT cannot be reasonably certain they will break into a void or that the species will be present. Due to the difficulty in predicting the exposure of either species to harm, we cannot be reasonably certain that the project will have direct or indirect adverse effects to either species. Based on these factors, ARDOT determined the project may affect, but is not likely to adversely affect these species.

ARDOT also agreed to implement karst BMPs to the extent possible and voluntary conservation measures by funding perpetual protection of Benton County Cave Crayfish and Ozark Cavefish habitats. ARDOT is proposing, as a form of conservation measure for the Benton County Cave Crayfish and Ozark Cavefish, to deposit \$3,566,974.16 into an account to be managed by a conservation organization. These funds will be used to implement future conservation actions benefiting these species.

Due to the location of the area being affected occurring within a mostly urban environment, having relatively limited suitable habitat within the footprint of the action, the distance to known species locations, distance to known karst recharge areas, bat surveys, and the implementation of BMPs for sediment, erosion, and contaminants, the Service concurs with ARDOT's determinations of may affect, but is not likely to adversely affect for the aforementioned species. Furthermore, the Service concurs with your non-jeopardy determinations for Tri-colored Bat and Alligator Snapping Turtle. This concurrence concludes your ESA Section 7 responsibilities for these species related to this action.

The Service recommends agencies implement conservation measures for candidate species, such as the Monarch Butterfly, in action areas. In accordance with the 2020 Voluntary Prelisting Species Conservation Program (VPL Program), ARDOT will plant and maintain native wildflowers after construction as a conservation measure. The Service appreciates and supports this voluntary conservation action.

In summary, the Service appreciates the voluntary conservation measures made by ARDOT for this action. The Service recommends that your agency contact the Arkansas Ecological Services Field Office to re-initiate consultation or re-evaluate the determination key(s) in IPaC if: 1) the scope, timing, duration, or location of the proposed project changes, 2) new information/surveys reveal the action may affect listed species or designated critical habitat; a karst feature is encountered; or 3) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation with the Arkansas Ecological Services Field Office should take place before project changes are final or resources are committed.


Mr. John Fleming

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For further assistance or if you have any questions, please contact Lindsey Lewis at (501) 513-4489 or lindsey_lewis@fws.gov.

Sincerely,

**CHRISTOPHER
DAVIDSON**

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Chris Davidson
Acting Field Supervisor

cc: Project File

Read File

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[my.sharepoint.com/personal/lindsey_lewis_fws_gov/Documents/Documents/PROJECTS/FY2023/ARDO
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[Bypass/20230710_Ltr_Concurrence_ARDOT Job 090512 - 012305 - Hwy. 412 to Hwy 12 - Springdale
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