

DESIGN RE-EVALUATION

ARDOT JOB 100512
FAP NHPP-0076(178)
WALNUT RIDGE – MISSOURI STATE LINE (FUTURE I-57) P.E.
CLAY, GREENE, LAWRENCE, AND RANDOLPH COUNTIES

Submitted Pursuant to 42 U.S.C. 4332(2)

By the

U.S. Department of Transportation

Federal Highway Administration

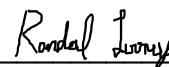
And the

Arkansas Department of Transportation

June 2024

June 6, 2024

Date of Approval



Randal Looney
Environmental Coordinator
Federal Highway Administration

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PROJECT BACKGROUND

This re-evaluation was prepared at the direction of the Federal Highway Administration (FHWA) Arkansas Division in accordance with the National Environmental Policy Act of 1969 (NEPA), and all other applicable Federal and state laws and regulations, specifically 23 C.F.R. § 771.129. NEPA re-evaluations are required prior to request for FHWA action, usually proceeding to final design, right of way acquisition, or construction funding, when there has been a time lag or changes related to the study have occurred between the previous NEPA approval and the request for action.

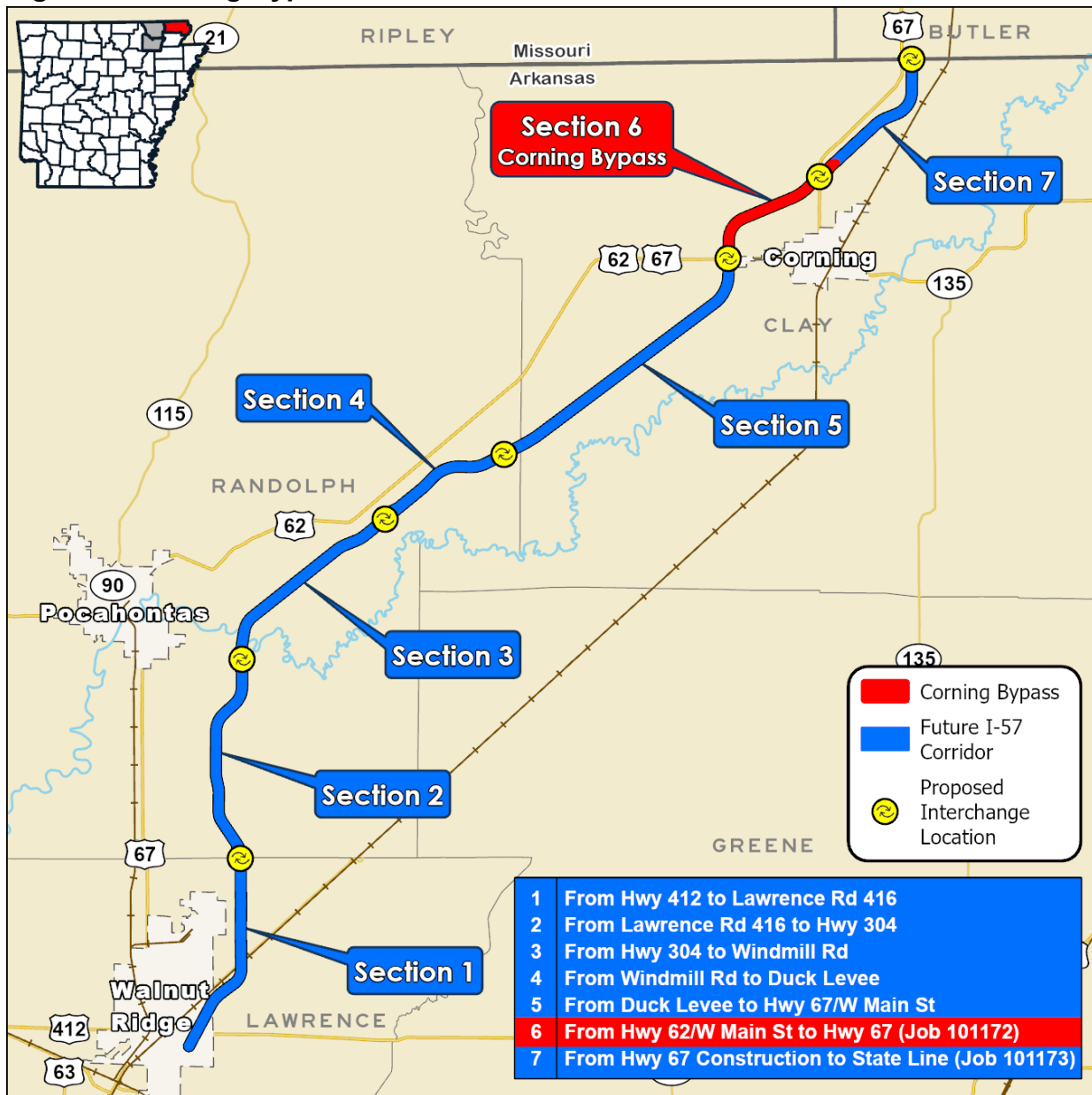
The Future Interstate 57 (I-57) project (Job 100512) would provide an interstate facility from Walnut Ridge, Arkansas to the Missouri State line. The Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) identifying the Selected Alternative for the entire corridor was signed by FHWA on October 24, 2023. The Selected Alternative would involve construction of approximately 42 miles of four-lane, divided, fully controlled access highway on new location passing through Lawrence, Randolph, and Clay counties.

For constructability, the Selected Alternative was divided into seven different sections (**Figure 1**). The section in Clay County from Highway 62/67 west of Corning to Highway 67 north of Corning was designated as a section of independent utility. This 4.1-mile-long segment of the Future I-57 Selected Alternative was programmed as Arkansas Department of Transportation (ARDOT) Job 101172, the Corning Bypass. Right of way acquisition is anticipated to be complete by mid-2024. Construction is anticipated to begin early 2025 and be complete by late 2026. **Figure 1** provides the project location as proposed under Job 101172, the Corning Bypass.

Design modifications to the Corning Bypass include an overpass and cul-de-sacs. These changes resulted in additional right of way required for the Corning Bypass portion of the Future I-57 project, which resulted in the need to re-evaluate the Corning Bypass segment. Additionally, the uplisting of the Northern Long-eared Bat (*Myotis septentrionalis*) from threatened to endangered also triggered the need for a re-evaluation.

A public involvement meeting and public officials meeting were held March 14, 2024, for the Corning Bypass. These open house meetings allowed the public and local and state officials the opportunity to view displays, ask questions, and offer comments about the detailed design plans. Design engineers and other ARDOT staff were available to answer questions. The public comment period extended from March 8 to March 29, 2024. A total of six comments were received, none expressed substantial controversy or concern. The public meeting synopsis report is provided in **Appendix A**.

Figure 1: Corning Bypass Location



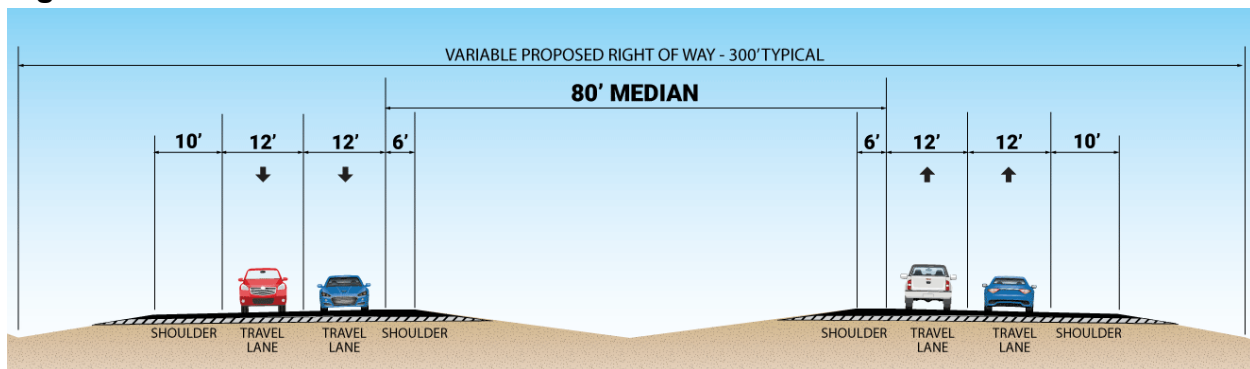
This re-evaluation provides updated design and environmental impact information for the Corning Bypass section of Future I-57.

PROJECT DESCRIPTION

ARDOT is proposing to construct approximately 4.1 miles of new location highway extending north from Highway 62/67 west of Corning and terminating north of Corning at Highway 67 in Clay County. Diamond interchanges are proposed at each end of the project at Highway 62/67 and Highway 67. At the Highway 62/67 interchange west of Corning, only the northbound entrance ramp and southbound exit ramps would be

constructed. At the Highway 67 interchange north of Corning, only the northbound exit ramp and the southbound entrance ramps are being constructed. North of Corning, additional right of way would be purchased east of Highway 67 in anticipation of a future section of the Future I-57 project (i.e., ARDOT Job 101173; Section 7 in **Figure 1**). The Corning Bypass would be a fully-controlled access facility designed to interstate standards. The proposed roadway would be a 4-lane divided highway with a depressed 80-foot median and an approximately 300-foot-wide right of way (**Figure 2**). The roadway would have four 12-foot-wide driving lanes with 6-foot-wide inside shoulders, 10-foot-wide outside shoulders, and a proposed speed limit of 75 miles per hour. An overpass at County Road (CR) 139 is included to provide continued access for local users. CR 143 would be severed and include cul-de-sacs on each side of the proposed roadway. Culverts and drainage improvements are also incorporated into the project to ensure proper drainage.

Figure 2: Cross Section



PROJECT PURPOSE AND NEED

The Corning Bypass is part of a regional interstate connectivity project named Future I-57. In Arkansas, the Corning Bypass would provide a critical segment of the Future I-57 project.

The primary purpose of the Future I-57 project is to address a gap in the system linkage that diminishes connectivity and mobility of the National Highway System. South of Walnut Ridge, Highway 67 is a fully-controlled access facility connecting to Interstate 40 in North Little Rock. North of the Missouri border, Highway 67 is either built or planned to be built to a four-lane interstate-type facility to Poplar Bluff, Missouri. There are no projects currently planned to convert Highway 60 to an interstate between Poplar Bluff and Sikeston, Missouri. From Sikeston, I-57 heads north through Missouri and Illinois until it ends in Chicago, Illinois.

The Future I-57 project is also needed because there is a lack of transportation infrastructure to support economic development. The importance of interstate highways

to increased economic opportunities is shown to be greater when new highways are located in an area where there are currently no or limited high-quality transportation facilities. There are no interstates or other fully-controlled access highways, and there are no partially-controlled access routes to the Missouri State line within the project area. Additionally, there is a need to enhance climate resiliency along the route. Over the past 12 years, the Highway 67 corridor has experienced several major flood events causing highway disruption. The closure of Highway 67 due to extreme weather events prevents commerce from moving throughout the region, keeps locals from accessing their jobs and local commerce, inhibits emergency vehicle access between the rural communities and the medical centers in the cities, and eliminates evacuation routes for lower-lying areas. Furthermore, federal legislation designated this high priority corridor as future I-57.

PROJECT DESIGN MODIFICATIONS

Design modifications from incorporation of the CR 139 overpass and the CR 143 cul-de-sacs resulted in additional right of way required at these intersections. The proposed right of way limits now extend beyond the original right of way footprint of the Future I-57 ROD Selected Alternative in these areas. Due to the development of more detailed design, right of way limits were also reduced in some areas, especially at the proposed interchanges. The typical section has also changed since the FEIS-ROD, with the median width increased from 60' to 80'. **Figure 3** shows the Corning Bypass proposed improvements overlaid on the Future I-57 ROD Selected Alternative.

ENVIRONMENTAL IMPACTS

Environmental impacts outlined in this re-evaluation are focused on those that have changed between the Corning Bypass and the corresponding section of the Future I-57 ROD Selected Alternative. This re-evaluation found that there would not be a discernable difference in impacts and/or no regulatory updates requiring additional analysis for the following resources/concerns: economic, visual, geologic, wildlife and plant communities, state-listed species, noise, hazardous materials, Section 4(f)/6(f) resources, floodplains or floodways, flood protection levees, and public water supply/assessment areas. Impacts associated with the Corning Bypass are summarized below.

Land Use and Right of Way

Land use in the area is primarily agricultural. No change in the existing land uses has occurred since the FEIS-ROD. Direct impacts to land use would be the conversion of land to transportation right of way. A total of 260 acres of new right of way is estimated to be converted to transportation use under the Corning Bypass compared to 324 acres within the corresponding section of the Future I-57 ROD Selected Alternative.

Design changes resulted in three additional landowners being impacted by right of way acquisition and two other landowners no longer being impacted. The total number of landowners impacted by right of way acquisition for the Corning Bypass is 15.

Figure 3: Original Footprint and Proposed Design Modifications



Relocations, Social/Community, Environmental Justice (EJ), and Title VI

The Corning Bypass would require a total of four relocations consisting of one residential tenant and landlord business relocation, and two residential owner relocations. These same relocations were identified in the FEIS-ROD. No community facilities or services would be impacted by the Corning Bypass. No relocations would be required from areas

identified in the FEIS-ROD as EJ populations. Based on the EJ analysis presented in the FEIS-ROD, a determination has been made that the proposed project would not cause a disproportionately high and adverse impact on Environmental Justice and Title VI populations.

Farmland

The design changes would involve a decrease in impacts to active cropland and Important Farmland. Approximately 213 acres of active cropland and 209 acres of Important Farmland would be impacted under the Corning Bypass compared to the estimated 283 acres of active cropland and 280 acres of Important Farmland within the corresponding section of the Future I-57 ROD Selected Alternative. Because the design changes reduced farmland impacts and would not substantially alter the overall site assessment score, additional coordination with the Natural Resources Conservation Service under the Farmland Protection Policy Act was not conducted. No additional irrigation wells would be impacted beyond the three identified in the FEIS-ROD.

Wetlands and Waters of the U.S.

The design changes would involve a decrease in impacts to potentially jurisdictional wetlands and streams. Approximately 1.4 acres of wetland impacts and 7,886 linear feet of stream impacts were estimated in the ROD Selected Alternative. Recent field investigations for the Corning Bypass identified approximately 1.1 acres of wetland impacts and 6,801 linear feet of stream impacts. The Corning Bypass will be permitted as a Standard Individual Permit issued by the U.S. Army Corps of Engineers (USACE). Compensatory mitigation for wetland and stream impacts will be accomplished by ARDOT through implementation of off-site permittee responsible mitigation. The Corning Bypass wetland delineation report is provided in **Appendix B**.

Threatened and Endangered Species

A Biological Assessment was submitted to the U.S. Fish and Wildlife Service (USFWS). USFWS issued a concurrence letter on March 30, 2023, which concluded the Section 7 process for the Future I-57 project (Job 100512). Design modifications to the Corning Bypass and the uplisting of the Northern Long-eared Bat from threatened to endangered resulted in the need to re-initiate consultation for the Corning Bypass segment.

On April 24, 2024, consultation was re-initiated with USFWS for impacts to threatened and endangered species for the Corning Bypass. The official species list obtained from the USFWS Information for Planning and Consultation tool identified the following species as potentially occurring within the Corning Bypass project area: Indiana Bat (*Myotis sodalis*), Northern Long-eared Bat, Tricolored Bat (*Perimyotis subflavus*), Eastern Black Rail (*Laterallus jamaicensis spp. Jamaicensis*), Piping Plover (*Charadrius melodus*), Rufa

Red Knot (*Calidris canutus rufa*), Alligator Snapping Turtle (*Macrochelys temminckii*), Pink Mocket (*Lampsilis abrupta*), pondberry (*Lindera melissifolia*), and Monarch Butterfly (*Danaus plexippus*). On April 30, 2024, USFWS concurred the project would have “no effect” or “may affect but is not likely to adversely affect” the listed species. Additionally, the project would not jeopardize the continued existence of the Tricolored Bat, Monarch Butterfly, and Alligator Snapping Turtle. USFWS concurrence is provided in **Appendix C**.

Cultural Resources

A Programmatic Agreement, which was made among FHWA, the State Historic Preservation Officer (SHPO), ARDOT, USACE, and the Osage Nation, was executed on February 14, 2023 for the Future I-57 project (Job 100512). The incorporation of the CR 139 overpass and the CR 143 cul-de-sacs resulted in additional right of way required in these areas for the Corning Bypass.

A Phase I Cultural Resources Survey was conducted within the additional right of way areas and found no cultural resources. On May 14, 2024, SHPO concurred that no historic properties would be affected within the additional right of way required for the Corning Bypass. Cultural resources coordination with SHPO is provided in **Appendix D**.

COMMITMENTS

Thirty-four environmental commitments are described in detail in the Future I-57 FEIS-ROD (Job 100512) and apply to construction of the Corning Bypass. No changes to these commitments are required as a result of the design modifications.

RE-EVALUATION CONCLUSION

Table 1 compares the overall impacts for the proposed Corning Bypass and the corresponding section of the Future I-57 ROD Selected Alternative.

The joint FEIS-ROD for the Future I-57 was previously approved in October 2023. This re-evaluation reviewed the Corning Bypass and the potentially affected environment since the issuance of the FEIS-ROD. After a thorough review and reconsideration of these documents based on additional environmental studies and approvals, FHWA determines that all previous findings and decisions remain valid and that no new or additional significant impacts will result from the design changes associated with the Corning Bypass. Based on this determination, the subject project may proceed.

Table 1: Impact Summary

Resource Category	Proposed Corning Bypass	Corning Bypass Segment of Future I-57 as Presented in 2023 FEIS-ROD
Estimated Total Project Cost (millions) ¹	\$58.0	N/A*
Construction Cost (millions) ¹	\$55.8	N/A*
ROW and Relocation Cost (millions) ¹	\$2.2	\$2.8**
Right of Way Required (acres)	260	324
Landowners Impacted (#)	15	14
Relocations (#)	4	4
Active Cropland Impacts (acres)	213	283
Important Farmland (acres)	209	280
Wetland Impacts (acres) ²	1.1	1.4
Stream Impacts (linear feet)	6,801	7,886
Cultural Resources Impacted (#)	None	None

*Not Applicable; project costs were presented in the FEIS-ROD as a single cost for the entire 39 miles of the main corridor comprising the Future I-57 Selected Alternative.

**Cost included a 25% contingency; utilities were not included.

¹ Utilities are not included.

² Includes potentially jurisdictional ponds, emergent, and forested wetlands.

Appendix A

Public Meeting Synopsis Report

PUBLIC INVOLVEMENT SYNOPSIS

ARDOT JOB 101172

Corning Bypass (Future I-57)
Clay County

PUBLIC COMMENT PERIOD

March 8, 2024 - March 29, 2024

PUBLIC MEETING

March 14, 2024
M.B. Ainley Community Center (Gym)
538 E. Elm St.
Corning, Arkansas

PUBLIC MEETING WEBSITE

Future57.TransportationPlanroom.com/CorningBypass

PUBLIC INVOLVEMENT SNAPSHOT



1 PUBLIC MEETING



813 WEBSITE VISITORS



119 IN-PERSON ATTENDEES



6 COMMENTS RECEIVED

PUBLIC MEETING AND COMMENT PERIOD

Garver, in coordination with the Arkansas Department of Transportation (ARDOT), conducted a Public Involvement Meeting to present the detailed design plans for the 4.1-mile new location roadway extending north from Highway 62/67 west of Corning and terminating north of Corning on Highway 67 in Clay County. Two project websites (in English and Spanish) were published: Future57.TransportationPlanroom.com/CorningBypass; Future57.es.TransportationPlanroom.com/BypassDeCorning.

- **A public meeting was held Thursday, March 14, from 4:00 – 7:00 p.m. at the M.B. Ainley Community Center (Gym), 538 E. Elm St., in Corning, Arkansas.**

This was an open house meeting with no formal presentation. The meeting consisted of members of the public visiting the different exhibits and stations and talking with project team members. **A public officials meeting was also held the same day prior to the meeting.** Attendees were invited to view the exhibits and materials and talk directly with project team members.

The comment period was available from Friday, March 8, 2024, through Friday, March 29, 2024.

QUICK LINKS

[Outreach](#)

[Meeting Material](#)

[Public Meeting and Project Website](#)

[Comment Summary](#)

////// METHODS OF OUTREACH //////////////// MATERIALS AND RESOURCES ///

Special efforts to involve the public in the meeting included the following:

- **Initial phone calls** to local and surrounding public officials (February 27, 2024)
- **Postcards mailed** to 2,215 property owners (2-mile radius around preferred alternative) and stakeholders (February 28, 2024)
- **News release** published (February 28, 2024)
- **Letters with project map and notice flyer mailed and emailed** to public officials (February 28-29, 2024)
- **Letters with notice flyer mailed and emailed** to local churches (February 28-29, 2024)
- **Display ads** placed in four newspapers
 - Arkansas Democrat Gazette (March 3 and March 10, 2024)
 - Pocahontas Star Herald (March 6 and March 13, 2024)
 - Clay County Courier (March 6 and March 13, 2024)
- **Flyers hand-delivered** to properties adjacent to the project location and various public locations (gas stations, library, pharmacies, etc.) along Highway 62 and Highway 67 (March 7, 2024)
- **Website availability email** to individuals who'd requested, via the website, notification when materials were posted (March 8, 2024)
- **Public Service Announcements (PSA)** ran on La Jefa 99.3 FM (March 11-14, 2024)
- Multiple rounds of outreach through **various websites and social media platforms**

The following materials were available for review and comment at the public meeting. All materials were also available on the project websites. Copies of the handouts, exhibits, and video slides are attached.

- **Handouts** for the public included a summary sheet, a comment form, and a small-scale map showing the project location within the Future I-57 corridor
- **Two identical roll plot maps** on aerial photography showing the project design at a scale of 1-inch equals 200 feet. Included on the map was a typical section
- **Why Are We Having This Meeting? Exhibit Board** explaining the purpose of the meeting and methods for public comment
- **Project Location Exhibit Board** showing the location of the Corning Bypass within the Future I-57 corridor and a typical section illustration
- **Future I-57 Exhibit Board** showing the location of the Future I-57 corridor and information regarding that larger project
- **What's Next? Exhibit Board** explaining the process after the public meeting
- **A five-minute repeating video with voiceover** that provided a project overview (introductory presentation video)
- **Interactive Project Maps with the ability to comment** available on two laptops/large computer screens
- **ARDOT Right-of-Way Procedures for Acquisition Report**
- **Exhibit boards** with QR codes to view electronic versions of the sign-in sheet, project overview video, interactive map, project website, and comment form

*Design was updated to reflect an overpass on CR 139 rather than CR 143 on March 14, 2024 before the public meeting.

/////// PUBLIC MEETING AND PROJECT WEBSITE /////

Table 1 describes the participation data gathered from the in-person public meeting and the project website.

Table 1 - Results of Participation	
Public Participation	Totals
Public Officials Meeting Attendees (non-staff)	12
In-Person Public Meeting Attendees (non-staff)	107
Staff Present at Meeting	16
Attendees who Signed Website Register (English/Spanish)	17/0
Unique Visitors to the Website (English/Spanish)	813/8
Comment forms received (English/Spanish)	4/0
Interactive Map comments/Roll Plot Post-It notes received - no comment form (English/Spanish)	2/0
Project Website, English (February 28 - March 29, 2024)	Totals
Visits to the Website (Sessions)	1,133
Number of Website Pages Viewed (Views)	3,665
Percent of Total Users Interacting with Mobile Devices/Tablets	48.1%
Clicked Hyperlinks on Website	649
Project Website, Spanish (February 28 - March 29, 2024)	Totals
Visits to the Website (Sessions)	31
Number of Website Pages Viewed (Views)	168
Percent of Total Users Interacting with Mobile Devices/Tablets	12.5%

PARTICIPATION AT A GLANCE

119

Public Meeting Attendees (non-staff)

17

Online Registrations

6

Comments Received

821

Unique Visitors to the two Website

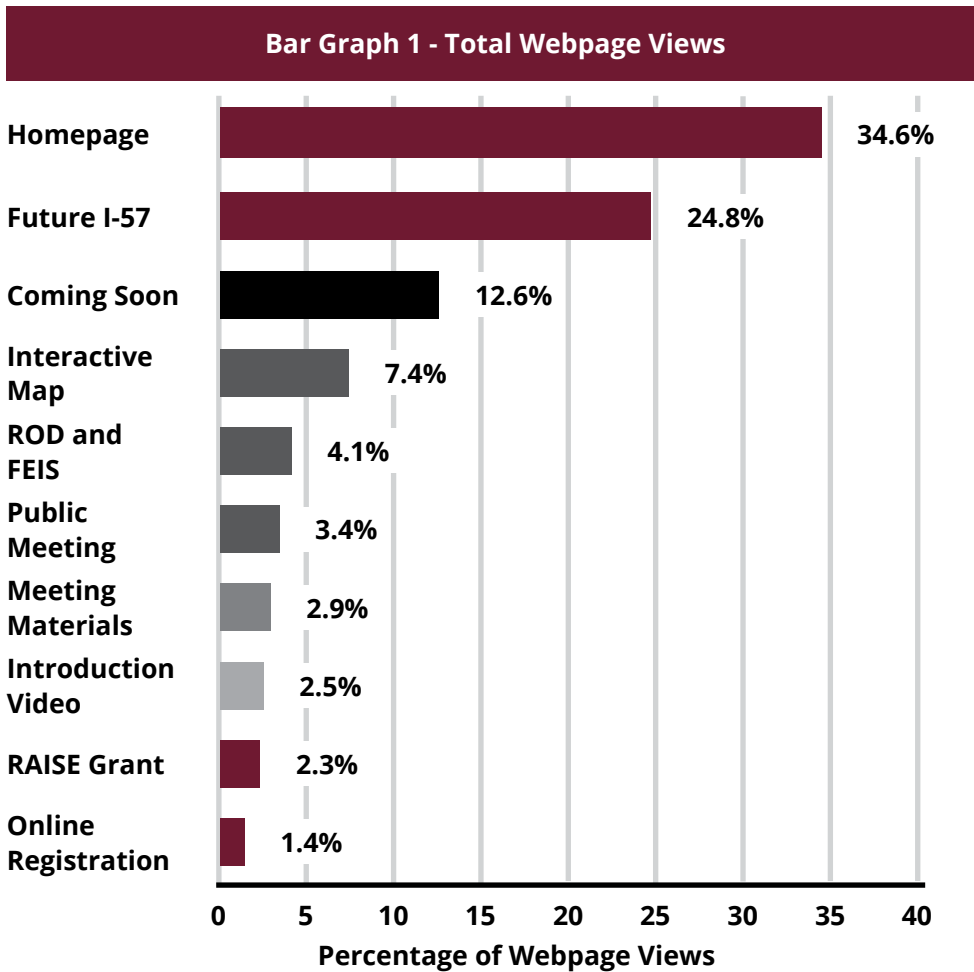
649

Clicked Links (English Website)

*If comments were submitted in multiple forms (letter, phone, email, etc.), and were identical in nature, they were only counted once.

PUBLIC MEETING & PROJECT WEBSITE

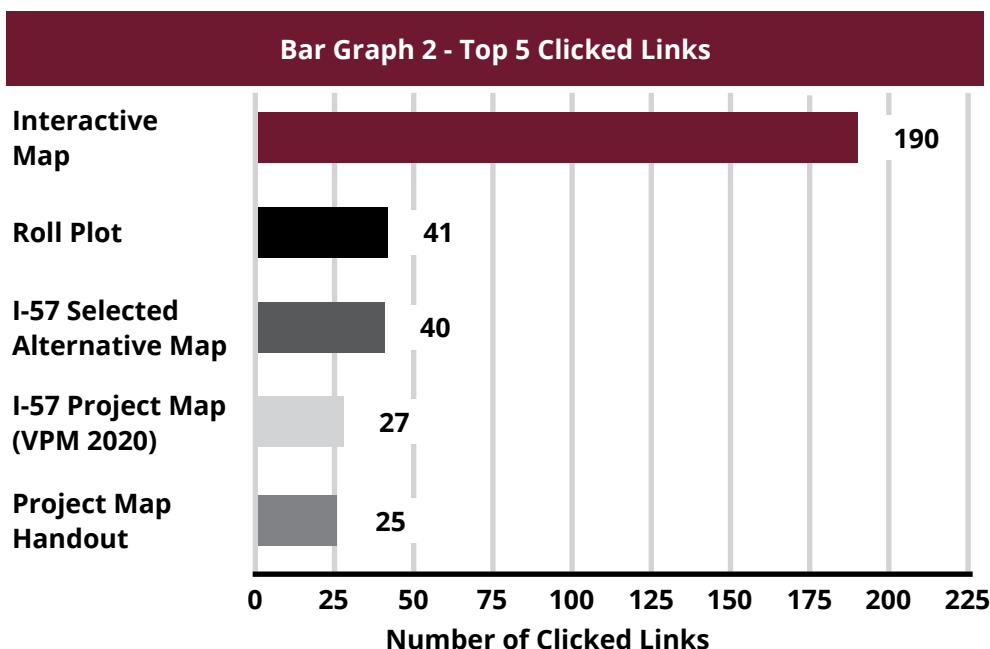
Bar Graph 1 describes the total page views and corresponding percentage based on each individual website page on the English Website.



WEBSITE AT A GLANCE

- 3,665 Views
- 19+ Hours Visitors Engaged with the Site
- 813 Unique Visitors
- 1,133 Sessions
- 94 Peak Site Traffic in One Day (2/29/2024)
- 3 Comments Submitted Online

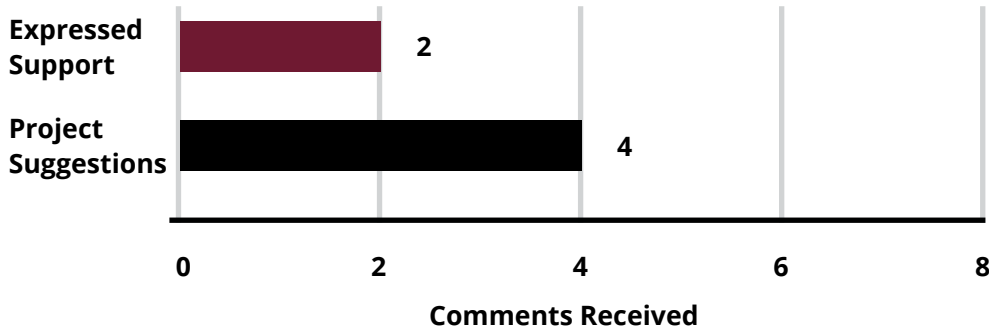
Bar Graph 2 describes the top five clicked links on the English website.



PUBLIC COMMENTS

Garver 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.

Bar Graph 3 - Total Comments Received



The following is a listing of comments received regarding this project:

Expressed Support

- One comment stated approval and support of the bypass and its ability to take truck traffic away from Corning.
- One comment stated thankfulness for the CR 143 overpass and asked about the length of time the county road will be closed during construction.*

Project Suggestions

- One comment suggested putting the overpass on CR 139 rather than CR 143.*
- One comment stated that having the overpass on CR 139 rather than CR 143 is an improvement. They also suggested having overpasses on CR 139 and CR 143 to accommodate farm equipment and alleviate strain on the highway/interstate and town.
- One comment requested an access point for their Highway 67 farm and home where the bypass connects to Highway 67.
- One comment asked if directional connections will be provided at the north and south ends to existing US 67 to facilitate traffic flow.

COMMENTS AT A GLANCE

6

Comments received during the public comment period, which ran from March 8, 2024 through March 29, 2024

3

Online Comment Forms

1

Paper Comment Form

2

Interactive Map Comments

*The comment period started on March 8, 2024. On March 14, 2024 the design was updated to reflect an overpass on CR 139 rather than CR 143. Two comment forms were submitted before the design update.

////// **SUMMARY OF ATTACHMENTS** /////

Attachments* (five separate PDF documents contain the following):

CorningBypass_PM24_SynopsisAttachments_Outreach

- Public Meeting Outreach
- Outreach Materials
- Screenshots of Public Meeting Website
- Website Analytics Report

CorningBypass_PM24_SynopsisAttachments_MeetingMaterials

- Public Meeting Materials
- Blank Meeting Sign-In Sheet
- Small-Scale Copies of Meeting Materials
- Meeting Pictures

CorningBypass_PM24_SynopsisAttachments_SpanishTranslations

- Outreach Materials
- Screenshots of Public Meeting Website
- Website Analytics Report
- Small-Scale Copies of Meeting Materials

CorningBypass_PM24_SynopsisAttachments_DispositionOfCommentsWithResponses

- Copies of Submitted Comments and Responses

CorningBypass_PM24_SynopsisAttachments_Comments

- Copies of Submitted Comments

*Attachments can be provided upon request.

Appendix B

Wetland Delineation Report



Preliminary Wetland Delineation

Corning Bypass (Future I-57)

ARDOT Job No. 101172



Prepared For:

Arkansas Department of Transportation

March 2024



**Future I-57****Environmental Scientist's Certification**

I hereby certify that this Preliminary Wetland Delineation for ARDOT Job No. 101172, Corning Bypass (Future I-57) was prepared by Garver under my direct supervision for the Arkansas Department of Transportation (ARDOT).

A handwritten signature in blue ink that reads 'Ryan Mountain'. The signature is written in a cursive style with a long horizontal flourish extending to the right.

Ryan Mountain

Senior Environmental Scientist





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Appendix C	Data Forms
Appendix D	Photographs
Appendix E	Weather Data





1.0 Introduction

The Arkansas Department of Transportation (ARDOT) is proposing improvements between the Highway (Hwy.) 412 and Hwy. 67 interchange at Walnut Ridge and the Missouri state line in to address the deficiency in the National Highway System in northeast Arkansas. The purpose of the project is to enhance connectivity and continuity of the National Highway System, provide a more resilient roadway, and provide for increased opportunity for economic development in northeast Arkansas. Construction of the connection would complete the improvements of future interstate 57 (I-57) within Arkansas. A section of the project, Corning Bypass (proposed project), will be the first to be constructed. As a result, ARDOT has retained Garver, LLC to develop design plans, conduct a preliminary wetland delineation, complete National Environmental Policy Act (NEPA) documentation, and obtain a Section 404 Individual Permit.

2.0 Project Area

The proposed project is in Clay County in northeast Arkansas. The project study area, made up of the proposed right-of-way (ROW), is approximately 4 miles in length, 281 acres in size, and begins at the Hwy. 67/62 proposed interchange approximately 2.5 miles west of Corning and ends at Hwy. 67 approximately 2.5 miles north of Corning. The ROW is approximately 400 feet wide and widens at proposed interchanges, an overpass, and cul-de-sacs. From the southern terminus, the study area heads north and then northeast, bypassing Corning. Areas within the project limits of construction will be directly affected by construction activities and areas between limits of construction and the ROW will be cleared and a fence will be installed along most of the ROW boundary. A site location map is provided in **Appendix A**.

The project area is within the Western Lowlands Holocene Meander Belts and Western Lowlands Pleistocene Valley Trains of the Mississippi Alluvial Plains ecoregion. This ecoregion is mostly flat with limited relief provided by river terraces, swales, levees, and sand dunes. Poorly drained, clayey soils are characteristic with areas of sand and silt deposits. Natural vegetation and hydrology have been degraded by agriculture. Predominant natural vegetation is mostly southern floodplain forests with native bottomland hardwoods (Woods et. al. 2004).



2.1 Hydrology

The overall hydrology along the project study area is significantly disturbed due to historic and current agricultural practices in the area. Natural waterways ways have been altered for irrigation and drainage associated with crop production. Many streams have been re-routed or connected by agricultural ditches, roadside ditches, and canals. Intense irrigation such as that from rice production has resulted in seasonally flowing waters that may be considered relatively permanent waters (RPWs) in otherwise ephemeral ditches. Streams identified in this report were generally low gradient, morphologically altered, and used for agricultural drainage. Many natural wetlands have been drained for farming, and floodplains have been altered by levees for flood protection. Flat topography and predominantly poorly drained soils, results in poor hydrologic relief.

2.2 Vegetation

Vegetation in the area is also heavily altered by agriculture, and native vegetation is mostly confined to field margins and forested wetlands. The study area is dominated by agricultural crops which include rice, soybean, and corn. Common dominant wetland vegetation included curly dock (*Rumex crispus*), Frank's sedge (*Carex frankii*), green ash (*Fraxinus pennsylvanica*), rice cut grass (*Leersia oryzoides*), sugar-berry (*Celtis laevigata*), and water oak (*Quercus nigra*). Plants common in upland areas included American pokeweed (*Phytolacca americana*), annual ragweed (*Ambrosia artemisiifolia*), Bermuda grass (*Cynodon dactylon*), field brome (*Bromus arvensis*), Johnsongrass (*Sorghum halepense*), post oak (*Quercus stellata*), red mulberry (*Morus alba*), white ash (*Fraxinus americana*), and winged elm (*Ulmus alata*). Other common plants included barnyard grass (*Echinochloa crus-galli*), eastern poison ivy (*Toxicodendron radicans*), giant ragweed (*Ambrosia trifida*), golden crown grass (*Paspalum dilatatum*), grapevine species (*Vitis* spp.), greenbrier species (*Smilax* spp.), and trumpet-creeper (*Campsis radicans*).

2.3 Soils

Like hydrology and vegetation, soils in the area have a history of agricultural disturbance including frequent tilling and other amendments. Frequent irrigation, especially when associated with rice fields, may have contributed to false indicators of hydric soils. The Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) describes the soils in the study area as

hydric and in large part, poorly or somewhat poorly drained. The four soil map units within the study area are considered hydric. The units include Crowley silt loam, Foley silt loam, 0 to 1 percent slopes, Jackport silty clay, 0 to 1 percent slopes, and Kobel silty clay.

3.0 Regulatory Basis

Discharges of dredged or fill material into Waters of the United States (WOTUS) are regulated under Section 404 of the Clean Water Act. Any such action proposed in wetlands or other Waters of the U.S. are subject to review by the U.S. Army Corps of Engineers (USACE) and other federal and state agencies and require authorization by USACE. For jurisdictional purposes, USACE and the U.S. Environmental Protection Agency (EPA) jointly define wetlands as follows: *Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (USACE, 1987).* Based on the latest Supreme Court ruling in Sackett v. the EPA, aquatic resources must be relatively permanent waters with a nexus to a traditionally navigable water to be considered WOTUS. Additionally, wetlands must have a continuous surface water connection to WOTUS to be considered a jurisdictional waterbody.

4.0 Methodology

The U.S. Fish and Wildlife Service (USFWS) in cooperation with Cowardin, et al. (1979), have identified a classification system that is widely accepted by the USACE and USFWS in relation to classifying wetland and stream habitats (i.e., Classification of Wetlands and Deepwater Habitats of the United States). Wetlands and streams in the study area have been identified utilizing the methodology presented in this classification system.

A desktop level analysis was initially completed to determine the presence of aquatic resources. The detailed review of environmental databases and GIS resources included but was not limited to National Wetland Inventory (NWI), NRCS soils data, LIDAR mapping, historic aerial photography, and U.S. Geological Survey (USGS) historic topography. According to FEMA maps

and the NRCS WSS, floodplains and hydric soils are present in the study area. Refer to **Appendix B** for NRCS soils data.

Water resources identified by desktop analysis were then field confirmed the week of March 1, 2021, during a preliminary visual assessment to the extent practicable at public ROW where the study area intersected water resources, which were classified by qualified wetland biologists based on Cowardin et al. (1979).

A detailed field investigation of the study area was performed by Ryan Mountain, Colby Marshall, and Joe Rujawitz of Garver on July 20, 2022 with a follow up visit on March 6, 2024. The entire study area was visually inspected to locate areas of potentially jurisdictional wetlands (W) and other waters (OW). According to the weather station in Corning, AR, the area received 1.21 inches of rain within a week before the 2022 visit and 0.11 inch of rain within a week before the 2024 visit. The USACE's Antecedent Precipitation Tool was used to determine precipitation conditions during each visit. Precipitation was considered drier than normal during the 2022 visit and considered normal during the 2024 visit. Other conditions on site appeared typical for an area with intense agriculture.

Wetland determinations were made using observable vegetation, hydrology, and soils in accordance with the routine approach described in the USACE Wetland Delineation Manual (1987), and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain (Version 2.0). As described in the Regional Supplement, vegetation plots were altered depending on the size and shape of the plant community being sampled. Wetlands were classified using the system outlined in Cowardin et. al. 1979 as one of the following based on observed characteristics: palustrine unconsolidated bottom (PUB); palustrine emergent (PEM); palustrine forested (PFO); and palustrine scrub-shrub (PSS). Streams were likewise classified using the Cowardin Classification Method as either ephemeral (Eph.), intermittent (Int.), or perennial (Per.). Aquatic resources delineated within the study area are shown on detailed maps with aerial backgrounds provided in **Appendix B**.

Detailed information was collected at 6 locations to document the wetland and upland characteristics observed in the study area. Observation points were taken regularly along the

entire study area. Wetland data forms can be found in **Appendix C** and photographs taken during the site investigation are provided as **Appendix D**.

Due to the disturbed hydrology in the study area (i.e. re-routed streams, drainage, and irrigation through agricultural ditches), categorization (Cowardin and jurisdictional status) was at times problematic. Referencing the USACE Jurisdictional Determination Form Instructional Guidebook (USACE & EPA, 2007), it was determined an agricultural ditch would be categorized as jurisdictional if it was considered a RPW and hydrologically contributed directly or indirectly to traditional navigable waters. An RPW exhibits flow year-round or continuous at least seasonally (e.g., 3 months). Periods of flow were based on winter and summer site visits as well as ESRI, Google Earth, and historic aerial imagery. Additionally, a ditch was considered jurisdictional if it was an RPW constructed within wetlands or drained or rerouted a jurisdictional waterbody.

5.0 Results

5.1 Wetlands

Wetland 21 (W 21)

Wetland 21 is classified as a PFO1E (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded/Saturated Wetland). Observed hydrology indicators included drift deposits, water-stained leaves, moss trim lines, geomorphic position, and FAC-Neutral Test. Dominant vegetation included green ash, parsley hawthorn (*Crataegus marshallii*), and sugar-berry. Soils at DP 37 were considered hydric (depleted below dark surface and depleted matrix). A total of 0.06 acre of Wetland 21 occurs within the study area.

Wetland 21.3 (W 21.3)

Wetland 21.3 is classified as PFO1E. Observed hydrology indicators included water-stained leaves, geomorphic position, and FAC-Neutral Test. Dominant vegetation included green ash, water oak, and sugar-berry. Soils at DP 39 were considered hydric (depleted matrix). A total of 0.86 acre of Wetland 21.3 occurs within the study area.

Wetland 21.5

Wetland 21.5 is classified as a PEM1E (Palustrine, Emergent, Persistent, Seasonally Flooded/Saturated Wetland). Observed hydrology indicators included sediment deposits, surface soil cracks, geomorphic position, and FAC-Neutral Test. Dominant vegetation included Frank's sedge, rice cut grass, sugar-berry, and cherry bark oak (*Quercus pagoda*). Soils at DP 40 were considered hydric (depleted matrix). A total of 0.17 acre of Wetland 21.5 occurs within the study area.

5.2 Other Waters

Other Water 105 (OW 105; Oak Creek Ditch) is a tributary of the Black River and a USGS-mapped intermittent stream that flows southwest through the study area. OW 105 was flowing during the site visit and the substrate consisted primarily of silt and gravel. On average, OHWMs were observed to be 10 ft. wide and 1 ft. deep. Approximately 87 LF of OW 105 occurs within the study area.

Other Water 108 (OW 108) is a USGS-mapped intermittent stream which flows south through the project area to Oak Creek Ditch. This low gradient stream was flowing at the time of the field visit and the substrate consisted primarily of silt. On average, OHWMs were observed to be 5.5 ft. wide and 0.75 ft. deep. Approximately 1,473 LF of OW 108 occurs within the study area.

Other Water 110 (OW 110) is an upper reach of the same stream that is OW 108. It is a USGS-mapped intermittent stream that flows south through the project area to Oak Creek Ditch. This low gradient stream was flowing at the time of the field visit and the substrate consisted primarily of silt. On average, OHWMs were observed to be 3 ft. wide and 0.5 ft. deep. Approximately 2,281 LF of OW 110 occurs within the study area.

Other Water 111 (OW 111; Oak Creek Ditch) is an upper reach of the same stream that is OW 105. It is a USGS-mapped intermittent stream which flows south through the project area. This low gradient stream was flowing at the time of the field visit and the substrate consisted primarily of silt. On average, OHWMs were observed to be 12 ft. wide and 2 ft. deep. Approximately 1,976 LF of OW 111 occurs within the study area.

Other Water 113 is a USGS-mapped intermittent stream which flows east and then south through the project area to Middle Creek Ditch. This low gradient stream was flowing at the time of the field visit and the substrate consisted primarily of silt. On average, OHWMs were observed to be 5 ft. wide and 0.8 ft. deep. Approximately 603 LF of OW 113 occurs within the study area.

Other Water 114 (OW 114) is a USGS-mapped intermittent stream which flows south through the project area to OW 113. This low gradient stream was flowing at the time of the field visit and the substrate consisted primarily of silt. On average, OHWMs were observed to be 6 ft. wide and 1 ft. deep. Approximately 381 LF of OW 114 occurs within the study area.

6.0 Summary

In summary, three wetlands (totaling 1.09 acres) and six stream reaches (totaling 6,801 linear feet or 1.03 acres) were identified within the study area (**Tables 1 & 2**). ARDOT is requesting a preliminary jurisdictional determination for aquatic resources presented in this report and a Section 404 Permit for associated impacts.

Table 1. Wetlands

Wetland	Cowardin Classification	Latitude, Longitude (decimal degrees)	Acreage in Study Area
W 21	PFO1E	36.428223, -90.631385	0.06
W 21.3	PFO1E	36.445066, -90.590154	0.86
W 21.5	PEM1E	36.445254, -90.590036	0.17
Total			1.09

Table 2. Other Waters

Stream Identification Number	Stream Classification	Latitude, Longitude (decimal degrees)	Ordinary High Water Mark (width x depth)	Length in Study Area (LF)	Acreage in Study Area (LF)
OW 105 (Oak Creek Ditch)	Intermittent	36.411730, -90.633508	10 x 1	87	0.02
OW 108	Intermittent	36.413881, -90.634332	5.5 x 0.75	1,473	0.19

Stream Identification Number	Stream Classification	Latitude, Longitude (decimal degrees)	Ordinary High Water Mark (width x depth)	Length in Study Area (LF)	Acreage in Study Area (LF)
OW 110	Intermittent	36.420448, -90.635935	3 x 0.5	2,281	0.16
OW 111 (Oak Creek Ditch)	Intermittent	36.431258, -90.622051	12 x 2	1,976	0.54
OW 113	Intermittent	36.440518, -90.595456	5 x 0.8	603	0.07
OW 114	Intermittent	36.441006, -90.594792	6 x 1	381	0.05
			Total	6,801	1.03

7.0 References

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Online.

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Hunter, Carl G. 2004. *Trees, Shrubs, and Vines of Arkansas*. The Ozark Society Foundation.

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Woods A.J., Foti, T.L., Chapman, S.S., Omernik, J.M., Wise, J.A., Murray, E.O., Prior, W.L., Pagan, J.B., Jr., Comstock, J.A., and Radford, M., 2004, *Ecoregions of Arkansas* (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,000,000).





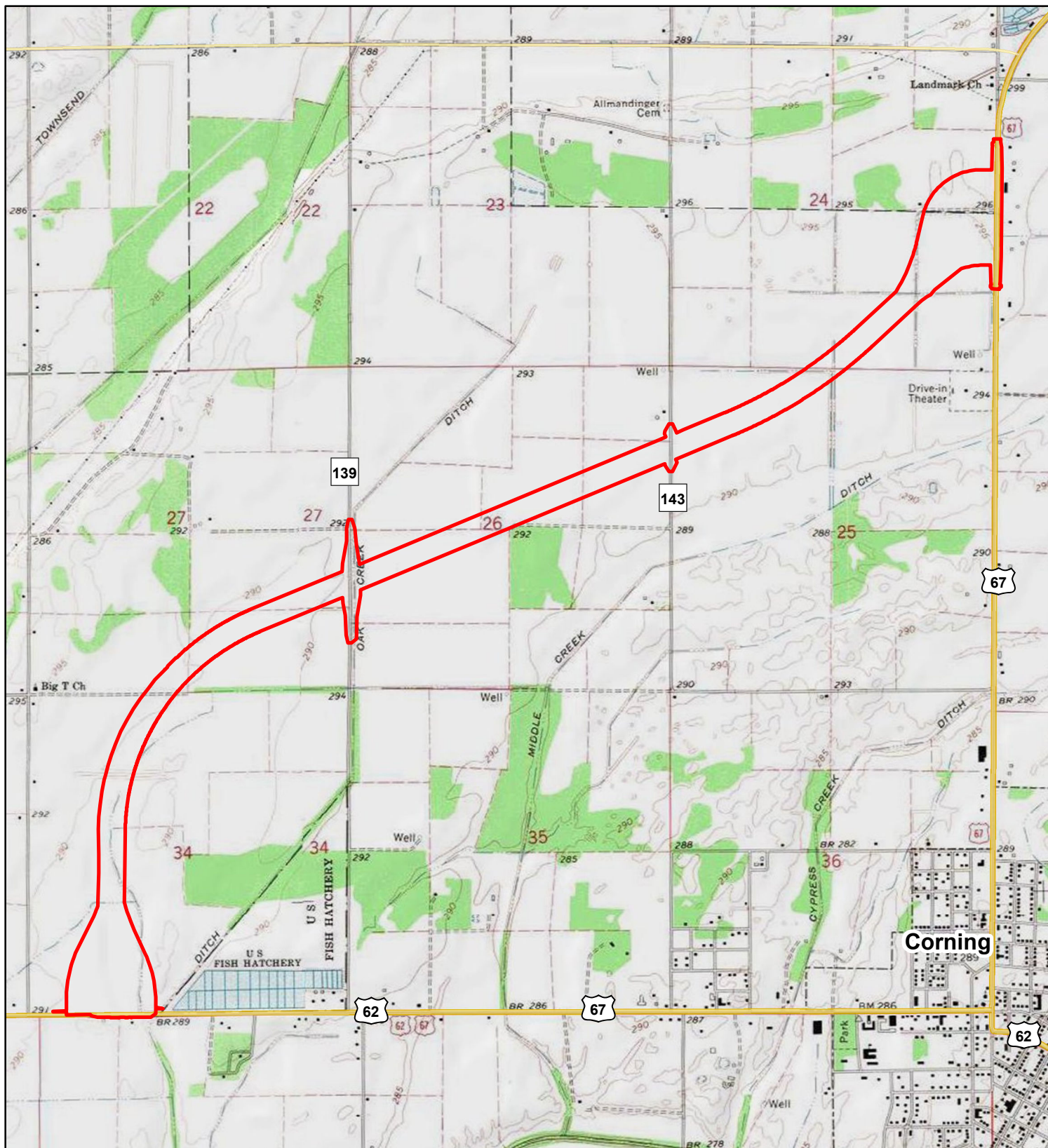
Future I-57

Corning Bypass (ARDOT Job No. 101172)
Preliminary Wetland Delineation

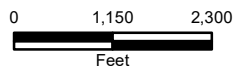
APPENDIX A

Site Location Map

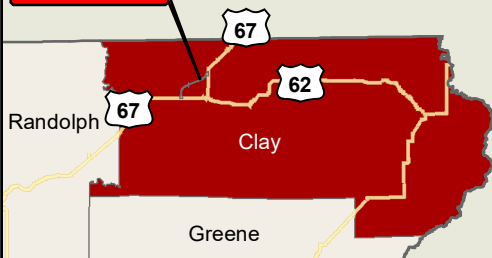




Study Area



Project Location



Corning Bypass (Future I-57)
 ARDOT Job 101172
 Clay County, Arkansas
 Appendix A - Project Location
 USGS Quadrangle (1:24,000)





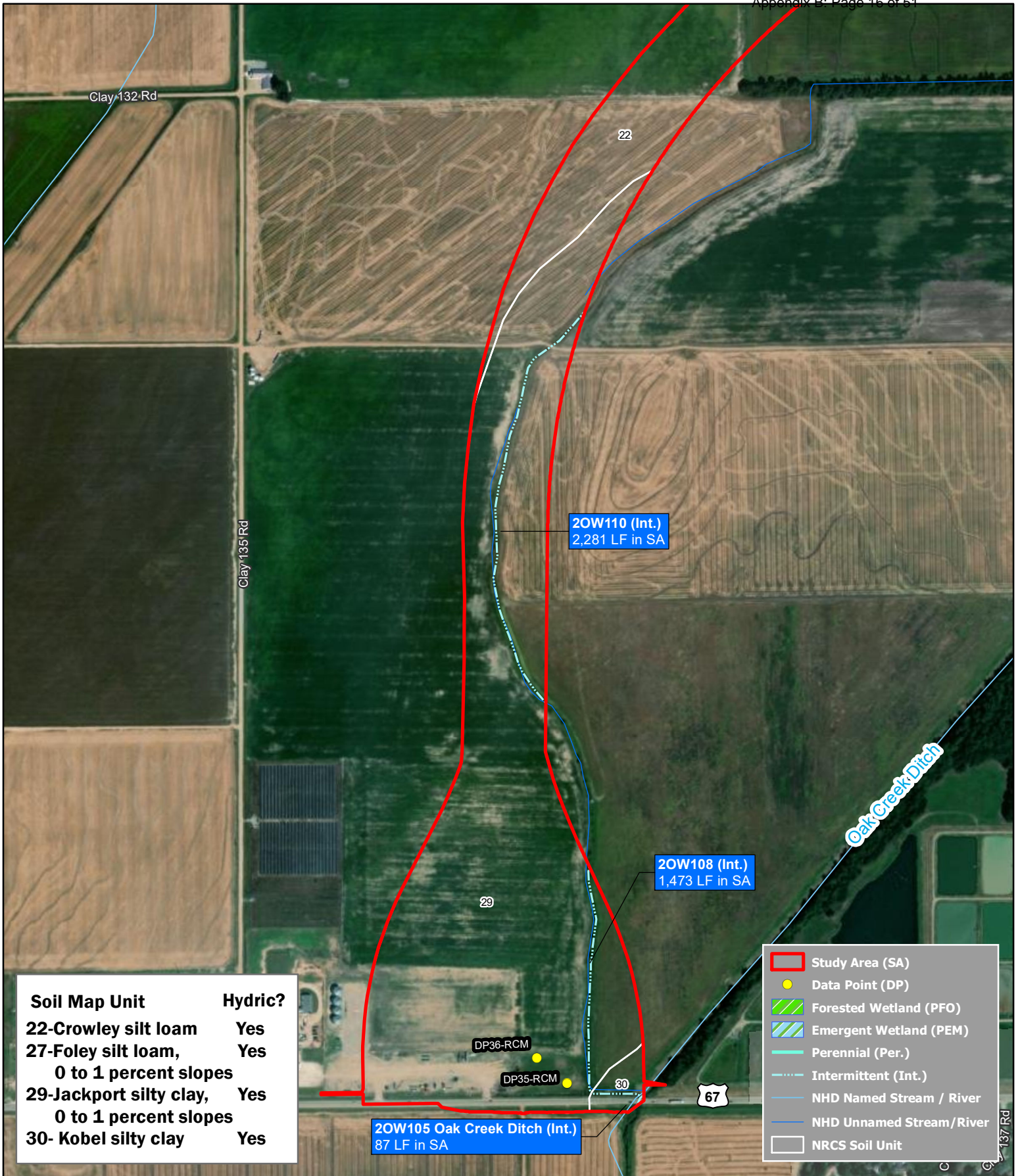
Future I-57

**Corning Bypass (ARDOT Job No. 101172)
Preliminary Wetland Delineation**

APPENDIX B

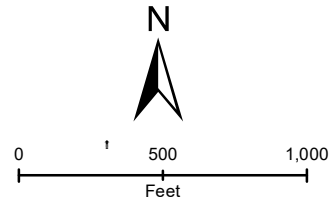
Wetland Delineation & NRCS Soils Data Map





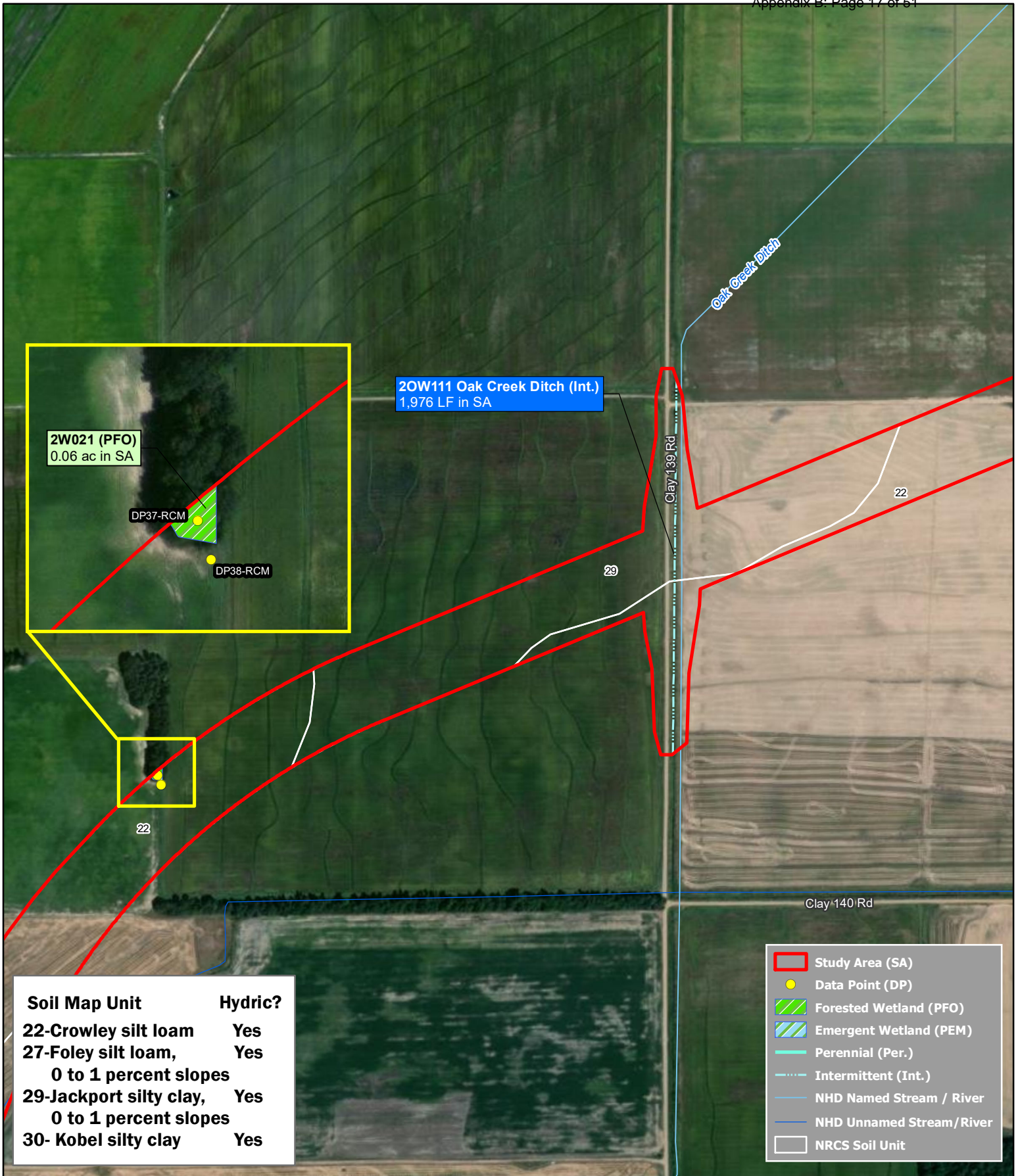
Soil Map Unit	Hydric?
22-Crowley silt loam	Yes
27-Foley silt loam, 0 to 1 percent slopes	Yes
29-Jackport silty clay, 0 to 1 percent slopes	Yes
30- Kobel silty clay	Yes

- Study Area (SA)
- Data Point (DP)
- Forested Wetland (PFO)
- Emergent Wetland (PEM)
- Perennial (Per.)
- Intermittent (Int.)
- NHD Named Stream / River
- NHD Unnamed Stream/River
- NRCS Soil Unit



CORNING BYPASS (FUTURE I-57)
ARDOT JOB 101172
 Clay County, Arkansas

Appendix B: Wetland Delineation and NRCS Soils Map



2OW111 Oak Creek Ditch (Int.)
1,976 LF in SA

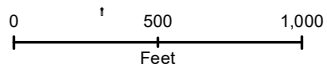
2W021 (PFO)
0.06 ac in SA

DP37-RCM

DP38-RCM

Soil Map Unit	Hydric?
22-Crowley silt loam	Yes
27-Foley silt loam, 0 to 1 percent slopes	Yes
29-Jackport silty clay, 0 to 1 percent slopes	Yes
30- Kobel silty clay	Yes

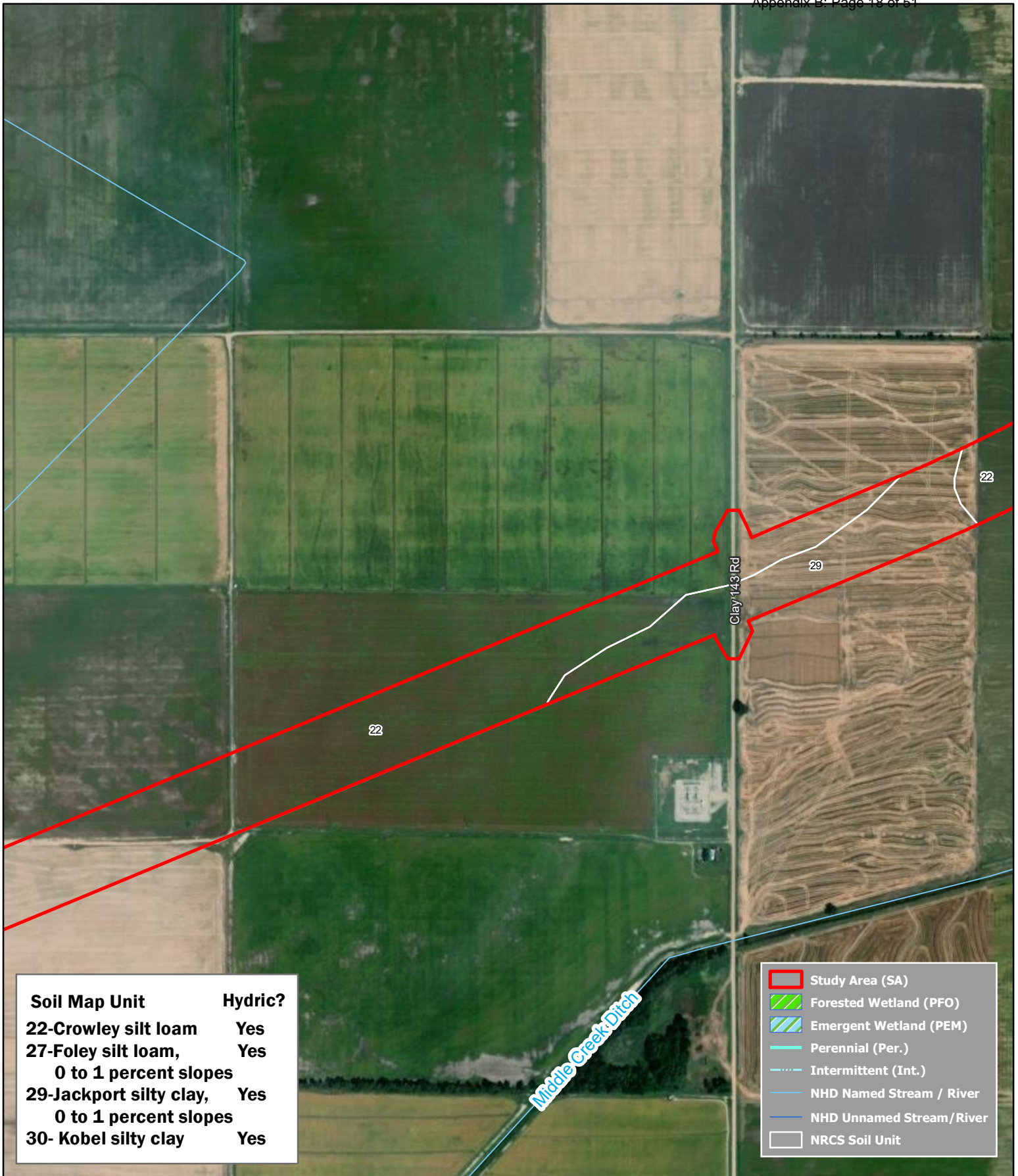
- Study Area (SA)
- Data Point (DP)
- Forested Wetland (PFO)
- Emergent Wetland (PEM)
- Perennial (Per.)
- Intermittent (Int.)
- NHD Named Stream / River
- NHD Unnamed Stream/River
- NRCS Soil Unit



CORNING BYPASS (FUTURE I-57)
ARDOT JOB 101172
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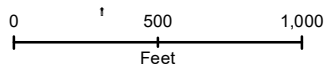
Appendix B: Wetland Delineation and NRCS Soils Map





Soil Map Unit	Hydric?
22-Crowley silt loam	Yes
27-Foley silt loam, 0 to 1 percent slopes	Yes
29-Jackport silty clay, 0 to 1 percent slopes	Yes
30- Kobel silty clay	Yes

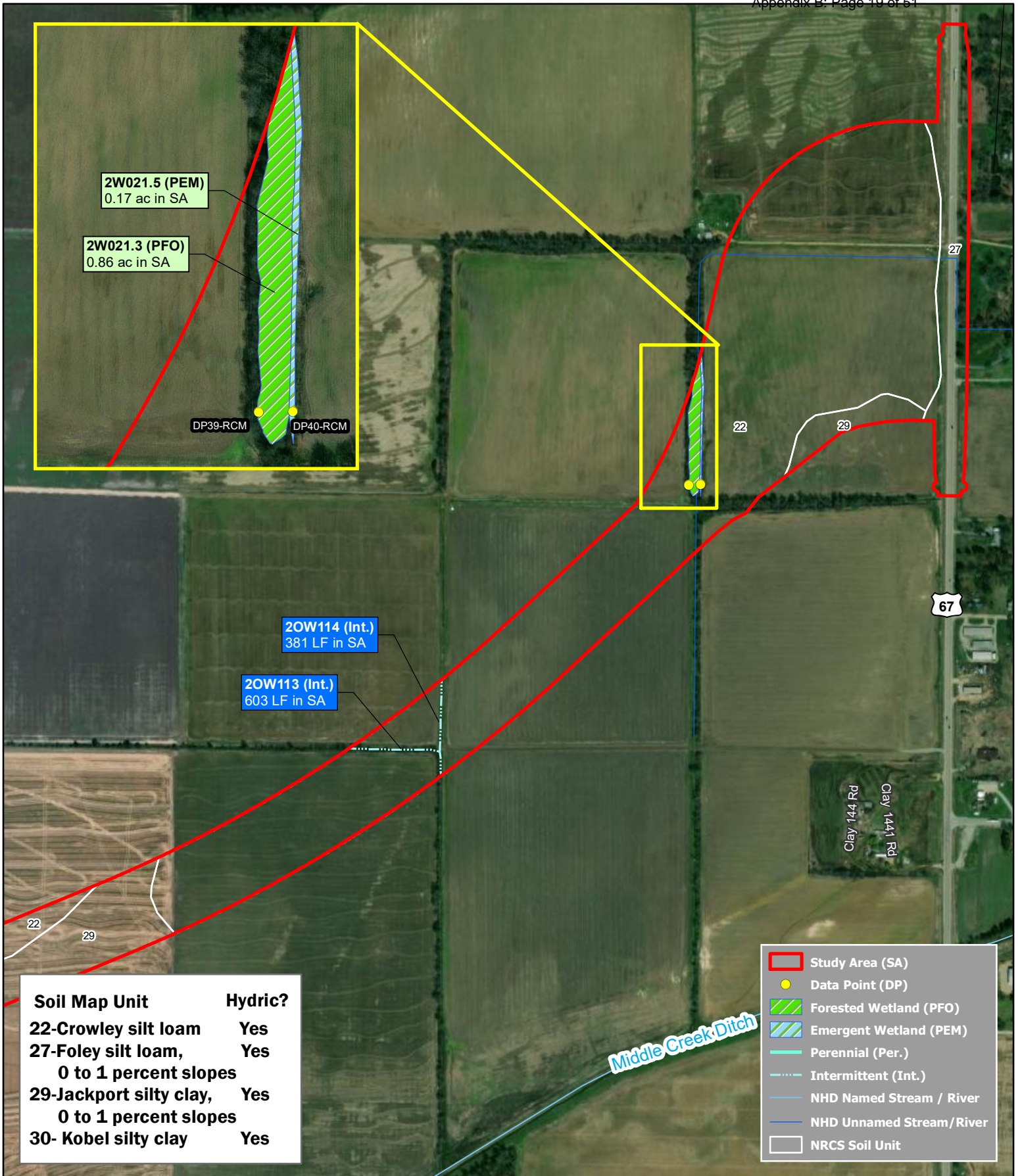
	Study Area (SA)
	Forested Wetland (PFO)
	Emergent Wetland (PEM)
	Perennial (Per.)
	Intermittent (Int.)
	NHD Named Stream / River
	NHD Unnamed Stream / River
	NRCS Soil Unit



CORNING BYPASS (FUTURE I-57)
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Appendix B: Wetland Delineation and NRCS Soils Map





2W021.5 (PEM)
0.17 ac in SA

2W021.3 (PFO)
0.86 ac in SA

DP39-RCM

DP40-RCM

2OW114 (Int.)
381 LF in SA

2OW113 (Int.)
603 LF in SA

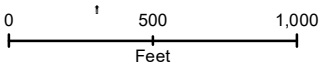
Clay 144 Rd

Clay 1441 Rd

Middle Creek Ditch

Soil Map Unit	Hydric?
22-Crowley silt loam	Yes
27-Foley silt loam, 0 to 1 percent slopes	Yes
29-Jackport silty clay, 0 to 1 percent slopes	Yes
30- Kobel silty clay	Yes

- Study Area (SA)
- Data Point (DP)
- Forested Wetland (PFO)
- Emergent Wetland (PEM)
- Perennial (Per.)
- Intermittent (Int.)
- NHD Named Stream / River
- NHD Unnamed Stream / River
- NRCS Soil Unit



CORNING BYPASS (FUTURE I-57)
ARDOT JOB 101172
 Clay County, Arkansas

Appendix B: Wetland Delineation and NRCS Soils Map





Future I-57

**Corning Bypass (ARDOT Job No. 101172)
Preliminary Wetland Delineation**

APPENDIX C

Data Forms



U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
--	---

Project/Site: Highway 67 EIS City/County: Corning/Clay Sampling Date: 7/20/2022
 Applicant/Owner: Arkansas Department of Transportation (ARDOT) State: AR Sampling Point: DP 35 - RCM
 Investigator(s): Ryan Mountain Section, Township, Range: S34 T21N R4E
 Landform (hillside, terrace, etc.): fallow field Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR or MLRA): LRR O Lat: 36.411925° Long: -90.634832° Datum: WGS 84
 Soil Map Unit Name: Jackport silty clay, 0 to 1 percent slopes NWI classification: n/a

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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Climatic conditions were considered drier than normal. Site does not meet all three criteria and is not in a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
--	--

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

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

Remarks:
 Site meets wetland hydrology criteria.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP 35 - RCM

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>105</u> (A) <u>395</u> (B) Prevalence Index = B/A = <u>3.76</u>
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: _____		20% of total cover: _____		
<u>Herb Stratum</u> (Plot size: <u>30'</u>)				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 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.
1. <u>Bromus arvensis</u>	<u>35</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Rudbeckia hirta</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Rumex crispus</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>	
4. <u>Sorghum halepense</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
5. <u>Erigeron canadensis</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
6. <u>Solanum carolinense</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>105</u> = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
50% of total cover: <u>53</u>		20% of total cover: <u>21</u>		
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		

Remarks: (If observed, list morphological adaptations below.)
 Site does not meet hydrophytic vegetation criteria.

SOIL

Sampling Point: DP 35 - RCM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	95	10YR 5/6	5	C	M	Loamy/Clayey	Prominent redox concentrations
4-12	10YR 4/2	90	10YR 5/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
12-14	10YR 4/2	80	10YR 5/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					² Location: PL=Pore Lining, M=Matrix.			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)					Indicators for Problematic Hydric Soils³:			
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)			<input type="checkbox"/> 1 cm Muck (A9) (LRR O)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)			<input type="checkbox"/> 2 cm Muck (A10) (LRR S)		
<input type="checkbox"/> Black Histic (A3)			(MLRA 153B, 153D)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)			(outside MLRA 150A)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Reduced Vertic (F18)		
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)			<input checked="" type="checkbox"/> Depleted Matrix (F3)			(outside MLRA 150A, 150B)		
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)			<input checked="" type="checkbox"/> Redox Dark Surface (F6)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)		
<input type="checkbox"/> Muck Presence (A8) (LRR U)			<input type="checkbox"/> Depleted Dark Surface (F7)			<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)		
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)			<input type="checkbox"/> Redox Depressions (F8)			(MLRA 153B)		
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Marl (F10) (LRR U)			<input type="checkbox"/> Red Parent Material (F21)		
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)			<input type="checkbox"/> Very Shallow Dark Surface (F22)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)			<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)			(outside MLRA 138, 152A in FL, 154)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)			<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)			<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)			(MLRA 153B, 153D)		
<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)					
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)					
<input type="checkbox"/> Polyvalue Below Surface (S8)			(MLRA 149A, 153C, 153D)					
(LRR S, T, U)			<input type="checkbox"/> Very Shallow Dark Surface (F22)					
			(MLRA 138, 152A in FL, 154)					
Restrictive Layer (if observed):								
Type: _____								
Depth (inches): _____						Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: 12-14" layer contains 10% depleted 10YR 6/1 in the matrix. Site meets hydric soil criteria.								

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

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	<i>OMB Control #: 0710-0024, Exp: 11/30/2024</i> <i>Requirement Control Symbol EXEMPT:</i> <i>(Authority: AR 335-15, paragraph 5-2a)</i>
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Project/Site: Highway 67 EIS City/County: Corning/Clay Sampling Date: 7/20/2022
 Applicant/Owner: Arkansas Department of Transportation (ARDOT) State: AR Sampling Point: DP 36 - RCM
 Investigator(s): Ryan Mountain Section, Township, Range: S34 T21N R4E
 Landform (hillside, terrace, etc.): fallow field Local relief (concave, convex, none): none Slope (%): 0%
 Subregion (LRR or MLRA): LRR O Lat: 36.412296° Long: -90.635366° Datum: WGS 84
 Soil Map Unit Name: Jackport silty clay, 0 to 1 percent slopes NWI classification: n/a

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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Climatic conditions were considered drier than normal. Site does not meet all three wetland criteria and is not a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Site does not meet wetland hydrology criteria.	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP 36 - RCM

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
50% of total cover: _____		20% of total cover: _____			
<u>Sapling/Shrub Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: _____		20% of total cover: _____			
<u>Herb Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Rumex crispus</u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>	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 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.	
2. <u>Lolium perenne</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>		
3. <u>Rudbeckia hirta</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: <u>48</u>		20% of total cover: <u>19</u>			
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Ipomoea purpurea</u>	<u>10</u>	<u>Yes</u>	<u>UPL</u>	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
50% of total cover: <u>5</u>		20% of total cover: <u>2</u>			

Remarks: (If observed, list morphological adaptations below.)
 Site does not meet hydrophytic vegetation criteria.

SOIL

Sampling Point: DP 36 - RCM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/2	100					Loamy/Clayey	
6-12	10YR 4/2	90	10YR 5/8	5	C	M	Loamy/Clayey	Prominent redox concentrations
12-14	10YR 6/1	95	10YR 5/6	5	C	M	Loamy/Clayey	Prominent redox concentrations
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					² Location: PL=Pore Lining, M=Matrix.			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)					Indicators for Problematic Hydric Soils³:			
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)			<input type="checkbox"/> 1 cm Muck (A9) (LRR O)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)			<input type="checkbox"/> 2 cm Muck (A10) (LRR S)		
<input type="checkbox"/> Black Histic (A3)			(MLRA 153B, 153D)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)			(outside MLRA 150A)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Reduced Vertic (F18)		
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)			<input checked="" type="checkbox"/> Depleted Matrix (F3)			(outside MLRA 150A, 150B)		
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)			<input type="checkbox"/> Redox Dark Surface (F6)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)		
<input type="checkbox"/> Muck Presence (A8) (LRR U)			<input type="checkbox"/> Depleted Dark Surface (F7)			<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)		
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)			<input type="checkbox"/> Redox Depressions (F8)			(MLRA 153B)		
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Marl (F10) (LRR U)			<input type="checkbox"/> Red Parent Material (F21)		
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)			<input type="checkbox"/> Very Shallow Dark Surface (F22)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)			<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)			(outside MLRA 138, 152A in FL, 154)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)			<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)			<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)			(MLRA 153B, 153D)		
<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)					
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)					
<input type="checkbox"/> Polyvalue Below Surface (S8)			(MLRA 149A, 153C, 153D)					
(LRR S, T, U)			<input type="checkbox"/> Very Shallow Dark Surface (F22)					
			(MLRA 138, 152A in FL, 154)					
Restrictive Layer (if observed):								
Type: _____								
Depth (inches): _____								
						Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: Manganese masses located in 6-12" layer. Site meets hydric soil criteria.								

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

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Highway 67 EIS City/County: Corning/Clay Sampling Date: 7/20/2022
 Applicant/Owner: Arkansas Department of Transportation (ARDOT) State: AR Sampling Point: DP 37 - RCM
 Investigator(s): Ryan Mountain Section, Township, Range: S27 T21N R4E
 Landform (hillside, terrace, etc.): forested area Local relief (concave, convex, none): concave Slope (%): >1%
 Subregion (LRR or MLRA): LRR O Lat: 36.428219° Long: -90.631391° Datum: WGS 84
 Soil Map Unit Name: Crowley silt loam NWI classification: n/a

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Climatic conditions were considered drier than normal. Site meets all three criteria and is in a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Site meets wetland hydrology criteria.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP 37 - RCM

<u>Tree Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus pennsylvanica</u>	75	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B) Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Quercus stellata</u>	20	No	UPL	
3. <u>Carya ovalis</u>	10	No	FACU	
4. <u>Ostrya virginiana</u>	10	No	FACU	
5. _____				
6. _____				
7. _____				
8. _____				
115 =Total Cover				
50% of total cover: <u>58</u>		20% of total cover: <u>23</u>		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Celtis laevigata</u>	20	Yes	FACW	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Crataegus marshallii</u>	25	Yes	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
45 =Total Cover				
50% of total cover: <u>23</u>		20% of total cover: <u>9</u>		
<u>Herb Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				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 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.
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
_____ =Total Cover				
50% of total cover: _____		20% of total cover: _____		
<u>Woody Vine Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. _____				
3. _____				
4. _____				
5. _____				
_____ =Total Cover				
50% of total cover: _____		20% of total cover: _____		

Remarks: (If observed, list morphological adaptations below.)
 Site meets hydrophytic vegetation criteria.

SOIL

Sampling Point: DP 37 - RCM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 3/2	100					Loamy/Clayey	
1-10	10YR 4/2	98	10YR 5/6	2	C	M	Loamy/Clayey	Prominent redox concentrations
10-14	10YR 5/2	90	10YR 5/8	5	C	M	Loamy/Clayey	Prominent redox concentrations
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					² Location: PL=Pore Lining, M=Matrix.			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)					Indicators for Problematic Hydric Soils³:			
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)			<input type="checkbox"/> 1 cm Muck (A9) (LRR O)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)			<input type="checkbox"/> 2 cm Muck (A10) (LRR S)		
<input type="checkbox"/> Black Histic (A3)			(MLRA 153B, 153D)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)			(outside MLRA 150A)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Reduced Vertic (F18)		
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)			<input checked="" type="checkbox"/> Depleted Matrix (F3)			(outside MLRA 150A, 150B)		
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)			<input type="checkbox"/> Redox Dark Surface (F6)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)		
<input type="checkbox"/> Muck Presence (A8) (LRR U)			<input type="checkbox"/> Depleted Dark Surface (F7)			<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)		
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)			<input type="checkbox"/> Redox Depressions (F8)			(MLRA 153B)		
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Marl (F10) (LRR U)			<input type="checkbox"/> Red Parent Material (F21)		
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)			<input type="checkbox"/> Very Shallow Dark Surface (F22)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)			<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)			(outside MLRA 138, 152A in FL, 154)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)			<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)			<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)			(MLRA 153B, 153D)		
<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)					
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)					
<input type="checkbox"/> Polyvalue Below Surface (S8)			(MLRA 149A, 153C, 153D)					
(LRR S, T, U)			<input type="checkbox"/> Very Shallow Dark Surface (F22)					
			(MLRA 138, 152A in FL, 154)					
Restrictive Layer (if observed):								
Type: _____								
Depth (inches): _____								
					Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Remarks: 5% iron manganese masses 10-14". Site meets hydric soil criteria.								

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Highway 67 EIS City/County: Corning/Clay Sampling Date: 7/20/2022
 Applicant/Owner: Arkansas Department of Transportation (ARDOT) State: AR Sampling Point: DP 38 - RCM
 Investigator(s): Ryan Mountain Section, Township, Range: S27 T21N R4E
 Landform (hillside, terrace, etc.): field edge Local relief (concave, convex, none): convex Slope (%): >1%
 Subregion (LRR or MLRA): LRR O Lat: 36.428078° Long: -90.631335° Datum: WGS 84
 Soil Map Unit Name: Crowley silt loam NWI classification: n/a

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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Climatic conditions were considered drier than normal. Site does not meet all three criteria and is not in a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Site does not meet wetland hydrology criteria.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP 38 - RCM

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		
<u>Herb Stratum</u> (Plot size: <u>30'</u>)				
1. <u>Bromus arvensis</u>	30	Yes	FACU	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 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.
2. <u>Digitaria ciliaris</u>	30	Yes	FACU	
3. <u>Rumex crispus</u>	20	Yes	FAC	
4. <u>Lepidium virginicum</u>	10	No	FACU	
5. <u>Schedonorus arundinaceus</u>	5	No	FACU	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
95 = Total Cover				
50% of total cover: <u>48</u>		20% of total cover: <u>19</u>		
<u>Woody Vine Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: _____		20% of total cover: _____		

Remarks: (If observed, list morphological adaptations below.)
 Site does not meet hydrophytic vegetation criteria.

SOIL

Sampling Point: DP 38 - RCM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/1	98	10YR 5/6	2	C	M	Loamy/Clayey	Prominent redox concentrations
6-12	10YR 4/2	95	10YR 5/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- 5 cm Mucky Mineral (A7) (LRR P, T, U)
- Muck Presence (A8) (LRR U)
- 1 cm Muck (A9) (LRR P, T)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) (MLRA 150A)
- Sandy Mucky Mineral (S1) (LRR O, S)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)
- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Barrier Islands 1 cm Muck (S12) (MLRA 153B, 153D)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR U)
- Depleted Ochric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P, T)
- Umbric Surface (F13) (LRR P, T, U)
- Delta Ochric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Floodplain Soils (F20) (MLRA 149A, 153C, 153D)
- Very Shallow Dark Surface (F22) (MLRA 138, 152A in FL, 154)

- 1 cm Muck (A9) (LRR O)
- 2 cm Muck (A10) (LRR S)
- Coast Prairie Redox (A16) (outside MLRA 150A)
- Reduced Vertic (F18) (outside MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (LRR P, T)
- Anomalous Bright Floodplain Soils (F20) (MLRA 153B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22) (outside MLRA 138, 152A in FL, 154)
- Barrier Islands Low Chroma Matrix (TS7) (MLRA 153B, 153D)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:
 Site meets hydric soil criteria.

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	<i>OMB Control #: 0710-0024, Exp: 11/30/2024</i> <i>Requirement Control Symbol EXEMPT:</i> <i>(Authority: AR 335-15, paragraph 5-2a)</i>
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Project/Site: Highway 67 EIS City/County: Corning/Clay Sampling Date: 7/20/2022
 Applicant/Owner: Arkansas Department of Transportation (ARDOT) State: AR Sampling Point: DP 39- RCM
 Investigator(s): Ryan Mountain Section, Township, Range: S24 T21N R4E
 Landform (hillside, terrace, etc.): wood line Local relief (concave, convex, none): concave Slope (%): >1%
 Subregion (LRR or MLRA): LRR O Lat: 36.444307° Long: -90.590287° Datum: WGS 84
 Soil Map Unit Name: Crowley silt loam NWI classification: n/a

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: Climatic conditions were considered drier than normal. Site meets all three criteria and is in a wetland. Upland point not achievable due to adjacent irrigated rice field.			

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Site meets wetland hydrology criteria.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP 39- RCM

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>20' linear</u>)				
1. <u>Fraxinus pennsylvanica</u>	<u>50</u>	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>71.4%</u> (A/B) Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Quercus phellos</u>	<u>25</u>	Yes	FACW	
3. <u>Celtis laevigata</u>	<u>10</u>	No	FACW	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>85</u> =Total Cover 50% of total cover: <u>43</u> 20% of total cover: <u>17</u>				
Sapling/Shrub Stratum (Plot size: <u>20' linear</u>)				
1. <u>Celtis laevigata</u>	<u>10</u>	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Ulmus alata</u>	<u>10</u>	Yes	FACU	
3. <u>Ulmus rubra</u>	<u>5</u>	No	FAC	
4. <u>Acer rubrum</u>	<u>5</u>	No	FAC	
5. <u>Quercus phellos</u>	<u>5</u>	No	FACW	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>35</u> =Total Cover 50% of total cover: <u>18</u> 20% of total cover: <u>7</u>				
Herb Stratum (Plot size: <u>20' linear</u>)				
1. <u>Cyperus iria</u>	<u>25</u>	Yes	FACW	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 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 <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>25</u> =Total Cover 50% of total cover: <u>13</u> 20% of total cover: <u>5</u>				
Woody Vine Stratum (Plot size: <u>20' linear</u>)				
1. <u>Lonicera japonica</u>	<u>20</u>	Yes	FACU	
2. <u>Toxicodendron radicans</u>	<u>10</u>	Yes	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>30</u> =Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				

Remarks: (If observed, list morphological adaptations below.)
 *See table at end of Appendix. Site meets hydrophytic vegetation criteria.

SOIL

Sampling Point: DP 39- RCM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-12	10YR 4/2	90	10YR 5/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
12-14	10YR 5/1	90	10YR 5/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					² Location: PL=Pore Lining, M=Matrix.			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)					Indicators for Problematic Hydric Soils³:			
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)			<input type="checkbox"/> 1 cm Muck (A9) (LRR O)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)			<input type="checkbox"/> 2 cm Muck (A10) (LRR S)		
<input type="checkbox"/> Black Histic (A3)			(MLRA 153B, 153D)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)			(outside MLRA 150A)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Reduced Vertic (F18)		
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)			<input checked="" type="checkbox"/> Depleted Matrix (F3)			(outside MLRA 150A, 150B)		
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)			<input type="checkbox"/> Redox Dark Surface (F6)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)		
<input type="checkbox"/> Muck Presence (A8) (LRR U)			<input type="checkbox"/> Depleted Dark Surface (F7)			<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)		
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)			<input type="checkbox"/> Redox Depressions (F8)			(MLRA 153B)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Marl (F10) (LRR U)			<input type="checkbox"/> Red Parent Material (F21)		
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)			<input type="checkbox"/> Very Shallow Dark Surface (F22)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)			<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)			(outside MLRA 138, 152A in FL, 154)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)			<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)			<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)			(MLRA 153B, 153D)		
<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)					
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)					
<input type="checkbox"/> Polyvalue Below Surface (S8)			(MLRA 149A, 153C, 153D)					
(LRR S, T, U)			<input type="checkbox"/> Very Shallow Dark Surface (F22)					
			(MLRA 138, 152A in FL, 154)					
Restrictive Layer (if observed):								
Type: _____								
Depth (inches): _____								
						Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: 0-1" humus. Site meets hydric soil criteria.								

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Highway 67 EIS City/County: Corning/Clay Sampling Date: 7/20/2022
 Applicant/Owner: Arkansas Department of Transportation (ARDOT) State: AR Sampling Point: DP 40- RCM
 Investigator(s): Ryan Mountain Section, Township, Range: S24 T21N R4E
 Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): >1%
 Subregion (LRR or MLRA): LRR O Lat: 36.444306° Long: -90.590071° Datum: WGS 84
 Soil Map Unit Name: Crowley silt loam NWI classification: n/a

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Climatic conditions were considered drier than normal. Site meets all three criteria and is in a wetland.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Site meets wetland hydrology criteria.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP 40- RCM

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ =Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
50% of total cover: _____		20% of total cover: _____		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>10'x20'</u>)				
1. <u>Celtis laevigata</u>	10	Yes	FACW	
2. <u>Quercus pagoda</u>	10	Yes	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ =Total Cover				
50% of total cover: <u>10</u>		20% of total cover: <u>4</u>		
<u>Herb Stratum</u> (Plot size: <u>10'x20'</u>)				
1. <u>Carex frankii</u>	50	Yes	FACW	
2. <u>Leersia oryzoides</u>	40	Yes	OBL	
3. <u>Persicaria pensylvanica</u>	10	No	FACW	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
_____ =Total Cover				
50% of total cover: <u>50</u>		20% of total cover: <u>20</u>		
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ =Total Cover				
50% of total cover: _____		20% of total cover: _____		

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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 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: (If observed, list morphological adaptations below.)
 *See table at end of Appendix. Site meets hydrophytic vegetation criteria.

SOIL

Sampling Point: DP 40- RCM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-12	10YR 4/2	90	10YR 5/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
12-14	10YR 5/1	90	10YR 5/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	(MLRA 153B, 153D)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	(outside MLRA 150A)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	(outside MLRA 150A, 150B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Redox Depressions (F8)	(MLRA 153B)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	(outside MLRA 138, 152A in FL, 154)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	(MLRA 153B, 153D)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)	
<input type="checkbox"/> Polyvalue Below Surface (S8)	(MLRA 149A, 153C, 153D)	
(LRR S, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (F22)	
	(MLRA 138, 152A in FL, 154)	

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <u>X</u> No _____
---	---

Remarks:
 0-1" humus. Site meets hydric soil criteria.





Future I-57

**Corning Bypass (ARDOT Job No. 101172)
Preliminary Wetland Delineation**

APPENDIX D

Photographs



1	
Wetland 21	
	
Description	Wetland 21 facing north.
2	
DP 37	
	
Description	View of hydric soils at DP 37.

3

Wetland 21.3



Description	View of Wetland 21.3 facing north.
--------------------	------------------------------------

4

DP 39



Description	View of hydric soils at DP 39.
--------------------	--------------------------------

5

Wetland 21.5



Description	View of Wetland 21.5 facing south.
--------------------	------------------------------------

6

DP 40



Description	View of hydric soils at DP 40.
--------------------	--------------------------------

7

OW 105 (Oak Creek Ditch) - Upstream



Description View of OW 105 facing upstream. This reach will be spanned by fencing but will not be impacted within the ordinary high water marks. **Photo Credit:** Google Street View.

8

OW 108 - Downstream



Description View OW 108 facing downstream to the south. This intermittent stream was flowing at the time of the site visit.

9

OW 110 - Downstream



Description

View of OW 110 facing downstream to the south. This is an upper reach of the same stream which makes up OW 108.

10

OW 111 (Oak Creek Ditch)



Description

View of OW 111 facing northeast. This reach of Oak Creek Ditch flows south through the study area.

11

OW 113 – Downstream



Description

View OW 113 facing downstream to the south.

12

OW 114 - Upstream



Description

View of OW 114 facing upstream to the west.



Future I-57

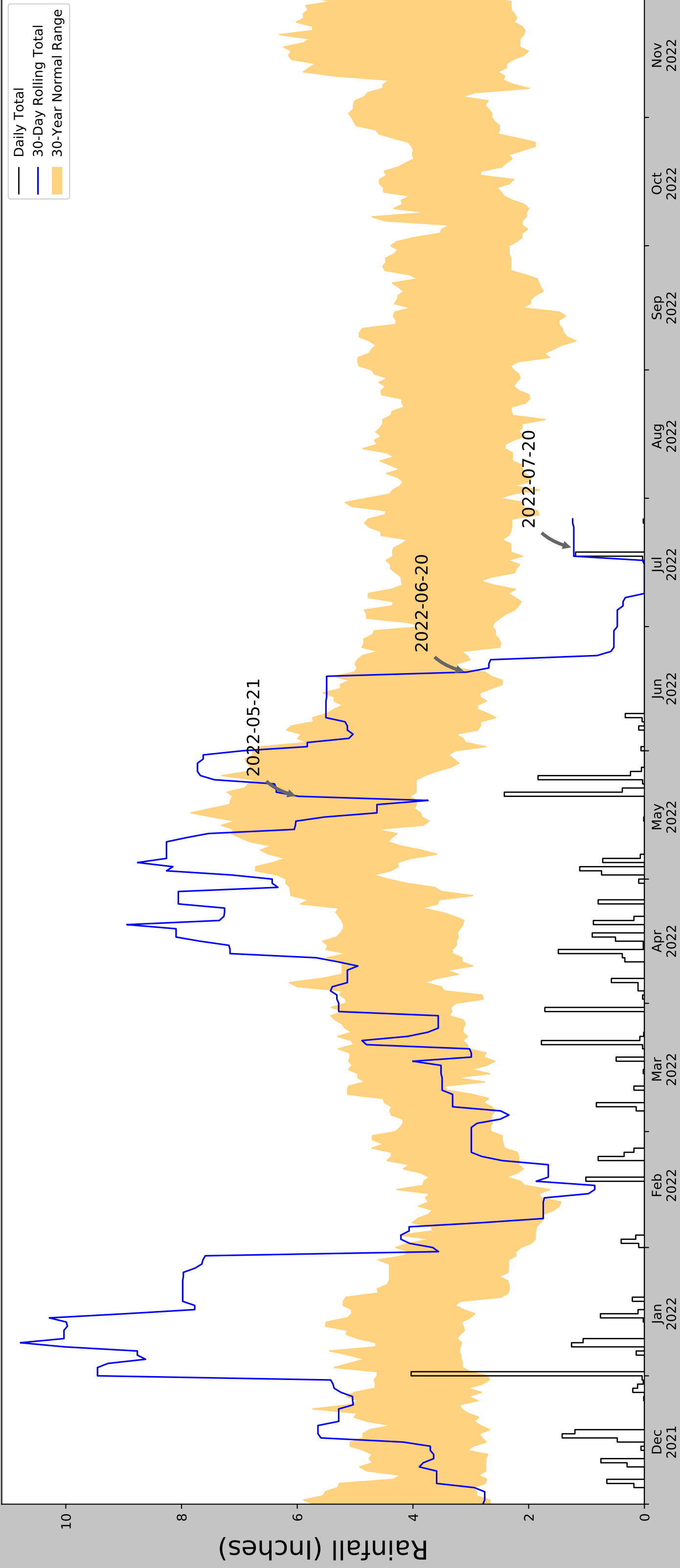
**Corning Bypass (ARDOT Job No. 101172)
Preliminary Wetland Delineation**

APPENDIX E

Weather Data



Antecedent Precipitation vs Normal Range based on NOAA's Daily Historical Climatology Network



Coordinates	36.321338, -90.776862
Observation Date	2022-07-20
Elevation (ft)	287.46
Drought Index (PDSI)	Incipient wetness (2022-06)
WebWIMP H ₂ O Balance	Dry Season

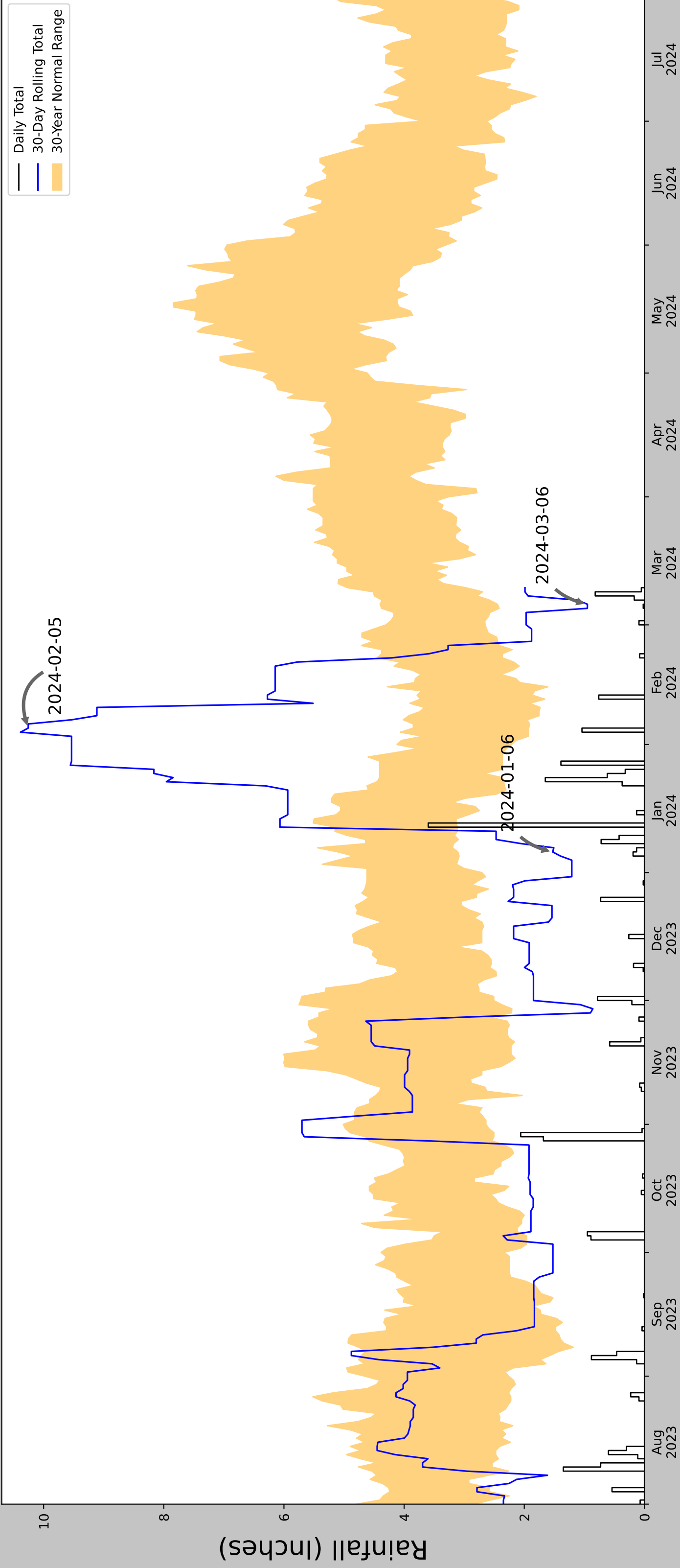
30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-07-20	2.312598	4.331496	1.220472	Dry	1	3	3
2022-06-20	2.750787	5.009055	3.070866	Normal	2	2	4
2022-05-21	4.055906	7.114961	5.980315	Normal	2	1	2
Result							Drier than Normal - 9



Figure and tables made by the
Antecedent Precipitation Tool
 Version 1.0
 Written by Jason Deters
 U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
CORNING	36.4197, -90.5858	299.869	12.616	12.409	5.834	10862	77
CORNING 2.1 W	36.4116, -90.6234	288.058	2.164	11.811	0.999	20	0
NEELYVILLE 7E	36.5539, -90.3944	298.885	14.108	0.984	6.362	61	0
LAFE 1.8 W	36.2086, -90.5347	336.942	14.86	37.073	7.238	41	13
DONIPHAN	36.6206, -90.8125	289.042	18.739	10.827	8.635	368	0
POCAHONTAS 1	36.2642, -90.9683	314.961	23.845	15.092	11.09	1	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	36.444300, -90.590281
Observation Date	2024-03-06
Elevation (ft)	294.285
Drought Index (PDSI)	Incipient drought (2024-02)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-03-06	2.446457	4.400788	0.948819	Dry	1	3	3
2024-02-05	1.924803	3.846457	10.255906	Wet	3	2	6
2024-01-06	3.105906	5.103937	1.527559	Dry	1	1	1
Result							Normal Conditions - 10



Figure and tables made by the
Antecedent Precipitation Tool
 Version 1.0

Written by Jason Deters
 U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
CORNING	36.4083, -90.5917	246.063	2.489	48.222	1.24	10858	85
CORNING 2.1 W	36.4116, -90.6234	288.058	1.777	41.995	0.874	20	0
NEELYVILLE 7E	36.5539, -90.3944	298.885	14.878	52.822	7.481	61	0
LAFE 1.8 W	36.2086, -90.5347	336.942	14.158	90.879	7.658	45	5
DONIPHAN	36.6206, -90.8125	289.042	19.118	42.979	9.425	367	0
POCAHONTAS 1	36.2642, -90.9683	314.961	23.205	68.898	12.041	1	0

Observation Time Temperature: 0800 Observation Time Precipitation: 0800

Year	Month	Day	Temperature (F)		Precipitation			Evaporation			4 in. Depth		8 in. Depth															
			24 Hrs. Ending at Observation Time		24 Hour Amounts Ending at Observation Time		At Obs. Time	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.													
			Max.	Min.	Rain, Melted Snow, Etc. (in)	F										Snow, Ice Pellets, Hail (in)	F	Snow, Ice Pellets, Hail, Ice on Ground (in)										
2022	07	01																										
2022	07	02		74																								
2022	07	03		76																								
2022	07	04		76																								
2022	07	05		102																								
2022	07	06		104																								
2022	07	07		103																								
2022	07	08		100																								
2022	07	09		94																								
2022	07	10		89																								
2022	07	11		96																								
2022	07	12		90																								
2022	07	13		91																								
2022	07	14		94																								
2022	07	15		99																								
2022	07	16		103																								
2022	07	17		92																								
2022	07	18		85																								
2022	07	19		92																								
2022	07	20		98																								
2022	07	21		93																								
2022	07	22		98																								
2022	07	23		98																								
2022	07	24		100																								
2022	07	25		92																								
2022	07	26		100																								
2022	07	27		98																								
2022	07	28		87																								
2022	07	29		82																								
2022	07	30		79																								
2022	07	31		82																								
Summary														94	74	0.0												

Empty, or blank, cells indicate that a data observation was not reported.

*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown
"s" This data value failed one of NCDC's quality control tests. "At Obs." = Temperature at time of observation

"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.

"A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.
Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

Record of Climatological Observations

These data are quality controlled and may not be identical to the original observations.

Current Location: Elev: 246 ft. Lat: 36.4083° N Lon: 90.5917° W
 Station: **CORNING, AR US USC00031632**

Observation Time Temperature: 2000 Observation Time Precipitation: 2000

Year	Month	Day	Temperature (F)		Precipitation				Evaporation			"Soil Temperature (F)"					
			"24 Hrs. Ending at Observation Time"		24 Hour Amounts Ending at Observation Time		At Obs. Time		24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth		8 in. Depth				
			Max.	Min.	Rain, Melted Snow, Etc. (in)	F I a g	Snow, Ice Pellets, Hail (in)	F I a g			Snow, Ice Pellets, Hail, Ice on Ground (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2024	03	01	52	39	41	0.09											
2024	03	02	64	34	52	0.00											
2024	03	03	71	46	63	0.00											
2024	03	04	68	57	68	0.00											
2024	03	05	75	57	62	0.02											
2024	03	06	66	52	54	0.00											
2024	03	07	57	47	56	0.17											
2024	03	08	69	55	57	0.82											
2024	03	09	57	45	48	0.05											
2024	03	10															
2024	03	11															
2024	03	12															
2024	03	13															
2024	03	14															
2024	03	15															
2024	03	16															
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2024	03	23															
2024	03	24															
2024	03	25															
2024	03	26															
2024	03	27															
2024	03	28															
2024	03	29															
2024	03	30															
2024	03	31															
Summary			64	48	1.15												

Empty, or blank, cells indicate that a data observation was not reported.
 *Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown
 "s" This data value failed one of NCEI's quality control tests. "At Obs." = Temperature at time of observation
 "T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.
 "A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.
 Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.



Appendix C

USFWS Concurrence



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

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



April 30, 2024

Mr. Josh Seagraves
Federal Highway Administration
Arkansas Division
700 West Capitol Avenue
Room 3130
Little Rock, Arkansas 72201-3298

Consultation Code: 2024-0067912
(Previously 2022-0029477)

Dear Mr. Seagraves:

This letter provides U.S. Fish and Wildlife Service (Service) comments for the re-evaluation and responds to your request for re-initiation of consultation for the proposed design modifications to the Corning Bypass (Job 101172), which is a 4.1-mile segment of the Future I-57 project (Job 100512) in Clay County, Arkansas, developed by the Arkansas Department of Transportation (ARDOT) and the Federal Highway Administration (FHWA). Your letter indicated that since issuance of the FEIS-ROD, the Selected Alternative was divided into seven different sections for planning and funding purposes. The section in Clay County from Highway 62/67 west of Corning to Highway 67 north of Corning was designated as a section of independent utility identified as the Corning Bypass and will now be the first to be constructed. Additionally to this modification, the uplisting of Northern Long-eared Bat (*Myotis septentrionalis*) from threatened to endangered has resulted in the need to re-initiate consultation. Our comments are submitted in accordance with the Endangered Species Act (ESA) of 1973 (Act; 87 stat. 884, as amended; 16 U.S.C. 1531 et seq.). Comments from the Service were solicited on April 24, 2024.

The official species list obtained from the Service's Information for Planning and Consultation (IPaC) website identified the following endangered, threatened, proposed and listed species as potentially occurring within the project boundaries: the endangered Indiana Bat (*Myotis sodalis*), the endangered Northern Long-eared Bat, the threatened Eastern Black Rail (*Laterallus jamaicensis ssp. jamaicensis*), the threatened Piping Plover (*Charadrius melodus*), the threatened Red Knot (*Calidris canutus rufa*), Pink Mucket (*Lampsilis abrupta*), Pondberry (*Lindera melissifolia*), proposed threatened Alligator Snapping Turtle (*Macrochelys temminckii*), proposed threatened Tricolored Bat (*Perimyotis subflavus*) and candidate Monarch Butterfly (*Danaus plexippus*).

The Service received your concurrence verification letter and request to verify that the Proposed Action may rely on the concurrence provided in the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C 1531 et seq.). Based on the information you provided, you have determined that the Proposed Action will have "No Effect" on the Indiana Bat or the Northern Long-eared Bat. If the

Mr. Josh Seagraves

2

Proposed Action is not modified, no consultation is required for these two species. If the Proposed Action is modified, or new information reveals that it may affect the Indiana Bat and/or Northern Long-eared Bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA Section 7(a)(2) may be required.

The Service reviewed the Biological Assessment for Job 100512 along with your updated assessments and determinations of “may affect, not likely to adversely affect” for Eastern Black Rail and Pondberry. Based on the distance to known species locations, limited suitable habitats, minimal effects to forested areas, rivers, and wetlands, avoidance and minimization measures, and sediment erosion and water quality control BMPs, the Service agrees with your assessments and concurs with your determinations. No further consultation or coordination for this project is required for these species at this time. Your agency has met consultation requirements by informing the Service of your “no effect” and “non-jeopardy” determinations. No consultation for this project is required for species that you determined will not be affected by this Action or are not currently listed. This concurrence verification letter confirms that you have met the requirements under Section 7(a)(2) of the ESA of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.; ESA).

The Service recommends that your agency contact the Arkansas Ecological Services Field Office or re-evaluate this Action in IPaC if: 1) the scope, timing, duration, or location of the proposed project changes; 2) new information reveals the action may affect Bald or Golden Eagles, listed species, or designated critical habitat; and 3) a proposed species is listed, a new species is proposed, or critical habitat designated. If any of the above conditions occurs, additional consultation with the Arkansas Ecological Services Field Office should take place before project changes are final or resources committed. This concludes informal consultation in accordance with 50 CFR 402.13.

We appreciate your continued efforts toward the conservation of protected and at-risk species and their habitats. For future correspondence on this matter, please contact Lindsey Lewis at (501) 513-4489.

Sincerely,

CHRISTOPHER
DAVIDSONDigitally signed by CHRISTOPHER
DAVIDSON
Date: 2024.04.30 16:34:23 -05'00'Chris Davidson
Acting Field Supervisor

cc:

Project File
Read FileFilename: <https://doimspp->[my.sharepoint.com/personal/lindsey_lewis_fws_gov/Documents/Documents/PROJECTS/FY2024/ARDOT/I-57_Corning/20240429_Ltr_Concurrence_ArDOT_FHWA_101172_I-57_Corning_Bypass Re-Evaluation_LCL.docx](https://doimspp-my.sharepoint.com/personal/lindsey_lewis_fws_gov/Documents/Documents/PROJECTS/FY2024/ARDOT/I-57_Corning/20240429_Ltr_Concurrence_ArDOT_FHWA_101172_I-57_Corning_Bypass_Re-Evaluation_LCL.docx)

Appendix D

Cultural Resources Coordination



Sarah Huckabee Sanders
Governor
Shea Lewis
Secretary

May 14, 2024

Mr. Josh Seagraves
Division Head
Environmental Division
Arkansas Department of Transportation
10324 Interstate 30
P.O. Box 2261
Little Rock, AR 72203-2261

RE: Clay County: General
Section 106 Review: FHWA
Proposed Undertaking: Corning Bypass (Future I-57) (S)
Cultural Resources Survey Report: *A Cultural Resources Survey for the Proposed Overpass at County Road 139 and Cul-de-Sac at County Road 143 Associated with the Corning Bypass Project in Clay County, Arkansas*
F.E.A. Project Report: 2024-23
ArDOT Job Number: 101172
AHPP Tracking Number: 106363.15

Dear Mr. Seagraves:

The staff of the Arkansas Historic Preservation Program (AHPP) has reviewed the cultural resources survey and architectural resources survey report (CRS) for the above referenced undertaking in Sections 25, 26, and 27, Township 21 North, Range 4 East in Clay County, Arkansas. The undertaking proposes construct an overpass at County Road 139 and cul-de-sac at County Road 143. The total area of potential effect (APE) is 9.5 acres. There are five previously recorded archeological sites within one mile of the APE: 3CY0103, 3CY0112, 3CY0240, 3CY0489, and 3CY0525. Site 3CY0525 was determined to be not eligible for inclusion in the National Register of Historic Places (NRHP) in 2016 (AHPP 94250). The remaining four sites are located well outside the APE and will not be affected by this undertaking. The AHPP considers them to be undetermined for inclusion in the NRHP.

A total of eighty-eight shovel tests were excavated, along with a pedestrian survey, in the APE. All shovel tests and the pedestrian survey were negative for cultural materials.

Based on the provided information, the AHPP concurs with the finding of **no historic properties affected pursuant to 36 CFR § 800.4(d)(1)** for the proposed undertaking and that no additional archeological work is needed. In the event of a post-review discovery of historic properties within

AHPP Tracking Number 106363.15

the area of potential effects, please contact the AHPP and other consulting parties in accordance with 36 CFR § 800.13(b)(3).

Thank you for the opportunity to review this CRS. Please refer to the AHPP Tracking Number listed above in all correspondence. If you have any questions, please call Jessica Cogburn of my staff at 501-324-9357 or email jessica.cogburn@arkansas.gov.

Sincerely,
Jessica H.
Cogburn

Digitally signed by Jessica
H. Cogburn
Date: 2024.05.14
11:08:29 -05'00'

for

Scott Kaufman
State Historic Preservation Officer and Director, AHPP

cc: Randal Looney, Federal Highway Administration
Dr. Melissa Zabecki, Arkansas Archeological Survey