TIER 3 CATEGORICAL EXCLUSION

ARDOT JOB NUMBER 040716
FAP NUMBER – STPF-0065(52)
Massard Creek – Hwy. 22 (Widening & Reloc.) (Hwy. 255) (S)
Route 255, Section 3
Route 253, Section 1
Sebastian County, Arkansas

Submitted Pursuant to 42 U.S.C. 4332(2)
By the
U.S. Department of Transportation
Federal Highway Administration
And the
Arkansas Department of Transportation

Prepared by
Crafton Tull Associates
Rogers, Arkansas

December 12, 2018

12/13/2018
Date of Approval

Randal Looney
Environmental Coordinator
Federal Highway Administration

The ARDOT Environmental Division reviewed the referenced project and has determined it falls within the definition of the Tier 3 Categorical Exclusion as defined by the ARDOT/FHWA Memorandum of Agreement on the processing of Categorical Exclusions.

The purpose of this project is to widen and relocate a portion of Hwy. 255 in Sebastian County, Arkansas. The project begins at the Massard Creek Bridge and follows Hwy. 255 eastward. Approximately 800 feet east of Painter Lane, the project will leave existing Hwy. 255 and connect to Frontier Road. The project will then follow Frontier Road east to the existing 5-lane section just west of Taylor Avenue as shown in Figure 1. Proposed project improvements in the 2.3-mile corridor include widening from an existing 2-lane highway to a 4-lane highway with a painted median. The project also includes an overlay of Hwy. 253 from existing Hwy. 255 north to Hwy. 22, and an overlay of existing Hwy. 255 from the end of the proposed widening on the existing route east to Hwy. 22.

Hwy. 255 is currently a 2-lane road with 12-foot wide paved travel lanes and 4-foot paved shoulders. Frontier Road has two 15-foot wide paved travel lanes and no shoulders. Existing right of way width varies, averaging 100 feet along Hwy. 255 and 120 feet along Frontier Road.

The proposed improvements and typical sections are described in Table 1. The first typical section is between the Massard Creek Bridge and Massard Road, and the second typical section is between Massard Road and the project terminus on Frontier Road. There is also a typical section for the overlay projects.

Table 1: Proposed Improvements and Typical Sections

Roadway	Station	Description
Hwy. 255	100+00.00 to 112+00.00	Construction of four 11-foot travel lanes, curb and gutter, a 12-foot painted median, and 8-foot clear zones with transition to existing grade. Width of proposed right of way varies from 100 to 160 feet.
Hwy. 255/ Frontier Rd.	112+00.00 to 222+99.64	Construction of four 11-foot travel lanes, curb and gutter, a 12-foot painted median, two 4-foot bike lanes with 3 feet of green space and two 5-foot sidewalks. Width of proposed right of way varies from 120 to 210 feet.
Hwy. 253	0+11.00 to 43+18.55	Overlay of the existing road with two 11-foot travel lanes, no curb and gutter, with aggregate placed in transition from edge of pavement to the ditch profile.
Hwy. 255	3+93.88 to 60+35.46	Overlay of the existing road with two 11-foot travel lanes, no curb and gutter, with aggregate placed in transition from edge of pavement to the ditch profile.

Table 2: Design Data

Design Year	Average Daily Traffic	Percent Trucks	Design Speed
2019	9,300	6	45 mph
2039	10,900	6	45 mph

Approximately 7.2 acres of new right of way will be required for this project. There are no prime farmland impacts associated with this project as the limits are within the incorporated portions of the City of Fort Smith and the City of Barling. There are no environmental justice issues or Section 4f/6f properties involved with this project. Field inspections found no evidence of existing underground storage tanks and no hazardous waste deposits were identified.

Two owner occupied businesses will be relocated as a result of this project. Public Law 91-646, Uniform Relocation Assistance Act of 1970, as amended, will apply.

Noise predictions have been made for this project utilizing the Federal Highway Administration's TNM 2.5 (Traffic Noise Model) procedures. Two receptors may be impacted by noise from the project. It was determined that mitigation in the form of a noise barrier would not be feasible due to the need to provide access to these properties. Necessary breaks in the barrier would render it ineffective. A noise analysis is included in Appendix B.

A Phase I cultural resources survey was conducted and the report was submitted to the Department of Arkansas Heritage, State Historic Preservation Officer (SHPO). One previously recorded property was identified in the project area. As a result of damage to the property and modifications to the nearby setting, the property was not considered eligible for the National Register of Historic Places (NRHP). The project will have no adverse impact on cultural resources. The SHPO response and clearance letter are included in Appendix C.

Sebastian County participates in the National Flood Insurance Program. A small portion of both the eastern and western ends of the project right of way are within Zone A, the 100-year floodplain. The final project design will be reviewed to confirm that the design is adequate and that the potential risk to life and property are minimized. Adjacent properties should not be impacted nor have a greater flood risk than existed before construction of the project. None of the encroachments will constitute a substantial floodplain encroachment or a risk to property or life.

During the field investigation, six streams were identified as crossing or adjacent to the project corridor. Approximately 2,633 linear feet of stream impacts are anticipated as a result of the proposed project. No wetland areas were observed within the project area; therefore no wetland impacts are anticipated. Construction of the proposed project should be allowed under the terms of a Section 404 Nationwide 23 Permit as defined in

the Federal Register 82(4):1860-2008. It is expected that compensatory mitigation will be required for the stream impacts. A Wetland Finding and Stream Inventory Report have been submitted to the USACE and are included in Appendix D.

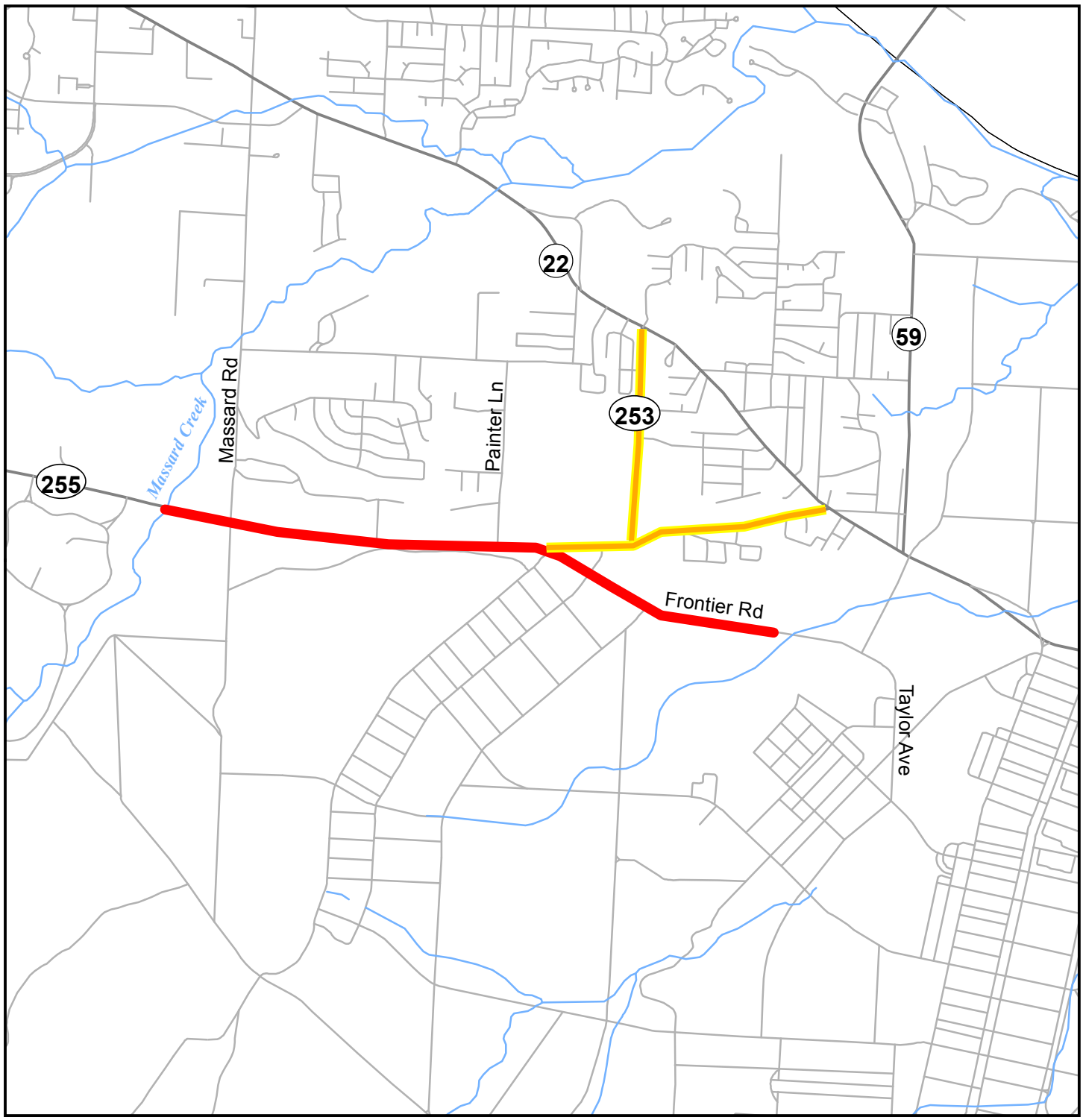
The project lies within the range or proximity of five federally protected threatened or endangered species. Those species include the northern long-eared bat (*Myotis septentrionalis*), Piping Plover (*Charadrius melodus*), Spectaclecase (*Cumberlandia monodonta*), American burying beetle (*Nicrophorus americanus*), and *Geocarpon minimum*. The candidate rattlesnake-master borer moth (*Papaipema eryngii*) is also listed for the project area. Based on the proximity and size of the areas to be cleared and distance to known species, it has been determined that the project may affect, but is not likely to adversely affect, the northern long-eared bat and the American burying beetle. Based on the lack of habitat and distance to known species, it has been determined that the proposed project will have no effect on the Piping Plover, Spectaclecase, and *Geocarpon minimum*. The USFWS concurrence with the determination can be found in Appendix C

A Public Involvement Meeting was held August 28, 2018 in Barling, Arkansas. A synopsis of this meeting is attached in Appendix E.

Listing of Commitments

- Special Provision for Migratory Birds
- Short Term Activity Authorization
- Storm Water Pollution Prevention Plan
- Compensatory Mitigation for Stream Impacts

Figure



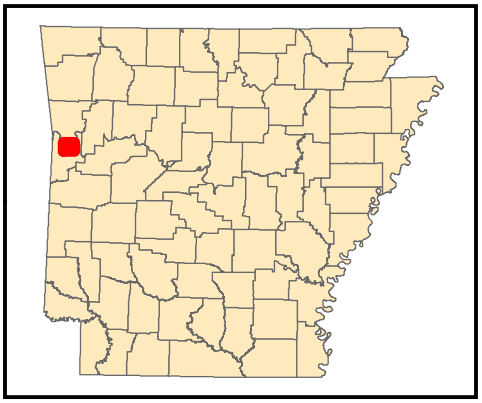
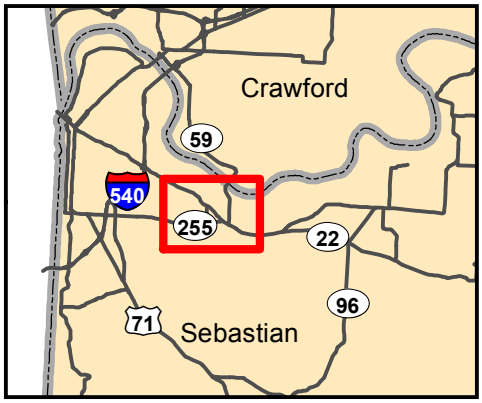


Figure 1:
ARDOT Job 040716
Project Location

Widen and Relocate
Overlay

N

0 0.5 1 Miles



Appendix A

ARDOT Environmental Impacts Assessment Form

ARDOT ENVIRONMENTAL VERIFICATION CHECKLIST FOR CONSIDERATION OF POTENTIAL IMPACTS

ARDOT Job Number 040716 **FAP Number** STPF-0065(52)

Job Title Massard Creek – Hwy. 22 (Widening & Reloc.) (Hwy. 255) (S)

Environmental Resource	None	Minimal	Major	Comments-required for each item
Air Quality		X		Temporary during construction
Cultural Resources		X		SHPO clearance attached
Economic	X			Will not be impacted by project
Endangered Species		X		USFWS concurrence attached
Environmental Justice/Title VI	X			No protected populations impacted
Fish and Wildlife		X		Minimal impact to habitat
Floodplains	X			Small portion of project in Zone A
Forest Service Property	X			None in project area
Hazardous Materials/Landfills	X			No sites in project area
Land Use		X		New ROW acquisition of undeveloped and commercial properties
Migratory Birds	X			Migratory Bird SP
Navigation/Coast Guard	X			No navigable waterways involved
Noise Levels		X		Noise Technical Report attached
Prime Farmland	X			None in project area
Protected Waters	X			None occur in project area
Public Recreation Lands	X			None in project area
Public Water Supply/WHPA	X			No public water supplies in project area
Relocatees		X		Two commercial relocations
Section 4(f)/6(f)	X			4f/6f resources not present
Social	X			No impacts to the social environment
Underground Storage Tanks	X			No USTs in project area
Visual	X			No changes to visual environment
Streams		X		Approximately 2,633 linear feet of impacts
Water Quality		X		Temporary during construction
Wetlands	X			None in project area
Wildlife Refuges	X			None in project area

Section 401 Water Quality Certification Required? Yes

Short-term Activity Authorization Required? Yes

Section 404 Permit Required? Yes Type Nationwide Permit 23

Remarks:

Signature of Evaluator Eric Kuselias Date 12/10/2018

7/27/2018

Appendix B
Noise Analysis

Bowlby & Associates, Inc.

2505 21st Avenue South, Suite 300
Nashville, TN 37212
(615) 997-3982
cpatton@bowlbyassociates.com

November 9, 2018

Mr. Mike Burns, P.E.
Senior Vice President
Crafton Tull
901 N. 47th Street, Suite 200
Rogers, AR 72756

Subject: **Screening Level Noise Analysis**
Massard Creek – Hwy 22 (Widening and Relocation, Hwy 255)
Sebastian County, Arkansas
ARDOT Job # 040716

Dear Mr. Burns:

As directed by Arkansas Department of Transportation Environmental Division staff we have conducted a screening level noise analysis on the Highway 255 Widening and Relocation project. This letter serves as our reporting on that analysis.

Fundamentals of Sound and Noise

"Noise" is defined as an unwanted sound. Sounds are described as noise if they interfere with an activity or disturb the person hearing them. Sound is measured in a logarithmic unit called a decibel (dB). The human ear is more sensitive to middle and high frequency sounds than it is to low frequency sounds, so sound levels are weighted to more closely reflect human perceptions. These "A-weighted" sounds are measured using the decibel unit dB(A). Because the dB(A) is based on a logarithmic scale, a 10 dB(A) increase in sound level is generally perceived as twice as loud while a 3 dB(A) increase is just barely perceptible to the human ear.

Sound levels fluctuate with time depending on the sources of the sound audible at a specific location. In addition, the degree of annoyance associated with certain sounds varies by time of day, depending on other ambient sounds affecting the listener and the activities of the listener. The time-varying fluctuations in sound levels at a fixed location can be quite complex, so they are typically reported using statistical or mathematical descriptors that are a function of sound intensity and time. A commonly used descriptor of the equivalent sound level is Leq, which

represents the equivalent of a steady, unvarying level over a defined period of time containing the same level of sound energy as the time varying noise environment. Leq(h) is a sound level averaged over one hour. For highway projects, the Leq(h) is commonly used to describe traffic-generated sound levels at locations of outdoor human use and activity (such as residences).

Noise Impact Criteria

Traffic noise impacts take place when the predicted traffic noise levels approach or exceed the noise abatement standard, or when the predicted traffic noise levels exceed the existing noise level by ten dB(A) (decibels on the A-scale). The noise abatement standard of 67 dB(A) is used for sensitive noise receptors such as residences (Activity Category B), and exterior frequent human use areas near schools, churches, parks, and cemeteries (Activity Category C). The noise abatement standard of 72 dB(A) is used for sensitive commercial noise receptors, such as outdoor seating areas of restaurants or office buildings. The term "approach" is considered to be one dB(A) less than the noise abatement standard.

Traffic Noise Analysis

This Type I project of roadway improvements includes widening approximately 1.4 miles of Highway 255 between Log Mile (LM) 1.08 and 2.48 and relocating and widening portions of Highway 255 along the current Frontier Road for approximately 1.1 miles.

This report contains a "Screening Level" traffic noise analysis utilizing the Federal Highway Administration's Traffic Noise Model 2.5 (TNM), proposed roadway information, and projected traffic volumes for 2039.

Traffic noise analyses were performed for the project utilizing TNM to calculate traffic noise levels from the proposed 5-lane cross-section for Highway 255. The 5-lane section consisted of four 11-foot paved travel lanes with one 12-foot center turn lane. An array of receivers was placed at 10-foot intervals away from Highway 255 to determine the approximate distance from the proposed edge of roadway pavement (EOP) to the 66 dB(A) traffic noise level. The model assumed an at-grade condition, no intervening buildings, and a "grass" default ground type. The design speed of 45 mph was used for the traffic noise predictions.

Effects of Project

The traffic noise modeling predicted noise impacts for Category B and C land uses within 70 feet of the proposed project. There are two single family residences within 70 feet of the proposed project: 2308 Church Street and 2310 Church Street.

Traffic Noise Abatement

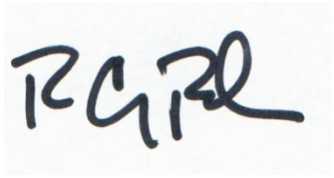
Since noise impacts are expected to result from the project, noise abatement may be needed. Based upon ARDOT's *Policy on Highway Traffic Noise Abatement*, it is generally not feasible to provide noise abatement on non-access controlled roadways. The need to provide access to the roadway from adjacent properties may require further noise abatement analysis.

To avoid noise levels in excess of design levels, any future receptors should be located a minimum of 10 feet beyond the distance that the noise abatement standard is projected to occur. This distance should be used as a general guide and not a specific rule since the noise will vary depending upon the roadway grades and other noise contributions.

Any excessive project noise, due to construction operations, should be of short duration and have a minimum adverse effect on land uses or activities associated with this project area.

If you have any questions or need further information, please contact me.

Sincerely yours,



Clay Patton
Senior Project Manager

Appendix C
Agency Coordination and Responses

THE DEPARTMENT OF ARKANSAS
HERITAGE

Asa Hutchinson
Governor

Stacy Hurst
Director

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

ARKANSAS HISTORIC PRESERVATION PROGRAM

1100 North Street
Little Rock, AR 72201

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

info@arkansaspreservation.org
www.arkansaspreservation.com

An Equal Opportunity Employer

December 5, 2018

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

RE: Sebastian County – Fort Smith
Section 106 Review – FHWA
AHTD Job Number 040716
Massard Creek – Hwy 22
(Widening & Reloc.) (Hwy. 255) (S)
Route 255, Section 3
AHPP Tracking Number 102669

Dear Mr. Fleming:

The staff of the Arkansas Historic Preservation Program (AHPP) has reviewed the submitted documents that were submitted regarding the proposed undertaking referenced above.

We agree that SB0633 is not eligible for listing in the National Register of Historic Places; therefore, we concur that the proposed undertaking will have no effect to historic properties and that no further work is required.

Tribes that have expressed an interest in the area include the Caddo Nation (Ms. Tamara Francis), the Cherokee Nation (Ms. Elizabeth Toombs), the Chickasaw Nation (Ms. Karen Brunso), the Choctaw Nation of Oklahoma (Dr. Ian Thompson), the Muscogee (Creek) Nation (Ms. Corain Lowe-Zepeda), the Osage Nation (Dr. Andrea Hunter), the Quapaw Nation of Oklahoma (Mr. Everett Bandy), and the Shawnee Tribe of Oklahoma (Ms. Tonya Tipton). We recommend that they be consulted 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, please call 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

ARKANSAS DEPARTMENT OF TRANSPORTATION
ARDOT.gov | IDriveArkansas.com | Scott E. Bennett, P.E., Director
10324 Interstate 30 | P.O. Box 2261 | Little Rock, AR 72203-2261
Phone: 501.569.2000 | Voice/TTY 711 | Fax: 501.569.2400

November 16, 2018

Mr. Melvin Tobin, Field Supervisor
U.S. Fish and Wildlife Service
Arkansas Ecological Services Field Office
110 South Amity Road, Suite 300
Conway, AR 72032

RE: ARDOT Job Number 040716
Massard Creek - Hwy. 22
(Widening & Reloc.)(Hwy. 255)(S)
Sebastian County

Dear Sir:

The Arkansas Department of Transportation, in conjunction with the Federal Highway Administration, is preparing a Categorical Exclusion for the referenced project. The project proposes work to widen and relocate a portion of Hwy. 255 west of Barling, Arkansas. The project begins at the Massard Creek Bridge and follows Hwy. 255 eastward. Approximately 800 feet east of Painter Lane, the project will leave existing Hwy. 255 and connect to Frontier Road. The project will than follow Frontier Road east to the existing 5-lane section just west of Taylor Avenue as shown in Figure 1: Project Location Map. Proposed project improvements in the 2.3 mile corridor include widening from an existing two-lane highway to a four-lane highway with a painted median. The project also includes an overlay of Hwy. 253 from Frontier Road north to Hwy. 22 and an overlay of existing Hwy. 255 from Hwy. 22 west to the relocated portion on new alignment.

Fieldwork was conducted along the corridor on October 15th and 16th, 2018 for the wetland findings and stream inventory. There are three forested/semi-forested areas in the corridor where the proposed right-of-way will require the clearing of approximately 2.6 total acres; these areas were also investigated as potential habitat for threatened and endangered species. The stream habitat in the project area does not appear to support, or be suitable habitat, for the spectaclecase (*Cumberlandia monodonta*) or the piping plover (*Charadrius melodus*). There is no suitable habitat in the project area for *Geocarpon minimum*. The wooded areas that will be impacted vary from forests dominated by pines, with some hardwoods in the mid-story, and a dense understory, to semi-forested areas with scattered hardwoods and an herbaceous understory. The project will impact approximately 2.6 acres of American burying beetle (*Nicrophorus americanus*) suitable habitat. This habitat includes open areas that appear to be maintained (mowed/brush hogged) on a regular basis. According to

American burying beetle survey protocol from the USFWS, the project will not meet one of the eleven characteristics required to initiate action. There are a few larger oaks in open yards along the corridor of which approximately 0.32 acres will be cleared. However, as the 4(d) checklist notes, no northern long-eared bat (*Myotis septentrionalis*) hibernaculum or maternity roost trees are near the project. Construction will lengthen two existing box culverts.

Based on the proximity and size of the area to be cleared and distance to known species, it is our determination that the project may, but is not likely to adversely affect the northern long-eared bat and American burying beetle. Based on the lack of habitat and distance to known species, it is our determination that the project will have no effect on the piping plover, spectaclecase, and *Geocarpon minimum*. ARDOT is requesting concurrence of the effects determination included in this letter, as concerns the listed threatened and endangered species for the project area.

Please find attached a completed Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form as well as a completed Consistency Letter (IPaC Consultation Code: 04ER1000-2019-SLI-0080) and a species list. A Categorical Exclusion is being prepared that will include any recommendations deemed necessary for the project, per USFWS coordination.

If additional information regarding the referenced projects is needed, please contact Jonathan Martinez at (504) 799-1376.

Sincerely,

John Fleming
Division Head
Environmental Division

Enclosures

c: Figure 1: Project Location
IPaC generated T&E Species List
NLEB 4(d) Rule Streamlined Consultation Form

JF:_:_

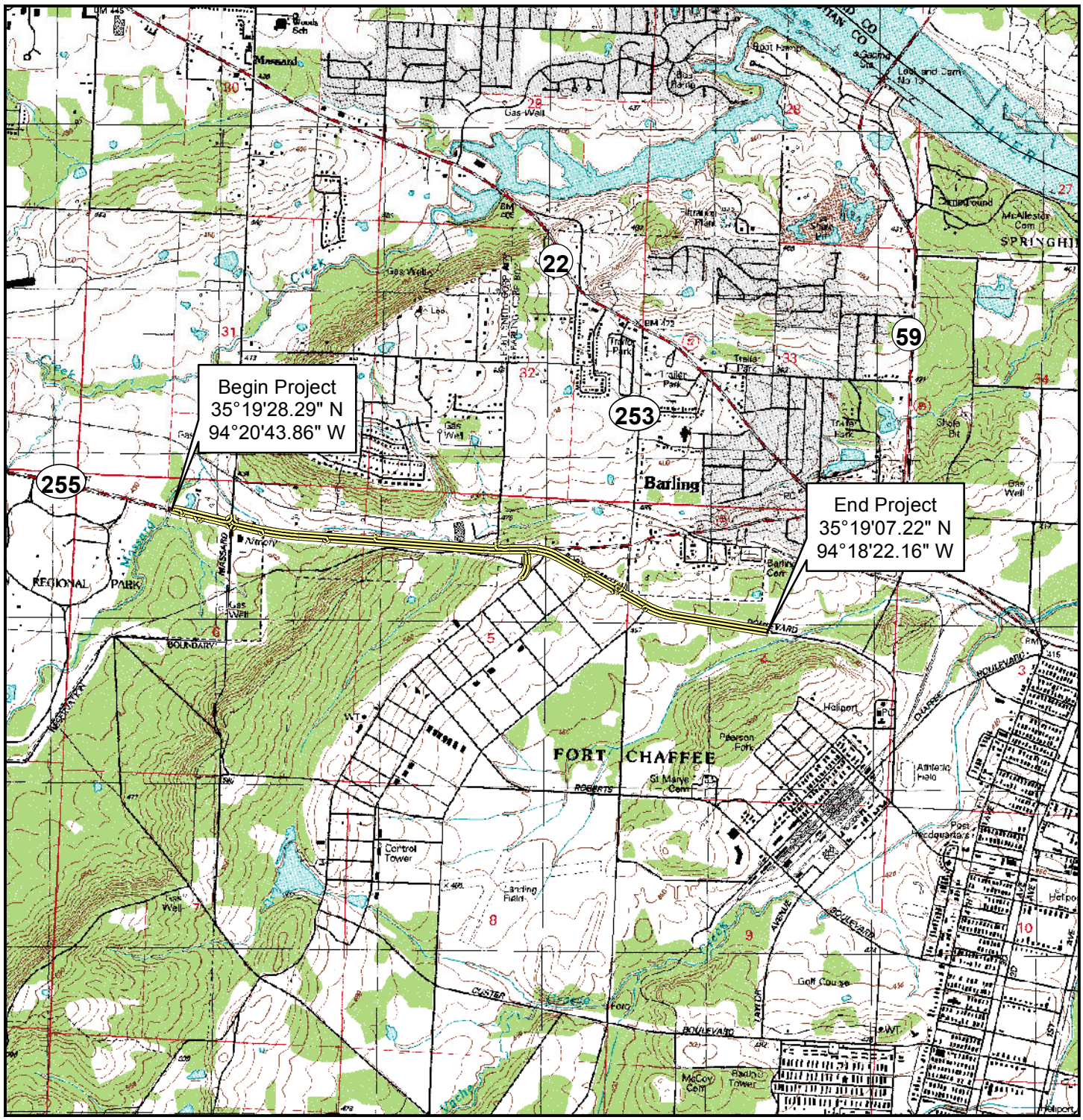


Figure 1:
ARDOT Job 040716
Project Location

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
Phone: (501) 513-4470 Fax: (501) 513-4480
http://www.fws.gov/arkansas-es

In Reply Refer To:
Consultation Code: 04ER1000-2019-SLI-0080
Event Code: 04ER1000-2019-E-00161
Project Name: ARDOT Job 040716

October 26, 2018

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies endangered, threatened, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). **This letter only provides an official species list and technical assistance; if you determine that listed species and/or designated critical habitat may be affected in any way by the proposed project, even if the effect is wholly beneficial, consultation with the Service will be necessary.**

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found on our website.

Please visit our website at http://www.fws.gov/arkansas-es/IPaC/home.html for species-specific guidance to avoid and minimize adverse effects to federally endangered, threatened, proposed, and candidate species. Our web site also contains additional information on species life history and habitat requirements that may be useful in project planning.

If your project involves in-stream construction activities, oil and natural gas infrastructure, road construction, transmission lines, or communication towers, please review our project specific guidance at http://www.fws.gov/arkansas-es/IPaC/ProjSpec.html.

The karst region of Arkansas is a unique region that covers the **northern third of Arkansas** and we have specific guidance to conserve sensitive cave-obligate and bat species. **Please visit http://www.fws.gov/arkansas-es/IPaC/Karst.html to determine if your project occurs in the karst region and to view karst specific-guidance.** Proper implementation and maintenance of best management practices specified in these guidance documents is necessary to avoid adverse effects to federally protected species and often avoids the more lengthy formal consultation process.

If your species list includes any mussels, Northern Long-eared Bat, Indiana Bat, Yellowcheek Darter, Red-cockaded Woodpecker, or American Burying Beetle, your project may require a presence/absence and/or habitat survey prior to commencing project activities. Please check the appropriate species-specific guidance on our website to determine if your project requires a survey. We strongly recommend that you contact the appropriate staff species lead biologist (see office directory or species page) prior to conducting presence/absence surveys to ensure the appropriate level of effort and methodology.

Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make “no effect” determinations. If you determine that your proposed action will have “no effect” on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally-listed threatened or endangered fish or wildlife species without the appropriate permit.

Through the consultation process, we will analyze information contained in a biological assessment that you provide. If your proposed action is associated with Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a habitat conservation plan) is necessary to harm or harass federally listed threatened or endangered fish or wildlife species. In either case, there is no mechanism for authorizing incidental take “after-the-fact.” For more information regarding formal consultation and HCPs, please see the Service's Consultation Handbook and Habitat Conservation Plans at www.fws.gov/endangered/esa-library/index.html#consultations.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, **the accuracy of this species list should be verified after 90 days.** This verification can be

completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. **Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.**

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
(501) 513-4470

Project Summary

Consultation Code: 04ER1000-2019-SLI-0080

Event Code: 04ER1000-2019-E-00161

Project Name: ARDOT Job 040716

Project Type: TRANSPORTATION

Project Description: Massard Creek - Hwy. 22 (Widening & Reloc.) (Hwy. 255) (S)

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/35.32146315189436N94.31694786152201W

Counties: Sebastian, AR

Endangered Species Act Species

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened

Clams

NAME	STATUS
Spectaclecase (mussel) *Cumberlandia monodonta* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7867	Endangered

Insects

NAME	STATUS
American Burying Beetle *Nicrophorus americanus* Population: Ex Pop, SW Missouri No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/66	Experimental Population, Non-Essential
American Burying Beetle *Nicrophorus americanus* Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/66	Endangered
Rattlesnake-master Borer Moth *Papaipema eryngii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7863	Candidate

Flowering Plants

NAME	STATUS
Geocarpon minimum No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7699	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form

Federal agencies should use this form for the optional streamlined consultation framework for the northern long-eared bat (NLEB). This framework allows federal agencies to rely upon the U.S. Fish and Wildlife Service's (USFWS) January 5, 2016, intra-Service Programmatic Biological Opinion (BO) on the final 4(d) rule for the NLEB for section 7(a)(2) compliance by: (1) notifying the USFWS that an action agency will use the streamlined framework; (2) describing the project with sufficient detail to support the required determination; and (3) enabling the USFWS to track effects and determine if reinitiation of consultation is required per 50 CFR 402.16.

This form is not necessary if an agency determines that a proposed action will have no effect to the NLEB or if the USFWS has concurred in writing with an agency's determination that a proposed action may affect, but is not likely to adversely affect the NLEB (i.e., the standard informal consultation process). Actions that may cause prohibited incidental take require separate formal consultation. Providing this information does not address section 7(a)(2) compliance for any other listed species.

Information to Determine 4(d) Rule Compliance:	**YES**	**NO**
1. Does the project occur wholly outside of the WNS Zone[1]?	☐	☒
2. Have you contacted the appropriate agency[2] to determine if your project is near known hibernacula or maternity roost trees?	☒	☐
3. Could the project disturb hibernating NLEBs in a known hibernaculum?	☐	☒
4. Could the project alter the entrance or interior environment of a known hibernaculum?	☐	☒
5. Does the project remove any trees within 0.25 miles of a known hibernaculum at any time of year?	☐	☒
6. Would the project cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree from June 1 through July 31.	☐	☒

You are eligible to use this form if you have answered yes to question #1 **or** yes to question #2 **and** no to questions 3, 4, 5 and 6. The remainder of the form will be used by the USFWS to track our assumptions in the BO.

Agency and Applicant[3] AECOM on behalf of Arkansas Department of Transportation

jonathan.w.martinez@aecom.com, 504-799-1376

Project Name: Massard Creek – Hwy. 22 (Widening & Reloc.)(Hwy. 255)(S)

Project Location (include coordinates if known): Sebastian County (35.32297,-94.320503)

Basic Project Description (provide narrative below or attach additional information): Widen and relocate a portion of Hwy. 255 west of Barling, Arkansas (Job No. 040716).

[1] http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf
[2] See http://www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html
[3] If applicable - only needed for federal actions with applicants (e.g., for a permit, etc.) who are party to the consultation.

General Project Information	**YES**	**NO**
Does the project occur within 0.25 miles of a known hibernaculum?	☐	☒
Does the project occur within 150 feet of a known maternity roost tree?	☐	☒
Does the project include forest conversion[4]? (if yes, report acreage below)	☐	☒
Estimated total acres of forest conversion		
If known, estimated acres[5] of forest conversion from April 1 to October 31		
If known, estimated acres of forest conversion from June 1 to July 31[6]		
Does the project include timber harvest? (if yes, report acreage below)	☒	☐
Estimated total acres of timber harvest	2.6 acres	
If known, estimated acres of timber harvest from April 1 to October 31	0	
If known, estimated acres of timber harvest from June 1 to July 31	0	
Does the project include prescribed fire? (if yes, report acreage below)	☐	☒
Estimated total acres of prescribed fire		
If known, estimated acres of prescribed fire from April 1 to October 31		
If known, estimated acres of prescribed fire from June 1 to July 31		
Does the project install new wind turbines? (if yes, report capacity in MW below)	☐	☒
Estimated wind capacity (MW)		

Agency Determination:

By signing this form, the action agency determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule.

If the USFWS does not respond within 30 days from submittal of this form, the action agency may presume that its determination is informed by the best available information and that its project responsibilities under 7(a)(2) with respect to the NLEB are fulfilled through the USFWS January 5, 2016, Programmatic BO. The action agency will update this determination annually for multi-year activities.

The action agency understands that the USFWS presumes that all activities are implemented as described herein. The action agency will promptly report any departures from the described activities to the appropriate USFWS Field Office. The action agency will provide the appropriate USFWS Field Office with the results of any surveys conducted for the NLEB. Involved parties will promptly notify the appropriate USFWS Field Office upon finding a dead, injured, or sick NLEB.

Signature: _____ Date Submitted: _____

[4] Any activity that temporarily or permanently removes suitable forested habitat, including, but not limited to, tree removal from development, energy production and transmission, mining, agriculture, etc. (see page 48 of the BO).
[5] If the project removes less than 10 trees and the acreage is unknown, report the acreage as less than 0.1 acre.
[6] If the activity includes tree clearing in June and July, also include those acreage in April to October.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

IN REPLY REFER TO

Arkansas Ecological Service Field Office
110 South Amity Road, Suite 300
Conway, Arkansas 72032

December 4, 2018

Mr. John Fleming
c/o Josh Seagraves
Arkansas Department of Transportation
10324 Interstate 30
Little Rock, AR 72209

Dear Mr. Fleming,

The Service has reviewed your assessment and determinations for Arkansas Department of Transportation (ArDOT) Job Number 040716, Massard Creek - Hwy. 22 (Widening & Relocation)(Hwy. 255)(S), Sebastian County, Arkansas. The project was described and assessed as follows (abbreviated):

> The official species list identified the spectaclecase (*Cumberlandia monodonta*), piping plover (*Charadrius melodus*), Geocarpon minimum, American burying beetle (*Nicrophorus americanus*), and northern long-eared bat (*Myotis septentrionalis*) as threatened or endangered species potentially occurring within the project area. Habitat assessments were conducted along the corridor on October 15-16, 2018. There are three forested/semi-forested areas in the corridor where the proposed right-of-way will require the clearing of approximately 2.6 total acres. The remainder of the habitat is either urban or previously cleared rights-of-way. The habitat in the project area does not appear to be suitable for the spectaclecase, piping plover, or Geocarpon.
>
> The wooded areas that will be impacted vary from forests dominated by pines, with some hardwoods in the mid-story and a dense understory, to semi-forested areas with scattered hardwoods and an herbaceous understory. The project will impact approximately 2.6 acres of potentially suitable American burying beetle (*Nicrophorus americanus*) habitat. This habitat includes open areas that appear to be maintained (mowed/brush hogged) on a regular basis. According to American burying beetle survey protocol from the USFWS, the project falls below the acreage threshold established in the Arkansas Field Office's American Burying Beetle Survey Guidance.
>
> Based on the proximity and size of the area to be cleared and distance to known species, it is our determination that the project may, but is not likely to adversely affect the northern long-eared bat and American burying beetle. Based on the lack of habitat and distance to known species, it is our determination that the project will have no effect on the piping plover, spectaclecase, and Geocarpon minimum. ARDOT requests concurrence for the effects determinations included in this letter.

(The official species list, Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form and Consistency Letter (IPaC Consultation Code:04ER1000-2019-SLI-0080) and a species list were attached.)

The Service has reviewed your determination that the proposed action will not result in any prohibited incidental take for Northern Long-eared Bat. This project may affect the Northern Long-eared Bat; however, there are no effects beyond those previously disclosed in the Service's programmatic biological opinion for the final 4(d) rule dated January 5, 2016. Any taking that may occur incidental to this project is not prohibited under the final 4(d) rule (50 CFR§17.40(o)).

This project is consistent with the description of the proposed action in the programmatic biological opinion, and the 4(d) rule does not prohibit incidental take of the Northern Long-eared Bat that may occur as a result of this project. Therefore, the programmatic biological opinion satisfies the "action agency" responsibilities under ESA section 7(a)(2) relative to the Northern Long-eared Bat for this project.

Please keep in mind that you must report any departures from the plans submitted; results of any surveys conducted; or any dead, injured, or sick Northern Long-eared Bats that are found to this office. If this project is not completed within one year of this letter, you must update your determination and resubmit the required information.

The Service has reviewed the information you provided along with our records for the affected area of this action. Due to the limited size of the construction area, the proximity to the existing right-of-way (habitat that is currently either urban or previously cleared rights-of-way), minimal adjacent habitat being disturbed, minimal ground disturbance (falls below the acreage threshold for American Burying Beetle Survey Guidance), proximity to existing adjacent noise and other anthropogenic disturbance factors, and distance to known species locations; the Service concurs with your determination of "may affect, but is not likely to adversely affect for American Burying Beetle. Furthermore, the Service has no information to suggest that any other listed species would be affected by this action; therefore, the Service agrees with your assessment for all other species identified. No further action is required at this time.

For further assistance or if you have any questions, please contact Lindsey Lewis at (501) 513-4489 or lindsey_lewis@fws.gov.

Sincerely,

Melvin L. Tobin
Field Supervisor

cc: Read File

Filename: C:\Users\lilewis\Documents\PROJECTS\FY2019\ARDOT\Job Number 040716\AFO Letter - ArDOT Job 040716 - Comments.docx

Appendix D
Wetland Findings and Stream Inventory Report

Wetland Findings and Stream Inventory Report

Massard Creek – Hwy. 22 (Widening & Reloc.)(Hwy. 255) (S)

ARDOT Job No. 040716

October 26, 2018

Table of Contents

1.0 Introduction

The Arkansas Department of Transportation (ARDOT) is proposing work to widen and relocate a portion of Hwy. 255 west of Barling, Arkansas. The project begins at the Massard Creek Bridge and follows Hwy. 255 eastward. Approximately 800 feet east of Painter Lane, the project will leave existing Hwy. 255 and connect to Frontier Road. The project will than follow Frontier Road east to the existing 5-lane section just west of Taylor Avenue as shown in Figure 1: Project Location Map. Proposed project improvements in the 2.3 mile corridor include widening from an existing two-lane highway to a four-lane highway with a painted median. The project also includes an overlay of Hwy. 253 from Frontier Road north to Hwy. 22 and an overlay of existing Hwy. 255 from Hwy. 22 west to the relocated portion on new alignment.

In compliance with ARDOT guidance, the Federal Clean Water Act, and the National Environmental Policy Act, water resources were identified in the Hwy. 255 widening/relocation project improvement area. This report presents observed water resource information for agency use in their jurisdictional "waters of the United States" determination. Water resources in the project area were evaluated on October 15th and 16th, 2018, in accordance with the U.S. Army Corps of Engineers guidance, including Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region and Regulatory Guidance Letter (RGL) 05-05 for Ordinary High Water Mark (OHWM) Identification. Soils throughout the project area, in particular those in low lying areas and floodplains, were frequently checked for hydric soil indicators to confirm wetland presence or absence.

2.0 General Site Description and Setting

The site is located west of the City of Barling and is split between the Massard Creek Watershed (HUC 01040611) and the Upper Little Vache Grasse Creek Watershed (HUC 02010502). The Level IV Ecoregion classification for the project corridor is the Arkansas Valley Plains (Region 37d), which is underlain by hard sandstone capped hilltops and ridges and hillsides and valleys underlain by shale. Based on the U.S. Geological Survey (USGS) topographic maps, the project corridor elevations generally range from 420 to 510 feet. Upland vegetation dominates the project corridor and includes native oak-hickory-pine forest.

The project area includes maintained plant communities that are located along the existing road shoulder and in front of commercial buildings and residential homes. Areas along the western portion of the project corridor, particularly around the intersection of Massard Road, have been substantially developed with commercial and residential land use. The eastern portion of the project corridor is more sparsely developed with large open areas and several undeveloped tracts covered by natural plant communities, especially south of Frontier Road.

3.0 Water Resources

Jurisdictional Waters of the U.S. are defined by 33 CFR Part 328.8(b) and are protected by Section 404 of the Clean Water Act (33 USC 1344). During the field and report analysis period, six streams were identified as crossing or adjacent to the project corridor (see attached Water Resources Maps). Four of the streams appear to be low-quality, ephemeral streams (identified on the maps as Stream 3, Stream 4, Stream 5, and Stream 6), one appears to be low-quality, perennial streams (identified as Stream 1) and one and appears to be low-quality, intermittent

streams (identified as Stream 2). The six streams should be considered jurisdictional waters of the United States. Ephemeral roadside ditches were observed throughout the corridor and are not individually documented in this report. In the associated stream descriptions below, the four ephemeral streams are described with low water flow. The project area had received 1 to 2 inches of rainfall in the previous 24-hour period. At the time of observation, there was still residual flow (runoff) in these streams to varying degrees. Throughout the project corridor, observed soils were well drained loam/clay loam soils with varying percentages of gravel content. Table 1 below summarizes the location of the identified resources and is followed by a brief description and photographs. It should be noted that the assumed potential impacts listed in Table 1 are direct impacts associated with replacing or extending a culvert, or stream relocation as part of the roadway widening.

Table 1
Summary of Streams Identified

ID Number	Stream Name / Status	Station Number Crossing	Approx. GIS Coordinates (Lat/Long)		OHWM Elevation (feet msl)[1]	On-site Quantity[2]	Assumed Potential Impacts
Stream 1	Unnamed / Perennial	123+50[3]	35º 19’ 24.18” N	94º 20’ 14.89” W	426	1,639 feet	1,379 feet
Stream 1	Unnamed / Perennial	154+00[3]	35º 19’ 22.96” N	94º 19’ 38.79” W	452	1,273 feet	987 feet
Stream 2	Unnamed / Intermittent	151+45[4]	35º 19’ 23.48” N	94º 19’ 41.48” W	448	246 feet	17 feet
Stream 3	Unnamed / Ephemeral	158+16	35º 19’ 21.93” N	94º 19’ 33.80” W	458	97 feet	59 feet
Stream 4	Unnamed / Ephemeral	180+40	35º 19’ 19.57” N	94º 19’ 07.64” W	491	146 feet	24 feet
Stream 5	Unnamed / Ephemeral	211+51	35º 19’ 08.50” N	94º 18’ 33.02” W	432	367 feet	78 feet
Stream 6	Unnamed / Ephemeral	218+33	35º 19’ 07.52” N	94º 18’ 24.88” W	428	291 feet	63 feet

Notes: [1]OHWM elevations taken from existing survey contours and not field measured.
[2]On-site quantity is the length within the NEPA boundary.
[3]Stream 1 parallels the project corridor within the required ROW for a distance at two locations, the station number crossing and GPS coordinates are the approximate center point for that portion.
[4]Stream 2 enters Stream 1 at the noted location.

Stream 1

Stream 1 is an unnamed tributary of Massard Creek that flows west along the north side of existing Hwy. 255 and enters the required right-of-way between Massard Road and Red Oak Court and again between South 92nd Street and Painter Lane. Near Red Oak Court, Stream 1 is approximately 3 to 15 feet wide and is incised 1 to 8 feet with a rock, gravel, and clay channel substrate. The water width matched the channel width variably 3 to 15 feet with a low to moderate flow averaging 4 to 8 inches deep. The channel had several large pools with depths of 1 to 2 feet where several fish species were observed. The channel appeared to exhibit variable bed and bank continuity, stream substrate, and the presence of streambed vegetation. The majority of the stream at this location is a modified, fairly straight channel with maintained grass slopes and flows adjacent to the highway. When the channel enters the right-of-way on the east end, the channel makes an s-curve and exhibits cut banks that vary from 4 to 8 feet. Based upon observed conditions, Stream 1 has an OHWM and perennial flow.

Stream 1, facing downstream north of existing Hwy. 255 at eastern end where Stream 1 enters the right-of-way.

Stream 1, facing downstream north of existing Hwy. 255 at western end where Stream 1 turns northwest and exits the right-of-way.

Near Painter Lane, Stream 1 is adjacent to a large Walmart Distribution Facility and has been modified in selected sections. Stream 1 is approximately 3 feet wide and 3 to 8 inches deep with sediment and gravel channel substrate intermixed with rock. The channel is incised 6 to 8 feet and the banks are modified slopes that appear to be sprayed to control vegetation. The water width matched the channel width variably at 3 feet with a low to moderate flow. The channel transitions to a concrete lined channel for approximately 250 feet. The channel then transitions back to a natural channel, 2 to 8 feet in width and is incised from 2 to 8 feet with a rock, gravel, and clay channel substrate. The channel appeared to exhibit variable bed and bank continuity, stream substrate, and the presence of streambed vegetation. Based upon observed conditions, the section of Stream 1 near Painter Lane also has an OHWM and perennial flow.

Stream 1, facing upstream north of existing Hwy. 255 at eastern end where Stream 1 enters the right-of-way.

Stream 1, facing downstream north of existing Hwy. 255
where Stream 1 is concrete lined.

Stream 1, facing downstream north of existing Hwy. 255 at western end
where Stream 2 enters and Stream 1 turns northwest and exits the right-of-way.

Stream 2

Stream 2 is an unnamed tributary of Massard Creek that flows south and enters the proposed project right-of-way connecting into Stream 1 west of Painter Road and the Walmart Distribution Center. Stream 2 is approximately 3 feet wide and 1 to 6 inches deep with sediment and gravel channel substrate intermixed with rock. The channel is incised 1 to 2 feet and the banks are heavily vegetated. The water width matched the channel width variably at 3 feet with a low flow. The channel appeared to exhibit variable bed and bank continuity, stream substrate, and the absence of streambed vegetation. Based on observed conditions, Stream 2 does have an OHWM and intermittent flow.

Stream 2, facing upstream as it enters Stream 1, north of Hwy. 255

Stream 3

Stream 3 is an unnamed tributary of Massard Creek that flows north through the project corridor. Stream 3 has been channelized and confined to a concrete box culvert that runs under Hwy. 255 and a gas pipeline right-of-way on the south side of Hwy. 255. There is approximately 15 feet of open channel between the concrete apron and the headwall of the box culvert. On the north side of Hwy. 255, there is approximately 10 feet of eroded channel between the concrete apron of the box culvert and the concrete lined portion that connects to Stream 1. The section of the channel between the Hwy. 255 box culvert and the culverts under the gas pipeline right-of-way is an approximate 15 foot wide pool that varies in depth from 1 to 2 feet. The water width matched the channel width; the stream had no flow and was highly degraded. The modified portion of the channel between the Hwy. 255 box culvert and the concrete lined portion is approximately 10 feet wide and 3 to 8 inches deep with a gravel and sediment substrate. The water width matched

the channel width (8 to 10 feet) and exhibited no flow. The channel has been heavily eroded and degraded. Based on observed conditions, Stream 3 does have an OHWM and ephemeral flow.

Stream 3, facing downstream south of existing Hwy. 255

Stream 3, facing upstream north of existing Hwy. 255

Stream 4

Stream 4 is an unnamed tributary of Little Vache Grasse Creek that flows southeast. This stream originates in an open, maintained grass area north of Frontier Road and crosses under Frontier Road into a forested area leaving the project area. The stream north of Frontier Road is no more than a swale with the entire channel maintained grass. South of Frontier Road, the stream is a swale through the existing right-of-way to the tree line. Inside the forested area, Stream 4 widens to approximately 4 feet and is incised 6 to 12 inches with a gravel and clay substrate. The water width varied from 1 to 3 feet with a low flow averaging 1 to 4 inches deep. Portions of the channel within the existing right-of-way have been heavily modified and re-aligned with no apparent streambed characteristics present. Inside the forested area, Stream 4 has a clearly defined channel with no stream bed vegetation present. Based upon observed conditions, Stream 4 has an OHWM and ephemeral flow.

Stream 4, facing downstream south of Frontier Road

Stream 5

Stream 5 is an unnamed tributary of Little Vache Grasse Creek that flows southeast and crosses under Frontier Road just west of the APAC Inc. building. Stream 5 appears to have been partially channelized on both the north and south sides of Frontier Road, and is located in an open, maintained grass area that includes the roadway right-of-way. North of Frontier Road, Stream 5 is approximately 3 to 5 feet wide and is incised 1 to 3 feet with a sand and clay channel substrate. The water width matched the channel width variably 1 to 2 feet with a low flow averaging 2 to 4 inches deep. The channel becomes more eroded and incised north of the existing right-of-way and eventually broadens into a swale. South of Frontier Road, Stream 5 is approximately 3 to 6 feet wide and is incised 2 to 4 feet with a sand and clay channel substrate.

The water width matched the channel width variably 2 to 4 feet with a low flow averaging 2 to 4 inches deep. There are some larger pools where the banks are highly eroded. The stream channel is highly vegetated; however, the plants are not aquatic vegetation but native plants typical of a ruderal environment. Based upon observed conditions, Stream 5 has an OHWM and ephemeral flow.

Stream 5, facing upstream north of existing Frontier Road

Stream 5, facing downstream south of existing Frontier Road

Stream 6

Stream 6 is an unnamed tributary of Little Vache Grasse Creek that flows southeast and crosses under Frontier Road just west of the ARDOT District 4 building. Stream 6 appears to have been partially channelized on both the north and south sides of Frontier Road, and is located in an open, maintained grass area that includes the roadway right-of-way. North of Frontier Road, Stream 6 is approximately 1 to 3 feet wide and is incised 1 to 3 feet with a sand and clay channel substrate. The water width matched the channel width variably 1 to 2 feet with a low flow averaging 2 to 4 inches deep. The channel is eroded and incised with deeper wash holes. South of Frontier Road, Stream 6 is approximately 2 to 4 feet wide and is incised 1 to 3 feet with a sand and clay channel substrate. The water width matched the channel width variably 1 to 3 feet with a low flow averaging 4 to 8 inches deep. The channel is more shallow and much less eroded than on the north side. The stream channel is highly vegetated; however, the plants are not aquatic vegetation but native plants typical of a ruderal environment. Based upon observed conditions, Stream 6 has an OHWM and ephemeral flow.

Stream 6, facing upstream north of existing Frontier Road

Stream 6, facing downstream south of existing Frontier Road

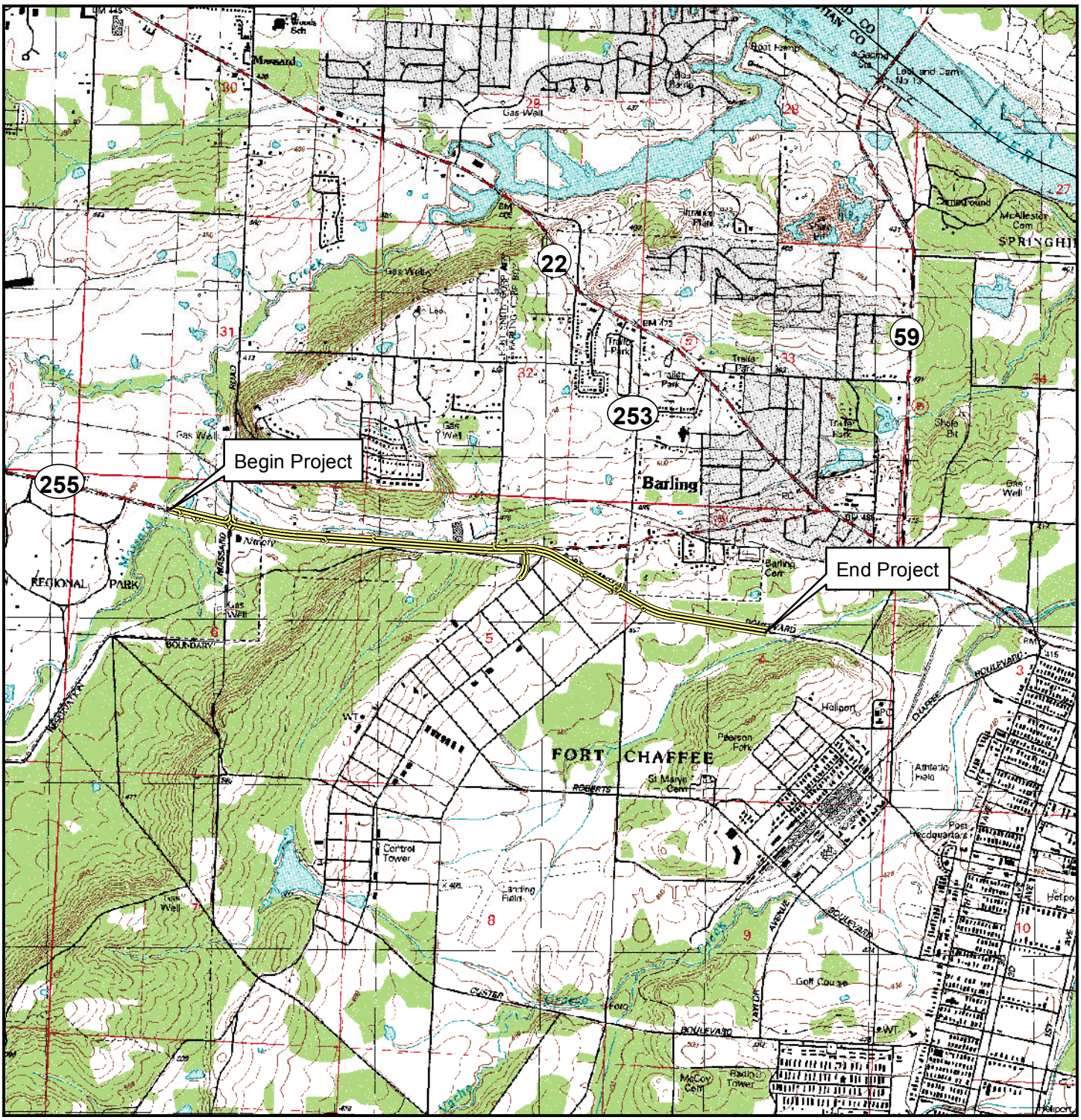
Wetlands

Nine data points were taken along the project corridor to present observed field conditions. Eight of the data points were adjacent to a stream channel to verify the potential of wetlands present adjacent to and associated with the streams. Data forms and associated site photos for the nine upland data points are included in Appendix B. No wetland areas were identified during the field investigation.

Wetland Findings and Stream Inventory Report

Appendix A

Figures



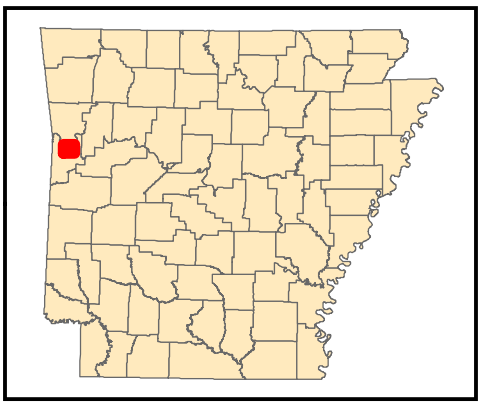
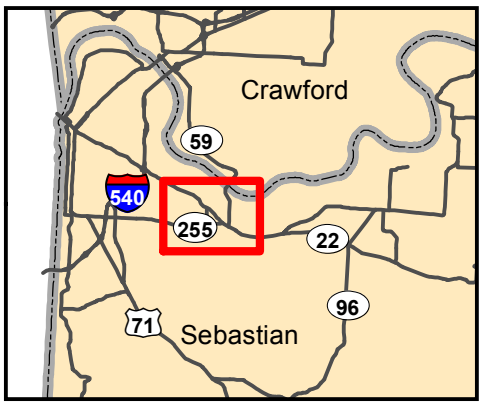


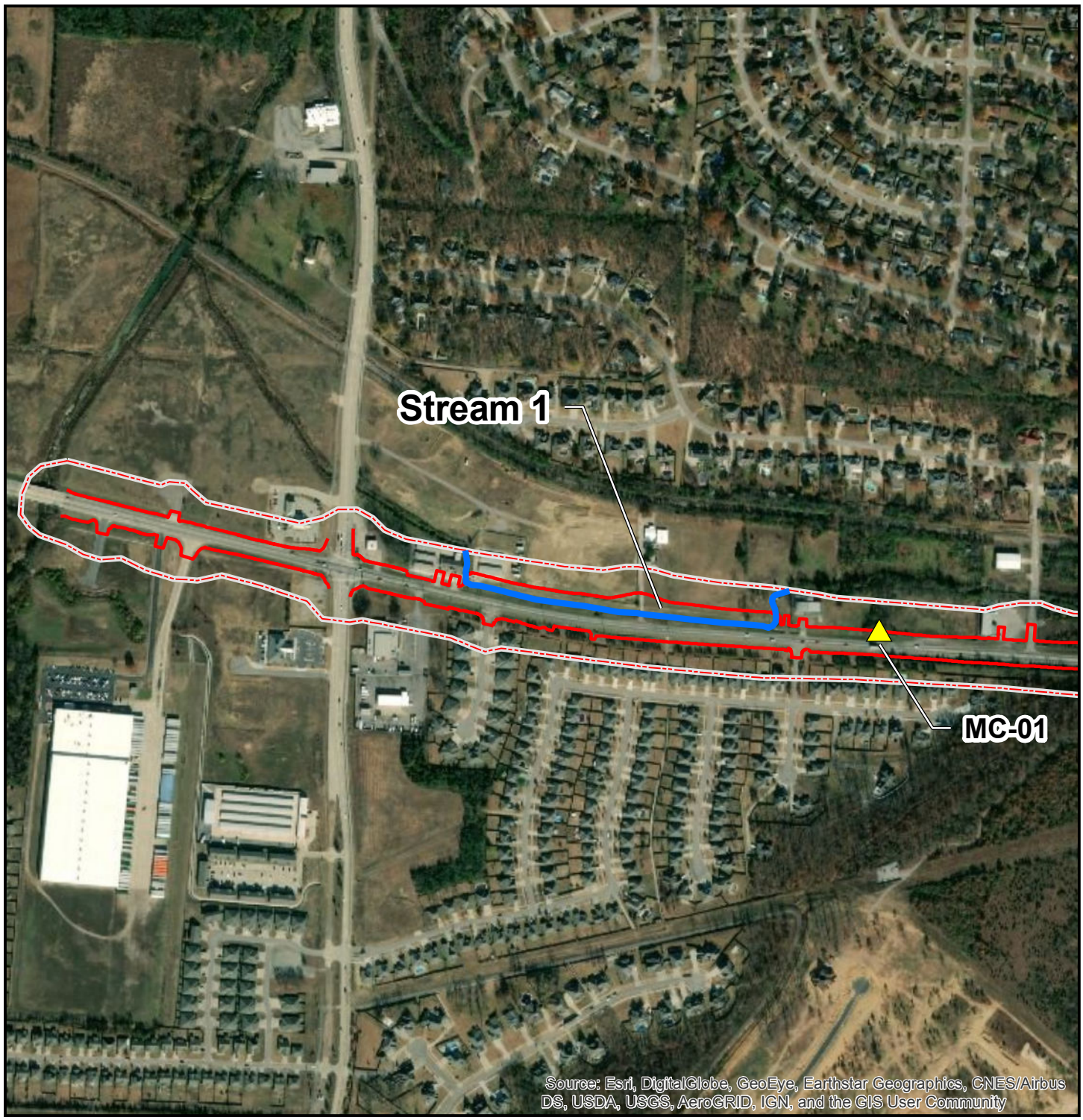
Figure 1:
ARDOT Job 040716
Project Location

Legend

Project Corridor

0 0.5 1 Miles





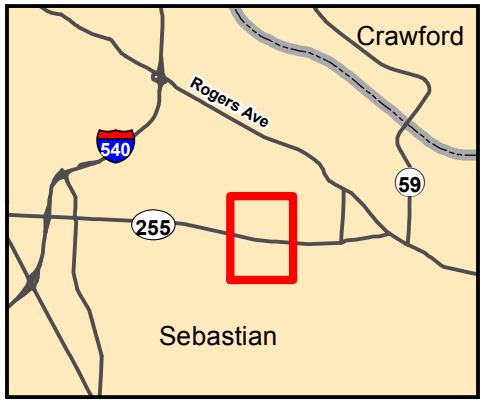


Figure 2a:
ARDOT Job 040716
Water Resources

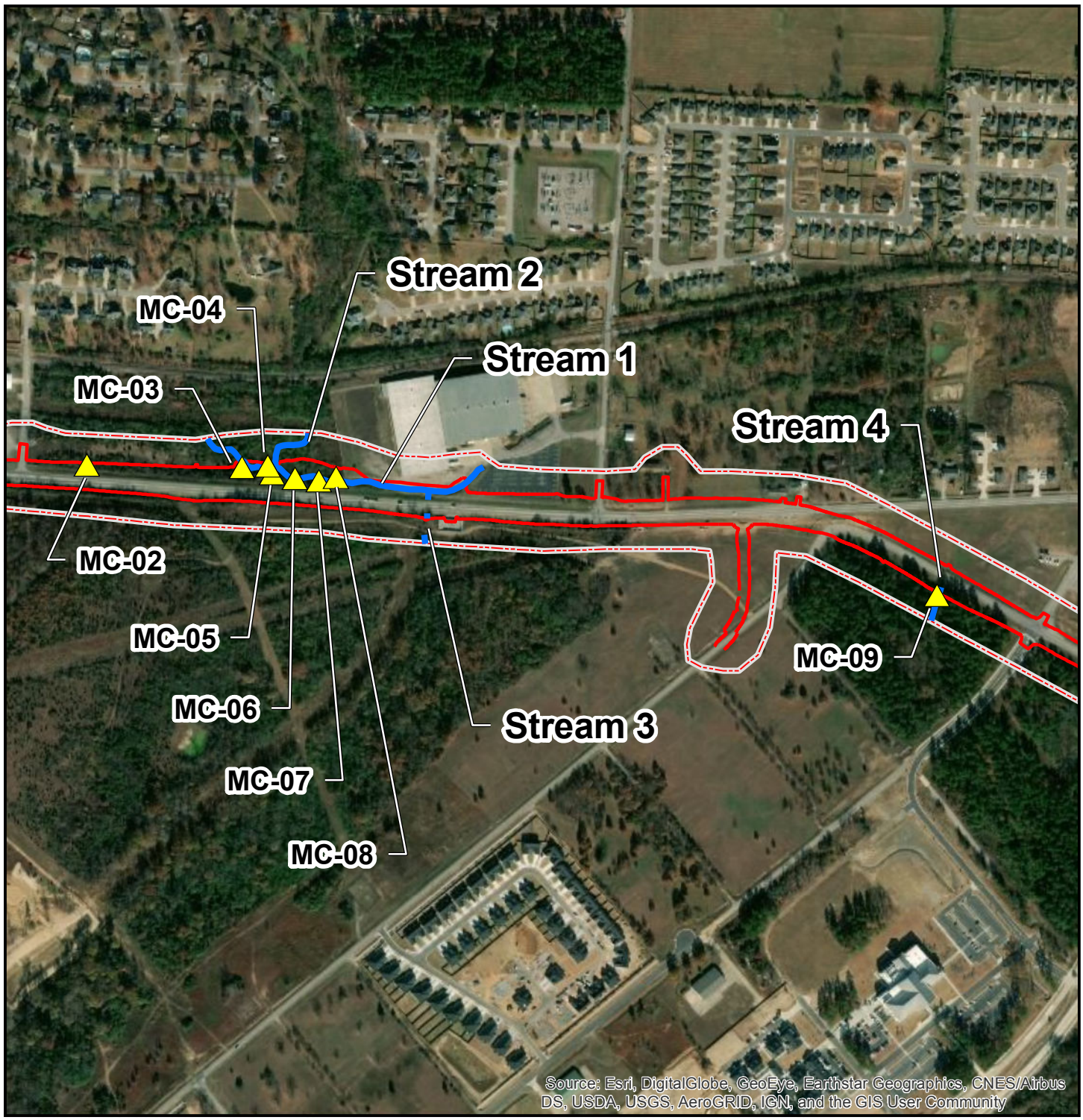
Legend

- Approximate Construction Limits
- Stream
- Data Form Location
- NEPA Study Corridor

0 600 1,200 Feet

N

1:7,200



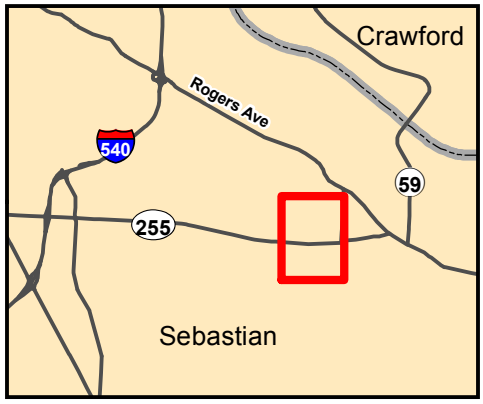


Figure 2b:
ARDOT Job 040716
Water Resources

Legend

- Approximate Construction Limits
- Stream
- Data Form Location
- NEPA Study Corridor

0 600 1,200 Feet

N

1:7,200

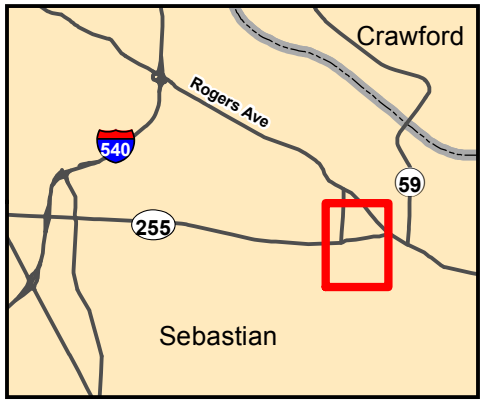


Figure 2c:
ARDOT Job 040716
Water Resources

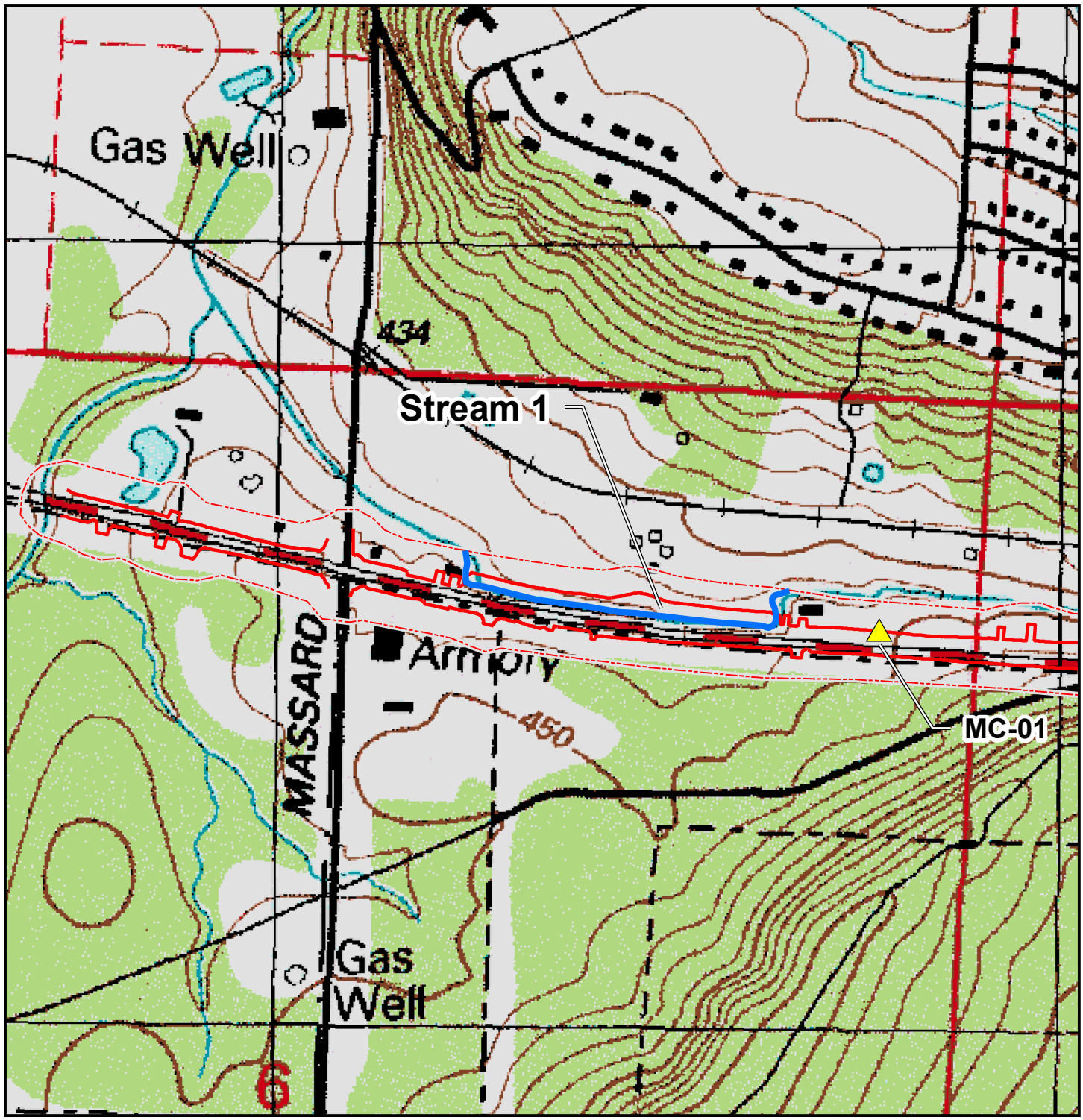
Legend

- Approximate Construction Limits
- Stream
- Data Form Location
- NEPA Study Corridor

0 600 1,200 Feet

N

1:7,200



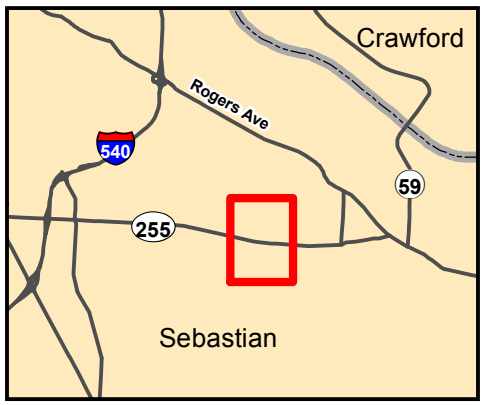


Figure 3a:
ARDOT Job 040716
Water Resources

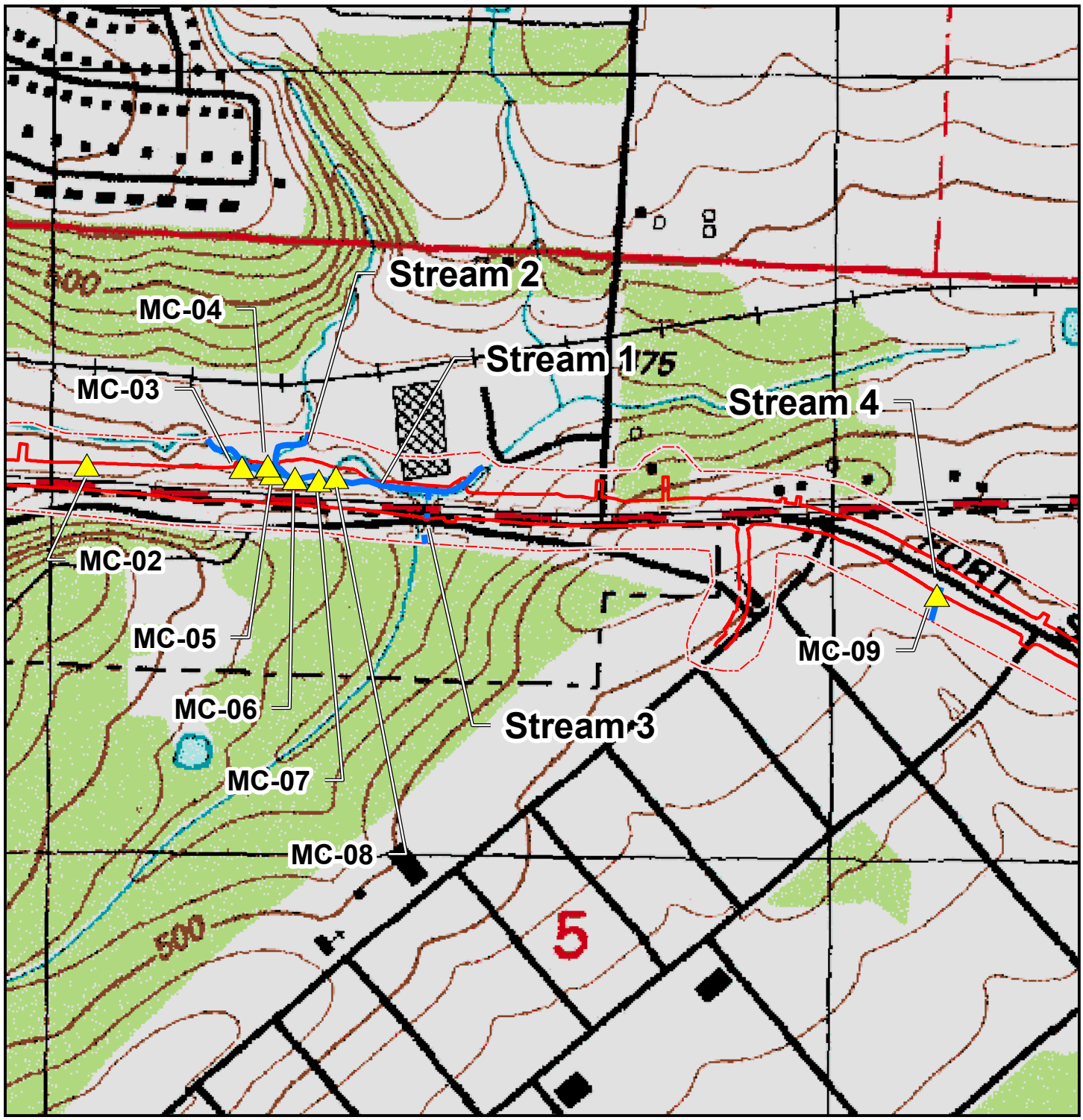
Legend

- Approximate Construction Limits
- Stream
- Data Form Location
- NEPA Study Corridor

0 600 1,200 Feet

N

1:7,200



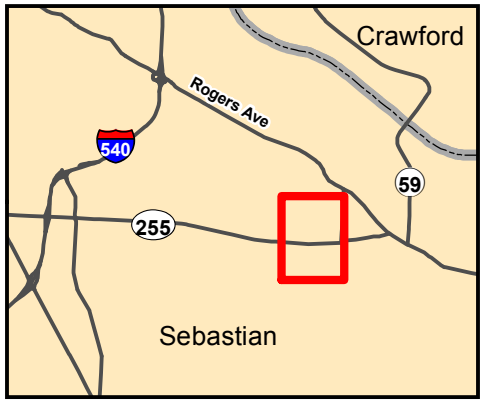


Figure 3b:
ARDOT Job 040716
Water Resources

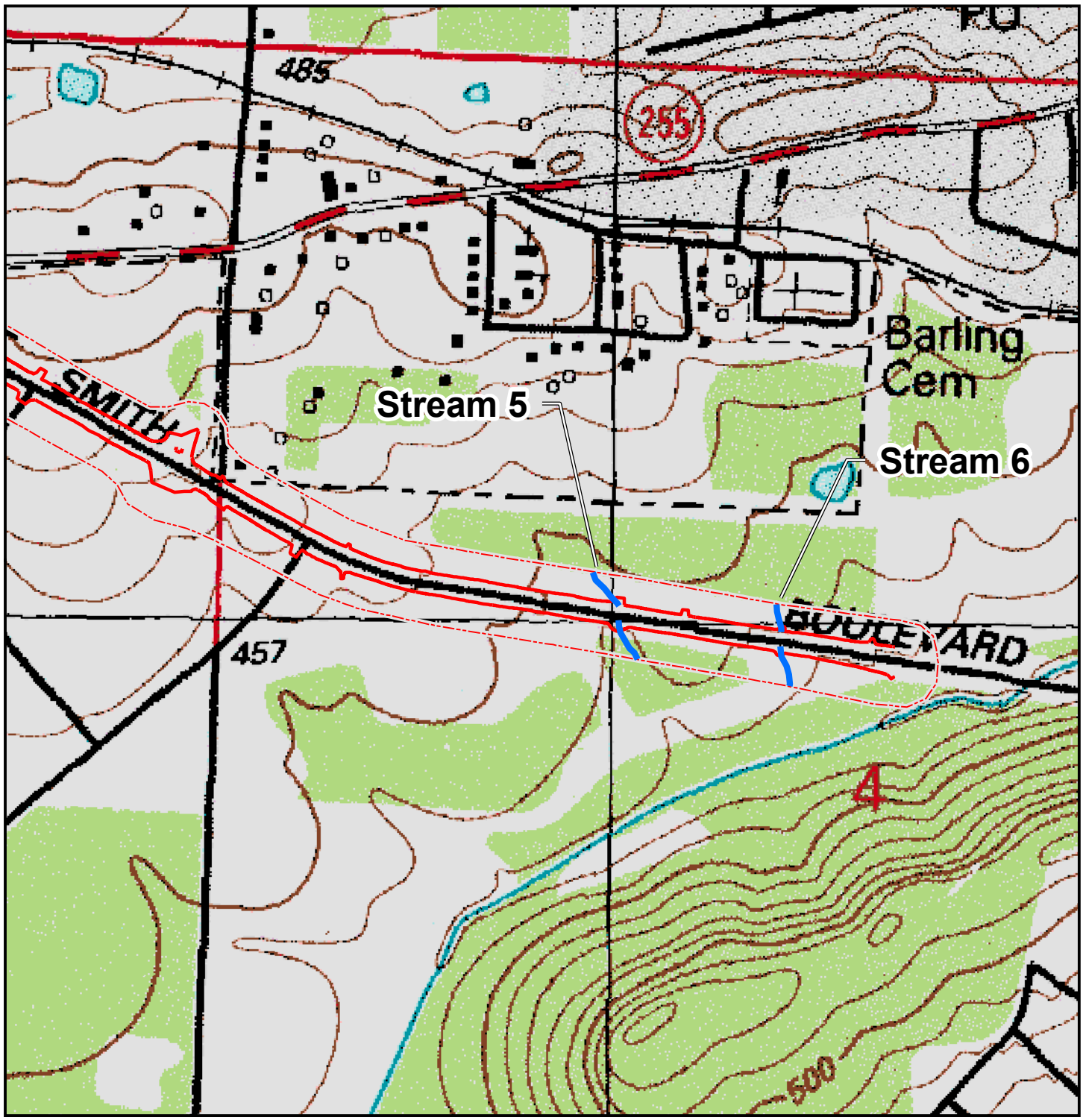
Legend

- Approximate Construction Limits
- Stream
- Data Form Location
- NEPA Study Corridor

0 600 1,200 Feet

N

1:7,200



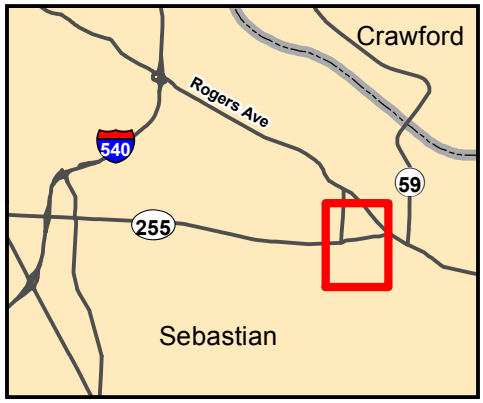


Figure 3c:
ARDOT Job 040716
Water Resources

Legend

- Approximate Construction Limits
- Stream
- Data Form Location
- NEPA Study Corridor

0 600 1,200 Feet

N

1:7,200

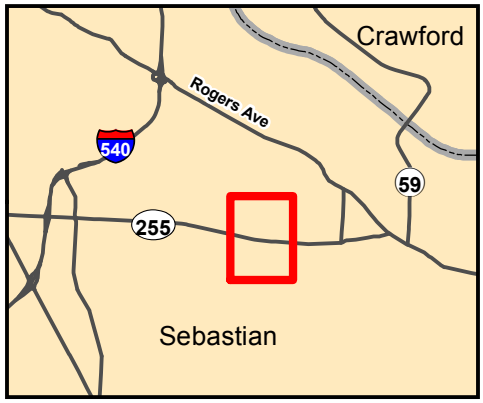


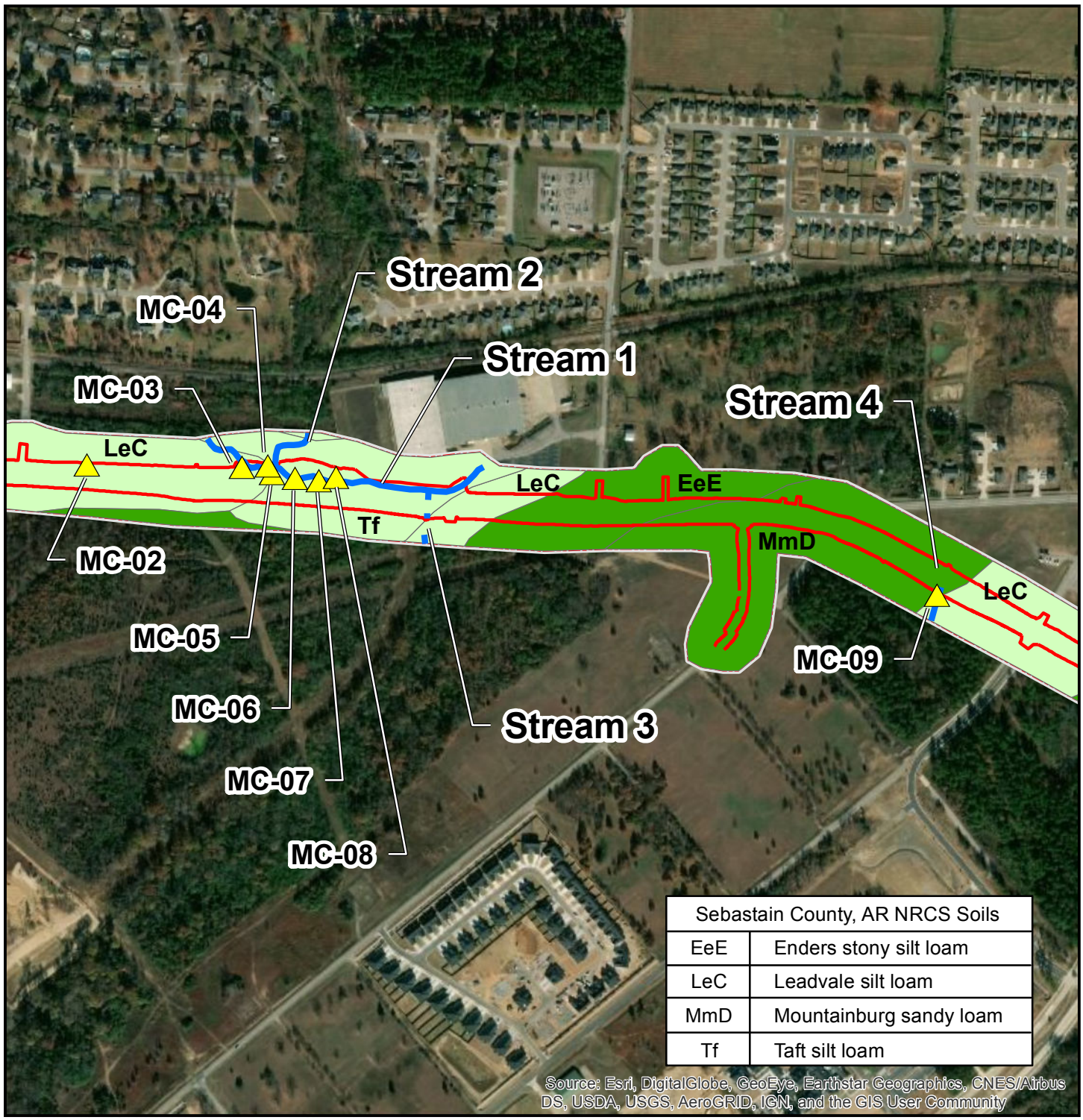
Figure 4a:
ARDOT Job 040716
Water Resources

1:7,200

0 600 1,200 Feet

Legend

- Approximate Construction Limits
- Stream
- Data Form Location
- NEPA Study Corridor
- Non-hydric
- Predominantly Non-hydric



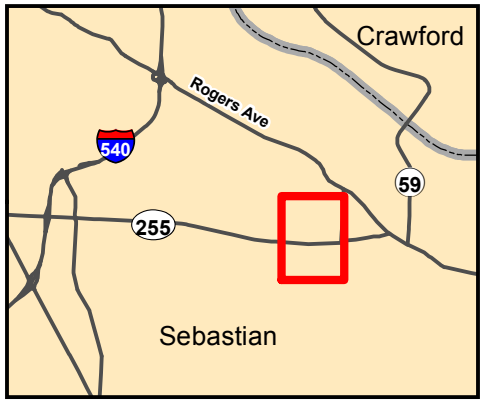


Figure 4b:
ARDOT Job 040716
Water Resources

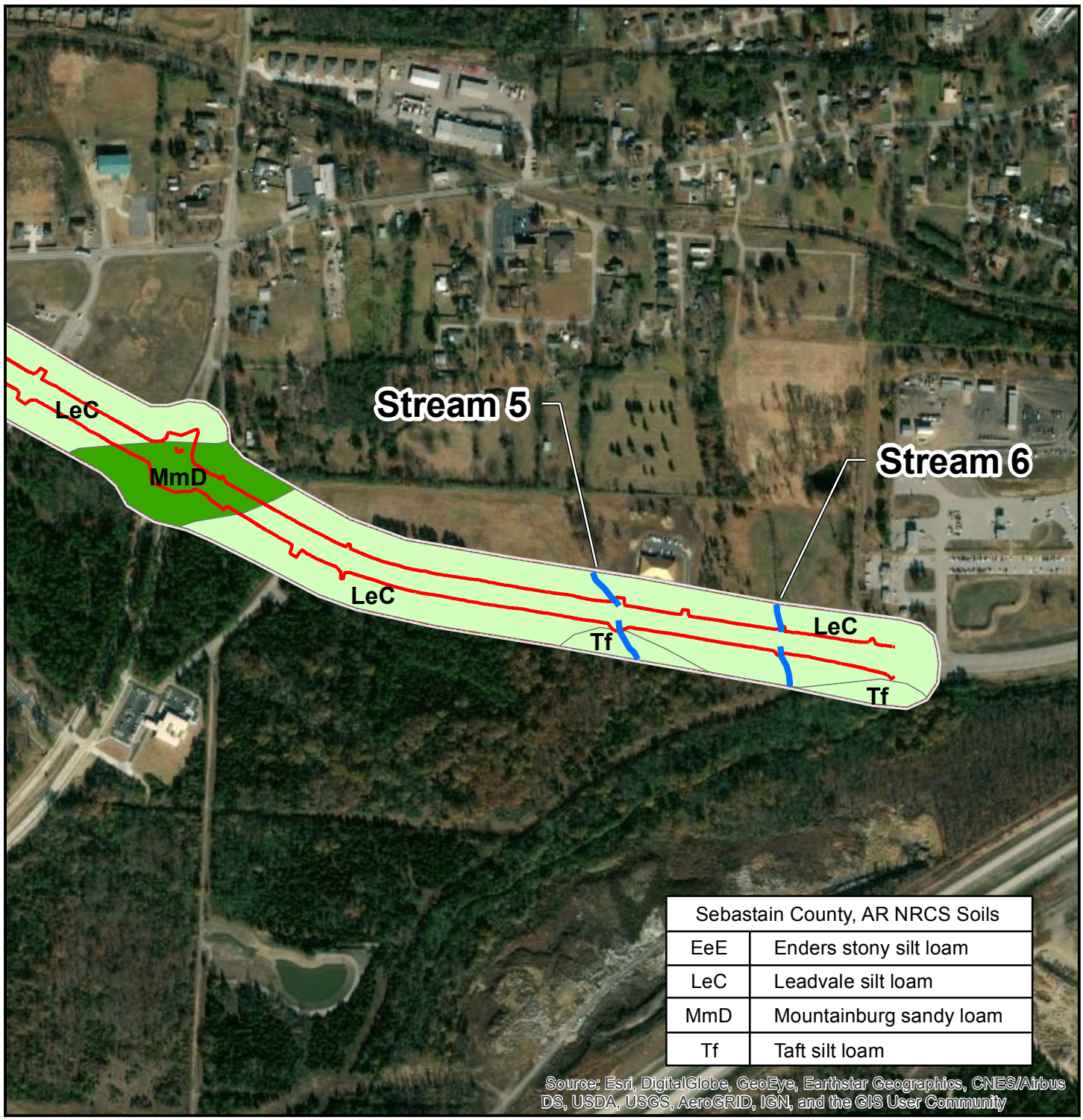
N

1:7,200

0 600 1,200 Feet

Legend

- Approximate Construction Limits
- Stream
- Data Form Location
- NEPA Study Corridor
- Non-hydric
- Predominantly Non-hydric



Sebastain County, AR NRCS Soils	
EeE	Enders stony silt loam
LeC	Leadvale silt loam
MmD	Mountainburg sandy loam
Tf	Taft silt loam

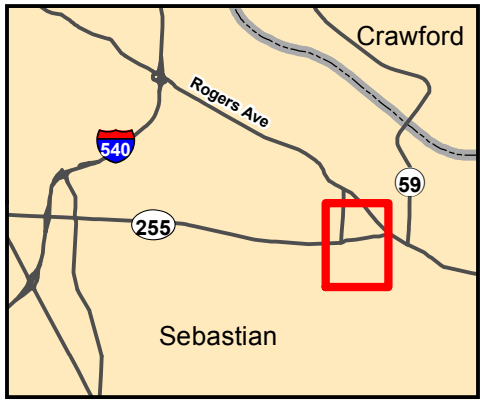


Figure 4c:
ARDOT Job 040716
Water Resources

N

1:7,200

0 600 1,200 Feet

Legend

- Approximate Construction Limits
- Stream
- Data Form Location
- NEPA Study Corridor
- Non-hydric
- Predominantly Non-hydric

Wetland Findings and Stream Inventory Report

Appendix B

Data Forms and Photo Logs

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Hwy. 255, Massard Creek to Hwy. 22 City/County: Barling, Sebastian County Sampling Date: 15 Oct. 2018

Applicant/Owner: Arkansas Department of Transportation State: AR Sampling Point: MC-01

Investigator(s): Jonathan Martinez Section, Township, Range: S6, T7N, R31W

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR N, MLRA 118A Lat: 35° 19' 23.79" N Long: 94° 20' 02.05" W Datum: WGS84

Soil Map Unit Name: Leadvale silt loam NWI classification: Non-wet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:
The area had received approximately 1 inch of rain over prior three days. The right-of-way adjacent to the highway had been recently cleared of vegetation.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✔	Depth (inches): 0
Water Table Present?	Yes _____	No ✔	Depth (inches): >16
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): >16

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
The area is a vegetated swale approximately 200 feet south of a perennial stream.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **MC-01**

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus americana	40	Yes	FACW
2. Fraxinus pennsylvanica	20	Yes	FACW
3. Prunus serotina	5	No	FACU
4. Juniperus virginiana	10	No	FACU
5.			
6.			
7.			
	75 = Total Cover		
50% of total cover: 37.5	20% of total cover: 15		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. Ulmus alata	15	Yes	FACU
2. Cornus florida	5	No	FACU
3. Ligustrum sinense	20	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		
Herb Stratum (Plot size: 5 feet)			
1. Ligustrum sinense	10	Yes	FACU
2. Lonicera japonica	20	Yes	FACU
3. Toxicodendron radicans	10	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		
Woody Vine Stratum (Plot size: 30 feet)			
1. Berchemia scandens	20	Yes	FACW
2.			
3.			
4.			
5.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	10	x 3 =	30
FACU species	85	x 4 =	340
UPL species	0	x 5 =	0
Column Totals:	175 (A)		530 (B)

Prevalence Index = B/A = 3

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✔ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: **MC-01**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					silt loam	
2-4	10YR 4/2	100					silt loam	
4-16	7.5YR 5/6	100					s c l *	20% gravel/shale

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:
*s c l - abbreviation for silty clay loam

AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Arkansas Department of Transportation	Hwy.22 - Massard Creek – Barling, AR	040716

Date	Data Point	Photo No.
10-15-18	MC-01	1

Direction Photo Taken:

Down

Description:

Soil pit and profile. Munsell color key was used to separate the soil profile into horizons according to the color chart value and chroma in each horizon at each observation point.

Date	Data Point	Photo No.
10-15-18	MC-01	2

Direction Photo Taken:

East

Description:

General landscape around the observation point.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Hwy. 255, Massard Creek to Hwy. 22 City/County: Barling, Sebastian County Sampling Date: 15 Oct. 2018

Applicant/Owner: Arkansas Department of Transportation State: AR Sampling Point: MC-02

Investigator(s): Jonathan Martinez Section, Township, Range: S5, T7N, R31W

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR N, MLRA 118A Lat: 35° 19' 23.44" N Long: 94° 19' 51.14" W Datum: WGS84

Soil Map Unit Name: Leadvale silt loam NWI classification: Non-wet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:
The area had received approximately 1 inch of rain over prior three days.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✔	Depth (inches): 0
Water Table Present?	Yes _____	No ✔	Depth (inches): >16
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): >16

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **MC-02**

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	10	Yes	FACW
2. Prunus serotina	5	No	FACU
3. Juniperus virginiana	15	Yes	FACU
4. Diospyros virginiana	5	No	FAC
5.			
6.			
7.			
	35 = Total Cover		
50% of total cover: 17.5	20% of total cover: 7		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. Juniperus virginiana	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		
Herb Stratum (Plot size: 5 feet)			
1. Rubus argutus	50	Yes	FACU
2. Lonicera japonica	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70 = Total Cover		
50% of total cover: 35	20% of total cover: 14		
Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	5	x 3 =	15
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals:	110 (A)		415 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No ✔

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: **MC-02**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					silt loam	
2-16	10YR 5/4	90	10YR 4/6	10			silty clay	10% gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Arkansas Department of Transportation	Hwy. 22 - Massard Creek – Barling, AR	040716

Date	Data Point	Photo No.
10-15-18	MC-02	3

Direction Photo Taken:

Down

Description:

Soil pit and profile. Munsell color key was used to separate the soil profile into horizons according to the color chart value and chroma in each horizon at each observation point.

Date	Data Point	Photo No.
10-15-18	MC-02	4

Direction Photo Taken:

West

Description:

General landscape around the observation point.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Hwy. 255, Massard Creek to Hwy. 22 City/County: Barling, Sebastian County Sampling Date: 15 Oct. 2018

Applicant/Owner: Arkansas Department of Transportation State: AR Sampling Point: MC-03

Investigator(s): Jonathan Martinez Section, Township, Range: S5, T7N, R31W

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR N, MLRA 118A Lat: 35° 19' 23.50" N Long: 94° 19' 43.25" W Datum: WGS84

Soil Map Unit Name: Leadvale silt loam NWI classification: Non-wet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:
The area had received approximately 1 inch of rain over prior three days.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✔	Depth (inches): 0
Water Table Present?	Yes _____	No ✔	Depth (inches): >16
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): >16

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Adjacent to a perennial stream (Stream 1) with moderate flow. The stream has a rock/gravel substrate with some areas of clay, average depth 5-10 inches with larger pools 1-2 feet deep, width varies from 5-15 feet, and OHWM approximately 1 foot from stream bottom. The soil pit was dug approximately 12 feet from stream; the channel was incised approximately 10 feet at this location.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **MC-03**

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pyrus calleryana	10	Yes	*NI
2. Celtis laevigata	5	Yes	FACW
3. Gleditsia triacanthos	5	Yes	FAC
4. Ulmus americana	5	Yes	FACW
5.			
6.			
7.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5		

Sapling/Shrub Stratum (Plot size: 15 feet)			
1. Ulmus alata	15	Yes	FACU
2. Cornus florida	5	No	FACU
3. Ligustrum sinense	10	Yes	FACU
4. Rhus glabra	15	Yes	*NI
5.			
6.			
7.			
8.			
9.			
	45 = Total Cover		
50% of total cover: 22.5	20% of total cover: 9		

Herb Stratum (Plot size: 5 feet)			
1. Lonicera japonica	50	Yes	FACU
2. Rubus argutus	20	Yes	FACU
3. Nekemias arborea	10	No	FACW
4. Sorghum halepense	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85 = Total Cover		
50% of total cover: 42.5	20% of total cover: 17		

Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	5	x 3 =	15
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals:	120 (A)		435 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No ✔

Remarks: (Include photo numbers here or on a separate sheet.)
*NI - not identified with wetland indicator status by USDA NRCS

SOIL Sampling Point: **MC-03**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	100					silt loam	
2-16	10YR 5/4	100					silt loam	20% gravel/shale

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Arkansas Department of Transportation	Hwy.22 - Massard Creek – Barling, AR	040716

Date	Data Point	Photo No.
10-15-18	MC-03	5

Direction Photo Taken:

Down

Description:

Soil pit and profile. Munsell color key was used to separate the soil profile into horizons according to the color chart value and chroma in each horizon at each observation point.

Date	Data Point	Photo No.
10-15-18	MC-03	6

Direction Photo Taken:

North

Description:

General landscape around the observation point.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Hwy. 255, Massard Creek to Hwy. 22 City/County: Barling, Sebastian County Sampling Date: 16 Oct. 2018

Applicant/Owner: Arkansas Department of Transportation State: AR Sampling Point: MC-04

Investigator(s): Jonathan Martinez Section, Township, Range: S5, T7N, R31W

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR N, MLRA 118A Lat: 35° 19' 23.59" N Long: 94° 19' 41.95" W Datum: WGS84

Soil Map Unit Name: Taft silt loam NWI classification: Non-wet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:
The area had received approximately 1 inch of rain over prior three days.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✔	Depth (inches): 0
Water Table Present?	Yes _____	No ✔	Depth (inches): >16
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): >16

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Adjacent to a perennial stream (Stream 1) with moderate flow to the south and west of an intermittent stream (Stream 2) with low flow. Stream 1 has rock, gravel, clay substrate, with large pool where Stream 2 enters, average depth 5-10 inches with deeper pools. Stream two has gravel and clay substrate, average depth 4-8 inches. The OHWM approximately 1 foot from stream bottom. Soil pit was dug approximately 10 feet from stream and the channel was incised approximately 2 feet at this location.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **MC-04**

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer saccharinum	15	Yes	FACW
2. Diospyros virginiana	5	Yes	FAC
3. Ligustrum sinense	5	Yes	FACU
4.			
5.			
6.			
7.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. Fraxinus pennsylvanica	5	No	FACW
2. Diospyros virginiana	5	No	FAC
3. Gleditsia triacanthos	5	No	FAC
4. Ligustrum sinense	20	Yes	FACU
5.			
6.			
7.			
8.			
9.			
	35 = Total Cover		
50% of total cover: 17.5	20% of total cover: 7		
Herb Stratum (Plot size: 5 feet)			
1. Rubus argutus	80	Yes	FACU
2. Sorghum halepense	30	Yes	FACU
3. Lonicera japonica	20	No	FACU
4. Ligustrum sinense	10	No	FACU
5. Sicyos angulatus	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	145 = Total Cover		
50% of total cover: 72.5	20% of total cover: 29		
Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	15	x 3 =	45
FACU species	170	x 4 =	680
UPL species	0	x 5 =	0
Column Totals:	205 (A)		765 (B)

Prevalence Index = B/A = 3.7

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: **MC-04**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					silt loam	
2-16	10YR 4/3	100					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:
The soil mapped darker and more uniform than the Taft series description, possibly Leadvale inclusion.

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Arkansas Department of Transportation	Hwy.22 - Massard Creek – Barling, AR	040716

Date	Data Point	Photo No.
10-16-18	MC-04	7

Direction Photo Taken:

Down

Description:

Soil pit and profile. Munsell color key was used to separate the soil profile into horizons according to the color chart value and chroma in each horizon at each observation point.

Date	Data Point	Photo No.
10-16-18	MC-04	8

Direction Photo Taken:

East

Description:

General landscape around the observation point.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Hwy. 255, Massard Creek to Hwy. 22 City/County: Barling, Sebastian County Sampling Date: 16 Oct. 2018

Applicant/Owner: Arkansas Department of Transportation State: AR Sampling Point: MC-05

Investigator(s): Jonathan Martinez Section, Township, Range: S5, T7N, R31W

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR N, MLRA 118A Lat: 35° 19' 23.29" N Long: 94° 19' 41.74" W Datum: WGS84

Soil Map Unit Name: Taft silt loam NWI classification: Non-wet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:
The area had received approximately 1 inch of rain over prior three days.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✔	Depth (inches): 0
Water Table Present?	Yes _____	No ✔	Depth (inches): >16
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): >16

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Adjacent to a perennial stream (Stream 1) with moderate flow on the south bank across from the connection of an intermittent stream (Stream 2) with low flow. Stream 1 has rock, gravel, clay substrate, with large pool where Stream 2 enters, average depth 5-10 inches with deeper pools. Stream two has gravel and clay substrate, average depth 4-8 inches. The OHWM approximately 1 foot from stream bottom. Soil pit was dug approximately 6 feet from stream and the channel was incised approximately 2 feet at this location.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **MC-05**

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Carya cordiformis	5	No	FACU
2. Quercus shumardii	5	No	FAC
3. Diospyros virginiana	10	Yes	FAC
4. Ulmus americana	10	Yes	FACW
5.			
6.			
7.			
	30 = Total Cover		
50% of total cover: 15	20% of total cover: 6		

Sapling/Shrub Stratum (Plot size: 15 feet)			
1. Fraxinus pennsylvanica	15	Yes	FACW
2. Ulmus americana	5	No	FACW
3. Ilex vomitoria	10	Yes	FAC
4. Ligustrum sinense	20	Yes	FACU
5.			
6.			
7.			
8.			
9.			
	50 = Total Cover		
50% of total cover: 25	20% of total cover: 10		

Herb Stratum (Plot size: 5 feet)			
1. Solidago canadensis	40	Yes	FACU
2. Rubus argutus	30	Yes	FACU
3. Lonicera japonica	20	No	FACU
4. Microstegium vimineum	40	Yes	FAC
5. Hypericum hypericoides	10	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	140 = Total Cover		
50% of total cover: 70	20% of total cover: 28		

Woody Vine Stratum (Plot size: 30 feet)			
1. Smilax rotundifolia	10	Yes	FAC
2.			
3.			
4.			
5.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✔ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: **MC-05**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	100					silt loam	
1-9	10YR 4/3	100					s c l *	
9-12	10YR 3/1	100					s c l *	10% gravel/shale
12-16	10YR 5/3	90	10YR 3/6	10			silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:
*s c l - abbreviation for silty clay loam

AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Arkansas Department of Transportation	Hwy.22 - Massard Creek – Barling, AR	040716

Date	Data Point	Photo No.
10-16-18	MC-05	9

Direction Photo Taken:

Down

Description:

Soil pit and profile. Munsell color key was used to separate the soil profile into horizons according to the color chart value and chroma in each horizon at each observation point.

Date	Data Point	Photo No.
10-16-18	MC-05	10

Direction Photo Taken:

North

Description:

General landscape around the observation point.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Hwy. 255, Massard Creek to Hwy. 22 City/County: Barling, Sebastian County Sampling Date: 15 Oct. 2018

Applicant/Owner: Arkansas Department of Transportation State: AR Sampling Point: MC-06

Investigator(s): Jonathan Martinez Section, Township, Range: S5, T7N, R31W

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR N, MLRA 118A Lat: 35° 19' 23.16" N Long: 94° 19' 40.57" W Datum: WGS84

Soil Map Unit Name: Taft silt loam NWI classification: Non-wet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:
The area had received approximately 1 inch of rain over prior three days.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✔	Depth (inches): 0
Water Table Present?	Yes _____	No ✔	Depth (inches): >16
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): >16

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Adjacent to a perennial stream (Stream 1) with moderate flow to the south. Stream 1 has rock, gravel, clay substrate, average depth 5-10 inches with deeper pools. The OHWM approximately 1 foot from stream bottom. Soil pit was dug approximately 4 feet from stream and the channel was incised approximately 2 feet at this location.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **MC-06**

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Ulmus americana	5	Yes	FACW
2. Diospyros virginiana	10	Yes	FAC
3. Gleditsia tricanthos	10	Yes	FAC
4.			
5.			
6.			
7.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. Fraxinus pennsylvanica	5	Yes	FACW
2. Ligustrum sinense	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		
Herb Stratum (Plot size: 5 feet)			
1. Rubus argutus	80	Yes	FACU
2. Lonicera japonica	20	No	FACU
3. Nekemias arborea	10	No	FACW
4. Solidago canadensis	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	120 = Total Cover		
50% of total cover: 60	20% of total cover: 24		
Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✔ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: **MC-06**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/3	100					s c l *	
3-16	10YR 5/3	80	7.5YR 4/6	20			s c l *	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:
*s c l - abbreviation for silty clay loam

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Arkansas Department of Transportation	Hwy.22 - Massard Creek – Barling, AR	040716

Date	Data Point	Photo No.
10-15-18	MC-06	11

Direction Photo Taken:

Down

Description:

Soil pit and profile. Munsell color key was used to separate the soil profile into horizons according to the color chart value and chroma in each horizon at each observation point.

Date	Data Point	Photo No.
10-15-18	MC-06	12

Direction Photo Taken:

East

Description:

General landscape around the observation point.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Hwy. 255, Massard Creek to Hwy. 22 City/County: Barling, Sebastian County Sampling Date: 16 Oct. 2018

Applicant/Owner: Arkansas Department of Transportation State: AR Sampling Point: MC-07

Investigator(s): Jonathan Martinez Section, Township, Range: S5, T7N, R31W

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR N, MLRA 118A Lat: 35° 19' 23.05" N Long: 94° 19' 39.35" W Datum: WGS84

Soil Map Unit Name: Taft silt loam NWI classification: Non-wet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:
The area had received approximately 1 inch of rain over prior three days.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✔	Depth (inches): 0
Water Table Present?	Yes _____	No ✔	Depth (inches): >16
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): >16

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Adjacent to a perennial stream (Stream 1) with moderate flow to the north. Stream 1 has rock, gravel, clay substrate, average depth 5-10 inches with deeper pools. The OHWM approximately 1 foot from stream bottom. Soil pit was dug approximately 5 feet from stream and the channel was incised approximately 2 feet at this location.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **MC-07**

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer saccharinum	20	Yes	FACW
2. Fraxinus pennsylvanica	5	No	FACW
3. Diospyros virginiana	5	No	FAC
4. Salix nigra	5	No	OBL
5. Morus rubra	5	No	FACU
6.			
7.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		

Sapling/Shrub Stratum (Plot size: 15 feet)			
1. Fraxinus pennsylvanica	5	No	FACW
2. Diospyros virginiana	5	No	FAC
3. Ligustrum sinense	20	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
	30 = Total Cover		
50% of total cover: 15	20% of total cover: 6		

Herb Stratum (Plot size: 5 feet)			
1. Rubus argutus	80	Yes	FACU
2. Sambucus nigra	10	No	FAC
3. Lonicera japonica	20	No	FACU
4. Phytolacca americana	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	115 = Total Cover		
50% of total cover: 57.5	20% of total cover: 23		

Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5	
FACW species	30	x 2 =	60	
FAC species	20	x 3 =	60	
FACU species	130	x 4 =	520	
UPL species	0	x 5 =	0	
Column Totals:	185	(A)	645	(B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: **MC-07**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	100					silt loam	
1-9	10YR 4/3	100					s c l *	
9-12	10YR 3/1	100					s c l *	10% gravel/shale
12-16	10YR 5/3	90	10YR 3/6	10			silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:
*s c l - abbreviation for silty clay loam

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Arkansas Department of Transportation	Hwy.22 - Massard Creek – Barling, AR	040716

Date	Data Point	Photo No.
10-16-18	MC-07	13

Direction Photo Taken:

Down

Description:

Soil pit and profile. Munsell color key was used to separate the soil profile into horizons according to the color chart value and chroma in each horizon at each observation point.

Date	Data Point	Photo No.
10-16-18	MC-07	14

Direction Photo Taken:

East

Description:

General landscape around the observation point.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Hwy. 255, Massard Creek to Hwy. 22 City/County: Barling, Sebastian County Sampling Date: 15 Oct. 2018

Applicant/Owner: Arkansas Department of Transportation State: AR Sampling Point: MC-08

Investigator(s): Jonathan Martinez Section, Township, Range: S5, T7N, R31W

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR N, MLRA 118A Lat: 35° 19' 23.20" N Long: 94° 19' 38.49" W Datum: WGS84

Soil Map Unit Name: Taft silt loam NWI classification: Non-wet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:
The area had received approximately 1 inch of rain over prior three days.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✔	Depth (inches): 0
Water Table Present?	Yes _____	No ✔	Depth (inches): >16
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): >16

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Adjacent to a perennial stream (Stream 1) with moderate flow to the south. Stream 1 has rock, gravel, clay substrate, with several braided channels and vegetation in between, average depth 5-10 inches. The OHWM approximately 1 foot from stream bottom. Soil pit was dug approximately 6 feet from stream and the channel was incised approximately 3 feet at this location.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **MC-08**

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	5	Yes	OBL
2. Diospyros virginiana	5	Yes	FAC
3. Celtis laevigata	10	Yes	FACW
4.			
5.			
6.			
7.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. Pyrus calleryana	5	No	* NI
2. Ulmus americana	5	No	FACW
3. Ligustrum sinense	20	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
	30 = Total Cover		
50% of total cover: 15	20% of total cover: 6		
Herb Stratum (Plot size: 5 feet)			
1. Lonicera japonica	70	Yes	FACU
2. Rubus argutus	60	Yes	FACU
3. Nekemias arborea	20	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	150 = Total Cover		
50% of total cover: 75	20% of total cover: 30		
Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	35	x 2 =	70
FAC species	5	x 3 =	15
FACU species	150	x 4 =	600
UPL species	0	x 5 =	0
Column Totals:	195 (A)		690 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No ✔

Remarks: (Include photo numbers here or on a separate sheet.)
*NI - not identified with wetland indicator status by USDA NRCS

SOIL Sampling Point: **MC-08**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	100					s c l *	
1-16	10YR 5/4	100					silty clay	20% gravel/shale

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:
*s c l - abbreviation for silty clay loam

AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Arkansas Department of Transportation	Hwy.22 - Massard Creek – Barling, AR	040716

Date	Data Point	Photo No.
10-15-18	MC-08	15

Direction Photo Taken:

Down

Description:

Soil pit and profile. Munsell color key was used to separate the soil profile into horizons according to the color chart value and chroma in each horizon at each observation point.

Date	Data Point	Photo No.
10-15-18	MC-08	16

Direction Photo Taken:

North

Description:

General landscape around the observation point.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Hwy. 255, Massard Creek to Hwy. 22 City/County: Barling, Sebastian County Sampling Date: 15 Oct. 2018

Applicant/Owner: Arkansas Department of Transportation State: AR Sampling Point: MC-09

Investigator(s): Jonathan Martinez Section, Township, Range: S5, T7N, R31W

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR N, MLRA 118A Lat: 35° 19' 18.91" N Long: 94° 19' 07.99" W Datum: WGS84

Soil Map Unit Name: Mountainburg sandy loam NWI classification: Non-wet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:
The area had received approximately 1 inch of rain over prior three days.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✔	Depth (inches): 0
Water Table Present?	Yes _____	No ✔	Depth (inches): >16
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): >16

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Adjacent to an ephemeral stream (Stream 4) with low flow to the east. Stream 4 has gravel and clay substrate and an average depth 1-4 inches. The OHWM approximately 6 inches from stream bottom. Soil pit was dug approximately 3 feet from stream and the channel was incised approximately 6 inches at this location.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **MC-09**

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	30	Yes	FAC
2. Ulmus americana	5	No	FACW
3. Celtis laevigata	5	No	FACW
4. Cercis canadensis	5	No	FACU
5.			
6.			
7.			
	45 = Total Cover		
50% of total cover: 22.5	20% of total cover: 9		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. Quercus rubra	5	No	FACU
2. Diospyros virginiana	5	No	FAC
3. Ligustrum sinense	40	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
	50 = Total Cover		
50% of total cover: 25	20% of total cover: 10		
Herb Stratum (Plot size: 5 feet)			
1. Ligustrum sinense	30	Yes	FACU
2. Campsis radicans	10	No	FAC
3. Toxicodendron radicans	10	No	FAC
4. Parthenocissus quinquefolia	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	55 = Total Cover		
50% of total cover: 27.5	20% of total cover: 11		
Woody Vine Stratum (Plot size: 30 feet)			
1. Toxicodendron radicans	10	Yes	FAC
2. Campsis radicans	10	Yes	FAC
3.			
4.			
5.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✔ No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: **MC-09**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					silt loam	
2-16	10YR 5/6	100					silt loam	30% gravel/shale

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 136, 122)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:

AECOM

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Arkansas Department of Transportation	Hwy.22 - Massard Creek – Barling, AR	040716

Date	Data Point	Photo No.
10-15-18	MC-09	17

Direction Photo Taken:

Down

Description:

Soil pit and profile. Munsell color key was used to separate the soil profile into horizons according to the color chart value and chroma in each horizon at each observation point.

Date	Data Point	Photo No.
10-15-18	MC-09	18

Direction Photo Taken:

East

Description:

General landscape around the observation point.

Appendix E
Public Involvement Synopsis and Tribal Consultation Letters

PUBLIC INVOLVEMENT SYNOPSIS

Job Number 040716
Massard Creek – Hwy. 22 (Widening & Reloc.)(Hwy. 255 & 253)
Sebastian County
Tuesday, August 28, 2018

An open forum Public Involvement meeting for the proposed safety improvements project was held at the Sacred Heart of Mary Catholic Church (Parish Hall) from 4:00 – 7:00 p.m. on Tuesday, August 28, 2018. A Public Officials Meeting was held at the same location at 3:00 p.m. Special efforts to involve minorities and the public in the meeting included the following:

- Display advertisement placed in the *Times Record* on Sunday, August 19, 2018 and Sunday, August 26, 2018.
- Public Service Announcement on Power 92.3 FM and Spanish Media Radio Stations.
- Outreach letters mailed to Public Officials.
- Distribution of flyers in the project area.

The following information was available for inspection and comment:

- Displays including an aerial photograph at a scale of 1-inch = 1000 feet.
- A large display of an aerial photograph at a scale of 1-inch = 100 feet.

Handouts for the public included a comment sheet and a small-scale map illustrating the project location, which was identical to the aerial photograph display. Copies of the handouts are attached.

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

TABLE 1

Public Participation	Totals
Attendance at meeting (including ARDOT staff and Crafton Tull staff)	110
Comments forms received	36

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. The sequencing of the comments is random and is not intended to reflect importance or numerical values. 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	
Survey Results	**Totals**
Supports the Highway 255 & 253Improvements	33
Does not support Highway 255 & 253 Improvements	1
No response to support/does not support	2
Knowledge of historical, archeological or cemetery sites	1
Knowledge of area environmental constraints	3
Home or property offers limitations to the project	2
Suggestions to better serve the needs of the community	15
Beneficial impacts due to the proposed project	18
Adverse impacts due to the proposed project	5
No response to beneficial/adverse impacts	12

The following is a listing of comments concerning issues associated with this project:

- Four individuals wanted a noise study completed.
- Five individuals requested the curve at Sta. 171+58 to Sta. 177+64 be moved further right away from residences.
- Two individuals were concerned about the impact to the old sign/wall at Fort Chaffee.
- Two individuals stated the bike lanes were needed.
- Two individuals requested a left turn signal light at the intersection of Hwy. 255/Massard Road when headed west toward Fort Smith.
- Two individuals were concerned about the drop off for the overlay section of Hwy. 255 that will be turned over to the city.
- One individual requested a signal light at the intersection of Hwy. 255 and Red Oak Court.
- One individual requested a signal light at the intersection of Hwy. 255 and Chad Colley Blvd.
- Ben Geren Park is an environmental constraint.

- Three individuals commented it would affect their homes, businesses and rental properties.
- One individual stated they have a drainage issue at 605 Church Street in Barling.
- One individual requested a multi-use trail along Hwy. 255.

Attachments:

Public handouts, including blank comment form
Small-scale display copies

ARKANSAS DEPARTMENT OF TRANSPORTATION (ARDOT)
CITIZEN COMMENT FORM

ARDOT JOB NUMBER 040716
MASSARD CREEK - HWY. 22 (WIDENING & RELOC.) (HWYS. 255 & 253)
SEBASTIAN COUNTY

LOCATION:
SACRED HEART OF MARY CATHOLIC CHURCH
(PARISH HALL)
1301 FRANK ST.
BARLING, AR 72923
4:00 – 7:00 P.M.
AUGUST 28, 2018

Make your comments on this form and leave it with ARDOT personnel at the meeting or mail it by 4:30 p.m. on Wednesday, September 12, 2018 to: Arkansas Department of Transportation, Environmental Division, P.O. Box 2261, Little Rock, AR, 72203-2261. Email: **environmentalpimeetings@ardot.gov**.

Yes ☐ No ☐ Do you feel there is a need for the proposed widening and relocation of Highway 255 and improvements to a section of Highway 253 in Sebastian County? Comment (optional)_____

_____

_____

☐ ☐ Do you know of any historical sites, family cemeteries, or archaeological sites in the project area? Please note and discuss with staff. _____

_____

_____

☐ ☐ Do you know of any environmental constraints, such as endangered species, hazardous waste sites, existing or former landfills, or parks and public lands in the vicinity of the project? Please note and discuss with ARDOT staff. _____

_____

☐ ☐ Does your home or property offer any limitations to the project, such as septic systems, that the Department needs to consider in its design?____

_____

_____

_____

(Continue on Back)

Yes No

☐ ☐ Do you have a suggestion that would make this proposed project better serve the needs of the community? _____

_____

_____

_____

_____

Do you feel that the proposed project will have any impacts (☐ Beneficial or ☐ Adverse) on your property and/or community (economic, environmental, social, etc.)? Please explain. _____

_____

_____

It is often necessary for the ARDOT to contact property owners along potential routes. If you are a property owner along or adjacent to the route under consideration, please provide information below. Thank you.

Name: _____ (*Please Print*)

Address: _____ Phone: (_____) _____--_____

_____

_____

E-mail:_____

Please make additional comments here._____

_____

_____

_____

_____

_____

_____

_____

_____

For additional information, please visit our website at **www.ardot.gov.**

DEPARTAMENTO DE TRANSPORTE DE ARKANSAS (ARDOT)
FORMULARIO DE COMENTARIOS DE CIUDADANOS

NUMERO DE TRABAJO DE ARDOT 040716
MASSARD CREEK- CARRETERA 22 (AMPLIACIÓN Y REUBICACIÓN) (CARRETERAS 255 & 253)
CONDADO DE SEBASTIAN

LUGAR:
IGLESIA CATÓLICA SAGRADO CORAZÓN DE MARIA
(SALA PARROQUIAL)
BARLING, AR 72923
4:00 A 7:00 P.M.
MARTES 28 DE AGOSTO DEL 2018

Haga sus comentarios en este formulario y entréguelo al personal de ARDOT presente en la reunión o envíelo por correo antes de las 4:30 p.m. del miércoles 12 de septiembre del 2018 a: Arkansas Department of Transportation, Environmental Division, P.O. Box 2261, Little Rock, AR, 72203-2261. Correo electrónico: environmentalpimeetings@ardot.gov.

Sí	No	
☐	☐	¿Siente usted que existe la necesidad de la propuesta de ampliación y reubicación de la Carretera 255 y las mejoras a una sección de la Carretera 253 en el Condado de Sebastian? Comente (opcional) _____ _____ _____
☐	☐	¿Sabe usted si existen sitios históricos, cementerios familiares, o sitios arqueológicos en el área del proyecto? Por favor anote y discútalo con los empleados de ARDOT _____ _____ _____
☐	☐	¿Sabe usted si existen restricciones ambientales, tales como especies en peligro de extinción, sitios de residuos peligrosos, vertederos de basura existentes o que se estén formado, o parques y terrenos públicos cercanos al proyecto? Por favor anote y discútalo con los empleados de ARDOT. _____ _____
☐	☐	¿Su hogar o propiedad presenta alguna limitación al proyecto, tales como sistemas sépticos, los cuales el Departamento necesite considerar en su diseño?_____ _____ _____ _____

(Continúe al reverso)

Si No

☐ ☐ ¿Tiene sugerencias que puedan ayudar a la propuesta de este proyecto para cubrir mejor las necesidades de la comunidad?_____

_____

_____

_____

_____

¿Siente que la propuesta de este proyecto tendrá algún efecto (☐ Beneficioso o ☐ Desfavorable) sobre su propiedad y/o comunidad (económico, ambiental, social, etc.)? Por favor explique: _____

_____

_____

A veces es necesario que ARDOT se comunique con los dueños de las propiedades sobre las rutas potenciales del proyecto. Si usted es dueño de propiedad a lo largo o continuo a la ruta bajo consideración para el proyecto, favor de facilitar su información en la parte de abajo. Gracias.

Nombre: _____ (*molde por favor)*

Dirección: _____ Tel.: (_____) _____--_____

_____

_____

Correo electrónico: _____

Por favor escriba sus comentarios adicionales._____

_____

_____

_____

_____

_____

_____

_____

_____

Para mayor información, visite nuestra página web: **www.ardot.gov.**

También puede llamar a Edna Ramirez al 501 569 2904

N

0 1,000 2,000

Feet

ARDOT - Environmental GIS - Dudley
Map Date: August 20, 2018
Meeting Date: August 28, 2018
Public Involvement Handout

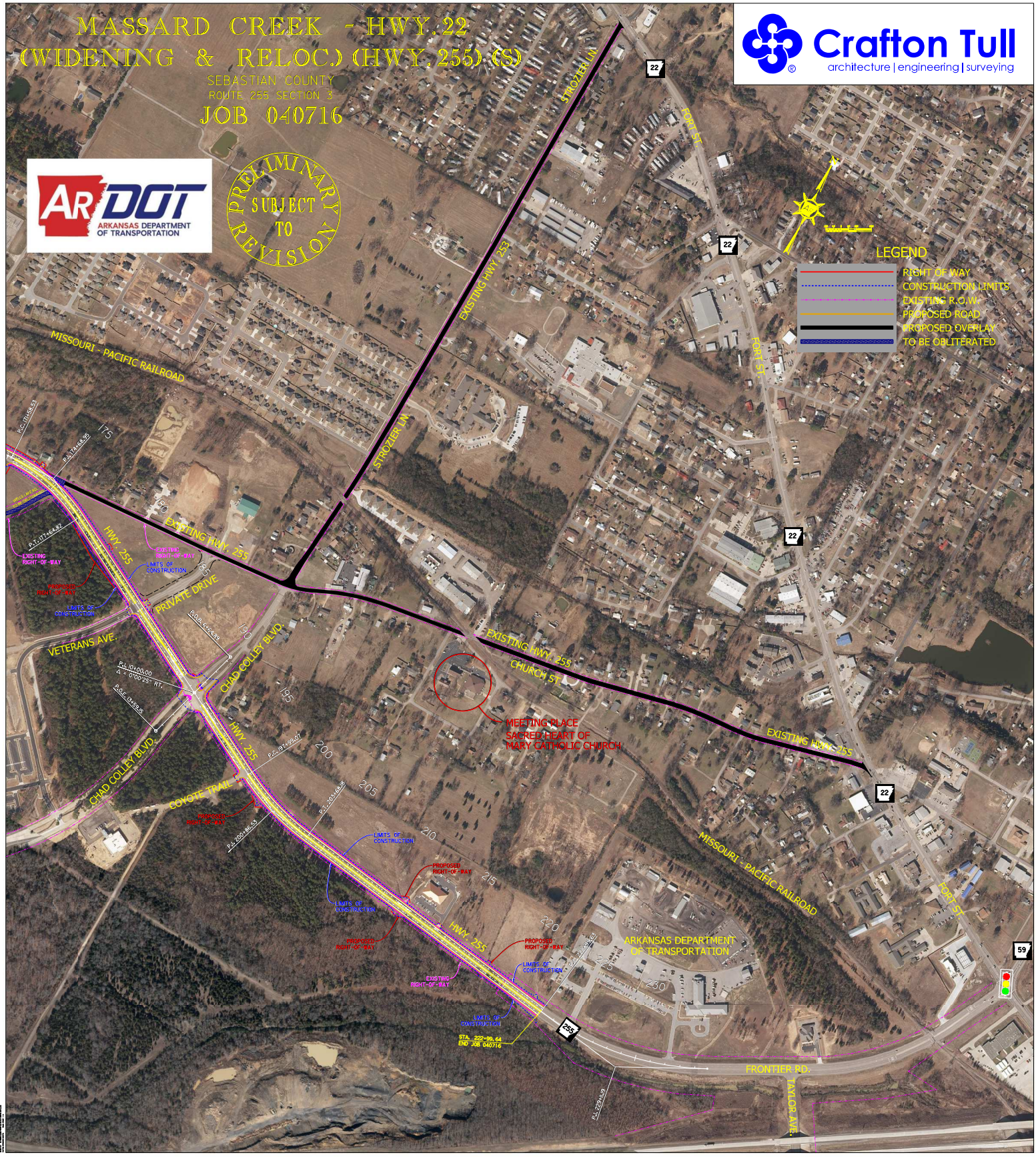
ARDOT ARKANSAS DEPARTMENT OF TRANSPORTATION

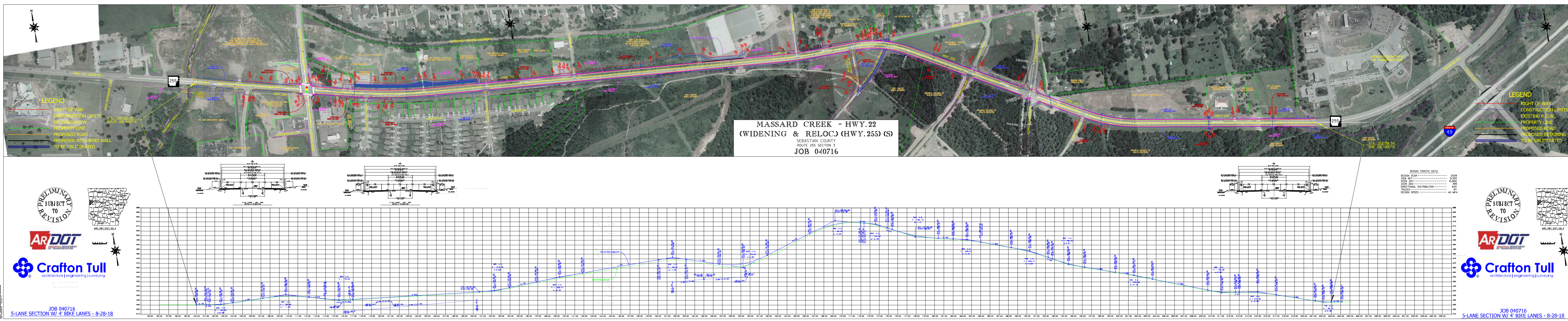
Job 040716
Massard Creek - Hwy. 22
(Widening & Relocation)
(Highways 255 & 253)
Sebastian County

Preliminary
Subject
To
Revision

Photography: 2017 ADOP

Notes: _____


MASSARD CREEK - HWY.22
(WIDENING & RELOC.) (HWY.255) (S)
SEBASTIAN COUNTY
ROUTE 255 SECTION 3
JOB 040716
PRELIMINARY SUBJECT TO REVISION
ARDOT
ARKANSAS DEPARTMENT OF TRANSPORTATION
Crafton Tull
architecture | engineering | surveying
LEGEND
RIGHT OF WAY
CONSTRUCTION LIMITS
EXISTING R.O.W.
PROPOSED ROAD
PROPOSED OVERLAY
TO BE OBLITERATED
EXISTING HWY. 253
STROZIER LN.
FORT ST.
MISSOURI - PACIFIC RAILROAD
EXISTING HWY. 255
HWY. 255
PRIVATE DRIVE
VETERANS AVE.
CHAD COLLEY BLVD.
CHURCH ST.
MEETING PLACE
SACRED HEART OF
MARY CATHOLIC CHURCH
COYOTE TRAIL
LIMITS OF CONSTRUCTION
PROPOSED RIGHT-OF-WAY
EXISTING RIGHT-OF-WAY
ARKANSAS DEPARTMENT
OF TRANSPORTATION
FRONTIER RD.
TAYLOR AVE.
STA. 222+99.64
END JOB 040716
22
59
255


MASSARD CREEK - HWY. 22
(WIDENING & RELOC.) (HWY. 255) (S)
SEBASTIAN COUNTY
ROUTE 255 SECTION 3
JOB 040716
LEGEND
RIGHT OF WAY
CONSTRUCTION LIMITS
EXISTING R.O.W.
PROPERTY LINE
PROPOSED ROAD
PROPOSED RETAINING WALL
TO BE OBLITERATED
HWY. 255 (ZERO ST.)
PARK ENTRANCE LOOP
STA. 100+00.00
BEGIN JOB 040716
PRELIMINARY SUBJECT TO REVISION
ARDOT
Crafton Tull
architecture | engineering | surveying
JOB 040716
5-LANE SECTION W/ 4' BIKE LANES - 8-28-18

Caddo Nation of Oklahoma

Post Office Box 487 ● Binger, Oklahoma 73009● 405-656-2344 ● Fax 405-656-2892

May 24, 2018

Company: FHWA Arkansas State Highway and Transportation Department
Description: ArDOT Job No. 040716
County: Sabastian County
State: Arkansas
Point of Contact: Randal Looney, Environmental Specialist, (501)324-6430, randal.looney@dot.gov

Dear Mr. Looney,

The Caddo Nation of Oklahoma Cultural Preservation Department received correspondence regarding the above project. Our office is committed to protecting sites important to the Caddo Nation's tribal heritage, culture, and religion. Furthermore, we are particularly concerned with archaeological sites that may contain human burials or remains, and any associated funerary objects.

Based on the description of the site in the correspondence from your office, and upon researching our database(s) and files, we find that the Caddo people occupied this area either historically or prehistorically. We are excited and ready to consult on this project. We ask that you keep the Caddo Nation updated on the progress of the Cultural Resources Survey. Please continue with the project as planned. However, should this project inadvertently uncover an archaeological site or object(s), we request that you halt all construction and ground disturbance activities and immediately contact the appropriate federal or state agencies, as well as our office.

We appreciate your initiating contact with the Caddo Nation of Oklahoma in order to obtain proper consultation. Should you have any questions, please contact me at 405-656-2344 ext. 2081.

Sincerely,

Derek Hill
Cultural Preservation Department
Caddo Nation of Oklahoma
P.O. Box 487
Binger, OK 73009
dhill@caddonation.org

Osage Nation Historic Preservation Office

ЅΛƵΛƵꝊ ƂOՏՈ ƂՈƤꝊΛ

RECEIVED
ARDOT
JUL 30 2018
ENVIRONMENTAL
DIVISION

Date: **July 5, 2018** **File: 1718-2783AR-5**

RE: **FHWA, ARDOT, Job Number 040716, Realign Section of Highway 255 and Highway 253, Sebastian County, Arkansas**

Arkansas Highway & Transportation Department
Randal Looney
700 West Capitol Ave, Suite 3130
Little Rock, AR 72201

Dear Mr. Looney,

The Osage Nation Historic Preservation Office has received notification and accompanying information for the proposed project **FHWA, ARDOT, Job Number 040716, Realign Section of Highway 255 and Highway 253, Sebastian County, Arkansas**. The proposed undertaking is located approximately 3.25 miles southwest of the Osage Trace. Expedient graves and temporary hunting camps may be located along this trail. I understand that the cultural resources survey is scheduled to be performed in the near future. This office looks forward to reviewing the final report.

In accordance with the National Historic Preservation Act, (NHPA) [16 U.S.C. 470 §§ 470-470w-6] 1966, undertakings subject to the review process are referred to in S101 (d) (6) (A), which clarifies that historic properties may have religious and cultural significance to Indian tribes. Additionally, Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties (36 CFR Part 800) as does the National Environmental Policy Act (43 U.S.C. 4321 and 4331-35 and 40 CFR 1501.7(a) of 1969).

The Osage Nation has a vital interest in protecting its historic and ancestral cultural resources, which are protected under the NHPA, NEPA, the Native American Graves Protection and Repatriation Act, and Osage law, and appreciates your consideration of the provided information in the planning process.

Should you have any questions or need any additional information, please feel free to contact me at the number listed below. Thank you for consulting with the Osage Nation on this matter.

Sincerely,

James Munkres
Archaeologist

RECEIVED
JUL 11 2018
FHWA
ARKANSAS

QUAPAW TRIBE OF OKLAHOMA

P.O. Box 765
Quapaw, OK 74363-0765

(918) 542-1853
FAX (918) 542-4694

June 11, 2018

Arkansas State Highway and
Transportation Department
P.O. Box 2261
Little Rock, Arkansas 72203-2261

Re: Job No. 040716 Hwy. 22-Massard Creek (Widening & Reloc.) (Hwy. 255) (S) Sebastian County, Arkansas

To whom it may concern,

The Quapaw Tribe Historic Preservation Office has received and reviewed the information provided for the proposed Job No. 040716 Hwy. 22-Massard Creek (Widening & Reloc.) (Hwy. 255) (S) Sebastian County, Arkansas and concurs with your recommendations for this to conduct a cultural resources survey.

In accordance with the National Historic Preservation Act, (NHPA) [16 U.S C. 470 §§ 470-470w-6] 1966, undertakings subject to the review process are referred to in S101 (d) (6) (A), which clarifies that historic properties may have religious and cultural significance to Indian tribes. Additionally, Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties (36 CFR Part 800) as does the National Environmental Policy Act (43 U.S.C. 4321 and 4331-35 and 40 CFR 1501.7(a) of 1969).

The Quapaw Tribe has vital interests in protecting its historic and ancestral cultural resources. We do not anticipate that this project will adversely impact any cultural resources or human remains protected under the NHPA, NEPA, or the Native American Graves Protection and Repatriation Act. If however, artifacts or human remains are discovered during project construction, we ask that work cease immediately and that you contact the Quapaw Tribe Historic Preservation Office.

Should you have any questions or need any additional information, please feel free to contact me at the number listed below. Thank you for consulting with the Quapaw Tribe on this matter.

Sincerely,

Everett Bandy

Tribal Historic Preservation Office
Quapaw Tribe of Oklahoma
P.O. Box 765
Quapaw, OK 74363
(w) 918-238-3100

U.S. Department of Transportation
Federal Highway Administration

Arkansas Division

700 West Capitol Ave
Suite 3130
Little Rock AR 72201
(501) 324-6430

May 2, 2018

In Reply Refer To:
Job No. 040716
Hwy. 22-Massard Creek (Widening & Reloc.)(Hwy. 255)(S)
Sebastian County
HDA-AR

Mr. Everett Bandy
Tribal Historic Preservation Officer
The Quapaw Tribe of Oklahoma
Post Office Box 765
Quapaw, Oklahoma 74056

Dear Mr. Bandy:

This letter is written in order to initiate consultation between the Federal Highway Administration, Arkansas Division Office and the Quapaw Tribe of Oklahoma regarding a federal-aid highway project that may potentially affect ancestral lands or properties that may be of religious or cultural significance to your Tribe.

The Arkansas Department of Transportation (ARDOT) plans to widen and realign a section of Highway 255 east of Painter Lane, and overlay two road segments in Fort Smith, Sebastian County (see project location map). The first overlay is along the abandoned portion of Highway 255, hereafter referred to as Church Street, and the second is Highway 253. More than half of the project area falls within a segment of the Trail of Tears route and buffer. To date, a survey of existing records regarding previously recorded archeological sites has been conducted and eight previously recorded sites, five of which are Native American, are documented in or near the area of potential effect (Table 1). The site forms for these nearby sites are attached. In an effort to identify any other archeological sites within the proposed project area, the ARDOT is planning to conduct a cultural resources survey of the project area.

Table 1. Previously recorded archeological sites in/near project area.

Site Designation	Site Description/Type	NRHP Eligibility
3SB0082	Prehistoric Isolated Find	not eligible
3SB0083	Prehistoric Lithic Scatter & Historical Ceramic Scatter	unevaluated
3SB0741	Historical farmstead	unevaluated
3SB0745	Archaic-Woodland Prehistoric scatter & Historical Ceramic Scatter	unevaluated
3SB0746	Historical Structural Scatter	not eligible
3SB0763	Prehistoric Lithic Scatter	not eligible
3SB0765	Historical Ceramic & Glass Scatter	not eligible
3SB1056	WWII Structural Remains & Prehistoric Isolated Find	unevaluated

U.S. Department of Transportation
Federal Highway Administration

Arkansas Division

May 2, 2018

700 West Capitol Ave
Suite 3130
Little Rock AR 72201
(501) 324-6430

In Reply Refer To:
Job No. 040716
Hwy. 22-Massard Creek (Widening & Reloc.)(Hwy. 255)(S)
Sebastian County
HDA-AR

Dr. Andrea Hunter
Tribal Historic Preservation Officer
The Osage Nation
Post Office Box 779
Pawhuska, Oklahoma 74056

Dear Dr. Hunter:

This letter is written in order to initiate consultation between the Federal Highway Administration, Arkansas Division Office and the Osage Nation regarding a federal-aid highway project that may potentially affect ancestral lands or properties that may be of religious or cultural significance to your Nation.

The Arkansas Department of Transportation (ArDOT) plans to widen and realign a section of Highway 255 east of Painter Lane, and overlay two road segments in Fort Smith, Sebastian County (see project location map). The first overlay is along the abandoned portion of Highway 255, hereafter referred to as Church Street, and the second is Highway 253. More than half of the project area falls within a segment of the Trail of Tears route and buffer. To date, a survey of existing records regarding previously recorded archeological sites has been conducted and eight previously recorded sites, five of which are Native American, are documented in or near the area of potential effect (Table 1). The site forms for these nearby sites are attached. In an effort to identify any other archeological sites within the proposed project area, the ArDOT is planning to conduct a cultural resources survey of the project area.

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U.S. Department of Transportation
Federal Highway Administration

Arkansas Division

May 2, 2018

700 West Capitol Ave
Suite 3130
Little Rock AR 72201
(501) 324-6430

In Reply Refer To:
Job No. 040716
Hwy. 22-Massard Creek (Widening & Reloc.)(Hwy. 255)(S)
Sebastian County
HDA-AR

Dr. Ian Thompson
Tribal Historic Preservation Officer and NAGPRA Coordinator
The Choctaw Nation of Oklahoma
PO Box 1210
Durant, Oklahoma 74702

Dear Dr. Thompson:

This letter is written in order to initiate consultation between the Federal Highway Administration, Arkansas Division Office and the Choctaw Nation regarding a federal-aid highway project that may potentially affect ancestral lands or properties that may be of religious or cultural significance to your Nation.

The Arkansas Department of Transportation (ArDOT) plans to widen and realign a section of Highway 255 east of Painter Lane, and overlay two road segments in Fort Smith, Sebastian County (see project location map). The first overlay is along the abandoned portion of Highway 255, hereafter referred to as Church Street, and the second is Highway 253. More than half of the project area falls within a segment of the Trail of Tears route and buffer. To date, a survey of existing records regarding previously recorded archeological sites has been conducted and eight previously recorded sites, five of which are Native American, are documented in or near the area of potential effect (Table 1). The site forms for these nearby sites are attached. In an effort to identify any other archeological sites within the proposed project area, the ArDOT is planning to conduct a cultural resources survey of the project area.

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U.S. Department of Transportation
Federal Highway Administration

Arkansas Division

May 2, 2018

700 West Capitol Ave
Suite 3130
Little Rock AR 72201
(501) 324-6430

In Reply Refer To:
Job No. 040716
Hwy. 22-Massard Creek (Widening & Reloc.)(Hwy. 255)(S)
Sebastian County
HDA-AR

Ms. Sheila Bird
Historic Preservation Coordinator
United Keetoowah Band of Cherokee Indians
Post Office Box 1245
Tahlequah, Oklahoma 74465

Dear Ms. Bird:

This letter is written in order to initiate consultation between the Federal Highway Administration, Arkansas Division Office and the Keetoowah Band regarding a federal-aid highway project that may potentially affect ancestral lands or properties that may be of religious or cultural significance to your Band.

The Arkansas Department of Transportation (ArDOT) plans to widen and realign a section of Highway 255 east of Painter Lane, and overlay two road segments in Fort Smith, Sebastian County (see project location map). The first overlay is along the abandoned portion of Highway 255, hereafter referred to as Church Street, and the second is Highway 253. More than half of the project area falls within a segment of the Trail of Tears route and buffer. To date, a survey of existing records regarding previously recorded archeological sites has been conducted and eight previously recorded sites, five of which are Native American, are documented in or near the area of potential effect (Table 1). The site forms for these nearby sites are attached. In an effort to identify any other archeological sites within the proposed project area, the ArDOT is planning to conduct a cultural resources survey of the project area.

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3SB1056	WWII Structural Remains & Prehistoric Isolated Find	unevaluated

U.S. Department of Transportation
Federal Highway Administration

Arkansas Division

700 West Capitol Ave
Suite 3130
Little Rock AR 72201
(501) 324-6430

May 2, 2018

In Reply Refer To:
Job No. 040716
Hwy. 22-Massard Creek (Widening & Reloc.)(Hwy. 255)(S)
Sebastian County
HDA-AR

Ms. Elizabeth Toombs
Special Projects Officer
Cherokee Nation of Oklahoma
Post Office Box 948
Tahlequah, Oklahoma 74465

Dear Ms. Toombs:

This letter is written in order to initiate consultation between the Federal Highway Administration, Arkansas Division Office and the Cherokee Nation regarding a federal-aid highway project that may potentially affect ancestral lands or properties that may be of religious or cultural significance to your Nation.

The Arkansas Department of Transportation (ARDOT) plans to widen and realign a section of Highway 255 east of Painter Lane, and overlay two road segments in Fort Smith, Sebastian County (see project location map). The first overlay is along the abandoned portion of Highway 255, hereafter referred to as Church Street, and the second is Highway 253. More than half of the project area falls within a segment of the Trail of Tears route and buffer. To date, a survey of existing records regarding previously recorded archeological sites has been conducted and eight previously recorded sites, five of which are Native American, are documented in or near the area of potential effect (Table 1). The site forms for these nearby sites are attached. In an effort to identify any other archeological sites within the proposed project area, the ARDOT is planning to conduct a cultural resources survey of the project area.

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3SB0765	Historical Ceramic & Glass Scatter	not eligible
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U.S. Department of Transportation
Federal Highway Administration

Arkansas Division

700 West Capitol Ave
Suite 3130
Little Rock AR 72201
(501) 324-6430

May 2, 2018

In Reply Refer To:
Job No. 040716
Hwy. 22-Massard Creek (Widening & Reloc.)(Hwy. 255)(S)
Sebastian County
HDA-AR

Mr. Phil Cross
Acting Tribal Historic Preservation Officer
Caddo Nation of Oklahoma
Post Office Box 487
Binger, Oklahoma 73009

Dear Mr. Cross:

This letter is written in order to initiate consultation between the Federal Highway Administration, Arkansas Division Office and the Caddo Nation regarding a federal-aid highway project that may potentially affect ancestral lands or properties that may be of religious or cultural significance to your Nation.

The Arkansas Department of Transportation (ARDOT) plans to widen and realign a section of Highway 255 east of Painter Lane, and overlay two road segments in Fort Smith, Sebastian County (see project location map). The first overlay is along the abandoned portion of Highway 255, hereafter referred to as Church Street, and the second is Highway 253. More than half of the project area falls within a segment of the Trail of Tears route and buffer. To date, a survey of existing records regarding previously recorded archeological sites has been conducted and eight previously recorded sites, five of which are Native American, are documented in or near the area of potential effect (Table 1). The site forms for these nearby sites are attached. In an effort to identify any other archeological sites within the proposed project area, the ARDOT is planning to conduct a cultural resources survey of the project area.

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3SB0763	Prehistoric Lithic Scatter	not eligible
3SB0765	Historical Ceramic & Glass Scatter	not eligible
3SB1056	WWII Structural Remains & Prehistoric Isolated Find	unevaluated

Please review this information and notify us of any constraints or concerns that you may have regarding this undertaking. We would greatly appreciate your input regarding not only this project but also sites or properties in the immediate area that might be of cultural or religious significance to your Nation. If you have any questions or need additional information, please contact me at (501) 324-6430.

Sincerely,

Randal Looney
Environmental Coordinator

Enclosure

Appendix F
Roadway Design Sheet and Typical Sections

Date Sent: 12/11/2018

ROADWAY DESIGN REQUEST

Job Number 040716 FAP No. STPF-0065(52) County Sebastian

Job Name Massard Creek – Hwy. 22 (Widening & Reloc.) (Hwy. 255) (S)

Design Engineer Crafton Tull Environmental Staff AECOM

Brief Project Description Widen Hwy. 255 from two lanes to five lanes, relocating a portion to Frontier Rd.

A. Existing Conditions:

Roadway Width: 24' Shoulder Type/Width: 4'

Number of Lanes and Width: 2-12' Existing Right-of-Way: 100'

Sidewalks? No Location: N/A Width: N/A

Bike Lanes? No Location: N/A Width: N/A

B. Proposed Conditions:

Roadway Width: 56'-64' Shoulder Type/Width: C&G

Number of Lanes and Width: 4-11', 1-12' Proposed Right-of-Way: 100'- 210'

Sidewalks? Yes Location: Hwy. 255, Frontier Rd. Width: 5'

Bike Lanes? Yes Location: Hwy. 255, Frontier Rd. Width: 2-4'

C. Construction Information:
If detour: Where: N/A Length: N/A

D. Design Traffic Data:
2019 ADT: 9,300 2039 ADT: 10,900 % Trucks: 6
Design Speed: 45 m.p.h.

E. Approximate total length of project: 2.33 mile(s)

F. Justification for proposed improvements: Improve traffic flow and safety

G. Total Relocatees: 2 Residences: 0 Businesses: 2

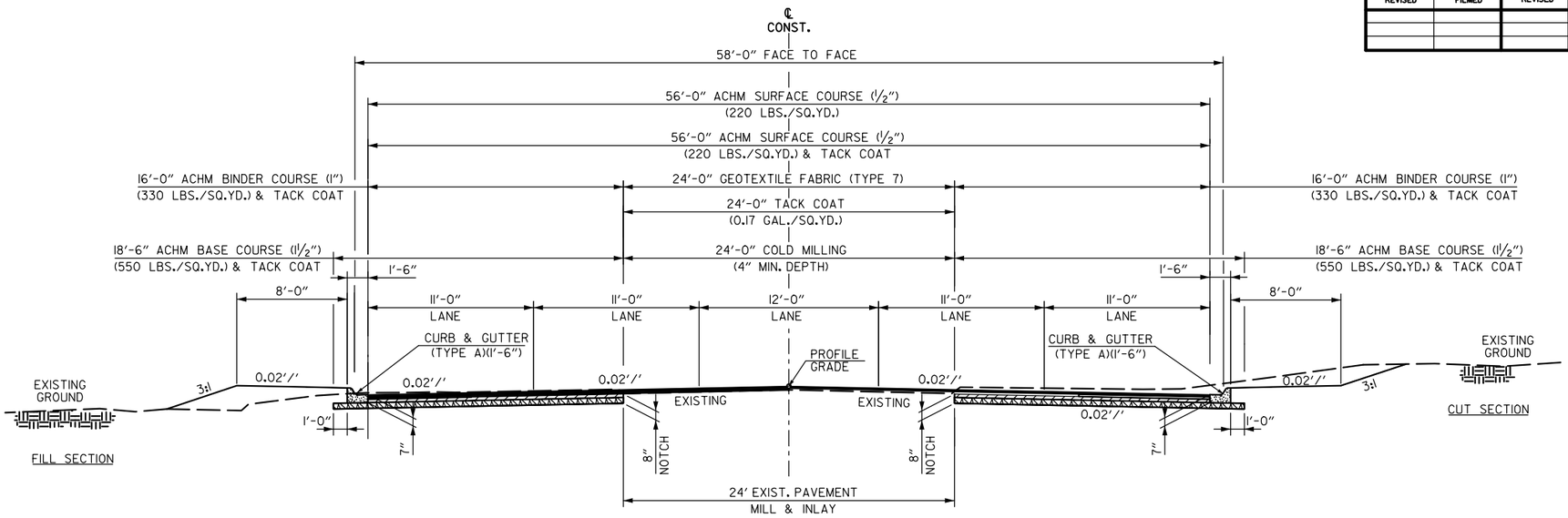
H. Have you coordinated with any outside agencies (e.g., FHWA, City, County, etc.)? No

Agency/Official	Person Contacted	Date

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040716	2	143

(2) TYPICAL SECTIONS OF IMPROVEMENT

PRELIMINARY SUBJECT TO REVISION



FIVE LANES - HWY. 255
NOTCH & WIDENING

STA. 100+00.00 TO STA. 112+00.00

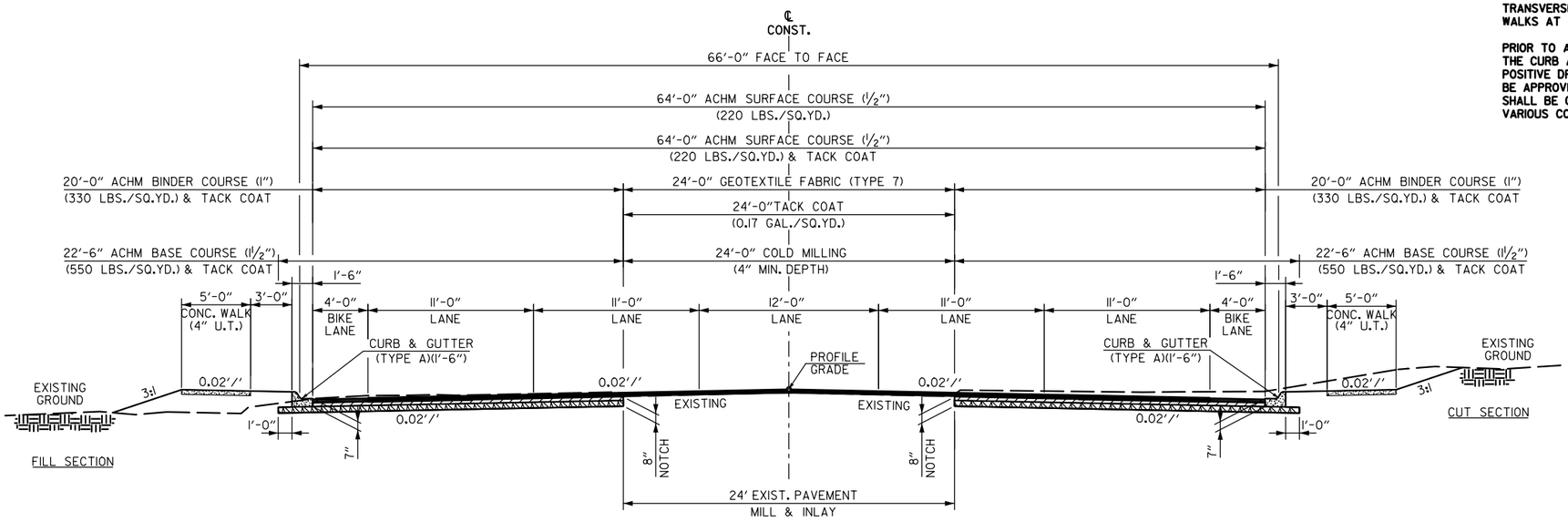
NOTES:

THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.



FIVE LANES - HWY. 255
NOTCH & WIDENING

STA. 112+00.00 TO STA. 116+27.79

TYPICAL SECTIONS OF IMPROVEMENT

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SCALE: 1:10

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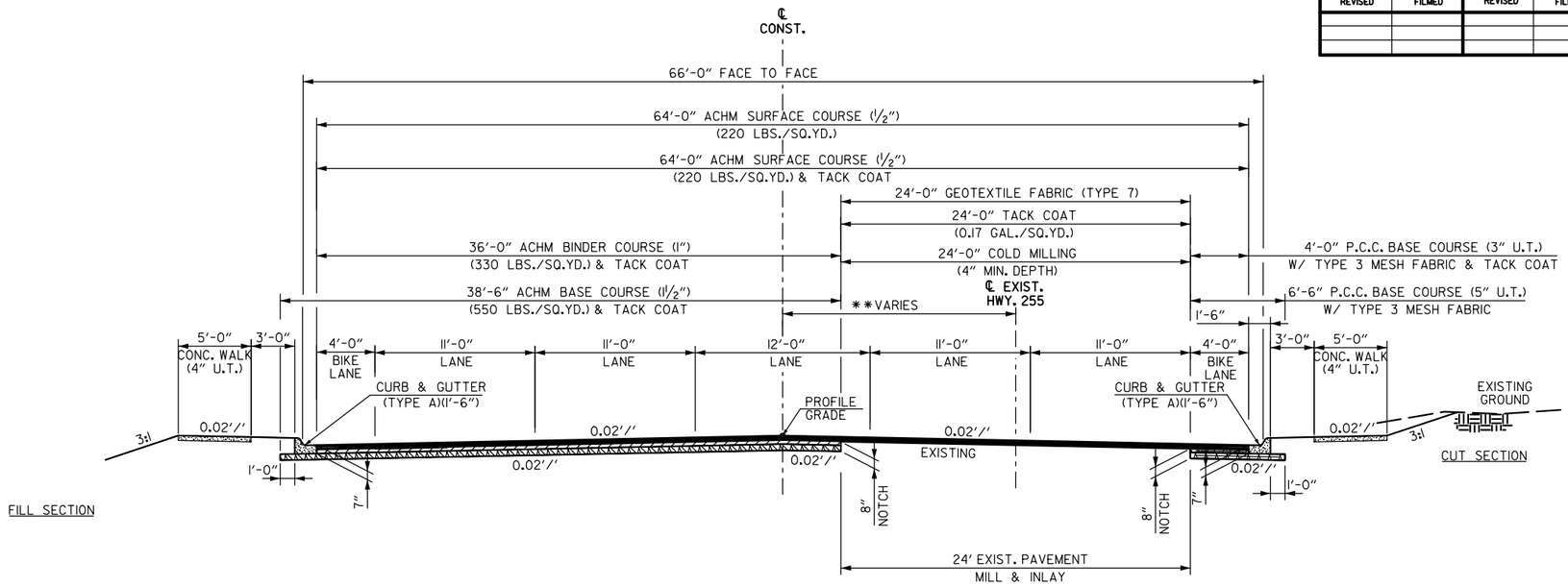
				JOB NO.		040716	3	143

(2) TYPICAL SECTIONS OF IMPROVEMENT

PRELIMINARY SUBJECT TO REVISION



FIVE LANES - HWY. 255
NOTCH & WIDENING

STA. 125+31.02 TO STA. 162+78.79

** VARIES FROM 0'-0" AT STA. 116+27.79 TO 15'-4" AT STA. 125+31.02
VARIES FROM 15'-4' AT STA. 162+78.79 TO 0'-0" AT STA. 168+21.03

NOTES:

REFER TO CROSS SECTIONS FOR DEVIATIONS FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING, CALCULATIONS WILL NOT BE PAID FOR DIRECTLY BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

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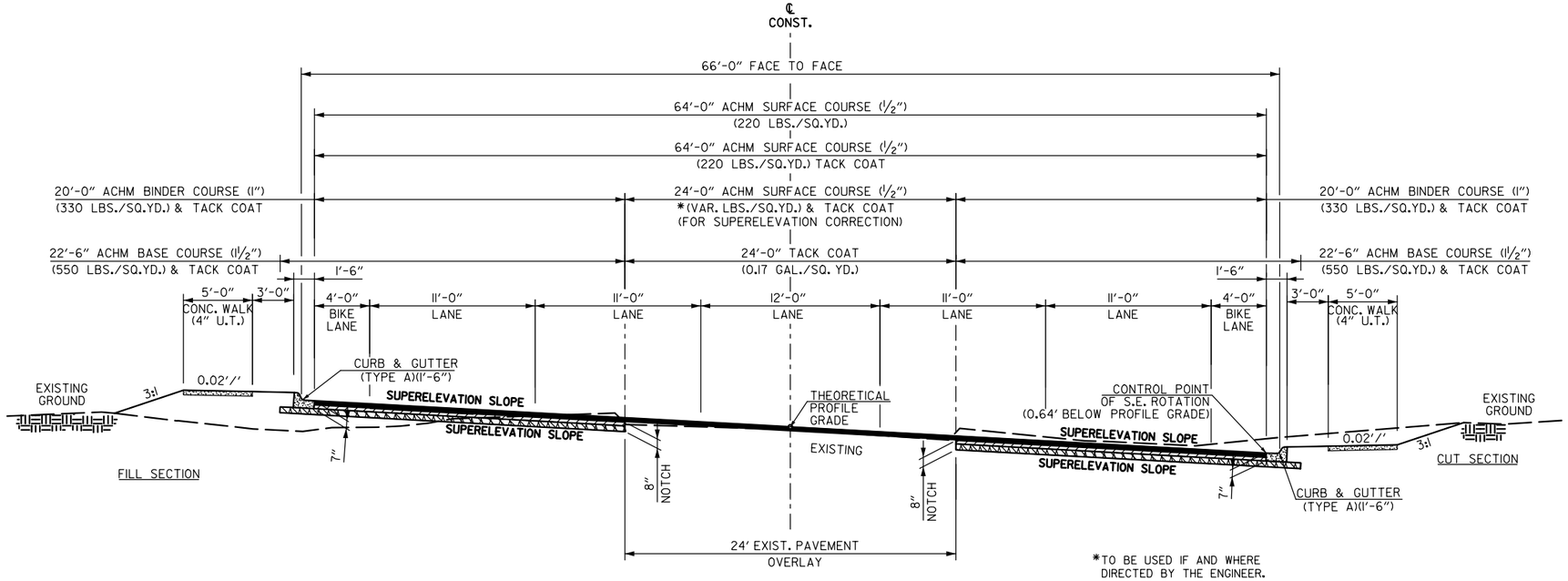
TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.



*TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

FIVE LANES - HWY. 255 & FRONTIER ROAD
NOTCH & WIDENING - SUPERELEVATION

STA. 168+21.03 TO STA. 173+00.00
STA. 176+00.00 TO STA. 181+02.32
STA. 194+61.56 TO STA. 207+05.67
STA. 220+63.39 TO STA. 222+99.64

TYPICAL SECTIONS OF IMPROVEMENT

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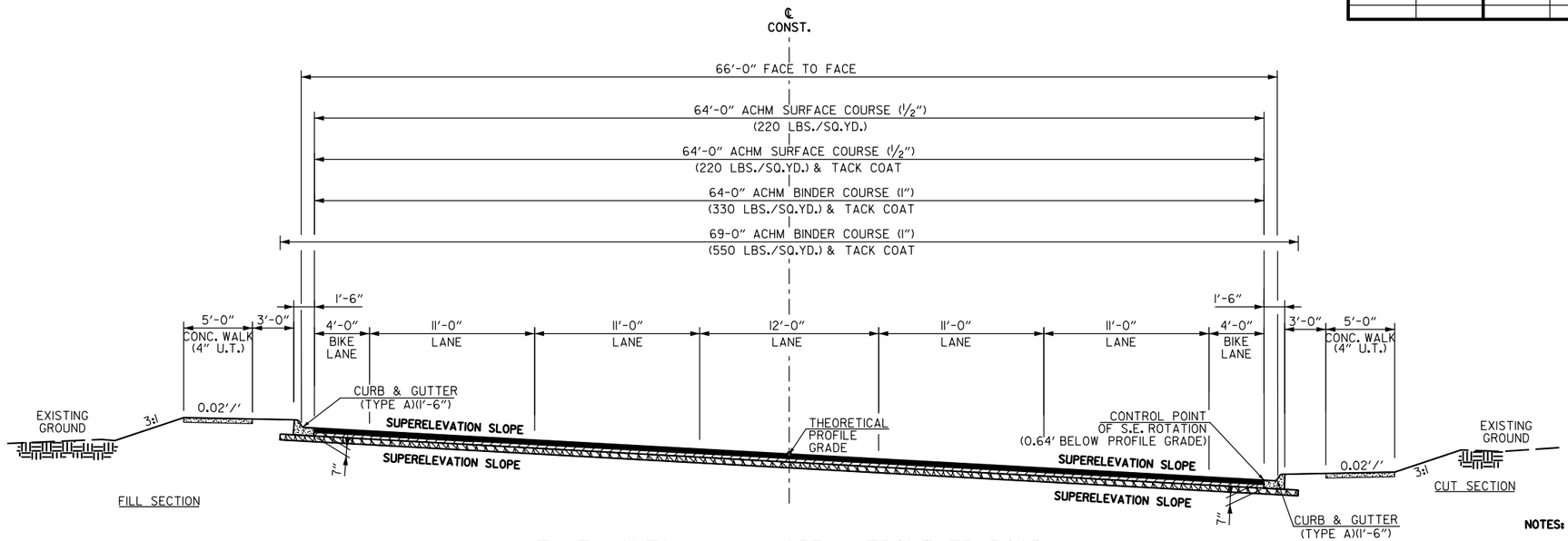
				JOB NO.		040716	4	143

(2) TYPICAL SECTIONS OF IMPROVEMENT

PRELIMINARY SUBJECT TO REVISION



FIVE LANES - HWY. 255 & FRONTIER ROAD
FULL DEPTH - SUPERELEVATION

STA. 173+00.00 TO STA. 176+00.00

NOTES:

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING, CALCULATIONS WILL NOT BE PAID FOR DIRECTLY BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

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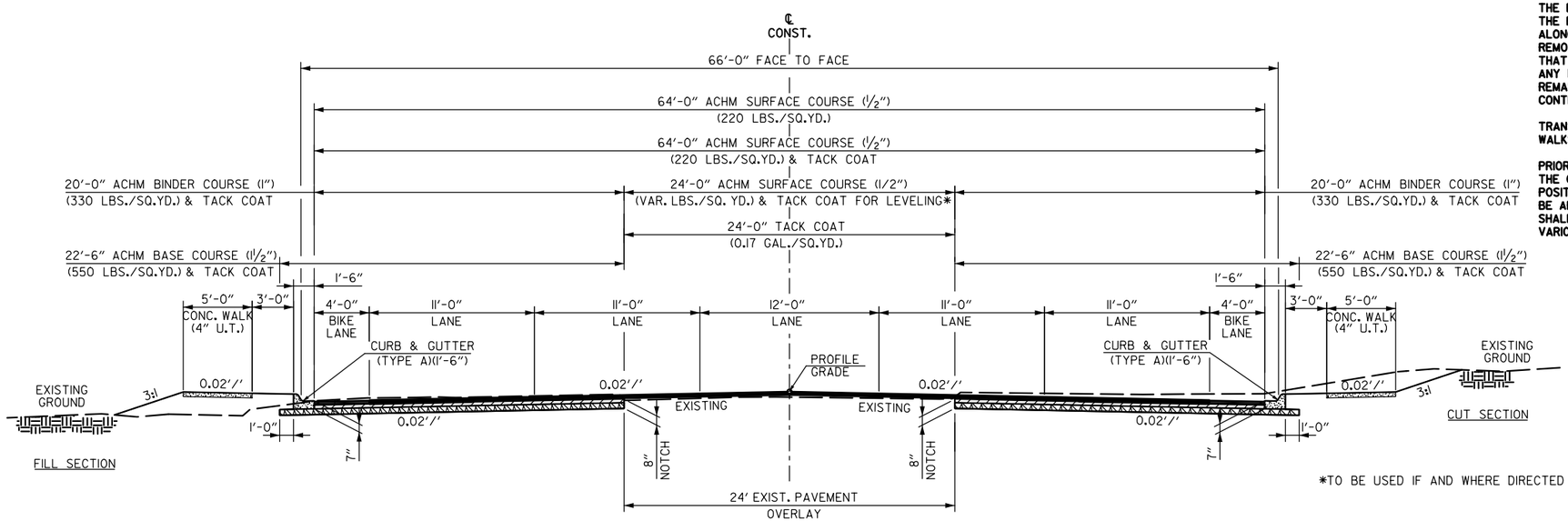

*TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

FIVE LANES - FRONTIER ROAD
NOTCH & WIDENING

STA. 181+02.32 TO STA. 194+61.56
STA. 207+05.67 TO STA 220+63.39

TYPICAL SECTIONS OF IMPROVEMENT

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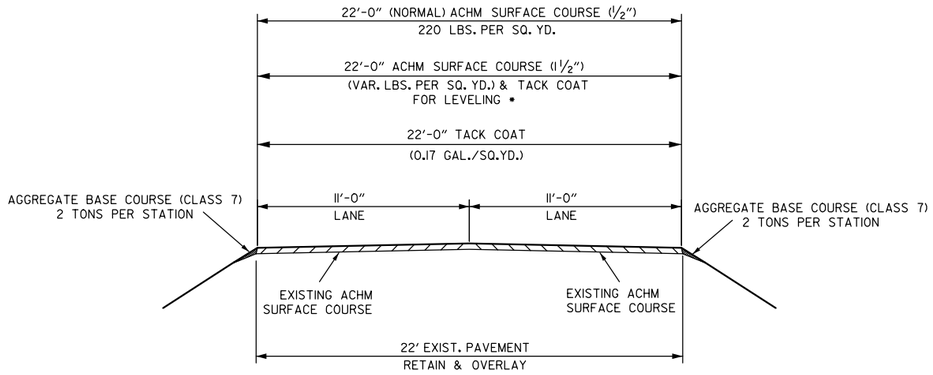
				6	ARK.			
				JOB NO.		040716	5	143

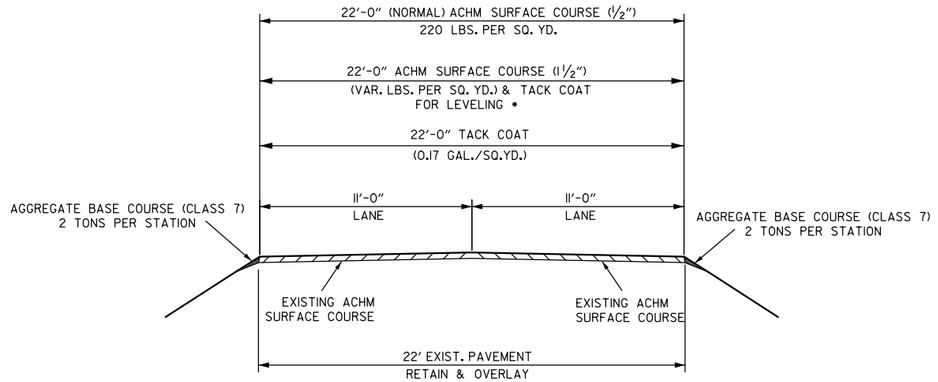
(2) TYPICAL SECTIONS OF IMPROVEMENT

PRELIMINARY SUBJECT TO REVISION



EXISTING HWY. 255 OVERLAY

STA. 3+93.88 TO STA. 60+35.46 HWY. 255



HWY. 253 OVERLAY

STA. 0+11.00 TO STA. 43+18.55 HWY. 253

NOTES:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ANY EXISTING RAISED PAVEMENT MARKERS. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS BID ITEMS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT CONTINUOUS MAIL SERVICE SHALL BE PROVIDED. THE CONTRACTOR SHALL MAINTAIN AND RELOCATE IF NECESSARY ALL EXISTING HIGHWAY SIGNS AND POSTS.

THE AGGREGATE BASE COURSE IS TO BE PLACED AND SPREAD TO CONFIRM TO THE TYPICAL SECTION. THE MATERIAL IN THE BASE COURSE SHALL BE UNIFORMLY COMPACTED, STABLE AND FREE OF SEGREGATED AREAS. DENSITY REQUIREMENTS ARE NOT PART OF THIS CONTRACT

*TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

TYPICAL SECTIONS OF IMPROVEMENT

USER: an5106
DESIGN FILE: G:\17103100_Hwy255\TRANSP\dgn\typical\r040716 TYP01.dgn
PLOTTED: 10/3/2018 12:29 SCALE: 1=10

DEPARTMENT OF THE ARMY
LITTLE ROCK DISTRICT, CORPS OF ENGINEERS
POST OFFICE BOX 867
LITTLE ROCK, ARKANSAS 72203-0867
www.swl.usace.army.mil

January 28, 2020

Regulatory Division

NATIONWIDE PERMIT NO. **SWL 2019-00305**

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

Dear Mr. Fleming:

Please refer to your recent request concerning Department of the Army permit requirements pursuant to Section 404 of the Clean Water Act. You requested authorization for the placement of dredged and fill material in waters of the United States associated with widening and relocating a segment of State Highway 255 near Barling. State Highway 255 will be relocated to include Frontier Road. Proposed improvements include four 11-foot-wide lanes with a 12-foot-wide painted median, and one segment will add 4-foot-wide bicycle lanes and 5-foot-wide sidewalks. The total length of the project is 2.3 miles and will require the acquisition of approximately 7.2 acres of additional right-of-way and the relocation of two businesses. The project will cross six unnamed streams and permanently adversely impact approximately 2,607 linear feet (0.48 acres) of stream. The project may affect but is not likely to adversely affect the Northern Long-eared Bat *(Myotis septentrionalis)* and American Burying Beetle *(Nicrophorus americanus)*. There are no cultural resources impacts. The project was approved as a Tier 3 Categorical Exclusion by the Federal Highway Administration on December 13, 2018. The project is located on State Highway 225, between Barling and Fort Chaffee in sections 4, 5 and 6, T. 7 N., R. 31 W., Sebastian County, Arkansas. A vicinity map, project location map, stream location maps and stream impacts worksheet are enclosed.

The proposed activities are authorized by Department of the Army Nationwide Permit (NWP) **No. 23** (copy enclosed), provided that the following **Special Conditions** and General Conditions therein are met. For your convenience, we have highlighted the General Conditions of the NWP that are the most pertinent to your project. Please pay particular attention to **General Condition No. 12** which stipulates that appropriate erosion and siltation controls be used during construction and all exposed soil be permanently stabilized. Erosion control measures must be implemented before, during and after construction. You should become familiar with the conditions and maintain a copy of the permit at the worksite for ready reference. If changes are proposed in the design or location of the project, you should submit revised plans to this office for approval before construction of the change begins.

Special Conditions:

1. ArDOT agrees to mitigate for the adverse impacts to 2,607 linear feet of streams with 5,119.5 stream credits from an approved mitigation bank before construction of the project begins. ArDOT will provide documentation of the mitigation bank transaction to the U.S. Army Corps of Engineers Little Rock District Transportation Program Manager.

2. ArDOT agrees to prohibit the clearing of trees within the project area from April 1 through November 15 to avoid potential impacts to the Northern Long-eared Bat.

3. ArDOT agrees to consult with the U.S. Fish and Wildlife Service prior to clearing trees on off-site areas to avoid potential impacts the Northern Long-eared Bat and American Burying Beetle.

For your information, we have enclosed a copy of the Arkansas Department of Environmental Quality (ADEQ) Section 401 Water Quality Certification conditions, which are conditions of your permit. If you have any questions concerning compliance with the conditions of the 401 certification, you should contact Ms. Melanie Treat or Mr. Jim Wise at the ADEQ, Water Division, 5301 Northshore Drive, North Little Rock, Arkansas 72118, telephone (501) 682-0040.

Also, in order to fully comply with the conditions of the NWP, you must submit the enclosed compliance certification within 30 days of completion of the project. This is required pursuant to General Condition No. 30 of the permit.

The NWP determination will be valid until March 18, 2022. If NWP **No. 23** is modified, suspended, or revoked during this period, your project may not be authorized unless you have begun or are under contract to begin the project. If work has started or the work is under contract, you would then have twelve (12) months to complete the work.

Your cooperation in the Regulatory Program is appreciated. If you have any additional questions about this permit or any of its provisions, please contact Mr. Johnny McLean at (501)

324-5295 and refer to Permit No. **SWL 2019-00305, State Highway 255 widening and relocation between Barling and Fort Chaffee (ArDOT Project No. 040716).**

Sincerely,

Sarah Chitwood
Chief, Regulatory Evaluation Branch

Enclosures

Copy Furnished:
Ms. Melanie Treat, Arkansas Department of Environmental Quality, w/cy encls.
Mr. Lindsey Lewis, U.S. Fish & Wildlife Service, w/cy encls.
Regulatory Enforcement, w/cy encls.

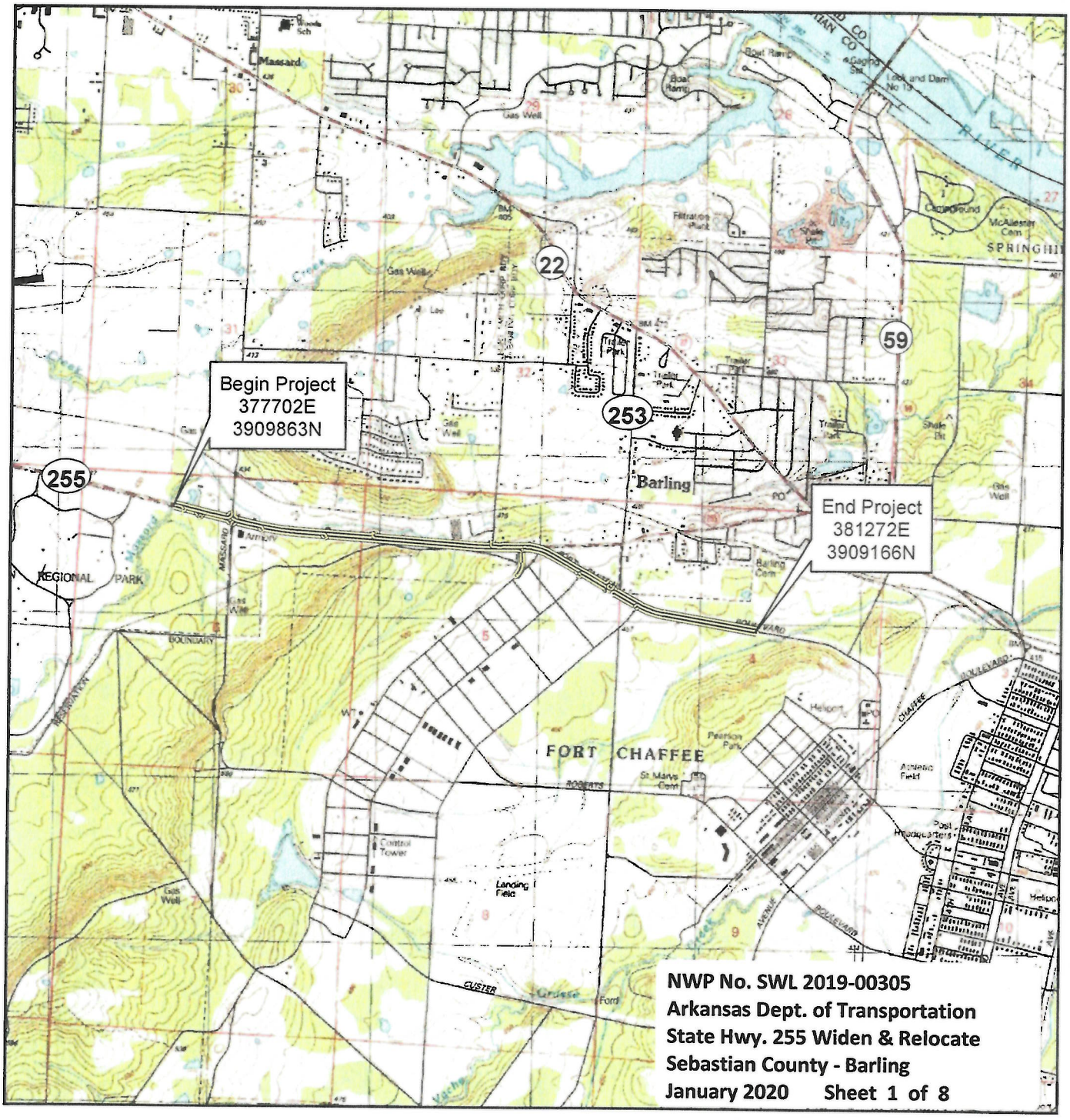


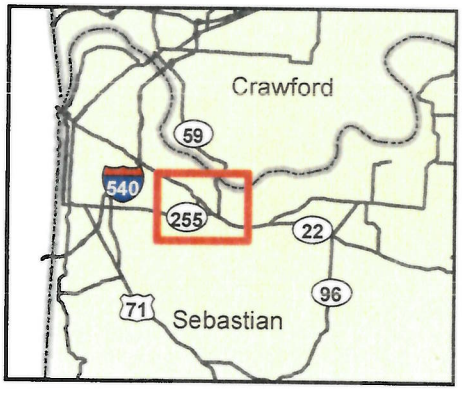
Figure 1:
ARDOT Job 040716
Project Location

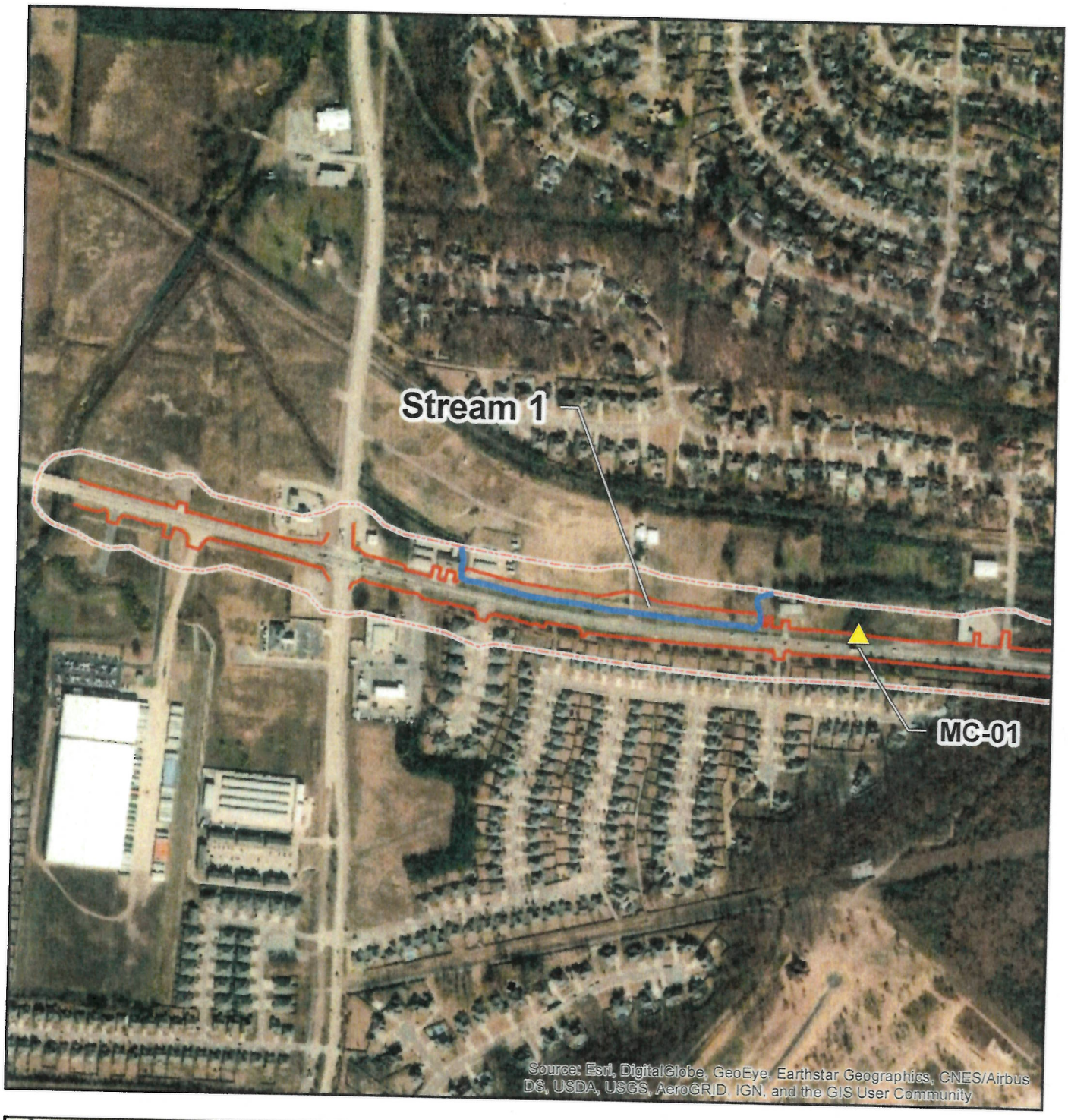
Legend

Project Corridor

N

0 0.5 1 Miles





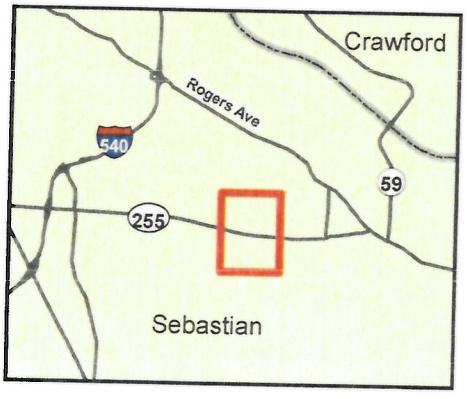


Figure 2a:
ARDOT Job 040716
Water Resources

Legend

- Approximate Construction Limits
- Stream
- Data Form Location
- NEPA Study Corridor

0 600 1,200 Feet

N

1:7,200

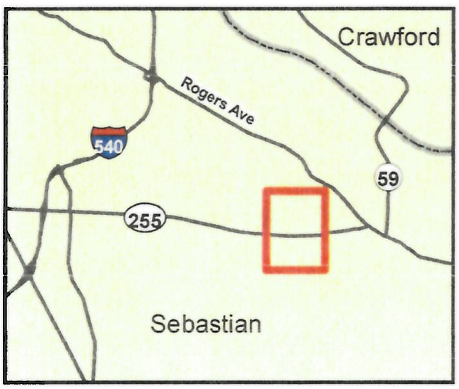


Figure 2b:
ARDOT Job 040716
Water Resources

Legend

- Approximate Construction Limits
- Stream
- Data Form Location
- NEPA Study Corridor

0 600 1,200 Feet

N

1:7,200

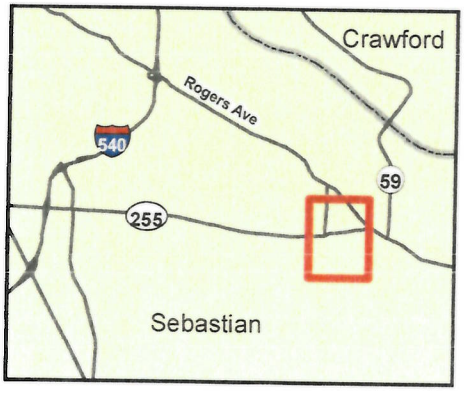


Figure 2c:
ARDOT Job 040716
Water Resources

Legend

- Approximate Construction Limits
- Stream
- Data Form Location
- NEPA Study Corridor

0 600 1,200 Feet

N

1:7,200

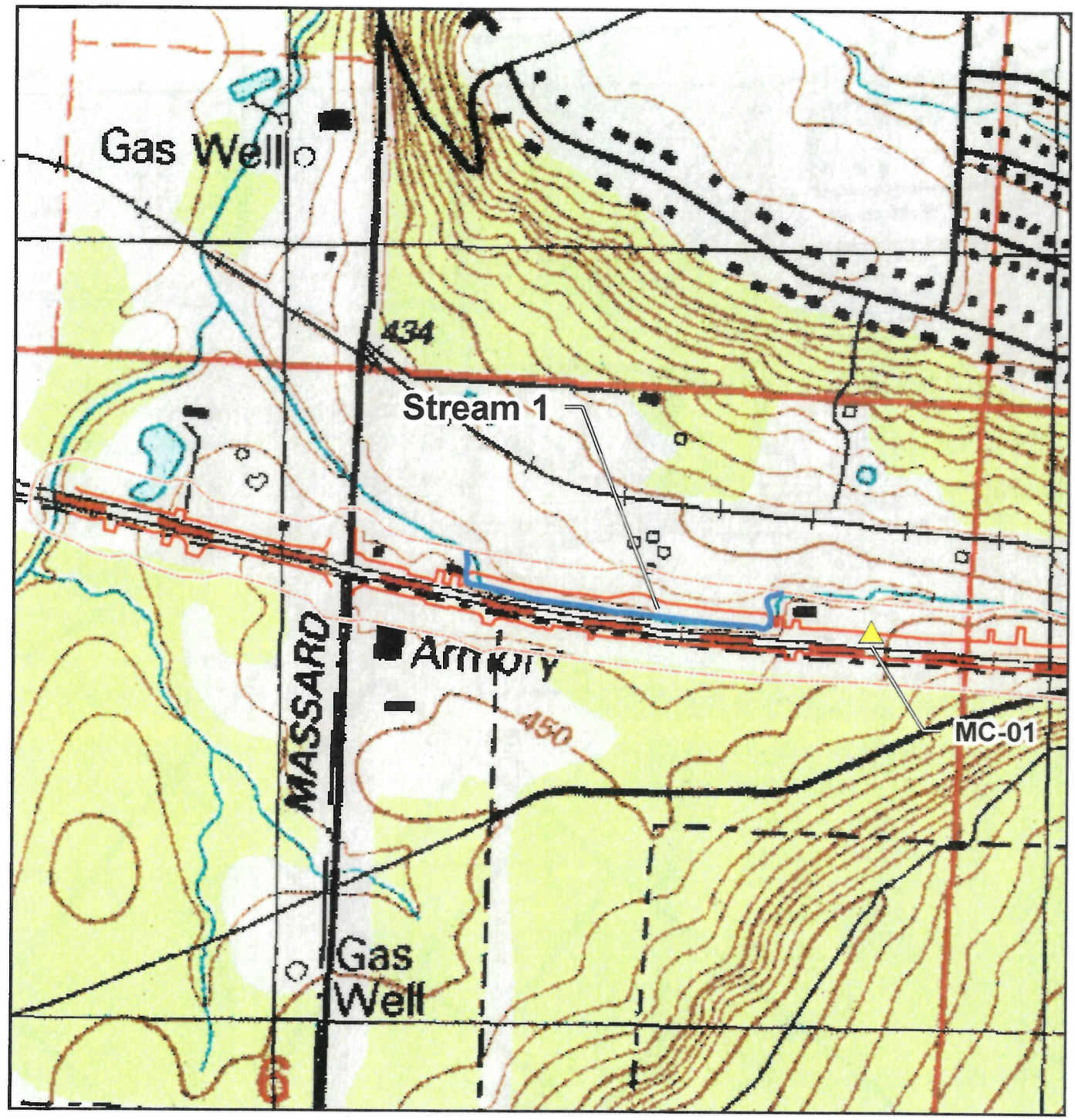


Figure 3a:
ARDOT Job 040716
Water Resources

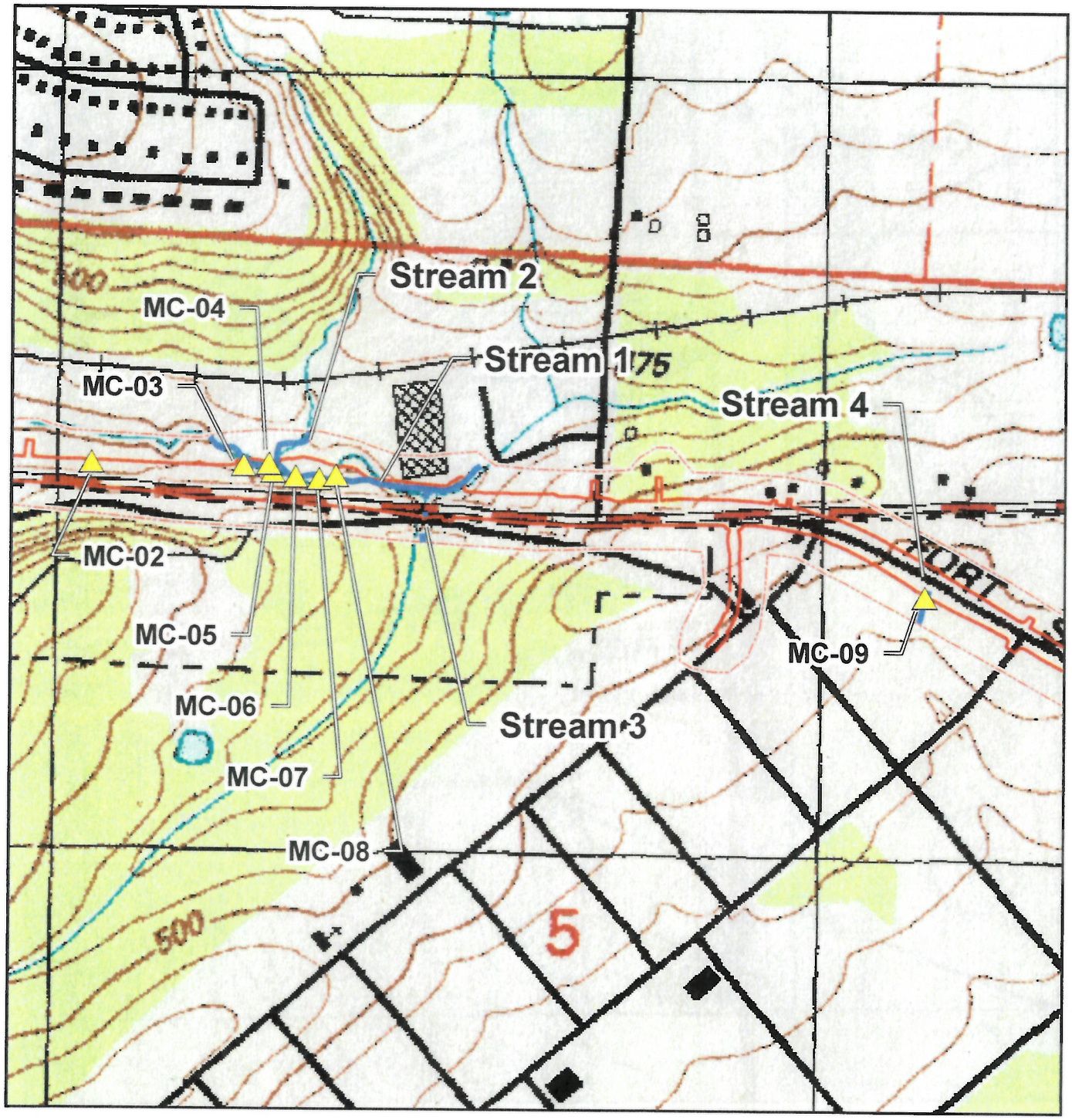
Legend

- Approximate Construction Limits
- Stream
- Data Form Location
- NEPA Study Corridor

0 600 1,200 Feet

N

1:7,200



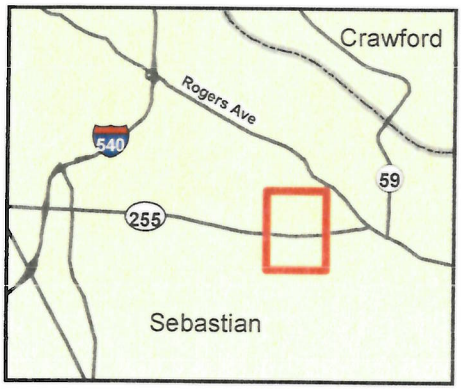


Figure 3b:
ARDOT Job 040716
Water Resources

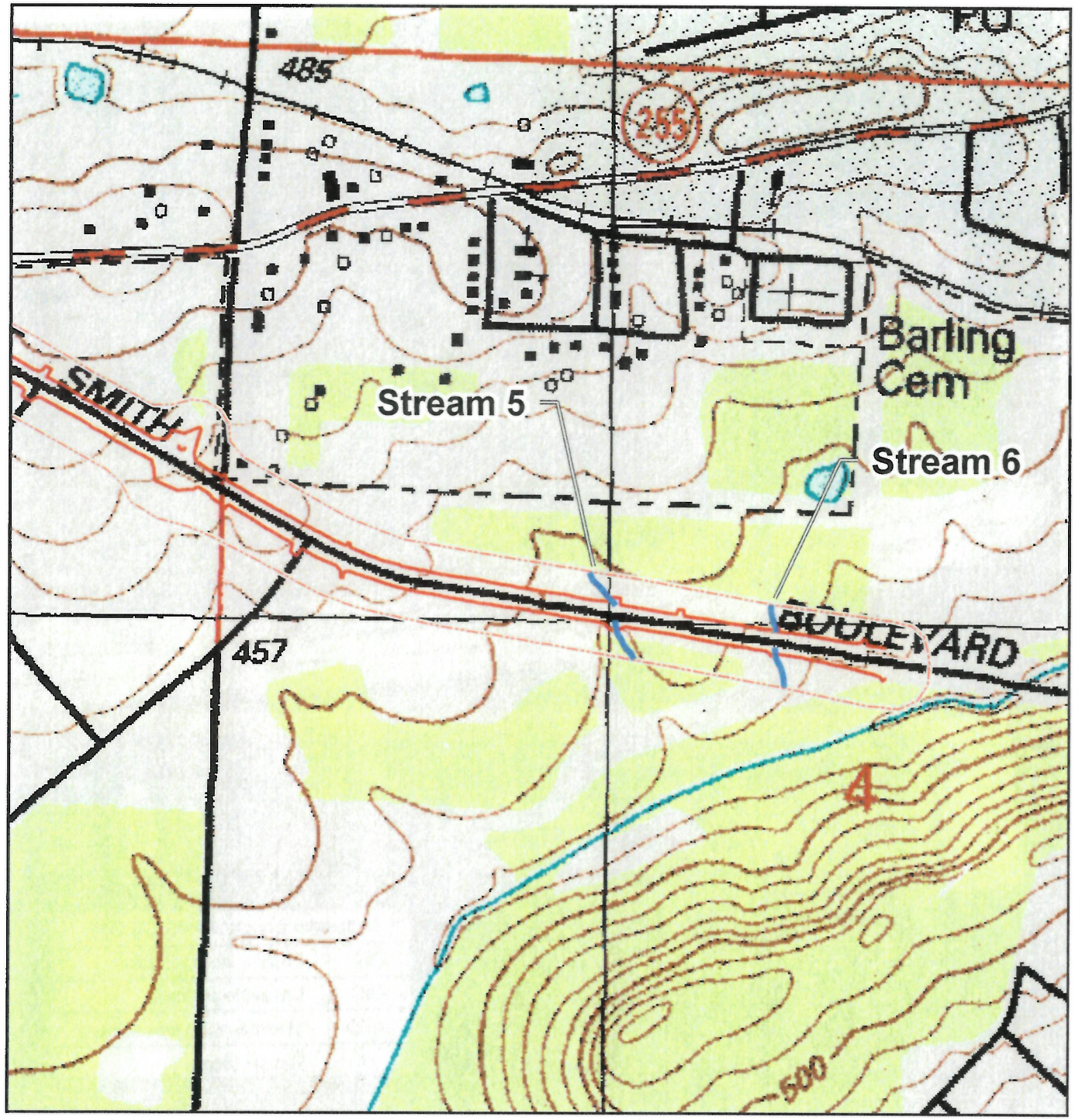
Legend

- Approximate Construction Limits
- Stream
- Data Form Location
- NEPA Study Corridor

0 600 1,200 Feet

N

1:7,200



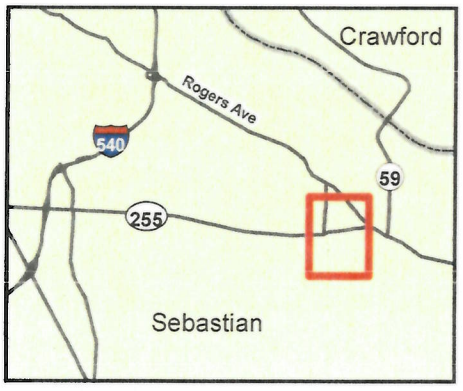


Figure 3c:
ARDOT Job 040716
Water Resources

Legend

- Approximate Construction Limits
- Stream
- Data Form Location
- NEPA Study Corridor

0 600 1,200 Feet

N

1:7,200

LITTLE ROCK STREAM METHOD
ADVERSE IMPACT FACTORS FOR RIVERINE SYSTEM WORKSHEET

Stream Type Impacted	Ephemeral 0.1			Intermittent 0.4			*Perennial - OHWM Width* <15' 0.4	15' - 30' 0.6	>30' 0.8
Priority Area	Tertiary 0.1			Secondary 0.4			Primary 0.8		
Existing Condition	Functionally Impaired 0.1			Moderately Functional 0.8			Fully Functional 1.6		
Duration	Temporary 0.05			Recurrent 0.1			Permanent 0.3		
Activity	Clearing 0.05	Utility Crossing/Bridge Footing	Below Grade Culvert 0.3	Armor 0.5	Detention 0.75	Morpho-logical Change 1.5	Impound-ment (Dam) 2.0	Pipe >100' 2.2	Fill 2.5
Cumulative Linear Impact	<100' 0	100' - 200' 0.05	201' - 500' 0.1	501' - 1000' 0.2	*> 1000 linear feet (LF) 0.1 reach 500 LF of impact (example: scaling factor for 5,280 LF of impacts = 1.1)*				

Factors	*Net Impact Area*	*Net Impact Area*	*Net Impact Area*	*Net Impact Area*	*Net Impact Area*
Stream Type Impacted	*Perennial <15'*	*Perennial <15'*	*Perennial <15'*		
Priority Area	*Tertiary*	*Tertiary*	*Tertiary*		
Existing Conditions	*Funct. Impaired*	*Funct. Impaired*	*Mod. Functional*		
Duration	*Permanent*	*Permanent*	*Permanent*		
Activity	*Armor*	*Fill*	*Fill*		
Cumulative Linear Impact	*0.5*				
Sum of Factors (M)	*1.3*	*3.3*	*4.1*		
Linear Feet of Stream Impacted in Reach (LF)	*1379*	*987*	*17*		
M x LF	*1792.7*	*3257.1*	*69.7*	*0*	*0*
	Reset Column	Reset Column	Reset Column	Reset Column	Reset Column

Total Mitigation Credits Required = (M x LF) = *5119.5*

Notes:

Stream 1 enters the project right-of-way in two seperate locations and is calculated in columns one and two, Stream 2 is calculated in column three.

Application #: SWL

ADEQ
A R K A N S A S
Department of Environmental Quality

MAR 16 2017

Colonel Robert G. Dixon
District Commander
U.S. Army Corps of Engineers
P.O. Box 867
Little Rock, Arkansas 72203-0867

RE: Public Notice: Re-issuance of Nationwide Permits

Dear Colonel Dixon:

The Arkansas Department of Environmental Quality (ADEQ) has completed its review of the above referenced public notice for re-issuance of the U.S. Army Corps of Engineers Nationwide Permits (NWPs) for the State of Arkansas.

ADEQ has determined that there is a reasonable assurance that the activities covered under most these NWPs will be conducted in a manner which, according to the Arkansas Pollution Control and Ecology Commission's Regulation No.2, will not physically alter a significant segment of the waterbody and will not violate the water quality criteria.

Therefore, pursuant to §401(a)(1) of the Clean Water Act, the ADEQ hereby **issues** water quality certification for all NWPs with the exception of NWPs 14, 29, and 43, contingent upon the following conditions:

1) An individual water quality certification request must be submitted to ADEQ for Activities which may impact Extraordinary Resource Waters, Ecologically Sensitive Waterbodies, and Natural Scenic Waterways and their tributaries (within 1 mile) as defined in Regulation No. 2, Water Quality Standards.
2) The applicant shall contact ADEQ to determine if a Short Term Activity Authorization (STAA) is needed when performing work in the wetted area of any waterbody. More information can be obtained by contacting the Water Division Planning Section of ADEQ at 501-682-0946.
3) The applicant shall implement all practicable best management practices (BMPs) to avoid excessive impacts of sedimentation and turbidity to the surface waters.
4) The applicant will take all reasonable measures to prevent the spillage or leakage of any chemicals, oil, grease, gasoline, diesel, or other fuels. In the unlikely event such spillage or leakage occurs, the applicant must contact ADEQ immediately.
5) The applicant shall limit construction to low flow periods as much as possible to minimize adverse effects on water quality and aquatic life.

6) If a construction site will disturb equal to or greater than one (1) acre and less than five (5) acres, the applicant shall comply with the requirements in Reg.6.203 for Stormwater discharge associated with a small construction site, as defined in APC&EC Regulation No. 6. If the construction site will disturb five (5) acres or more, the applicant shall comply with the terms of the Stormwater Construction General Permit Number ARR 150000 prior to the start of construction. BMPs must be implemented regardless of the size. More information can be obtained by contacting the NPDES Stormwater Section of ADEQ at (501) 682-0621.

For NWPs 14, 29, and 43, where a Pre-Construction Notification (PCN) is required, in addition to conditions 1-6 listed above, an individual water quality certification request must be submitted to ADEQ in cases and the activity occurs in:

a. Waterbodies on the most currently approved 303(d) list for turbidity/siltation, including tributaries of the listed stream (within 1 mile) and waters upstream of the listed segment (within 1 mile).
b. Waterbodies with an approved Total Maximum Daily Load (TMDL) for turbidity/siltation, including their tributaries (within 1 mile) and waters upstream of the listed segment (within 1 mile).

If you have additional questions regarding this certification, please contact Ms. Lazendra Hairston at (501) 682-0946.

Sincerely,

Caleb Osborne
Associate Director, Office of Water Quality

cc: Elaine Edwards, Chief Regulatory Division USACE
Jim Ellis, Project Manager USACE
Wanda Boyd, U.S. EPA,

PERMITTEE COMPLIANCE CERTIFICATION

PERMIT NO.: SWL 2019-00305, State Highway 255 widening and relocation between Barling and Fort Chaffee (ArDOT Project No. 040716)

NWP/S NO.: 23

PERMITTEE NAME: ArDOT

DATE OF ISSUANCE: _____

PROJECT MANAGER: Johnny McLean

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

US Army Corps of Engineers, Little Rock
ATTENTION: CESWL-RD
PO Box 867
Little Rock, Arkansas 72203-0867

Please note that your permitted activity is subject to a compliance inspection by a US Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

DATE WORK COMPLETED: _____

_____ _____

SIGNATURE OF PERMITTEE **DATE**