

Environmental Document

AHTD JOB NUMBER CA0202

**Highway 425 – Hamburg (Widening) (S)
Ashley County, Arkansas**

Submitted Pursuant to Issue No. 1, An Amendment to Provide Additional Funding for
Highways, County Roads, City Streets, Bridges, and Surface Transportation
By the
Arkansas State Highway and Transportation Department

Prepared By
PARSONS

March 9, 2016

3/11/2016

Date of Approval

John Fleming

John Fleming
Environmental Division Head
Arkansas State Highway and
Transportation Department

The Connecting Arkansas Program Manager (CAPM) has reviewed the referenced project as a Non-NEPA project.

The purpose of this project is to improve capacity and safety on Highway 82, a major rural arterial. The total length of the project is 5.4 miles. It extends from the intersection of Highway 82 and Highway 425 to near Lion Drive in Hamburg, Ashley County. Figure 1 illustrates the project location.

The existing roadway consists of a two-lane rural arterial with intermediate auxiliary passing lanes. The existing roadway has two 12-foot traffic lanes and shoulder widths varying from 3-6 feet. Existing right of way width is 120 feet.

Proposed improvements include a rural section of four 12-foot wide paved travel lanes with an 11-foot paved median, and 8-foot wide shoulders. The proposed right of way width will range from 160 feet to 225 feet. Approximately 30 acres of additional right of way will be required for this project.

A Design Information sheet is attached, and design data for this project is as follows:

Design Year	Average Daily Traffic	Percent Trucks	Design Speed
2016	4,200	17	60 mph
2036	5,000	17	60 mph

Early correspondence with the U.S. Fish and Wildlife Service (USFWS) and a review of the Arkansas Natural Heritage Commission data identified two federally-endangered species potentially occurring in or near the proposed project area in Ashley County. These include the federally-listed endangered red-cockaded woodpecker (*Picoides borealis*) and pondberry (*Lindera melissifolia*). Arkansas Natural Heritage Commission data identified historic records for the red-cockaded woodpecker from within the Wilcoxon Forest near the southern terminus of the project. Additional coordination revealed that the colony had been previously translocated and the Wilcoxon Forest is no longer considered suitable habitat due to its distance to other colonies within the state. A review of the Natural Heritage database indicated that there are no known records of pondberry within the project area. Based on the prior translocation of historic red-cockaded woodpecker colonies and the distance to known pondberry populations, the project is not likely to adversely affect any listed species within the affected area. The USFWS concurred with the determination in a letter dated January 11, 2016.

One historic site within the proposed ROW, the Levi Wilcoxon Demonstration Forest (AS0034), was determined eligible for the National Register of Historic Places (NRHP). The cultural resources survey report was approved by the State Historic Preservation Officer (SHPO) in a letter dated September 16, 2015. A Memorandum of Agreement and Treatment Plan to mitigate for potential impacts will be prepared between the AHTD and the SHPO for the Levi Wilcoxon Demonstration Forest. The SHPO concurrence letters for the project are attached.

Should any cultural resources sites be found that are eligible or potentially eligible for nomination to the National Register of Historic Places and avoidance is not possible, then site specific treatment plans will be developed and submitted to the SHPO and the appropriate tribes for review and comment. A corresponding MOA between SHPO, the AHTD, and the appropriate tribes will then be implemented and the appropriate treatment plan will be carried out at the earliest practicable time.

A Preliminary Jurisdictional Determination Report for Waters of the U.S. was prepared for the project. That report defined the streams and wetlands identified during field investigations conducted in March 2015 and discussed the anticipated impacts associated with the project. A total of 17 streams and 11 wetlands were identified in the project corridor. Three perennial streams and 14 ephemeral streams were identified. Estimated permanent impacts are 396 linear feet of perennial streams and 1.23 acres of wetlands. Some impacts may be reduced during final design of the project. Compensatory mitigation for unavoidable impacts will be provided at an approved Arkansas Highway Transportation Department mitigation bank. The final compensatory wetland mitigation will be determined during the Section 404 permitting process. Construction of the proposed project should be allowed under a Section 404 Nationwide Permit 14 from the U.S. Army Corps of Engineers.

Ashley County participates in the National Flood Insurance Program. All of the floodplain encroachments within the highway construction project will be designed to comply with the county's local flood damage prevention ordinance. The project lies within the Zone A, Special Flood Hazard Area. The final project design will be reviewed to confirm that the design is adequate and that the potential risk to life and property are minimized. The project will not support incompatible use and development of the floodplain. Adjacent properties should not be impacted nor have a greater flood risk than existed before construction of the project. None of the encroachments will constitute a significant floodplain encroachment or significant risk to property or life.

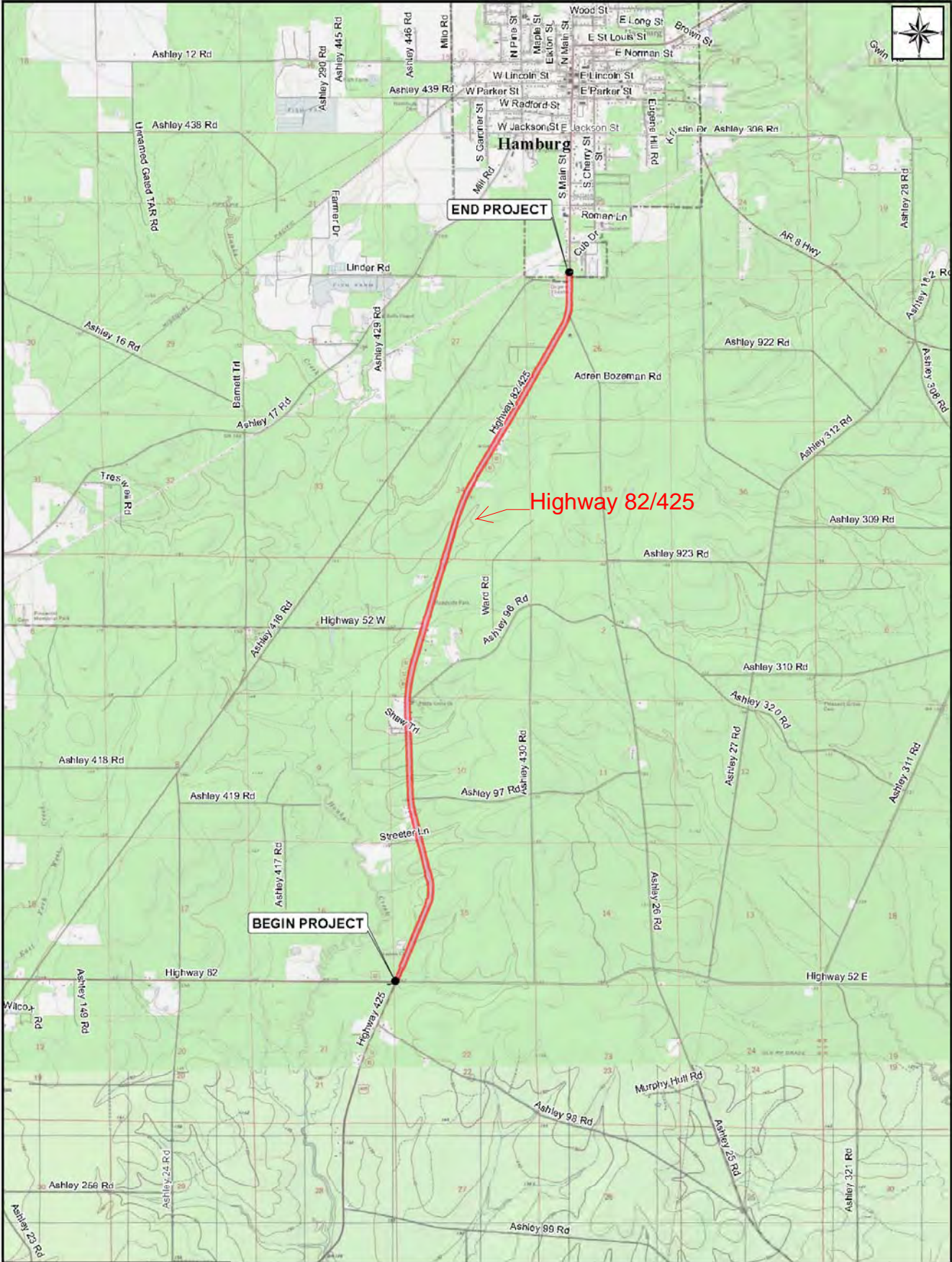
No relocations are anticipated with this project. Should any relocations be needed based on the final design, Public Law 91-646, Uniform Relocation Assistance Act of 1970 (URAA), as amended, will apply. There are no Executive Order 12898 Environmental Justice issues with this project.

No hazardous materials sites or areas of concern were identified within, or adjacent to, the environmental boundary for the proposed project. Should any hazardous or potentially hazardous materials be encountered during construction, the hazardous materials will be handled and disposed in accordance with applicable state, local, and federal laws and regulations.

An open-forum public involvement meeting for the proposed project was held at Hamburg Middle School in Hamburg, Arkansas from 4:00 - 7:00 p.m. on November 10, 2015. A public officials meeting was held at 3:00 p.m. on the same day. A synopsis of the meetings is attached.

Listing of Commitments:

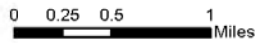
- *Nesting Sites for Migratory Birds SP*
- *An approved wetland mitigation bank will be used for wetland and stream mitigation*
- *Short Term Activity Authorization*
- *NPDES Permit*
- *Floodplain Development Permit*
- *MOA for the Levi Wilcoxon Demonstration Forest (AS0034)*
- *URAA will be followed if needed*
- *Section 404 Nationwide Permit 14*



Ashley County

- Project Location
- City Limits

Project Location Map



ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

**CONNECTING ARKANSAS PROGRAM
HWY.425 - HAMBURG (WIDENING) (S)
ASHLEY COUNTY, ARKANSAS**

JOB CA0202

From: Lewis, Lindsey [mailto:lindsey_lewis@fws.gov]
Sent: Monday, January 11, 2016 2:40 PM
To: Seagraves, Josh
Subject: Re: CA0202 ESA concurrence

Josh,

The Service has reviewed the information you provided along with our records. We concur with your determination that this project is not likely to adversely affect any of the listed species identified within the affected area "based on the prior translocation of the historic red-cockaded woodpecker colony and the distance to known pondberry populations."

No further coordination is necessary at this time.

Thanks,

Lindsey Lewis
Biologist

US Fish & Wildlife Service
Arkansas Field Office
110 South Amity Rd., Suite 300
Conway, Arkansas 72032

(501) 513-4489 - voice
(501) 513-4480 - fax
Lindsey.Lewis@fws.gov
[http://www.fws.gov/arkansas-es/\[fws.gov\]](http://www.fws.gov/arkansas-es/[fws.gov])

On Tue, Jan 5, 2016 at 3:09 PM, Seagraves, Josh <Josh.Seagraves@ahtd.ar.gov> wrote:

Lindsey,

AHTD project CA0202 Hwy. 425 – Hamburg will widen a 5.32 mile section of Hwy 82 between the intersection of Hwy. 425 east of Crossett and the city of Hamburg in Ashley County. The roadway will be widened to accommodate four 12-foot travel lanes with an 11-foot painted median. Previous correspondence with your office identified the red-cockaded woodpecker and pondberry occurring within Ashley County. Arkansas Natural Heritage Commission data identifies historic records for the red-cockaded woodpecker from within the Wilcoxin Forest near the southern terminus of the project. Through personal communication with Erin Leone it was determined that this colony had been previously translocated and was not considered suitable habitat due to its distance to other colonies within the state. There are no known records of pondberry within the project area. Therefore, based on the prior translocation of the historic red-cockaded woodpecker colony and the distance to known pondberry populations it is determined that the project is not likely to adversely affect these species. We request your concurrence in this determination.

Thank you.

Josh Seagraves
Section Head – Special Studies
Arkansas Highway and Transportation Dept.
PO Box 2261, Little Rock, AR 72203
P: 501-569-2522 F: 501-569-2009
Josh.Seagraves@ahd.ar.gov



THE DEPARTMENT OF ARKANSAS
HERITAGE

Asa Hutchinson
Governor

Stacy Hurst
Director

Arkansas Arts Council

Arkansas Natural Heritage
Commission

Delta Cultural Center

Historic Arkansas Museum

Mosaic Templars
Cultural Center

Old State House Museum



Arkansas Historic
Preservation Program



323 Center Street, Suite 1500
Little Rock, AR 72201

(501) 324-9880
fax: (501) 324-9184
tdd: 711

e-mail:
info@arkansaspreservation.org
website:
www.arkansaspreservation.com

An Equal Opportunity Employer

June 10, 2015

Mr. Bill McAbee
CAP Environmental Program Manager
Arkansas State Highway and Transportation Department
Connecting Arkansas Program
P.O. Box 2261
Little Rock, AR 72203-2261

RE: Ashley County - Hamburg
Section 106 Review – FHWA
Request for Technical Assistance
AHTD Job Number CA0202
Hwy. 425 – Hamburg (Widening) (S)
AHPP Tracking Number 93222

Dear Mr. McAbee:

This letter is written in response to your inquiry regarding properties of architectural or historical significance in the area of the proposed referenced project. The staff of the Arkansas Historic Preservation Program has reviewed the documents contained in your June 8, 2015 letter and has determined that of the twenty-one (21) structures surveyed, nineteen (19) structures (Structures A-AS0108, B-R, and T) are ineligible for inclusion in the National Register of Historic Places while two (2) structures (AS0034-Levi Wilcoxon Demonstration Forest and Structure S) are eligible.

Once the undertaking is further along in the planning stages, we look forward to reviewing the cultural resources survey report of the proposed project. Please refer to the AHPP Tracking Number listed above in all correspondence. If you have any questions, please call Theresa Russell of my staff at (501)-324-9357.

Sincerely,

Frances McSwain
Deputy State Historic Preservation Officer

cc: Mr. John Fleming, Arkansas Highway and Transportation Department
Ms. Tamara Francis-Fourkiller, Caddo Nation
Mr. Everett Bandy, Quapaw Tribe of Oklahoma
Ms. Kim Jumper, Shawnee Tribe of Oklahoma
Dr. Ann Early, Arkansas Archeological Survey



THE DEPARTMENT OF ARKANSAS
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Asa Hutchinson
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info@arkansaspreservation.org

website:

www.arkansaspreservation.com

An Equal Opportunity Employer

September 16, 2015

Mr. Bill McAbee
CAP Environmental Project Manager
Arkansas State Highway & Transportation Department
Connecting Arkansas Program
P.O. Box 2261
Little Rock, AR 72203-2261

RE: Ashley County – General
Section 106 Review – FHWA
Report Titled *Cultural Resources Survey for the Route 82 Section 8
Widening Project (AHTD Job No. CA0202) from Hamburg to Highway
425 Ashley County, Arkansas*
AHPP Tracking Number 93222.1

Dear Mr. McAbee:

The Staff of the Arkansas Historic Preservation Program has review the above-referenced cultural resources survey report. The report documents fieldwork for a road widening project and is acceptable.

We concur that site AS0034, the Levi Wilcoxon Demonstration Forest (LWDF), is eligible for inclusion on the National Register of Historic Places under Criterion A. Based on this, we find that the proposed clearing/grubbing and construction work to be conducted within the proposed new right of way, located inside the boundaries of the LWDF, will constitute an adverse effect. We recommend that impacts to the LWDF be avoided or a Memorandum of Agreement (MOA) be developed to mitigate the adverse effect.

Thank you for the opportunity to review this undertaking. We look forward to reviewing the draft Section 4(f) and MOA produced for the project. Please refer to the AHPP Tracking Number listed above in all correspondence. If you have any questions, please call Bob Scoggin of my staff at 501-324-9270

Sincerely,

Frances McSwain
Deputy State Historic Preservation Officer

cc: Mr. Randall Looney, Federal Highway Administration
Ms. Tamara Francis-Fourkiller, Caddo Nation
Dr. Andrea Hunter, Osage Nation
Ms. Kim Jumper, Shawnee Tribe of Oklahoma
Mr. C. Andrew Buchner, Panamerican Consultants, Inc.
Dr. Ann Early, Arkansas Archeological Survey



Public Meeting Synopsis

Job CA0202

Hwy 425—Hamburg (Widening) (Hwy 82)

Ashley County

November 10, 2015

An open-forum public involvement meeting for the proposed Hwy 425—Hamburg widening (Hwy 82) was held at Hamburg Middle School (Gym) in Hamburg, Arkansas from 4:00 – 7:00 p.m. on November 10, 2015. A public officials meeting was held at 3:00 p.m. on the same day. Efforts to involve minorities and local property owners in the meeting included:

- Display advertisements were placed in the Ashley County Ledger on November 4, 2015.
- Display advertisements were placed in Hola Arkansas on October 23, 2015.
- Radio Public Service Announcements (PSA) were run twice a day from November 7 through November 10, 2015 on KMLK 101.5.
- Letters to public officials were mailed and emailed on October 20, 2015 and fliers were mailed on October 23, 2015.
- Letters to ministers were mailed on October 27, 2015 and emailed October 27, 2015.
- Fliers to adjacent property owners were mailed October 26, 2015.
- Fliers to stakeholders and people interested in the project were mailed and emailed October 27, 2015.
- Meeting notice fliers were delivered door-to-door along project route November 4, 2015.
- A news release was distributed to the media on November 5, 2015.
- A meeting announcement was listed on ConnectingArkansasProgram.com on October 23, 2015 and ArkansasHighways.com on October 23, 2015.



Public Meeting Synopsis

The following information was available for inspection and comment:

- Two aerial photograph roll plots at a scale of 1" = 200', illustrating the entire length of the proposed project.
- Two 24" x 36" aerial photographs on mounted boards at a scale of 1" = 1000', illustrating the entire length of the proposed project.
- Two 24" x 36" boards showing the proposed typical section of improvements for Highway 82.
- Three CAP informational boards.

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

Table 1 describes the results of public official's participation at the meeting.

Table 1	
Public Officials Participation	Total
Attendance at meeting (including AHTD and CAP staff)	13
Total comments received	1

Dane Weindorf, Hamburg Mayor, submitted a comment. He stated the intersection of Hwy. 82/52/425 has had several fatalities with vehicles running the stop sign on Hwy. 82 and Hwy. 52. He requested a flashing stop sign like was installed north of Hamburg on another project.

Table 2 describes the results of public participation at the 4-7 p.m. meeting.

Table 2	
Public Participation	Total
Attendance at meeting (including AHTD and CAP staff)	57
Comments received	13



Public Meeting Synopsis

Crafton Tull reviewed all comments received and evaluated their contents. The summary of comments listed below reflects the personal perception or opinion of the person or organization making the statement. The sequencing of the comments is random and is not intended to reflect importance or numerical values. Some of the comments were combined and/or paraphrased to simplify the synopsis process.

An analysis of the responses received from the public survey is shown in Table 3.

Survey Results	Totals
Supports improvements to Highway 82	12
Does not support improvements to Highway 82	1
Believes the project would have beneficial impacts	5
Believes the project would have adverse impacts	0
Knowledge of historical, archeological or cemetery sites	2
Knowledge of area environmental constraints	0
Home or property offers limitations to the project that need to be considered during the design	0
Suggestion to better serve the needs of the community	2
Additional Comments	3
Total Comments Received	13

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

- One respondent stated he had a potential borrow site on his property if needed.
- One respondent commented the project was very well presented.



Public Meeting Synopsis

- One respondent stated they appreciated the information and answers provided at the meeting.
- One respondent stated they were concerned about traffic for school buses.
- One respondent stated they wanted the project to extend to the state line.
- One respondent stated that side ditches were needed for good drainage on both sides of the highway.

Attachments:

- Blank comment form
- Public officials sign-in sheet
- Public meeting sign-in sheets
- 11x17 map handout
- Small-scale copy of the display board
- Typical Section of Improvements board

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT (AHTD)



CITIZEN COMMENT FORM

AHTD JOB NUMBER CA0202
HIGHWAY 425—HAMBURG (WIDENING) (HIGHWAY 82)
ASHLEY COUNTY

LOCATION:
HAMBURG MIDDLE SCHOOL (GYM)
1109 CUB ST., HAMBURG, AR
4:00 – 7:00 P.M.
TUESDAY, NOVEMBER 10, 2015

Make your comments on this form and leave it with AHTD Connecting Arkansas Program personnel at the meeting or mail it within 15 days to: AHTD Connecting Arkansas Program, Attn: Jon Hetzel, 4701 Northshore Drive, North Little Rock, AR 72118.

Email: Info@ConnectingArkansasProgram.com.

Yes **No**

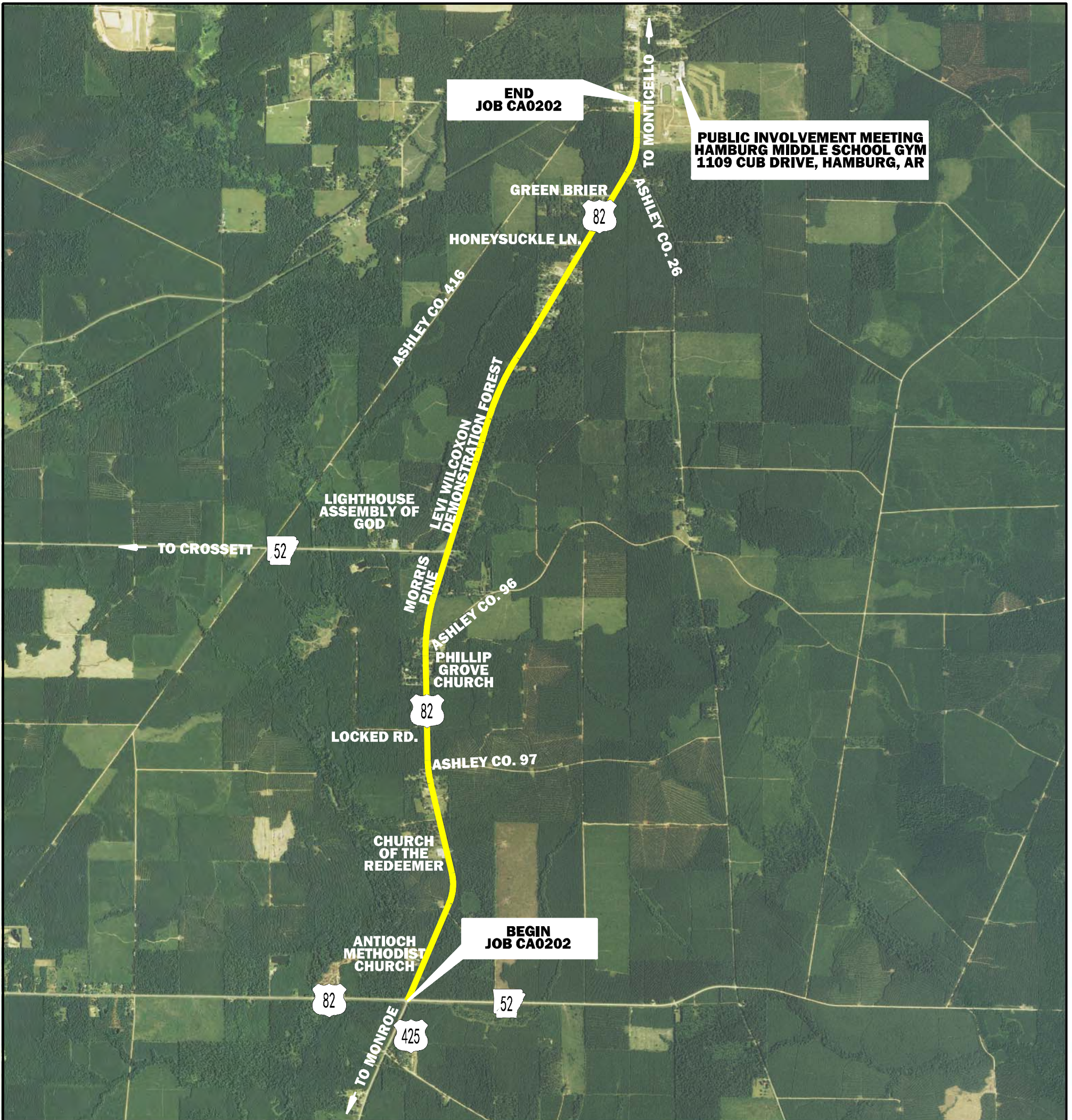
 Do you feel there is a need for the proposed widening of Hwy 82 between Hwy 425 and Hamburg? _____

 Do you feel that the proposed widening project will have any impacts (Beneficial or Adverse) on your property and/or community (either economically, socially, or environmentally, etc.)? Please explain. _____

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

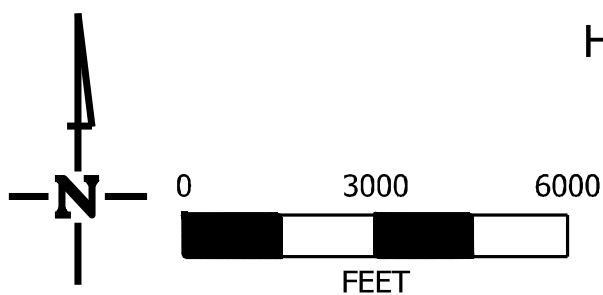
 Do you know of any environmental constraints, such as endangered species, hazardous waste sites, existing or former landfills, or parks and public lands in the vicinity of the project? Please note and discuss with staff. _____

(Continued on back)



NOTES:

HWY. 425 - HAMBURG (WIDENING) (S)
 ROUTE 82 SECTION 8
 ASHLEY COUNTY
 AHTD JOB CA0202

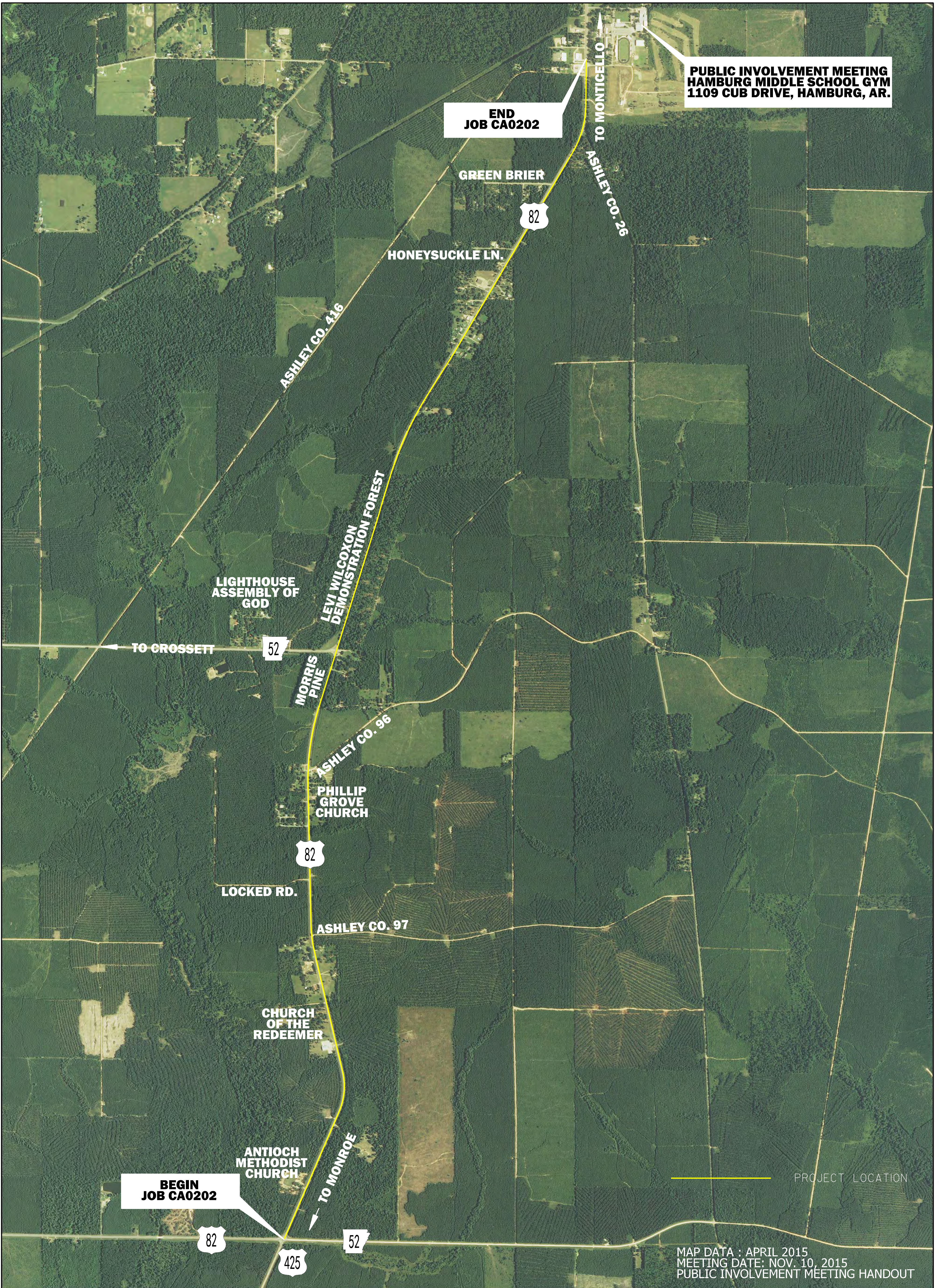


MAP DATA : APRIL 2015
 MEETING DATE: NOV. 10, 2015
 PUBLIC INVOLVEMENT MEETING HANDOUT

PROJECT LOCATION

**PRELIMINARY
 SUBJECT TO REVISION**





**PUBLIC INVOLVEMENT MEETING
HAMBURG MIDDLE SCHOOL GYM
1109 CUB DRIVE, HAMBURG, AR.**

**END
JOB CA0202**

**BEGIN
JOB CA0202**

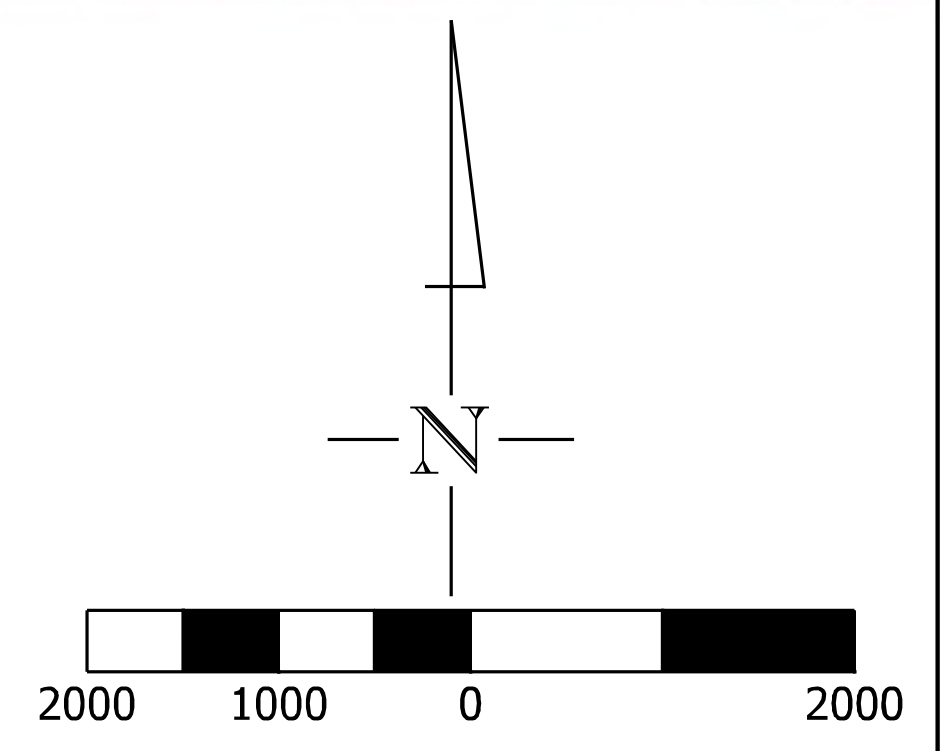
MAP DATA : APRIL 2015
MEETING DATE: NOV. 10, 2015
PUBLIC INVOLVEMENT MEETING HANDOUT

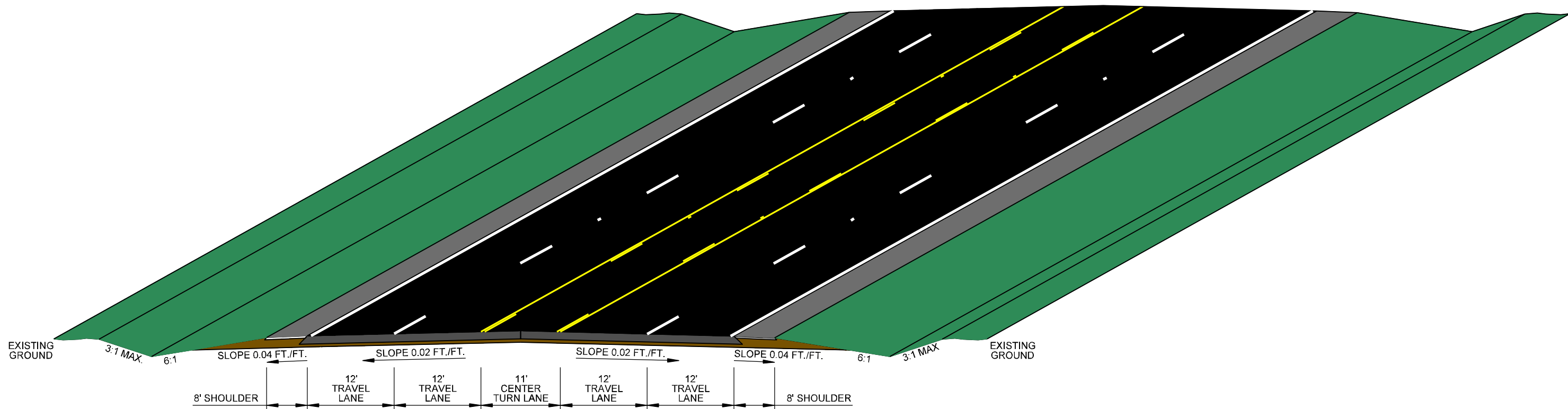


**HWY. 425 - HAMBURG
(WIDENING) (S)
ROUTE 82 SECTION 8
ASHLEY COUNTY
AHTD JOB CA0202**



**PRELIMINARY
SUBJECT TO REVISION**





TYPICAL SECTION OF IMPROVEMENTS
HWY 82

PRELIMINARY
SUBJECT TO REVISION



HWY. 425 - HAMBURG
(WIDENING) (S)
ROUTE 82 SECTION 8
ASHLEY COUNTY
AHTD JOB CA0202



AHTD ENVIRONMENTAL IMPACTS ASSESSMENT FORM

AHTD Job Number CA0202 FAP Number _____

Job Title Hwy 425-Hamburg (Widening) (S), Ashley County

Environmental Impacts	None	Minor	Significant	Comments
Air Quality	X			
Construction Impacts		X		Temporary minor impacts
Cultural Resources		X		MOA to be developed for impacts to Levi Wilcoxon Demonstration Forest (AS0034)
Economic	X			
Endangered Species	X			
Energy Resources	X			
Environmental Justice/Title VI	X			
Fish and Wildlife	X			
Floodplains		X		Floodplain encroachments, no change to BFE
Forest Service Property	X			
Hazardous Materials/Landfills	X			
Land Use Impacts	X			
Migratory Birds		X		Include in Special Provisions
Navigation/Coast Guard	X			
Noise Levels	X			
Prime Farmland	X			
Protected Waters	X			
Public Recreation Lands	X			
Public Water Supply/WHPA	X			
Relocates	X			
Section 4(f)/6(f)	X			
Social	X			
Underground Storage Tanks	X			
Visual Impacts	X			
Stream Impacts		X		Up to 396 linear feet of impacts
Water Quality		X		Temporary during construction
Wetlands		X		1.23 acres of impacts
Wildlife Refuges	X			

Section 401 Water Quality Certification Required? Yes
 Short-term Activity Authorization Required? Yes
 Section 404 Permit Required? Yes Type Nationwide 14

Remarks: Mitigation will be calculated prior to the 404 permit application and mitigation through an approved mitigation bank.

Signature of Evaluator *Joel Budnik* Date 2/11/16

DESIGN INFORMATION

Job Number CA0202 FAP Number _____ County Ashley

Job Name Highway 425- Hamburg (Widening) (S)

Design Engineer Crafton Tull

Brief Project Description Approximately 5.4 miles of the existing two lane roadway will be widened to a 5 lane section.

EXISTING CONDITIONS:

Roadway Width: 24' Shoulder Width: 3'-6'

Number of Lanes and Width: 2 @ 12'

Average Existing ROW Width 120'

PROPOSED CONDITIONS:

Roadway Width: 59' Shoulder Width: 8'

Number of Lanes and Width: 4 @ 12' and 1 @ 11' center turn lane

Average Proposed ROW Width 165'

CONSTRUCTION INFORMATION:

If detour: Where N/A Length N/A

DESIGN DATA:

2016 ADT 4200 2036 ADT 5000 %Trucks 17 Design Speed 45/60 mph

Approximate total length of project: 5.4 mile(s)

Justification for improvements: To increase both safety and capacity of this major rural arterial.



REPLY TO
ATTENTION OF

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

July 19, 2018

Regulatory Division

NATIONWIDE PERMIT NO. **MVK 2017-00565**

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

Dear Mr. Fleming:

Please refer to your recent request concerning Department of the Army permit requirements pursuant to Section 404 of the Clean Water Act. You requested authorization for the placement of dredged and fill material in waters of the United States associated with widening 5.4 miles of U.S. Highway 82 from two lanes to four lanes. Proposed improvements include four 12-foot-wide travel lanes, 8-foot-wide shoulders and an 11-foot-wide painted median. The project will be constructed on existing alignment and will cross seventeen streams impacting approximately 2,167 linear feet. Three of the streams are perennial and fourteen are ephemeral. Impacts will primarily be the extension of existing culverts and aligning the channels with the culverts. Stream impacts at each crossing will be less than 300 linear feet and 0.1 acres except for Stream 9 where approximately 684 linear feet will be relocated to the toe of the embankment slope. Stream 9 is an ephemeral stream which functions as a roadside channel. Relocating the stream will not result in any loss of stream functions or services. The project will impact eleven wetland areas totaling 1.1 acres that are located adjacent to the stream crossings. Approximately 30 acres of additional right-of-way will be required for the project. The project will impact the Levi Wilcoxson Demonstration Forest which is eligible for the National Register of Historic Places. There are no threatened or endangered species impacts.

The project is located immediately south of Hamburg in sections 3, 10 and 15, T. 18 S., R. 7 W., and in sections 26, 27 and 34, T. 17 S., R. 7 W., Ashley County, Arkansas. A vicinity map, project location map, wetland and stream impact maps, and a wetland mitigation worksheet are enclosed.

The proposed activities are authorized by 17 Department of the Army Nationwide Permits (NWP's) **No. 14** (copy enclosed), provided that the following **Special Conditions** and General Conditions therein are met. For your convenience, we have highlighted the General Conditions

of the NWP that are the most pertinent to your project. You should become familiar with the conditions and maintain a copy of the permit at the worksite for ready reference. If changes are proposed in the design or location of the project, you should submit revised plans to this office for approval before construction of the change begins.

Special Conditions:

- 1. ArDOT agrees to mitigate for the adverse impacts to 1.1 acres of wetlands with 9.98 wetland credits at an approved mitigation bank before construction of the project begins. ArDOT will provide documentation of the mitigation bank transaction to the U.S. Army Corps of Engineers Little Rock District Transportation Program Manager.**
- 2. ArDOT agrees to comply with the mitigation report titled, FULFILLMENT OF MEMORANDUM OF AGREEMENT BETWEEN THE ARKANSAS STATE HISTORIC PRESERVATION OFFICER AND THE ARKANSAS DEPARTMENT OF TRANSPORTATION FOR IMPACTS TO THE LEVI WILCOXON DEMONSTRATION FOREST (AS0034) ARDOT JOB NUMBER CA0202 HWY. 425 – HAMBURG (WIDENING) (S) ASHLEY COUNTY, ARKANSAS, and dated January 2018.**

Please pay particular attention to General Condition No. 12 which stipulates that appropriate erosion and siltation controls be used during construction and all exposed soil be permanently stabilized. Erosion control measures must be implemented before, during and after construction.

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

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

The NWP determination will be valid until March 18, 2022. If NWP No. 14 is modified, suspended, or revoked during this period, your project may not be authorized unless you have begun or are under contract to begin the project. If work has started or the work is under contract, you would then have twelve (12) months to complete the work.

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

324-5295 and refer to Permit No. **MVK 2017-00565, U.S. Highway 82 widening south of Hamburg (ArDOT Project No. CA0202).**

Sincerely,

A handwritten signature in cursive script that reads "Sarah Chitwood".

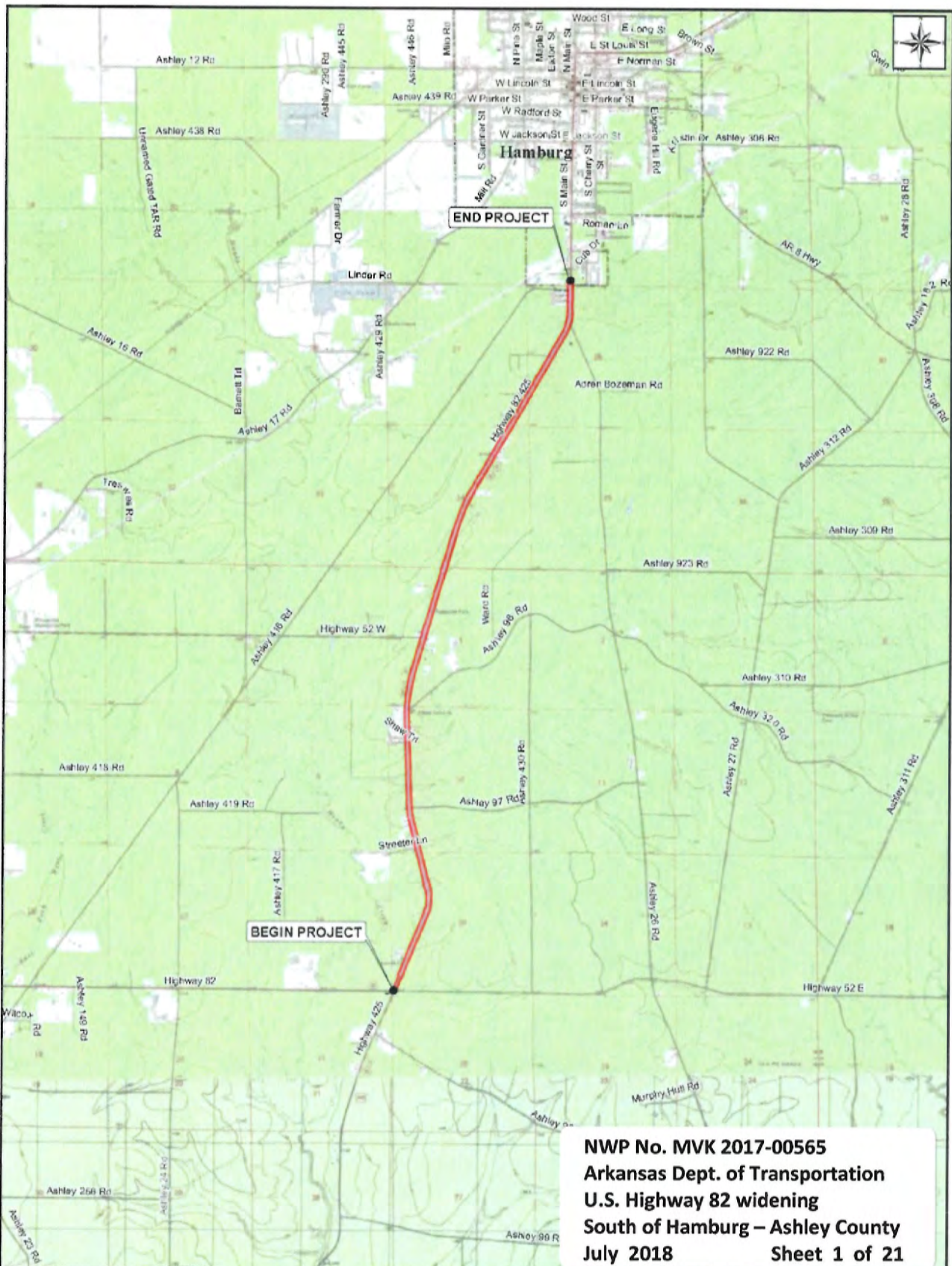
Sarah Chitwood
Chief, Regulatory Evaluation Branch

Copy Furnished:

Vicksburg District Regulatory, w/cy dwgs



Ms. Melanie Treat, Arkansas Department of Environmental Quality, w/cy dwgs

Mr. Lindsey Lewis, U.S. Fish & Wildlife Service, w/cy dwgs

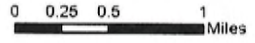


NWP No. MVK 2017-00565
Arkansas Dept. of Transportation
U.S. Highway 82 widening
South of Hamburg – Ashley County
July 2018 **Sheet 1 of 21**



 Project Location
 City Limits

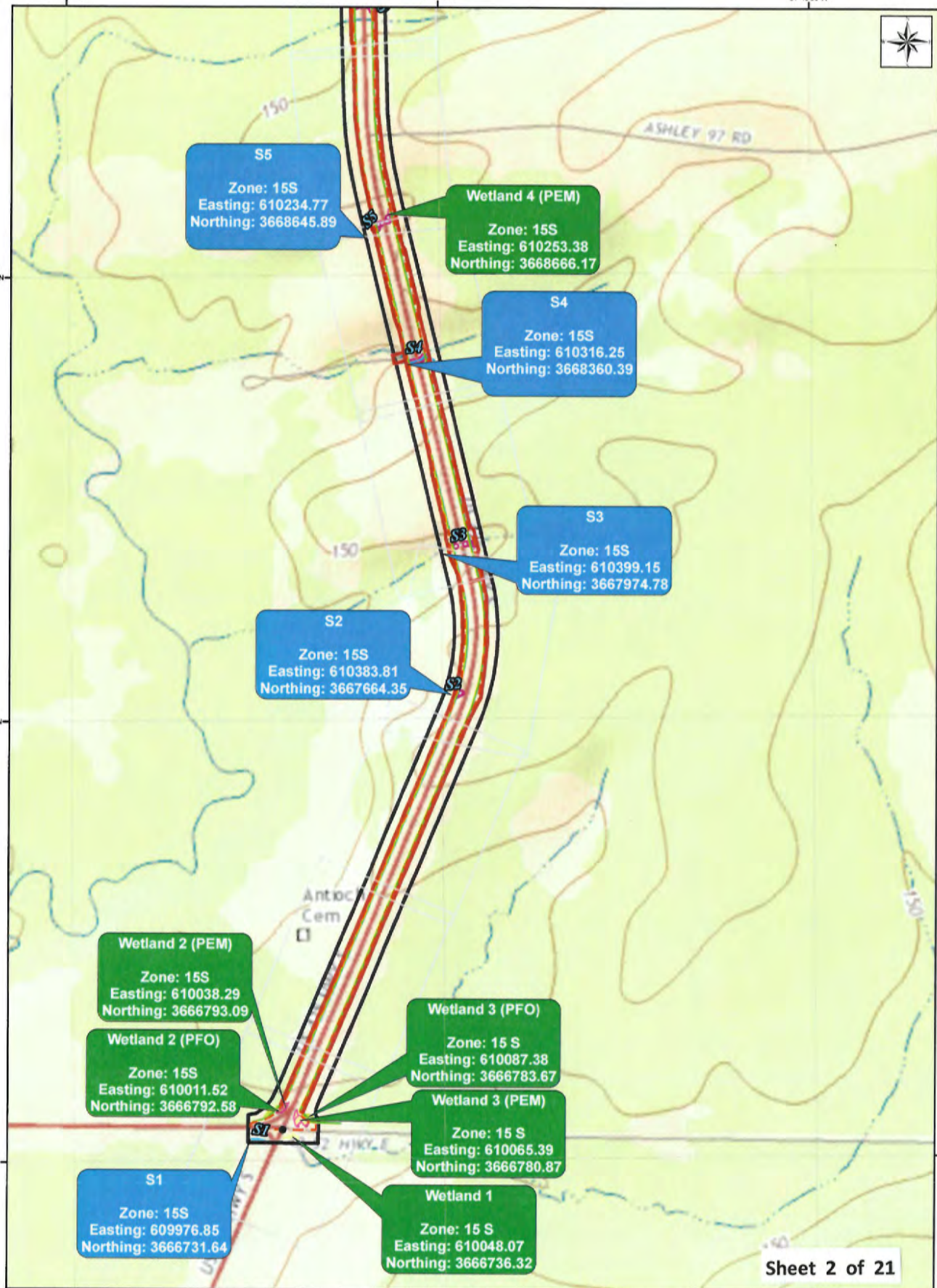
Project Location Map



**ARKANSAS STATE HIGHWAY AND
 TRANSPORTATION DEPARTMENT**

**CONNECTING ARKANSAS PROGRAM
 HWY.425 - HAMBURG (WIDENING) (S)
 ASHLEY COUNTY, ARKANSAS**

JOB CA0202

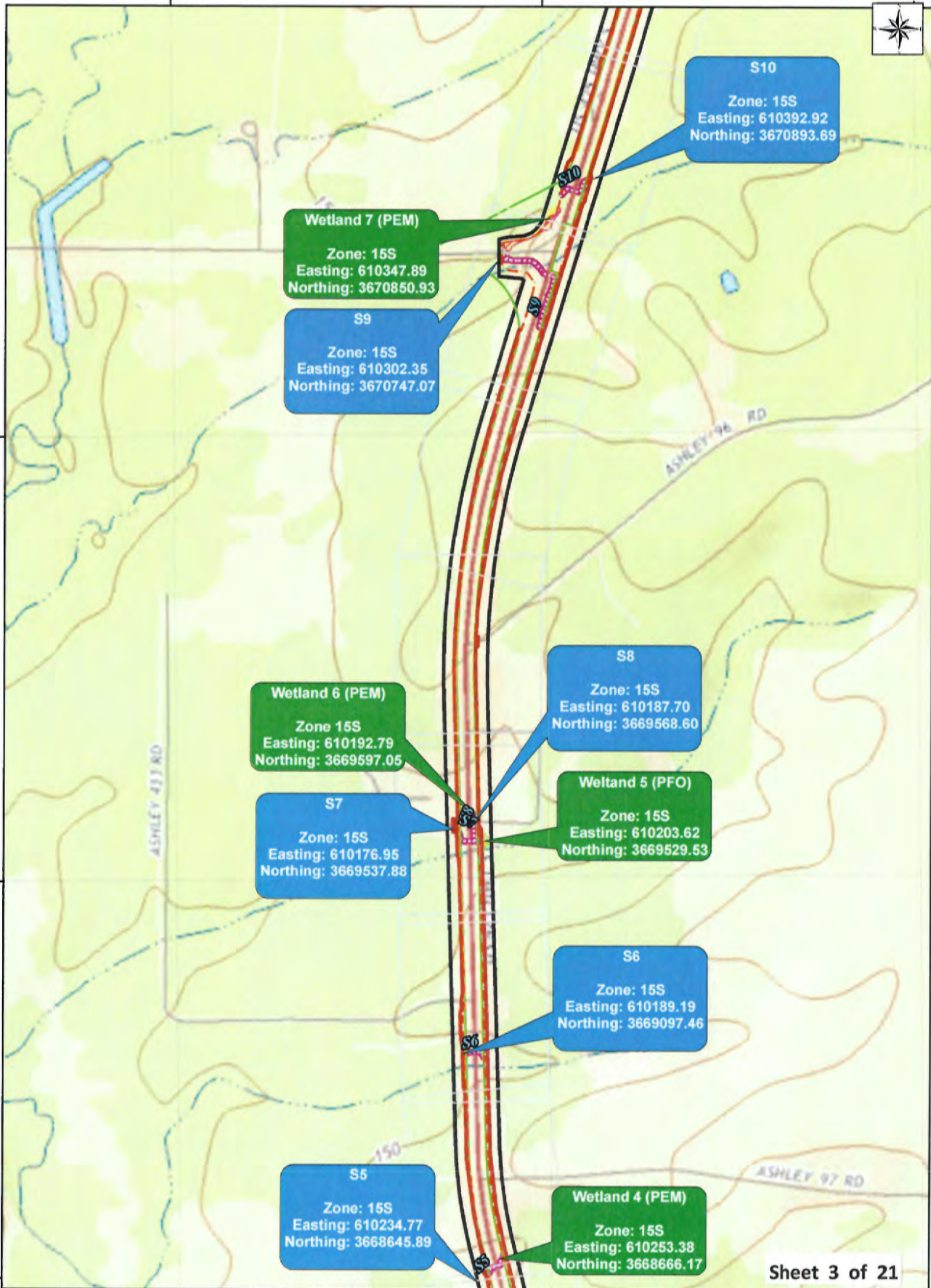


<p>91°49'30"W 91°49'00"W 91°48'30"W</p>		<p>Jurisdictional Waters Map</p>		<p>ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT</p> <p>CONNECTING ARKANSAS PROGRAM HWY.425 - HAMBURG (WIDENING) (S) ASHLEY COUNTY, ARKANSAS</p> <p>JOB CA0202</p>
<p>Proposed ROW</p> <p>Proposed Construction Limits</p> <p>Existing ROW</p>	<p>Watercourses in Study Limits</p> <p>Ephemeral Stream</p> <p>Intermittent Stream</p> <p>Perennial Stream</p> <p>Watercourse Impact</p> <p>Study Limits</p> <p>Sheet Boundaries</p>	<p>Sheet 1 of 4</p> <p>Date: 10/19/2016</p>	<p>0 187.5 375 750 Feet</p> <p>1 inch = 600 feet</p>	
<p>Wetlands in Study Limits</p> <p>PEM</p> <p>PFO</p> <p>Wetland Impact</p>	<p>Wetland Impact</p>			

91°49'30"W

91°49'0"W

91°48'30"W



Wetland 7 (PEM)
 Zone: 15S
 Easting: 610347.89
 Northing: 3670850.93

S9
 Zone: 15S
 Easting: 610302.35
 Northing: 3670747.07

S10
 Zone: 15S
 Easting: 610392.92
 Northing: 3670893.69

Wetland 6 (PEM)
 Zone 15S
 Easting: 610192.79
 Northing: 3669597.05

S7
 Zone: 15S
 Easting: 610176.95
 Northing: 3669537.88

S8
 Zone: 15S
 Easting: 610187.70
 Northing: 3669568.60

Wetland 5 (PFO)
 Zone: 15S
 Easting: 610203.62
 Northing: 3669529.53

S6
 Zone: 15S
 Easting: 610189.19
 Northing: 3669097.46

S5
 Zone: 15S
 Easting: 610234.77
 Northing: 3668645.89

Wetland 4 (PEM)
 Zone: 15S
 Easting: 610253.38
 Northing: 3668666.17

Sheet 3 of 21

Proposed ROW	Watercourses in Study Limits
Proposed Construction Limits	Ephemeral Stream
Existing ROW	Intermittent Stream
Wetlands in Study Limits	Perennial Stream
PEM	Watercourse Impact
PFO	Study Limits
Wetland Impact	Sheet Boundaries

Jurisdictional Waters Map

Sheet 2 of 4 Date: 10/19/2016

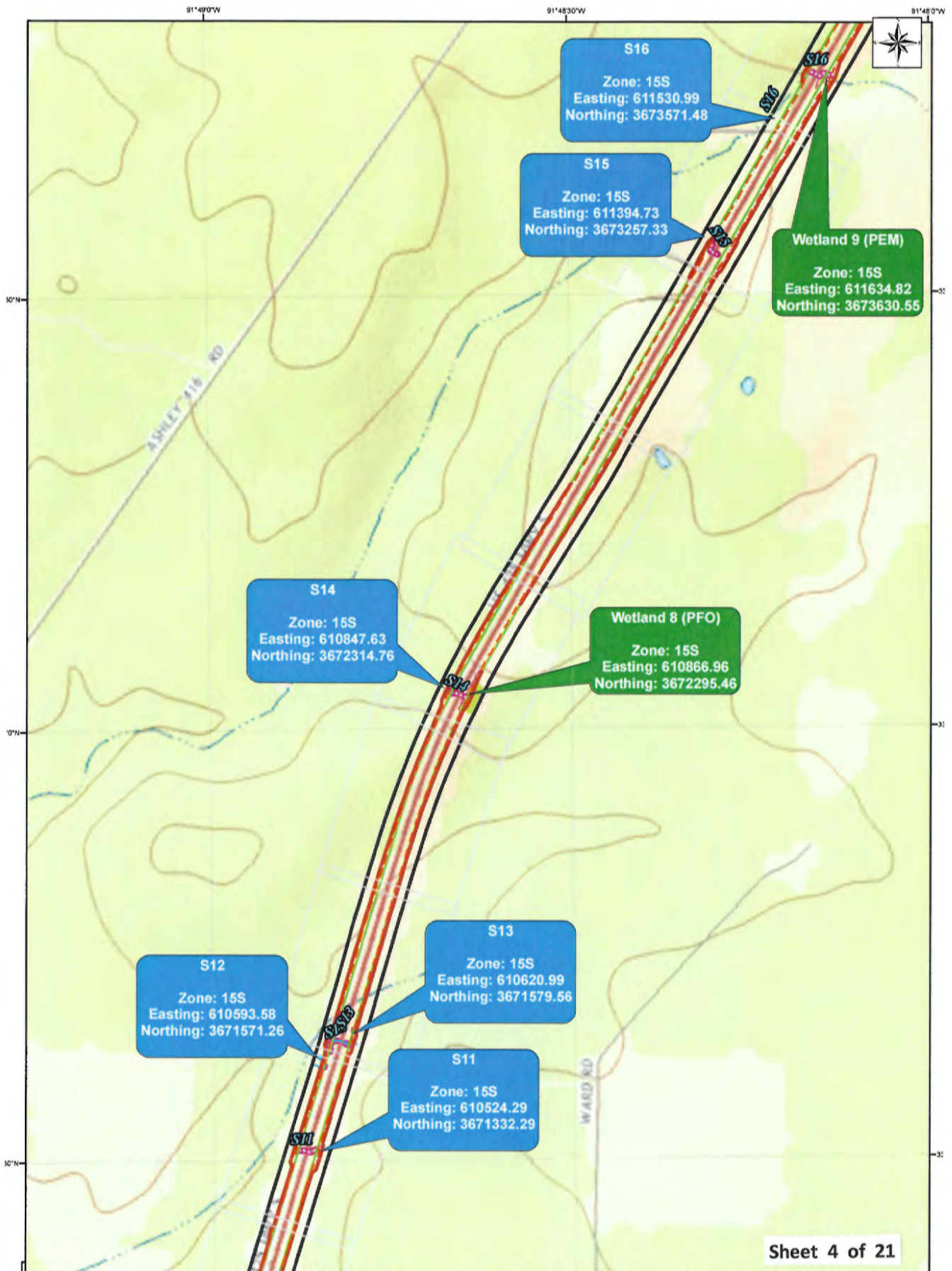
0 187.5 375 750 Feet

1 inch = 600 feet

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
 HWY.425 - HAMBURG (WIDENING) (S)
 ASHLEY COUNTY, ARKANSAS

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Proposed ROW	Ephemeral Stream
Proposed Construction Limits	Intermittent Stream
Existing ROW	Perennial Stream
Wetlands in Study Limits	Watercourse Impact
PEM	Study Limits
PFO	Sheet Boundaries
Wetland Impact	

Jurisdictional Waters Map	
Sheet 3 of 4	Date: 10/19/2016
 0 187.5 375 750 Feet	
1 inch = 600 feet	

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CONNECTING ARKANSAS PROGRAM
 HWY.425 - HAMBURG (WIDENING) (S)
 ASHLEY COUNTY, ARKANSAS

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30°N

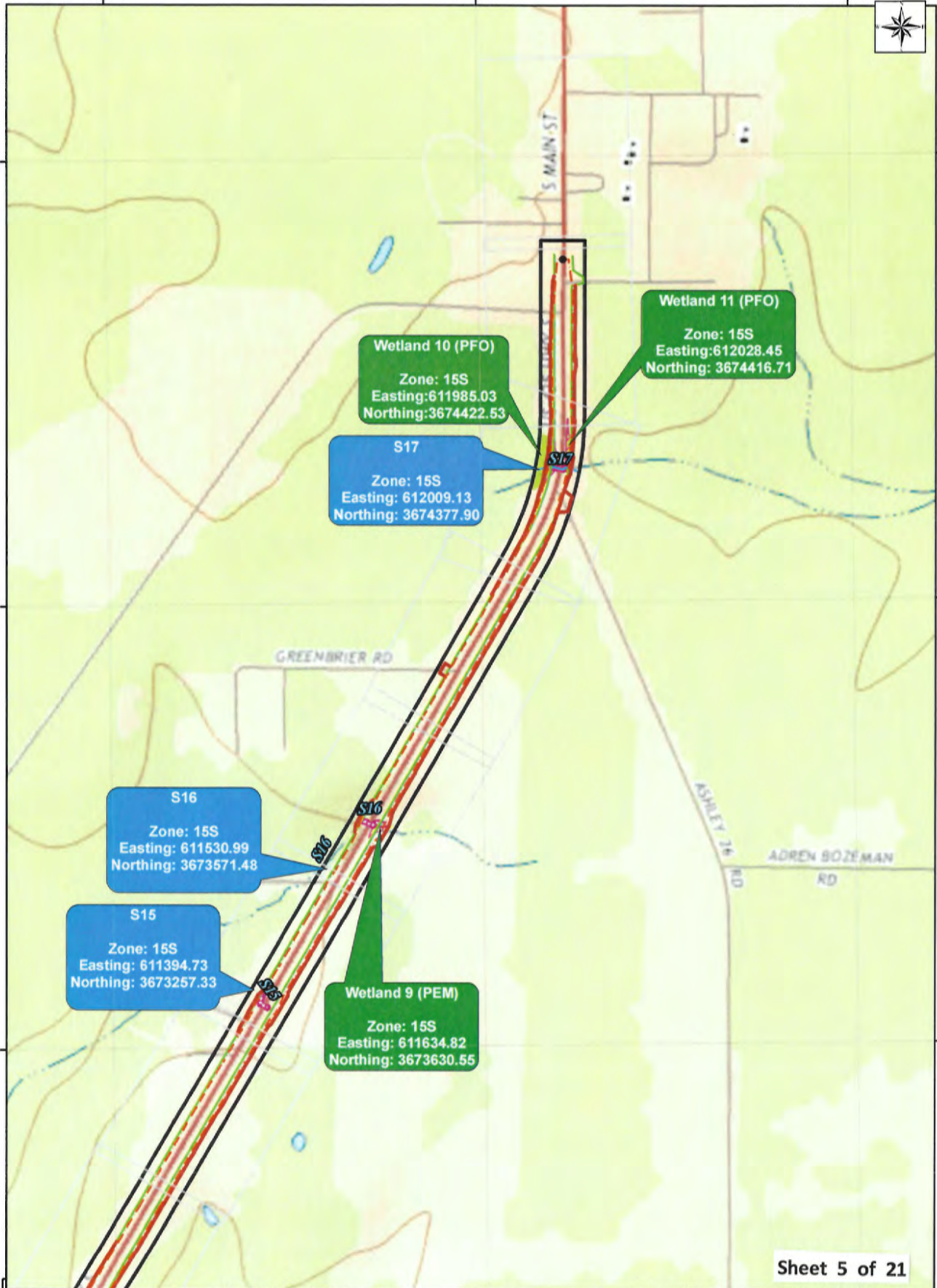
30'

30°N

30'

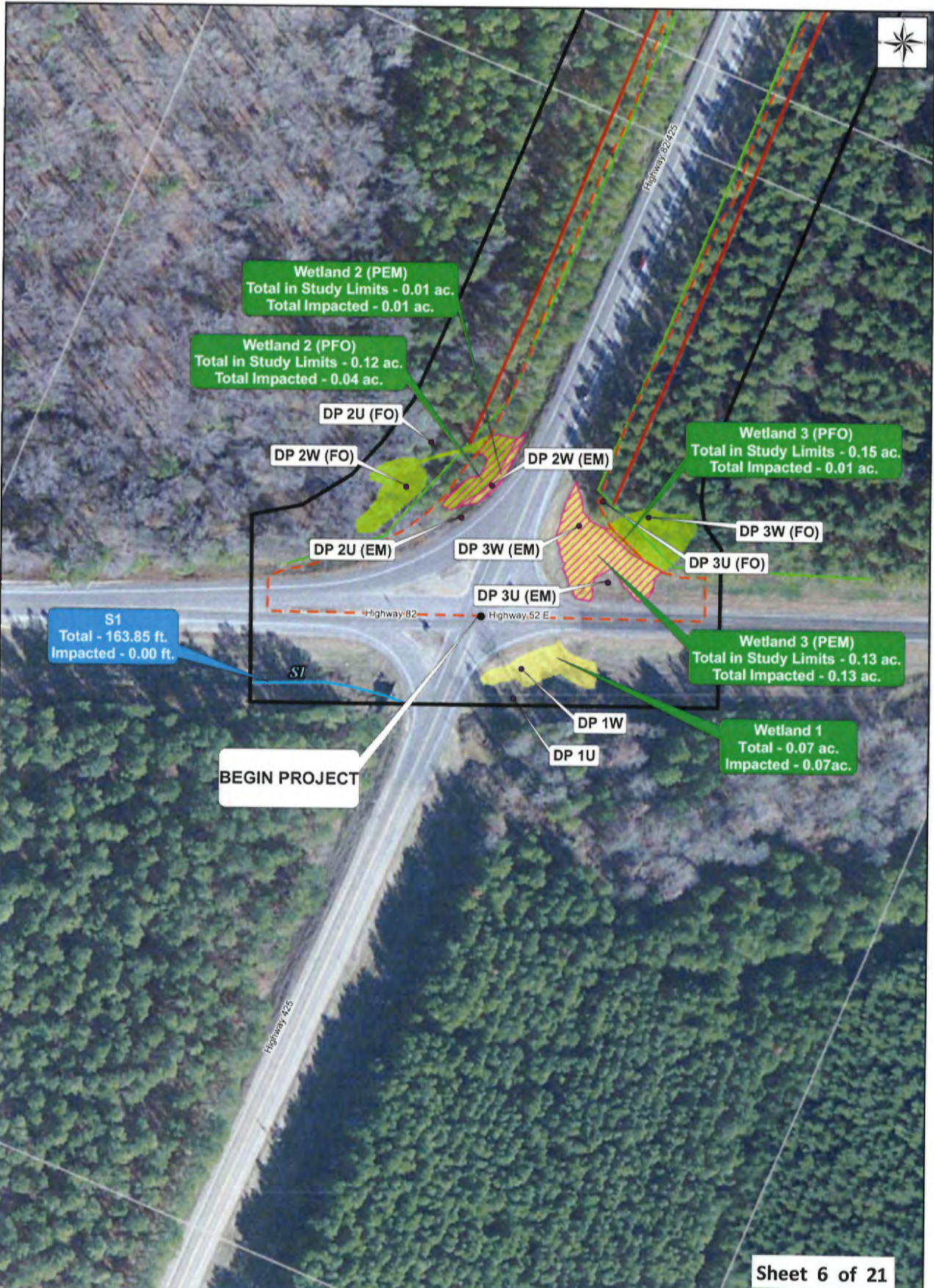
30°N

30'



Sheet 5 of 21

<p>Proposed ROW</p> <p>Proposed Construction Limits</p> <p>Existing ROW</p> <p>Wetlands in Study Limits</p> <p>PEM</p> <p>PFO</p> <p>Wetland Impact</p>	<p>Watercourses in Study Limits</p> <p>Ephemeral Stream</p> <p>Intermittent Stream</p> <p>Perennial Stream</p> <p>Watercourse Impact</p> <p>Study Limits</p> <p>Sheet Boundaries</p>	<p>Jurisdictional Waters Map</p> <p>Sheet 4 of 4</p> <p>Date: 10/19/2016</p> <p>0 187.5 375 750 Feet</p> <p>1 inch = 600 feet</p>	<p>ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT</p> <p>CONNECTING ARKANSAS PROGRAM</p> <p>HWY.425 - HAMBURG (WIDENING) (S)</p> <p>ASHLEY COUNTY, ARKANSAS</p> <p>JOB CA0202</p>
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Sheet 6 of 21

Proposed ROW	Watercourses in Study Limits
Proposed Construction Limits	Ephemeral Stream
Existing ROW	Intermittent Stream
Wetlands in Study Limits	Perennial Stream
PEM	Watercourse Impact
PFO	Study Limits
Wetland Impact	Sheet Boundaries

Jurisdictional Waters Map	
Sheet 1 of 24	Date: 4/11/2016
1 inch = 90 feet	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
HWY.425 - HAMBURG (WIDENING) (S)
ASHLEY COUNTY, ARKANSAS

JOB CA0202



S2
 Total in Study Limits - 106.20 ft.
 Total Impacted - 48.61 ft.

Highway 821425

Sheet 7 of 21

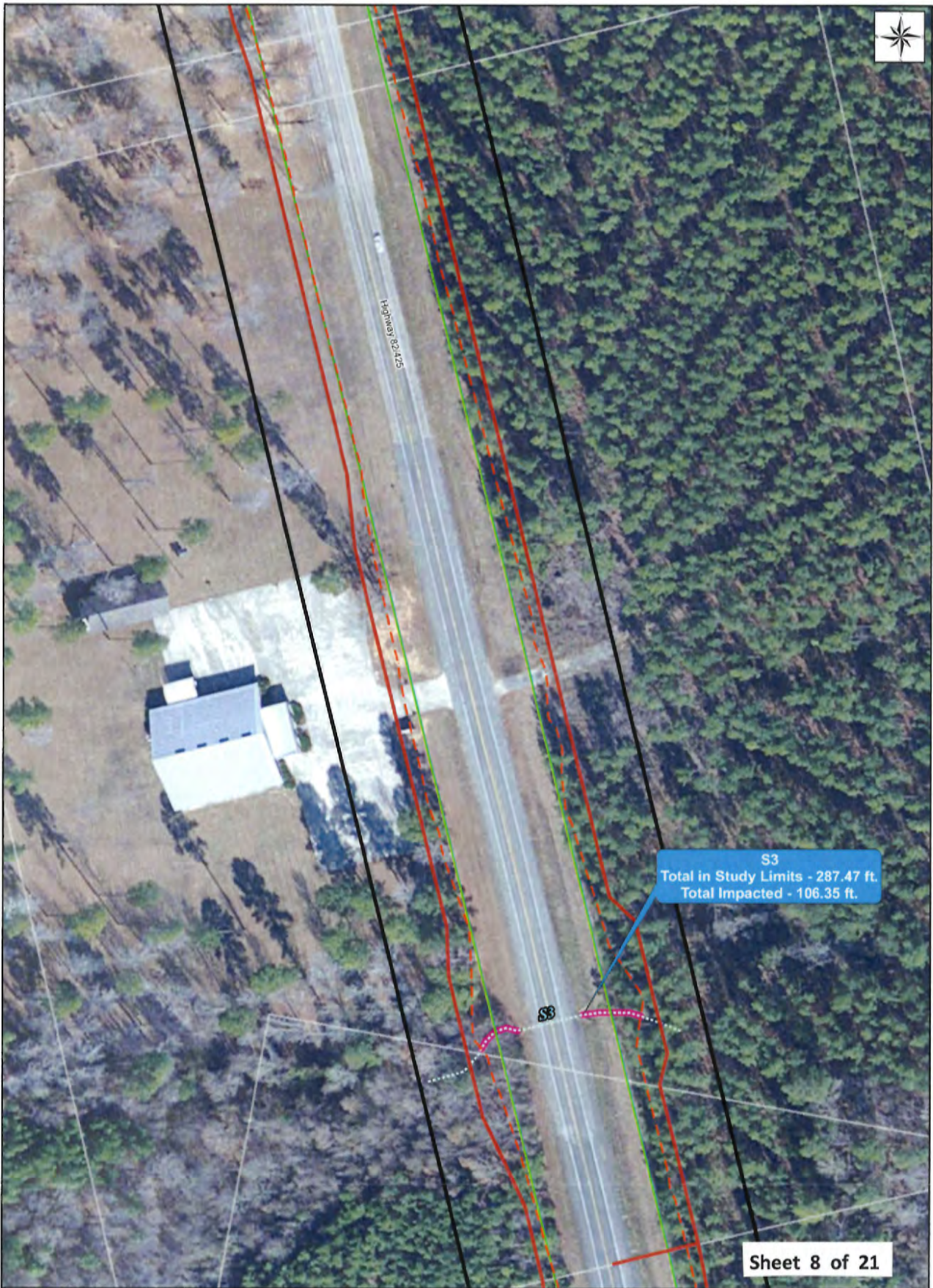
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Jurisdictional Waters Map	
Sheet 4 of 24	Date: 4/11/2016
1 inch = 90 feet	

ARKANSAS STATE HIGHWAY AND
 TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
 HWY.425 - HAMBURG (WIDENING) (S)
 ASHLEY COUNTY, ARKANSAS

JOB CA0202



Sheet 8 of 21

<ul style="list-style-type: none"> — Proposed ROW - - - Proposed Construction Limits — Existing ROW <p>Wetlands in Study Limits</p> <ul style="list-style-type: none"> PEM PFO Wetland Impact 	<p>Watercourses in Study Limits</p> <ul style="list-style-type: none"> — Ephemeral Stream - - - Intermittent Stream — Perennial Stream - - - Watercourse Impact Study Limits Sheet Boundaries 	<p style="text-align: center;">Jurisdictional Waters Map</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">Sheet 5 of 24</td> <td style="width: 50%;">Date: 4/11/2016</td> </tr> </table> <p style="text-align: center;">0 25 50 100 Feet 1 inch = 90 feet</p>	Sheet 5 of 24	Date: 4/11/2016	<p>ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT</p> <p>CONNECTING ARKANSAS PROGRAM HWY.425 - HAMBURG (WIDENING) (S) ASHLEY COUNTY, ARKANSAS</p> <p style="text-align: center;">JOB CA0202</p>
Sheet 5 of 24	Date: 4/11/2016				



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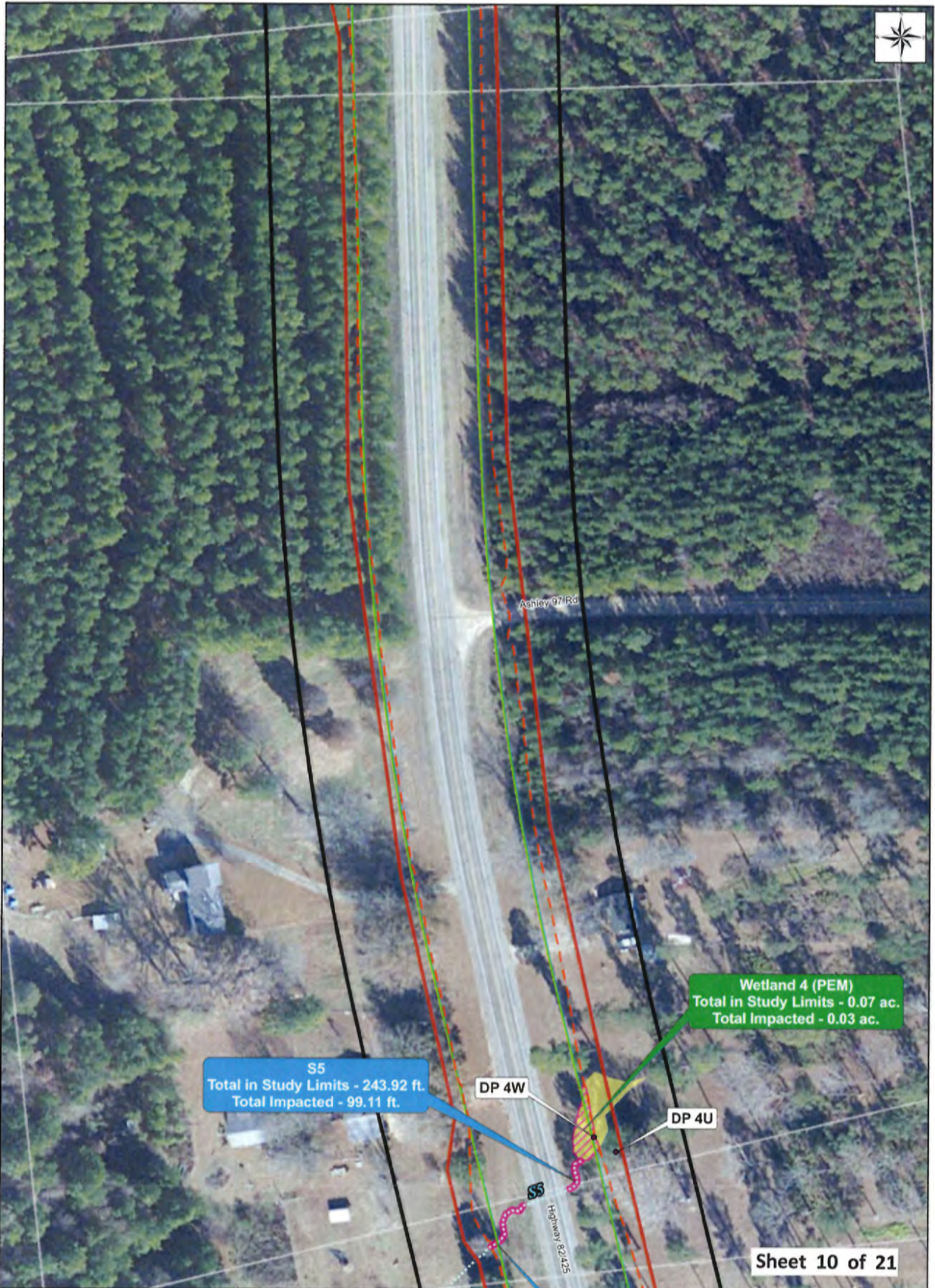
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Sheet 6 of 24	Date: 4/11/2016
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ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
 HWY.425 - HAMBURG (WIDENING) (S)
 ASHLEY COUNTY, ARKANSAS

JOB CA0202



Sheet 10 of 21

	Proposed ROW	Watercourses in Study Limits
	Proposed Construction Limits	
	Existing ROW	
Wetlands in Study Limits		
	PEM	
	PFO	Study Limits
	Wetland Impact	Sheet Boundaries

Jurisdictional Waters Map	
Sheet 7 of 24	Date: 4/11/2016
<p>1 inch = 90 feet</p>	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
 HWY.425 - HAMBURG (WIDENING) (S)
 ASHLEY COUNTY, ARKANSAS

JOB CA0202



S6
 Total in Study Limits - 427.53 ft.
 Total Impacted - 174.31 ft.

Highway 82/425

Sheet 11 of 21

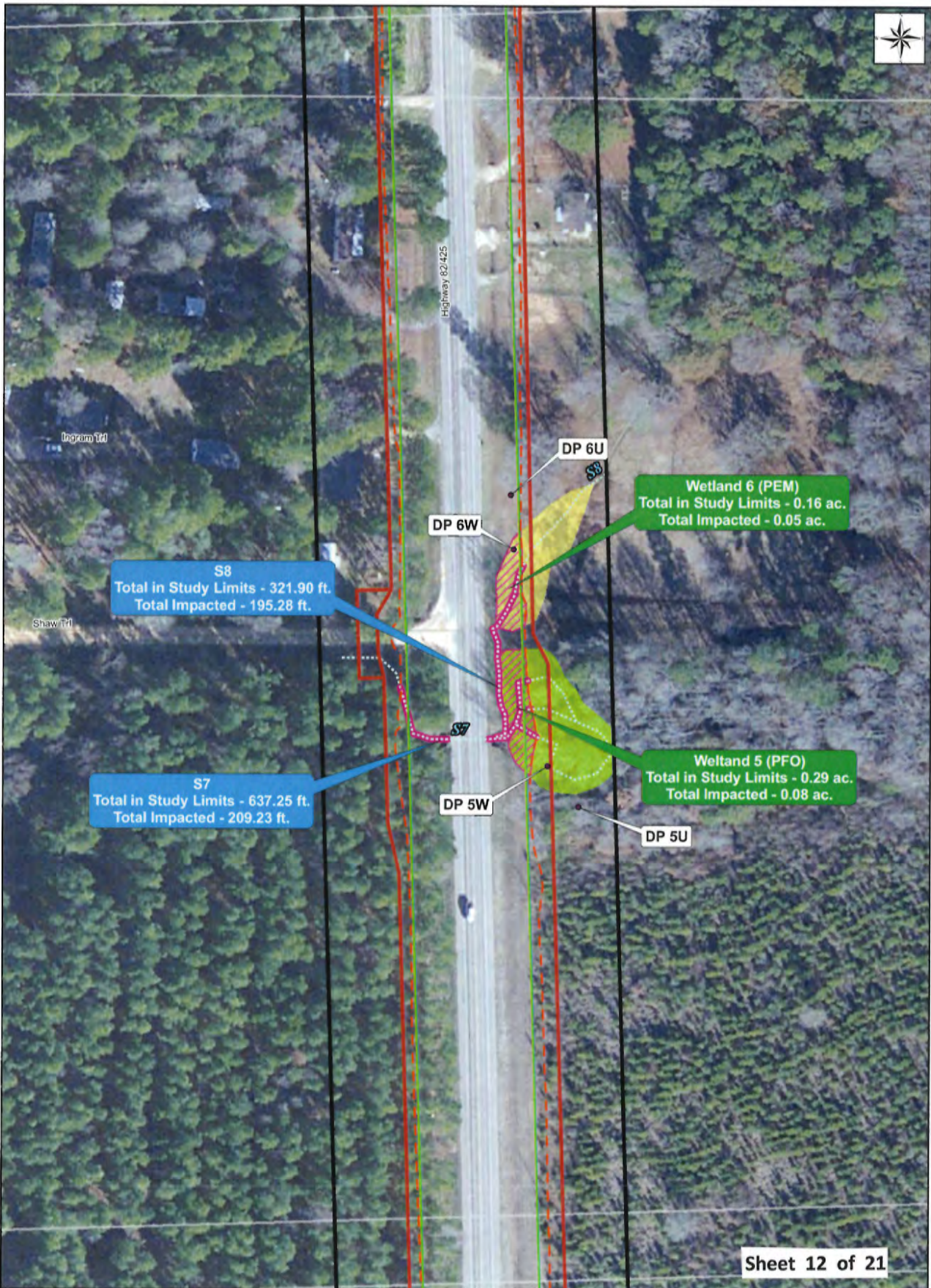
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Jurisdictional Waters Map	
Sheet 8 of 24	Date: 4/11/2016
 1 inch = 90 feet	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

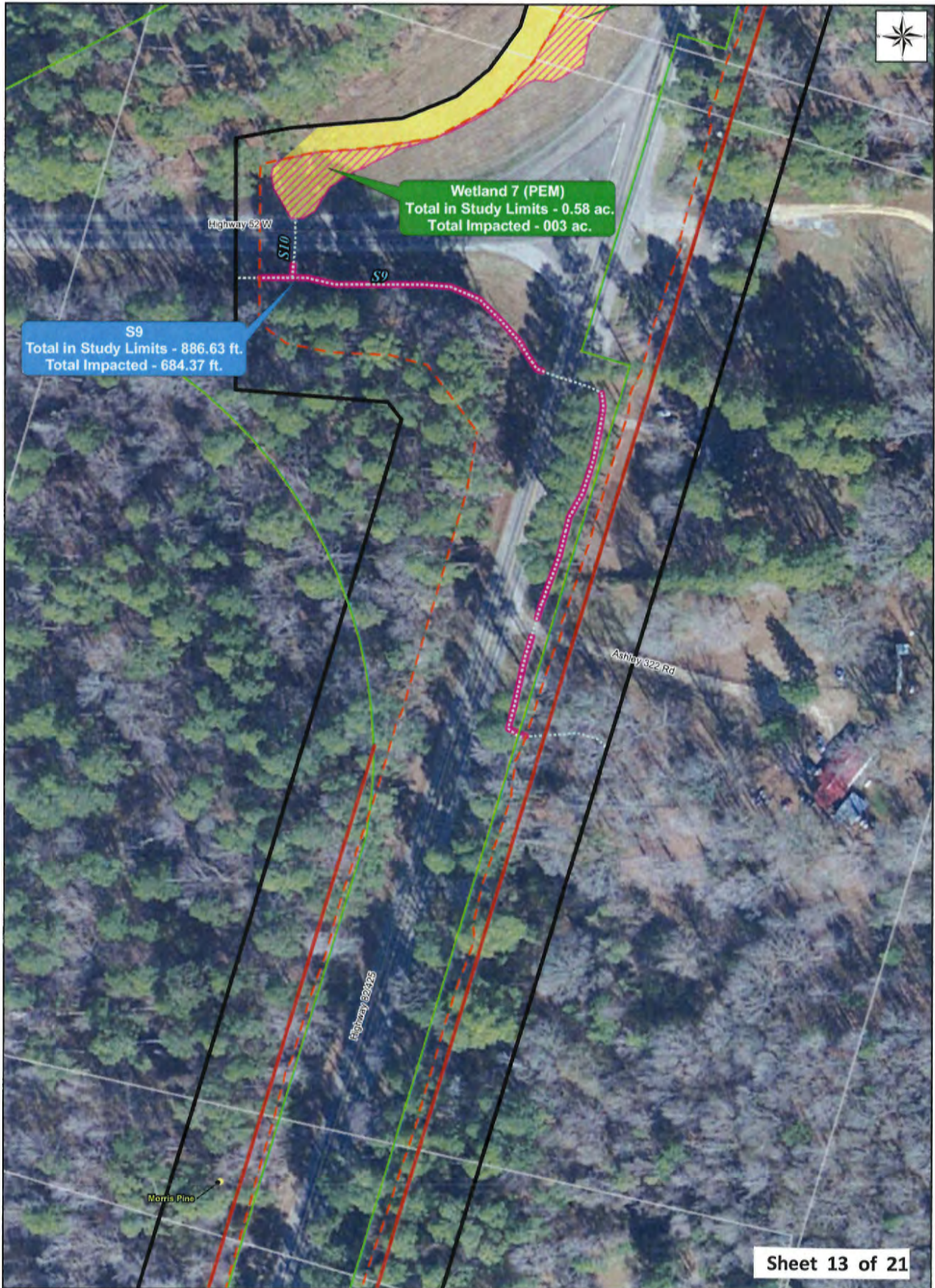
CONNECTING ARKANSAS PROGRAM
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 ASHLEY COUNTY, ARKANSAS

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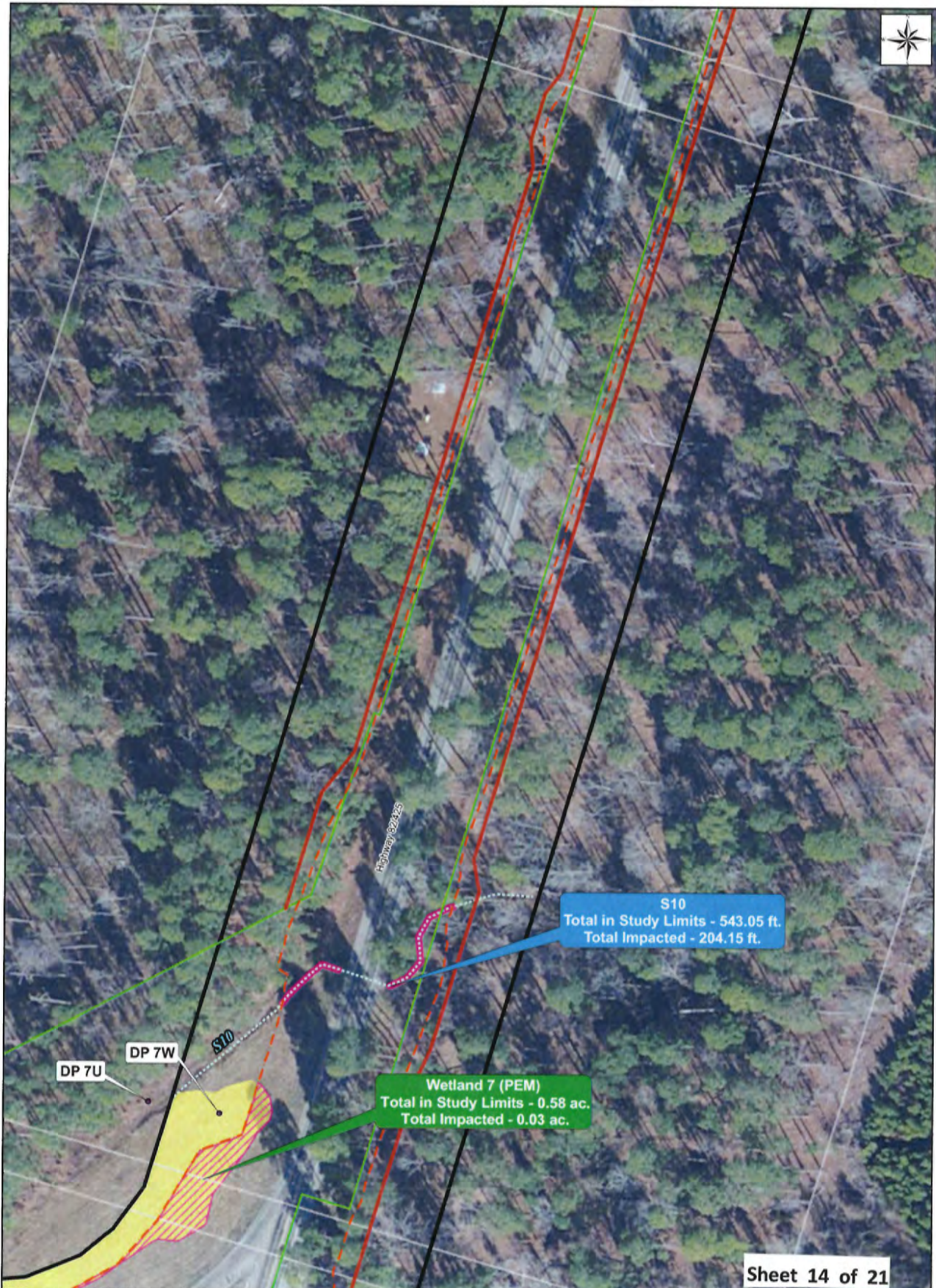
Sheet 12 of 21

<ul style="list-style-type: none"> — Proposed ROW — Proposed Construction Limits — Existing ROW <p>Wetlands in Study Limits</p> <ul style="list-style-type: none"> PEM PFO Wetland Impact 	<p>Watercourses in Study Limits</p> <ul style="list-style-type: none"> — Ephemeral Stream — Intermittent Stream — Perennial Stream — Watercourse Impact Study Limits Sheet Boundaries 	<p>Jurisdictional Waters Map</p> <p>Sheet 9 of 24 Date: 4/11/2016</p> <p>0 25 50 100 Feet</p> <p>1 inch = 90 feet</p>	<p>ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT</p> <p>CONNECTING ARKANSAS PROGRAM HWY.425 - HAMBURG (WIDENING) (S) ASHLEY COUNTY, ARKANSAS</p> <p>JOB CA0202</p>
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Sheet 13 of 21

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Sheet 12 of 24	Date: 4/11/2016				



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Proposed ROW	Watercourses in Study Limits
Proposed Construction Limits	Ephemeral Stream
Existing ROW	Intermittent Stream
Wetlands in Study Limits	Perennial Stream
PEM	Watercourse Impact
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Jurisdictional Waters Map

Sheet 14 of 24 Date: 4/11/2016

0 25 50 100 Feet
1 inch = 90 feet

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

**CONNECTING ARKANSAS PROGRAM
HWY.425 - HAMBURG (WIDENING) (S)
ASHLEY COUNTY, ARKANSAS**

JOB CA0202



S12
 Total in Study Limits - 605.24 ft.
 Total Impacted - 184.7 ft.

S13
 Total in Study Limits - 312.85 ft.
 Total Impacted - 36.65 ft.

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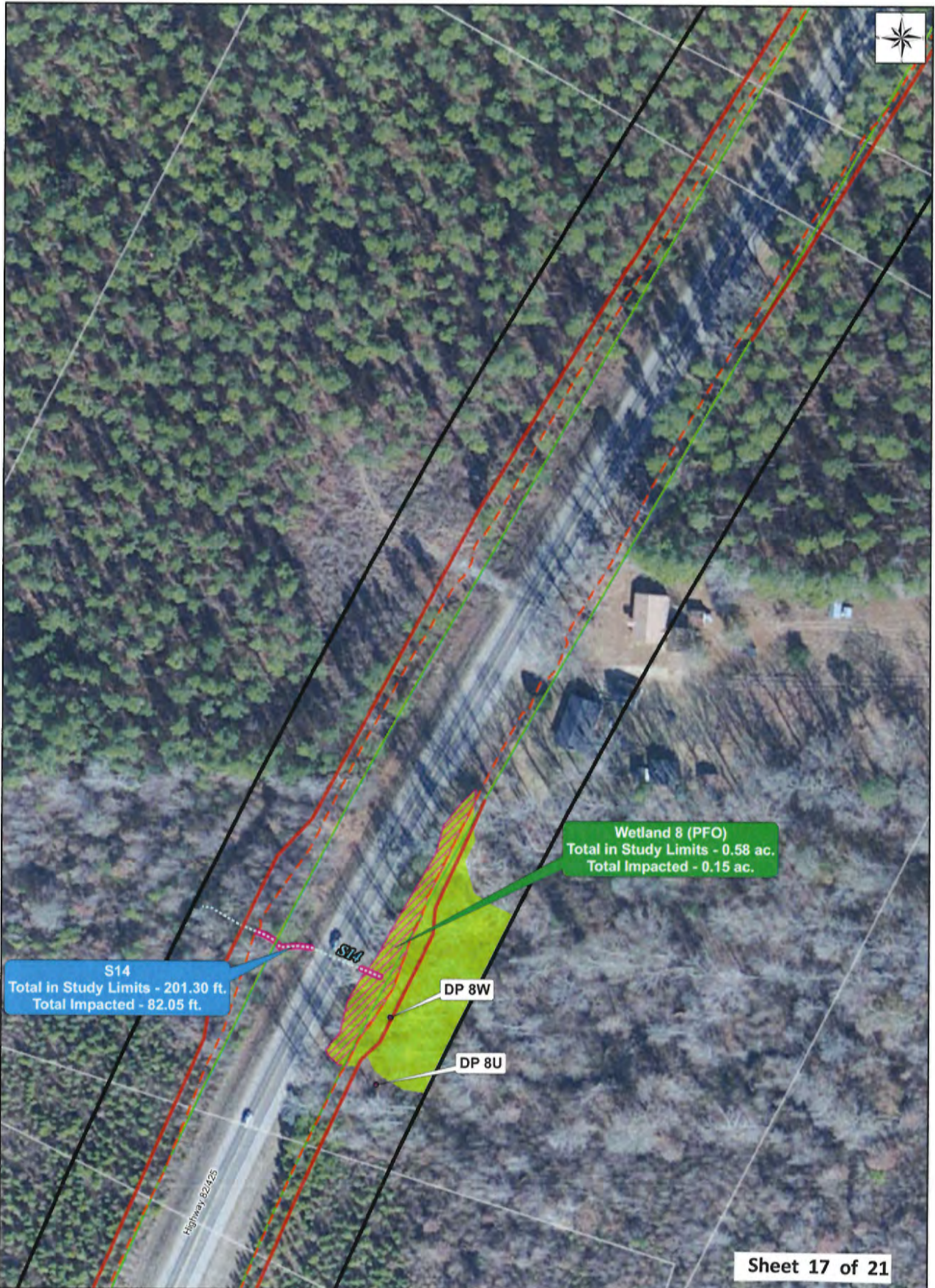
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Jurisdictional Waters Map	
Sheet 15 of 24	Date: 4/11/2016
1 inch = 90 feet	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
 HWY.425 - HAMBURG (WIDENING) (S)
 ASHLEY COUNTY, ARKANSAS

JOB CA0202



Proposed ROW	Watercourses in Study Limits
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Existing ROW	Intermittent Stream
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PEM	Watercourse Impact
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Jurisdictional Waters Map	
Sheet 17 of 24	Date: 4/11/2016
1 inch = 90 feet	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
 HWY.425 - HAMBURG (WIDENING) (S)
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JOB CA0202



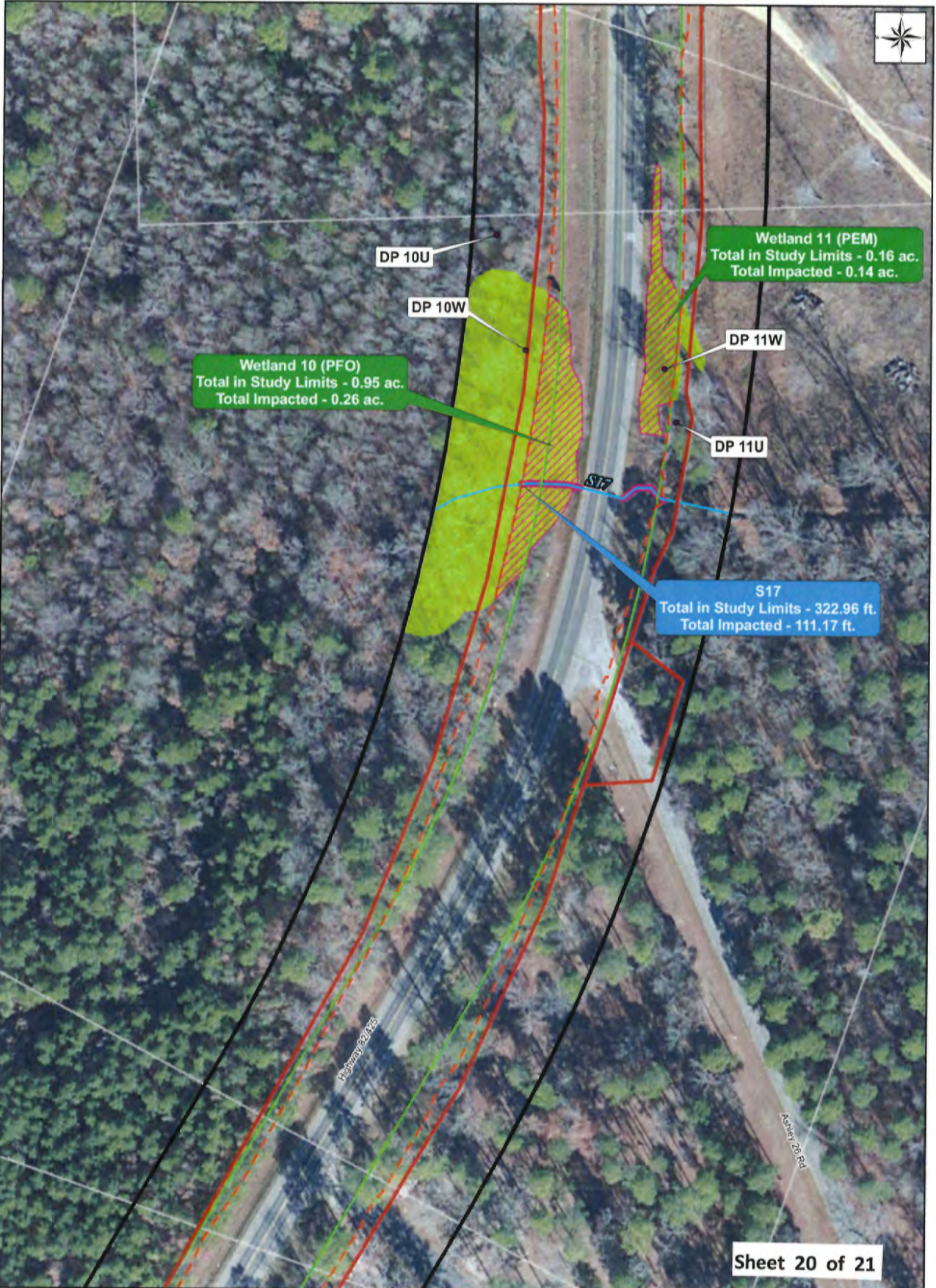
Sheet 18 of 21

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Sheet 20 of 24	Date: 4/11/2016				



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<ul style="list-style-type: none"> — Proposed ROW - - - Proposed Construction Limits — Existing ROW 	<p>Watercourses in Study Limits</p> <ul style="list-style-type: none"> — Ephemeral Stream - - - Intermittent Stream — Perennial Stream — Watercourse Impact 	<p>Jurisdictional Waters Map</p>		<p>ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT</p> <p>CONNECTING ARKANSAS PROGRAM HWY.425 - HAMBURG (WIDENING) (S) ASHLEY COUNTY, ARKANSAS</p> <p>JOB CA0202</p>
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		<p>0 25 50 100 Feet</p> <p>1 inch = 90 feet</p>		



Wetland 10 (PFO)
Total in Study Limits - 0.95 ac.
Total Impacted - 0.26 ac.

Wetland 11 (PEM)
Total in Study Limits - 0.16 ac.
Total Impacted - 0.14 ac.

S17
Total in Study Limits - 322.96 ft.
Total Impacted - 111.17 ft.

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Proposed ROW	Watercourses in Study Limits
Proposed Construction Limits	Ephemeral Stream
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Wetlands in Study Limits	Perennial Stream
PEM	Watercourse Impact
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Wetland Impact	Sheet Boundaries

Jurisdictional Waters Map	
Sheet 23 of 24	Date: 4/11/2016
0 25 50 100 Feet	
1 inch = 90 feet	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
HWY.425 - HAMBURG (WIDENING) (S)
ASHLEY COUNTY, ARKANSAS

JOB CA0202

Required Mitigation Credits Worksheet for a Commercial Mitigation Bank

Factor	Wetland 1	Wetland 2a	Wetland 2b	Wetland 3a	Wetland 3b	Wetland 4	Wetland 5	Wetland 6	Wetland 7	Wetland 8	Wetland 9	Wetland 10	Wetland 11	TOTALS
Wetland Type	Emergent	Forested	Emergent	Forested	Emergent	Emergent	Forested	Emergent	Emergent	Forested	Emergent	Forested	Emergent	
Lost Type	Type B 0.2	Type A 3.0	Type B 0.2	Type A 3.0	Type B 0.2	Type B 0.2	Type A 3.0	Type B 0.2	Type B 0.2	Type A 3.0	Type B 0.2	Type A 3.0	Type B 0.2	
Priority Category	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	
Existing Condition	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	
Duration	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	
Dominant Impact	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	
Cumulative Impact	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	
Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	
Sum of r Factors (Rx)	7.7	10.5	7.7	10.5	7.7	7.7	10.5	7.7	7.7	10.5	7.7	10.5	7.7	
Impacted Area (AAx)	0.07	0.04	0.01	0.01	0.13	0.03	0.08	0.05	0.03	0.15	0.1	0.26	0.14	1.1
RxA=	0.54	0.42	0.08	0.11	1.00	0.23	0.84	0.39	0.23	1.58	0.77	2.73	1.08	9.98

Total Required Credits = $\sum(RxA) = 9.98$
**** Credit per acre at Commercial Mitigation Bank = 3.5**
Acres = 2.85

* Assume that the commercial mitigation site's service area will cover the project area in the Bayou Bartholomew 8-digit HUC (Pelican Foster Mitigation Bank or Lower Cutoff Mitigation Bank).

** Assume commercial mitigation bank credit per acre of 3.5.



REPLY TO
ATTENTION OF

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

July 19, 2018

Regulatory Division

NATIONWIDE PERMIT NO. MVK 2017-00565

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

Dear Mr. Fleming:

Please refer to your recent request concerning Department of the Army permit requirements pursuant to Section 404 of the Clean Water Act. You requested authorization for the placement of dredged and fill material in waters of the United States associated with widening 5.4 miles of U.S. Highway 82 from two lanes to four lanes. Proposed improvements include four 12-foot-wide travel lanes, 8-foot-wide shoulders and an 11-foot-wide painted median. The project will be constructed on existing alignment and will cross seventeen streams impacting approximately 2,167 linear feet. Three of the streams are perennial and fourteen are ephemeral. Impacts will primarily be the extension of existing culverts and aligning the channels with the culverts. Stream impacts at each crossing will be less than 300 linear feet and 0.1 acres except for Stream 9 where approximately 684 linear feet will be relocated to the toe of the embankment slope. Stream 9 is an ephemeral stream which functions as a roadside channel. Relocating the stream will not result in any loss of stream functions or services. The project will impact eleven wetland areas totaling 1.1 acres that are located adjacent to the stream crossings. Approximately 30 acres of additional right-of-way will be required for the project. The project will impact the Levi Wilcoxson Demonstration Forest which is eligible for the National Register of Historic Places. There are no threatened or endangered species impacts.

The project is located immediately south of Hamburg in sections 3, 10 and 15, T. 18 S., R. 7 W., and in sections 26, 27 and 34, T. 17 S., R. 7 W., Ashley County, Arkansas. A vicinity map, project location map, wetland and stream impact maps, and a wetland mitigation worksheet are enclosed.

The proposed activities are authorized by 17 Department of the Army Nationwide Permits (NWP's) **No. 14** (copy enclosed), provided that the following **Special Conditions** and General Conditions therein are met. For your convenience, we have highlighted the General Conditions

of the NWP that are the most pertinent to your project. You should become familiar with the conditions and maintain a copy of the permit at the worksite for ready reference. If changes are proposed in the design or location of the project, you should submit revised plans to this office for approval before construction of the change begins.

Special Conditions:

- 1. ArDOT agrees to mitigate for the adverse impacts to 1.1 acres of wetlands with 9.98 wetland credits at an approved mitigation bank before construction of the project begins. ArDOT will provide documentation of the mitigation bank transaction to the U.S. Army Corps of Engineers Little Rock District Transportation Program Manager.**
- 2. ArDOT agrees to comply with the mitigation report titled, FULFILLMENT OF MEMORANDUM OF AGREEMENT BETWEEN THE ARKANSAS STATE HISTORIC PRESERVATION OFFICER AND THE ARKANSAS DEPARTMENT OF TRANSPORTATION FOR IMPACTS TO THE LEVI WILCOXON DEMONSTRATION FOREST (AS0034) ARDOT JOB NUMBER CA0202 HWY. 425 – HAMBURG (WIDENING) (S) ASHLEY COUNTY, ARKANSAS, and dated January 2018.**

Please pay particular attention to General Condition No. 12 which stipulates that appropriate erosion and siltation controls be used during construction and all exposed soil be permanently stabilized. Erosion control measures must be implemented before, during and after construction.

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

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

The NWP determination will be valid until March 18, 2022. If NWP No. 14 is modified, suspended, or revoked during this period, your project may not be authorized unless you have begun or are under contract to begin the project. If work has started or the work is under contract, you would then have twelve (12) months to complete the work.

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

324-5295 and refer to Permit No. **MVK 2017-00565, U.S. Highway 82 widening south of Hamburg (ArDOT Project No. CA0202).**

Sincerely,

A handwritten signature in cursive script that reads "Sarah Chitwood".

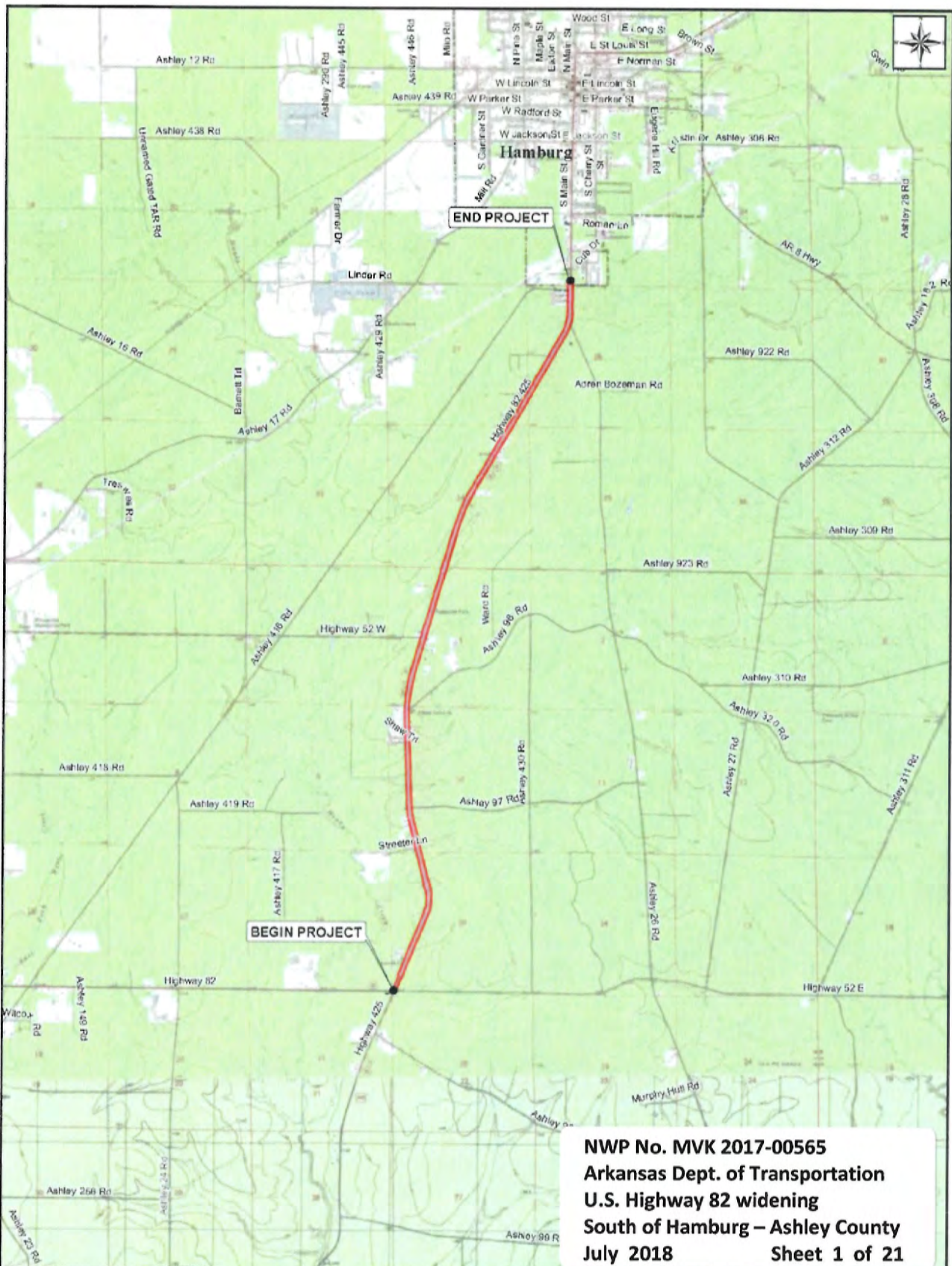
Sarah Chitwood
Chief, Regulatory Evaluation Branch

Copy Furnished:

Vicksburg District Regulatory, w/cy dwgs

Ms. Melanie Treat, Arkansas Department of Environmental Quality, w/cy dwgs



Mr. Lindsey Lewis, U.S. Fish & Wildlife Service, w/cy dwgs



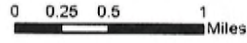
NWP No. MVK 2017-00565
Arkansas Dept. of Transportation
U.S. Highway 82 widening
South of Hamburg – Ashley County
July 2018 **Sheet 1 of 21**



Ashley County

 Project Location
 City Limits

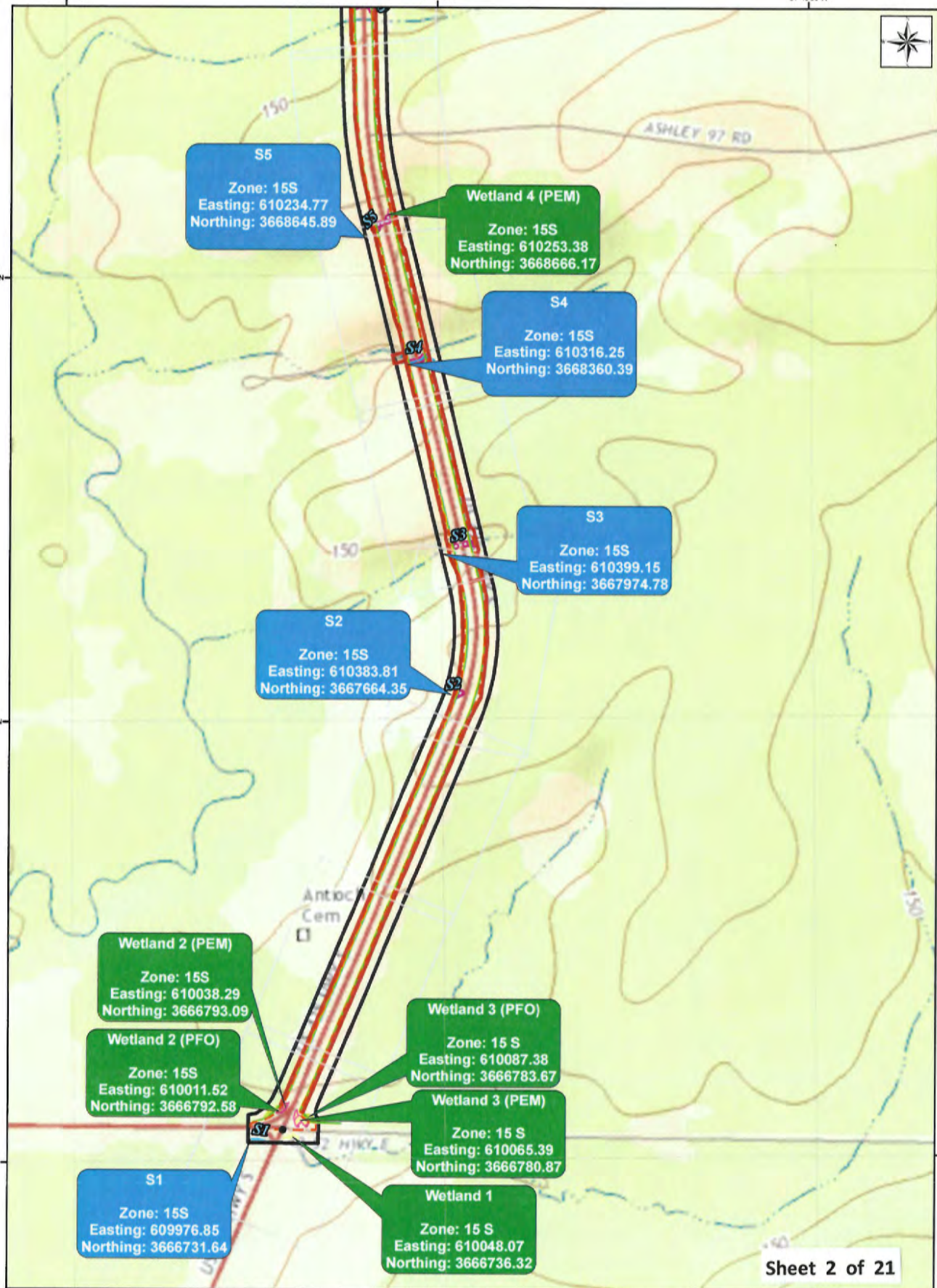
Project Location Map



ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
HWY.425 - HAMBURG (WIDENING) (S)
ASHLEY COUNTY, ARKANSAS

JOB CA0202

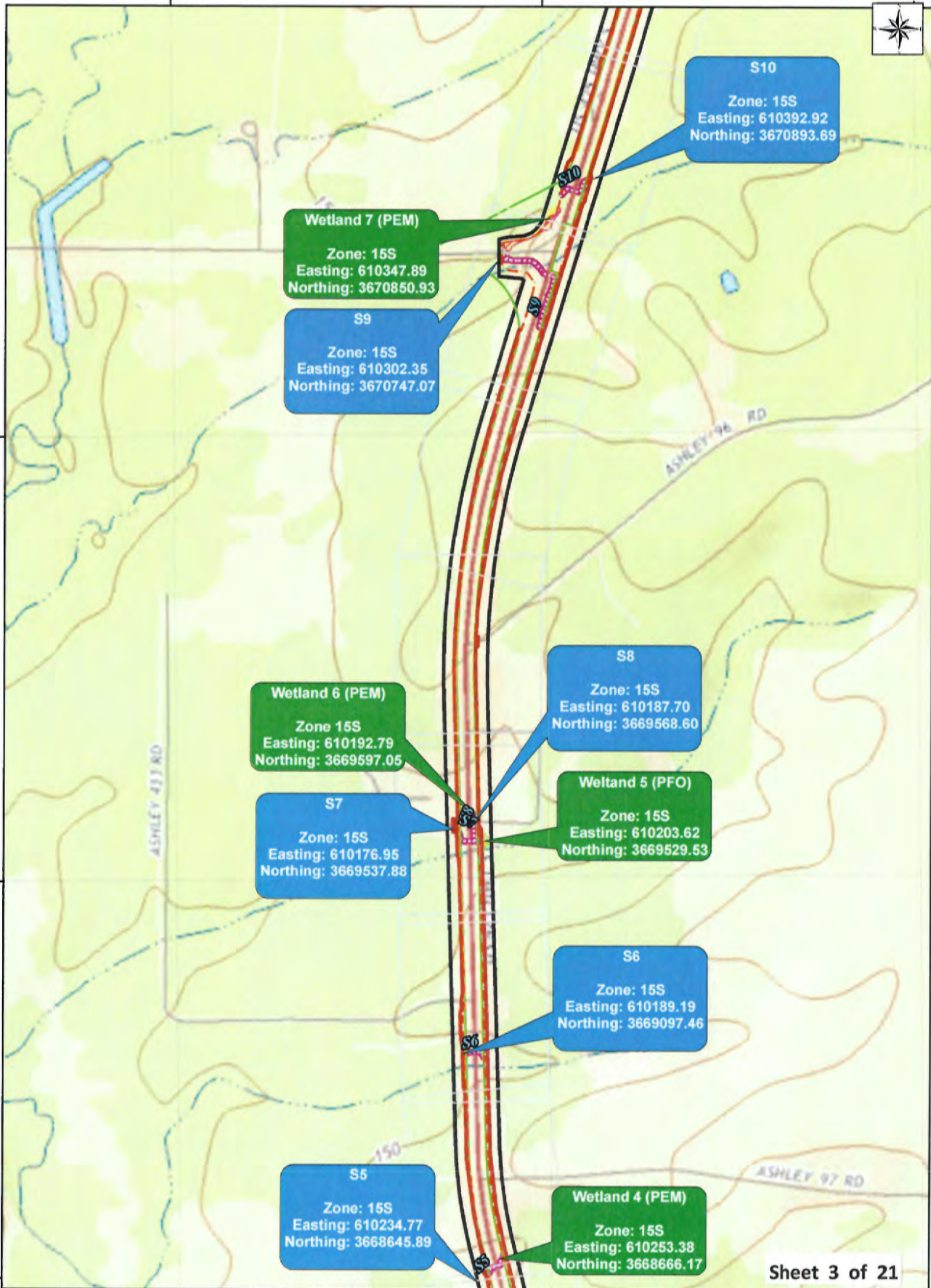


<p>91°49'30"W 91°49'00"W 91°48'30"W</p>	
<p>Proposed ROW</p> <p>Proposed Construction Limits</p> <p>Existing ROW</p> <p>Wetlands in Study Limits</p> <p>PEM</p> <p>PFO</p> <p>Wetland Impact</p>	<p>Watercourses in Study Limits</p> <p>Ephemeral Stream</p> <p>Intermittent Stream</p> <p>Perennial Stream</p> <p>Watercourse Impact</p> <p>Study Limits</p> <p>Sheet Boundaries</p>
<p>Jurisdictional Waters Map</p> <p>Sheet 1 of 4 Date: 10/19/2016</p> <p>0 187.5 375 750 Feet</p> <p>1 inch = 600 feet</p>	
<p>ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT</p> <p>CONNECTING ARKANSAS PROGRAM HWY.425 - HAMBURG (WIDENING) (S) ASHLEY COUNTY, ARKANSAS</p> <p>JOB CA0202</p>	

91°49'30"W

91°49'0"W

91°48'30"W



Wetland 7 (PEM)
 Zone: 15S
 Easting: 610347.89
 Northing: 3670850.93

S9
 Zone: 15S
 Easting: 610302.35
 Northing: 3670747.07

S10
 Zone: 15S
 Easting: 610392.92
 Northing: 3670893.69

Wetland 6 (PEM)
 Zone 15S
 Easting: 610192.79
 Northing: 3669597.05

S7
 Zone: 15S
 Easting: 610176.95
 Northing: 3669537.88

S8
 Zone: 15S
 Easting: 610187.70
 Northing: 3669568.60

Wetland 5 (PFO)
 Zone: 15S
 Easting: 610203.62
 Northing: 3669529.53

S6
 Zone: 15S
 Easting: 610189.19
 Northing: 3669097.46

S5
 Zone: 15S
 Easting: 610234.77
 Northing: 3668645.89

Wetland 4 (PEM)
 Zone: 15S
 Easting: 610253.38
 Northing: 3668666.17

Sheet 3 of 21

Proposed ROW	Watercourses in Study Limits
Proposed Construction Limits	Ephemeral Stream
Existing ROW	Intermittent Stream
Wetlands in Study Limits	Perennial Stream
PEM	Watercourse Impact
PFO	Study Limits
Wetland Impact	Sheet Boundaries

Jurisdictional Waters Map

Sheet 2 of 4 Date: 10/19/2016

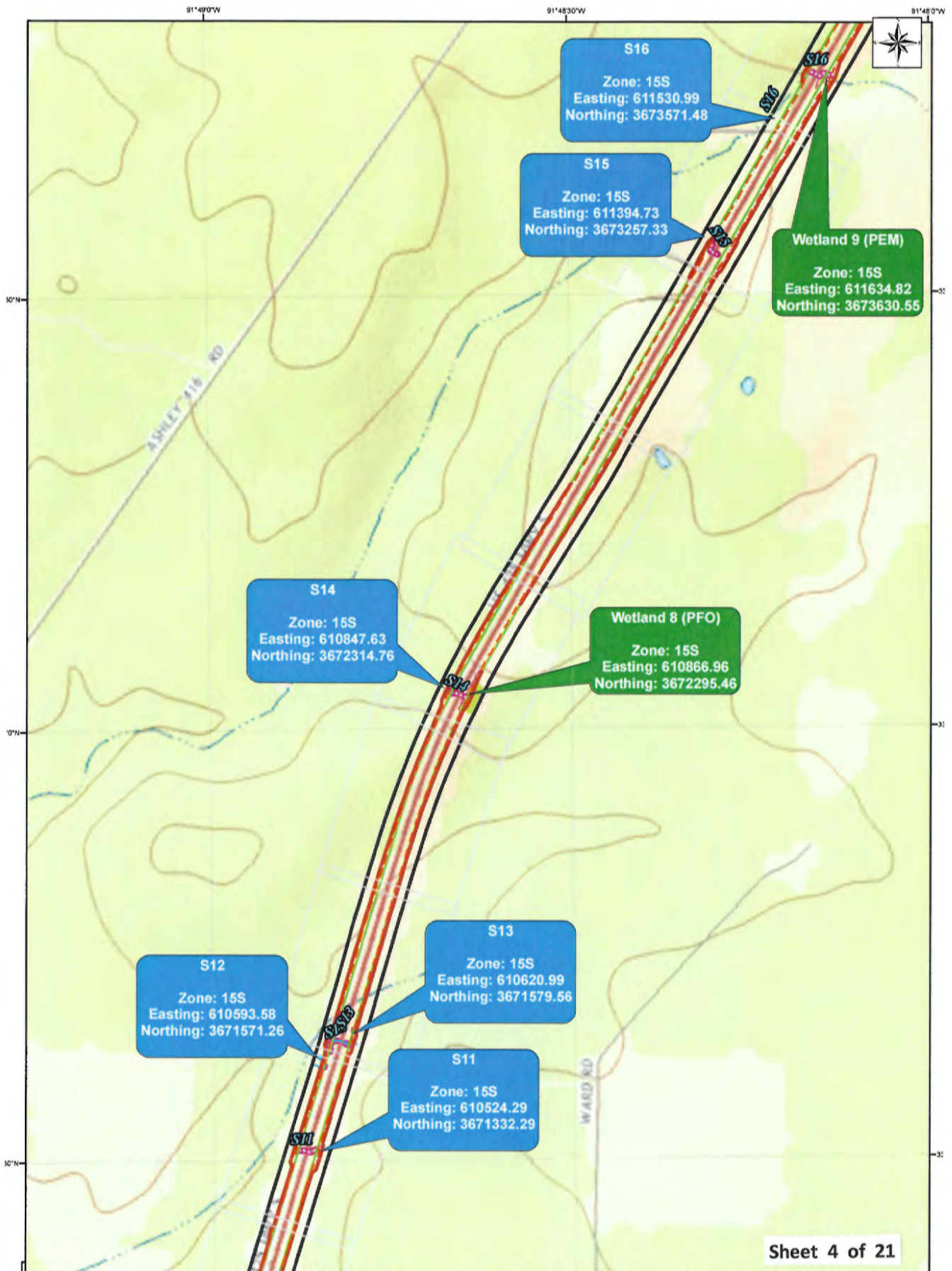
0 187.5 375 750 Feet

1 inch = 600 feet

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
 HWY.425 - HAMBURG (WIDENING) (S)
 ASHLEY COUNTY, ARKANSAS

JOB CA0202



Sheet 4 of 21

<ul style="list-style-type: none"> — Proposed ROW - - - Proposed Construction Limits — Existing ROW 	<p>Watercourses in Study Limits</p> <ul style="list-style-type: none"> — Ephemeral Stream - - - Intermittent Stream — Perennial Stream — Watercourse Impact 	<p>Jurisdictional Waters Map</p> <p>Sheet 3 of 4 Date: 10/19/2016</p>	<p>ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT</p> <p>CONNECTING ARKANSAS PROGRAM HWY.425 - HAMBURG (WIDENING) (S) ASHLEY COUNTY, ARKANSAS</p> <p>JOB CA0202</p>
<p>Wetlands in Study Limits</p> <ul style="list-style-type: none"> PEM PFO Wetland Impact 	<ul style="list-style-type: none"> Study Limits Sheet Boundaries 		
<p>0 187.5 375 750 Feet</p> <p>1 inch = 600 feet</p>			



30°N

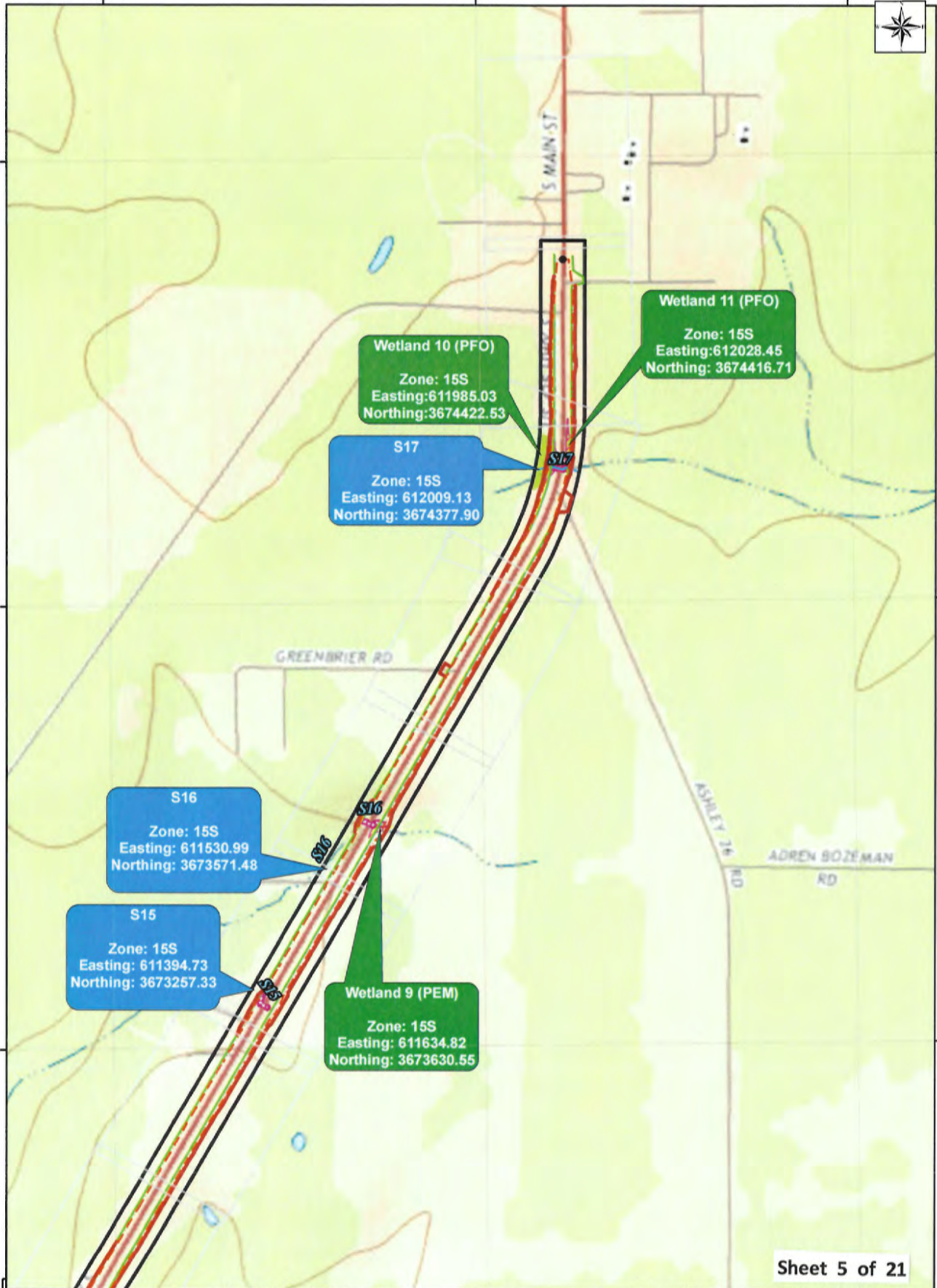
30'

30°N

30'

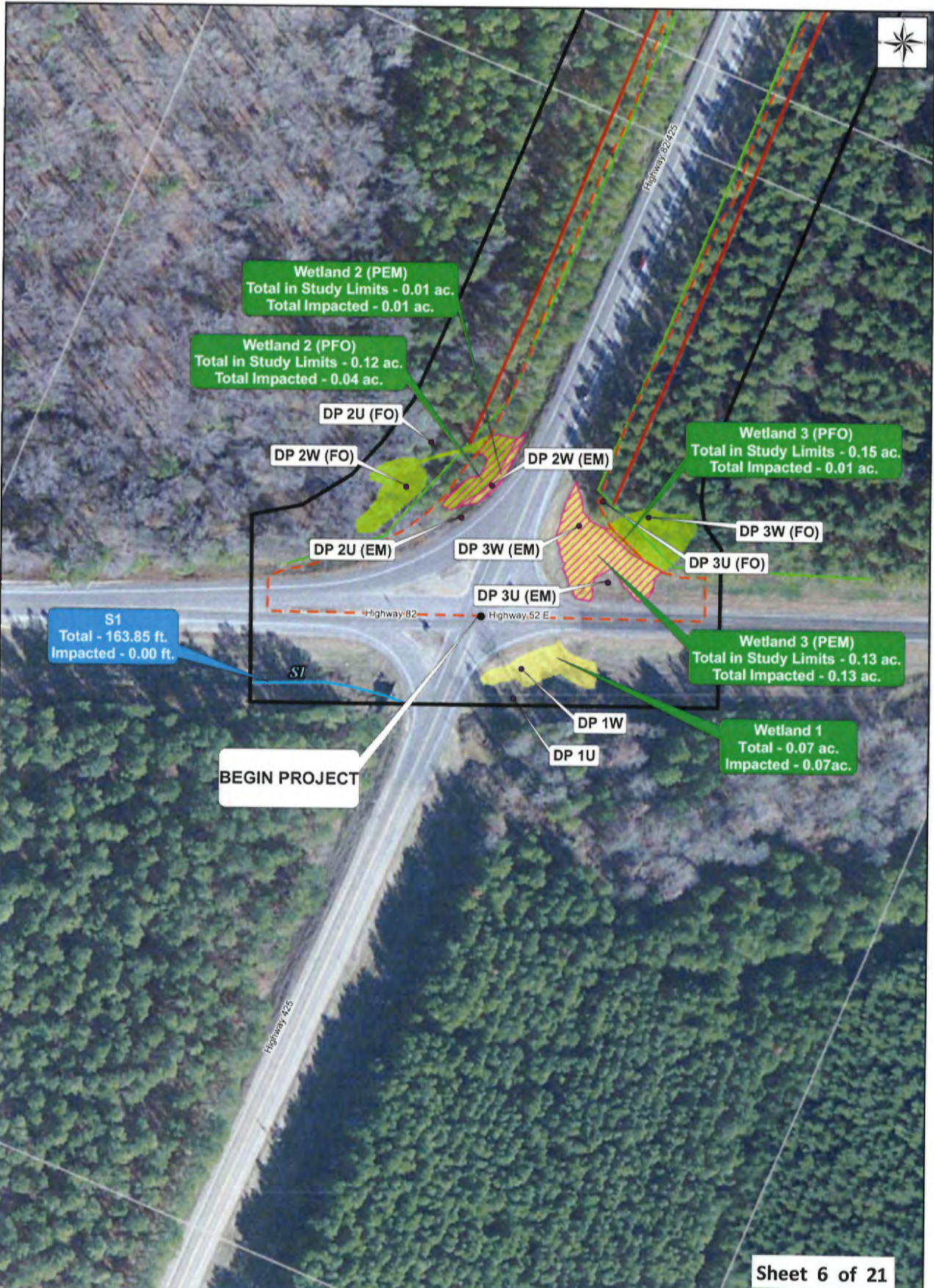
30°N

30'



Sheet 5 of 21

<p>Proposed ROW</p> <p>Proposed Construction Limits</p> <p>Existing ROW</p> <p>Wetlands in Study Limits</p> <p>PEM</p> <p>PFO</p> <p>Wetland Impact</p>	<p>Watercourses in Study Limits</p> <p>Ephemeral Stream</p> <p>Intermittent Stream</p> <p>Perennial Stream</p> <p>Watercourse Impact</p> <p>Study Limits</p> <p>Sheet Boundaries</p>	<p>Jurisdictional Waters Map</p> <p>Sheet 4 of 4</p> <p>Date: 10/19/2016</p> <p>0 187.5 375 750 Feet</p> <p>1 inch = 600 feet</p>	<p>ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT</p> <p>CONNECTING ARKANSAS PROGRAM</p> <p>HWY.425 - HAMBURG (WIDENING) (S)</p> <p>ASHLEY COUNTY, ARKANSAS</p> <p>JOB CA0202</p>
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S1
Total - 163.85 ft.
Impacted - 0.00 ft.

Wetland 2 (PEM)
Total in Study Limits - 0.01 ac.
Total Impacted - 0.01 ac.

Wetland 2 (PFO)
Total in Study Limits - 0.12 ac.
Total Impacted - 0.04 ac.

Wetland 3 (PFO)
Total in Study Limits - 0.15 ac.
Total Impacted - 0.01 ac.

Wetland 3 (PEM)
Total in Study Limits - 0.13 ac.
Total Impacted - 0.13 ac.

Wetland 1
Total - 0.07 ac.
Impacted - 0.07 ac.

BEGIN PROJECT

Sheet 6 of 21

<ul style="list-style-type: none"> — Proposed ROW - - - Proposed Construction Limits — Existing ROW <p>Wetlands in Study Limits</p> <ul style="list-style-type: none"> PEM PFO Wetland Impact 	<p>Watercourses in Study Limits</p> <ul style="list-style-type: none"> — Ephemeral Stream - - - Intermittent Stream — Perennial Stream — Watercourse Impact Study Limits Sheet Boundaries
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Jurisdictional Waters Map	
Sheet 1 of 24	Date: 4/11/2016
<p>1 inch = 90 feet</p>	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
HWY.425 - HAMBURG (WIDENING) (S)
ASHLEY COUNTY, ARKANSAS

JOB CA0202



S2
 Total in Study Limits - 106.20 ft.
 Total Impacted - 48.61 ft.

Highway 821425

Sheet 7 of 21

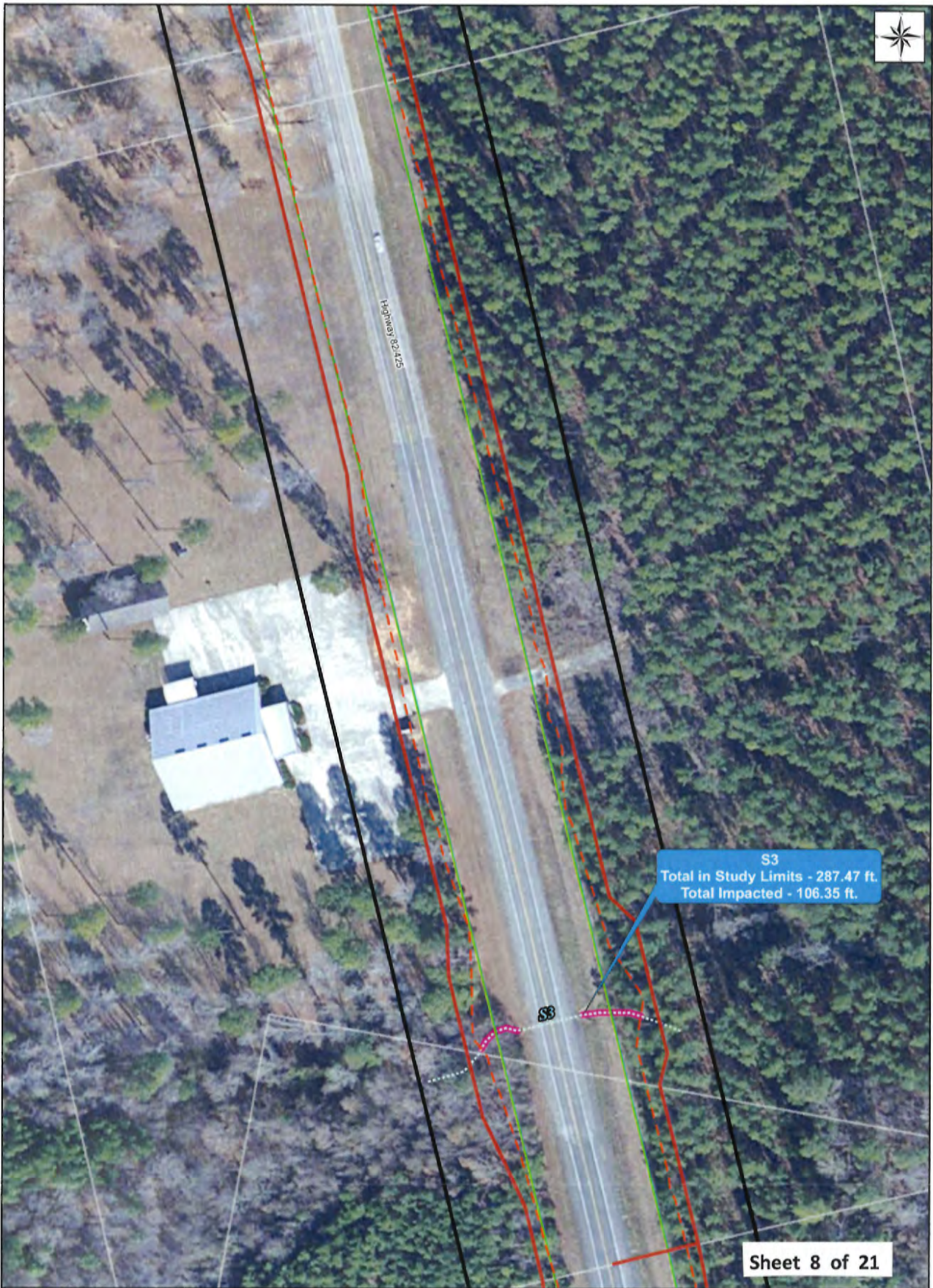
	Proposed ROW	Watercourses in Study Limits
	Proposed Construction Limits	
	Existing ROW	
	PEM	
	PFO	
	Wetland Impact	
		Study Limits
		Sheet Boundaries

Jurisdictional Waters Map	
Sheet 4 of 24	Date: 4/11/2016
1 inch = 90 feet	

ARKANSAS STATE HIGHWAY AND
 TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
 HWY.425 - HAMBURG (WIDENING) (S)
 ASHLEY COUNTY, ARKANSAS

JOB CA0202



Sheet 8 of 21

<ul style="list-style-type: none"> — Proposed ROW - - - Proposed Construction Limits — Existing ROW <p>Wetlands in Study Limits</p> <ul style="list-style-type: none"> PEM PFO Wetland Impact 	<p>Watercourses in Study Limits</p> <ul style="list-style-type: none"> — Ephemeral Stream - - - Intermittent Stream — Perennial Stream - - - Watercourse Impact Study Limits Sheet Boundaries 	<p style="text-align: center;">Jurisdictional Waters Map</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">Sheet 5 of 24</td> <td style="width: 50%;">Date: 4/11/2016</td> </tr> </table> <p style="text-align: center;">0 25 50 100 Feet 1 inch = 90 feet</p>	Sheet 5 of 24	Date: 4/11/2016	<p>ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT</p> <p>CONNECTING ARKANSAS PROGRAM HWY.425 - HAMBURG (WIDENING) (S) ASHLEY COUNTY, ARKANSAS</p> <p style="text-align: center;">JOB CA0202</p>
Sheet 5 of 24	Date: 4/11/2016				



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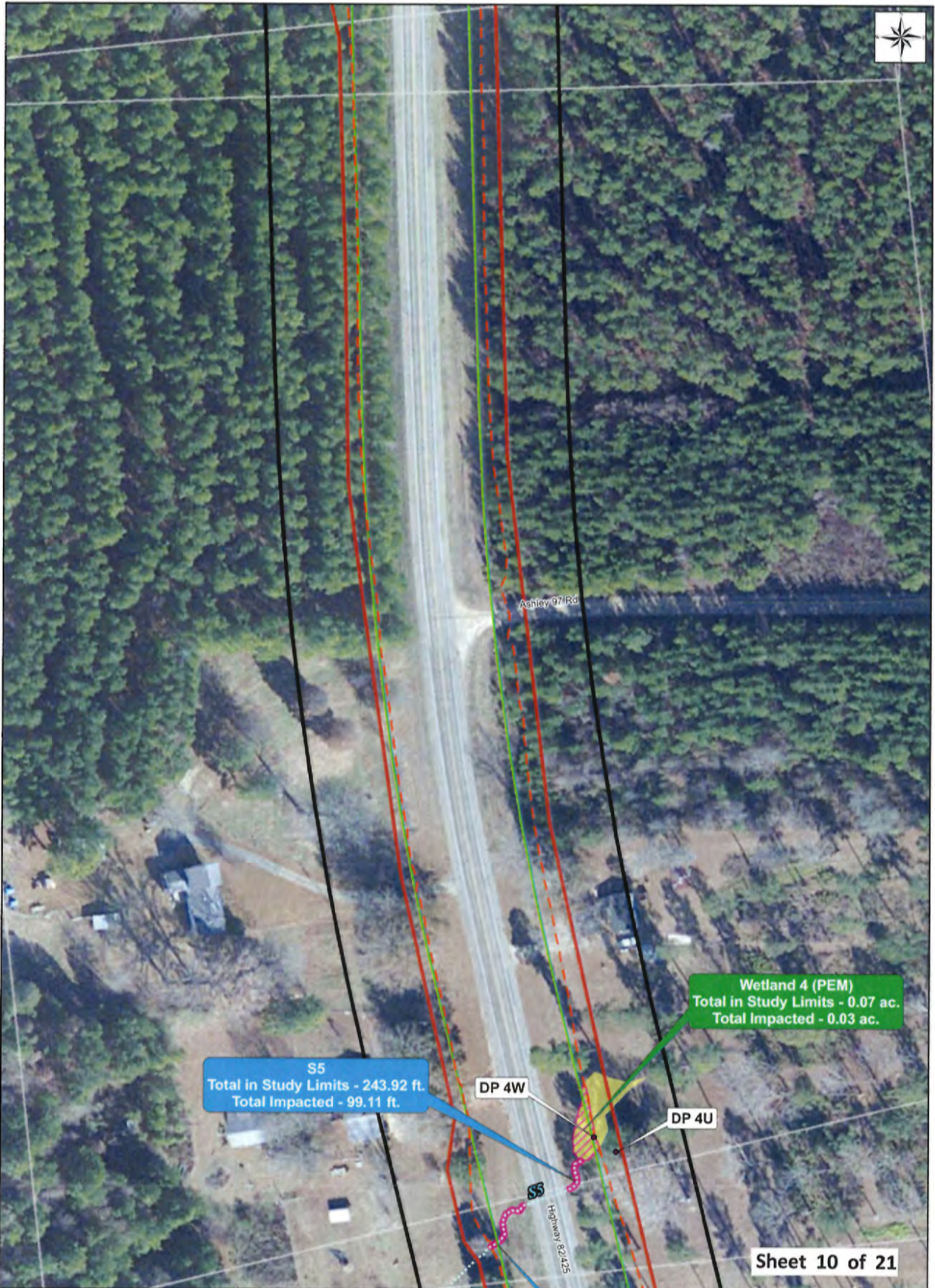
Proposed ROW	Watercourses in Study Limits
Proposed Construction Limits	Ephemeral Stream
Existing ROW	Intermittent Stream
Wetlands in Study Limits	Perennial Stream
PEM	Watercourse Impact
PFO	Study Limits
Wetland Impact	Sheet Boundaries

Jurisdictional Waters Map	
Sheet 6 of 24	Date: 4/11/2016
 1 inch = 90 feet	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
 HWY.425 - HAMBURG (WIDENING) (S)
 ASHLEY COUNTY, ARKANSAS

JOB CA0202



Sheet 10 of 21

<ul style="list-style-type: none"> — Proposed ROW - - - Proposed Construction Limits — Existing ROW 	<p>Watercourses in Study Limits</p> <ul style="list-style-type: none"> — Ephemeral Stream - - - Intermittent Stream — Perennial Stream — Watercourse Impact Study Limits Sheet Boundaries 	<p>Wetlands in Study Limits</p> <ul style="list-style-type: none"> PEM PFO Wetland Impact 	<p>Jurisdictional Waters Map</p> <p>Sheet 7 of 24 Date: 4/11/2016</p> <p>0 25 50 100 Feet</p> <p>1 inch = 90 feet</p>	<p>ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT</p> <p>CONNECTING ARKANSAS PROGRAM HWY.425 - HAMBURG (WIDENING) (S) ASHLEY COUNTY, ARKANSAS</p> <p>JOB CA0202</p>
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S6
 Total in Study Limits - 427.53 ft.
 Total Impacted - 174.31 ft.

Highway 82/425

Sheet 11 of 21

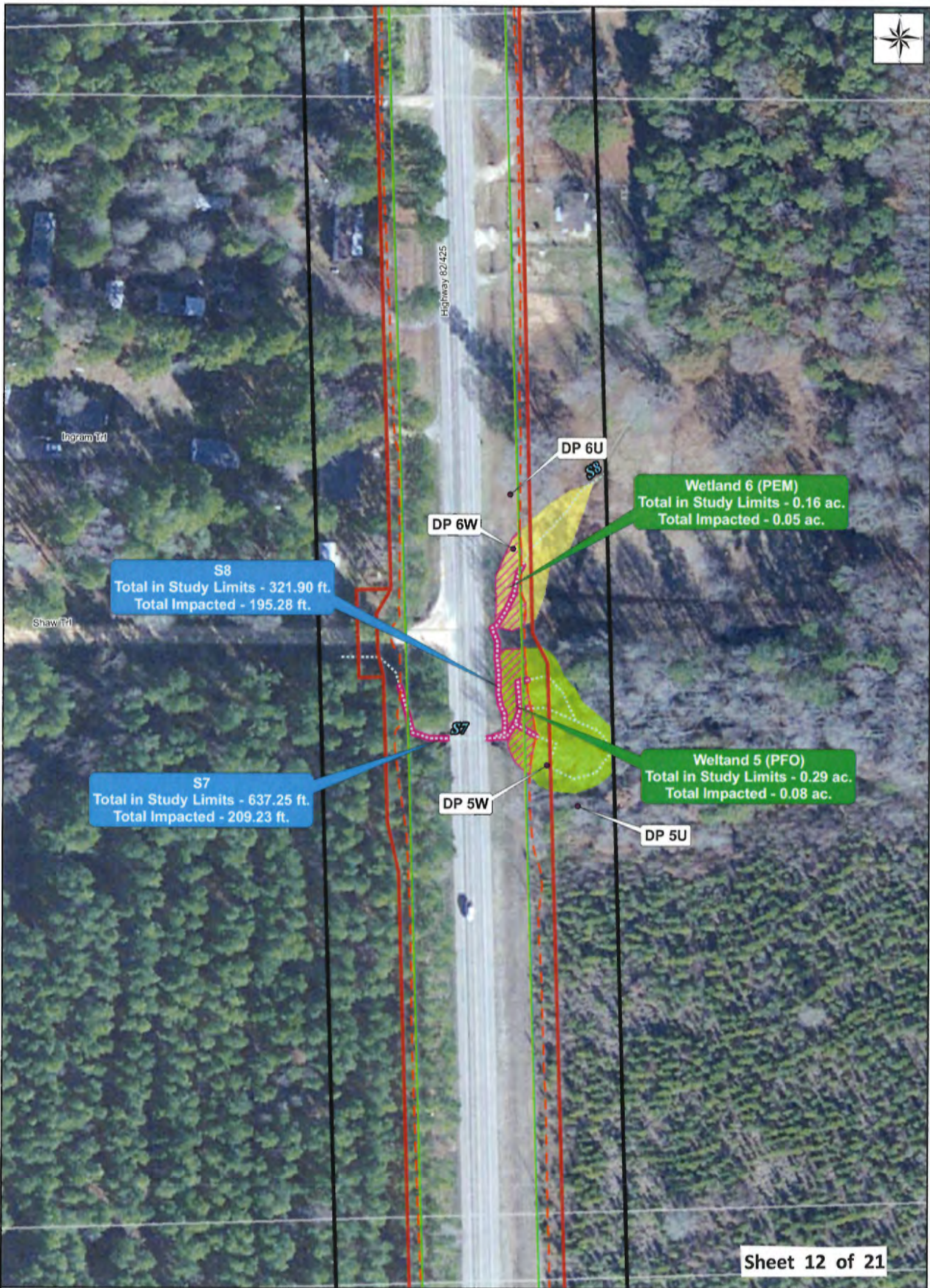
Proposed ROW	Watercourses in Study Limits
Proposed Construction Limits	Ephemeral Stream
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Jurisdictional Waters Map	
Sheet 8 of 24	Date: 4/11/2016
 1 inch = 90 feet	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

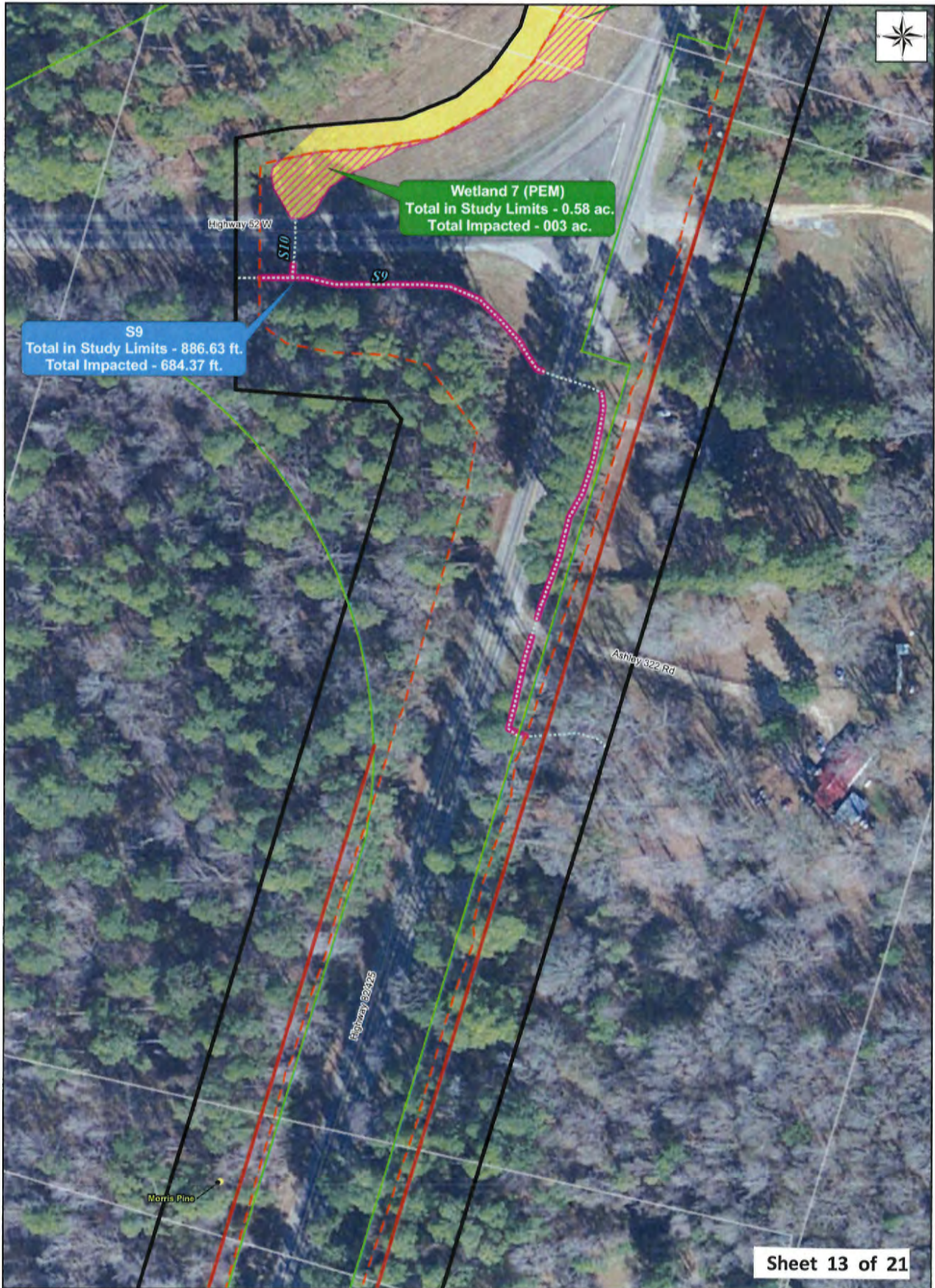
CONNECTING ARKANSAS PROGRAM
 HWY.425 - HAMBURG (WIDENING) (S)
 ASHLEY COUNTY, ARKANSAS

JOB CA0202



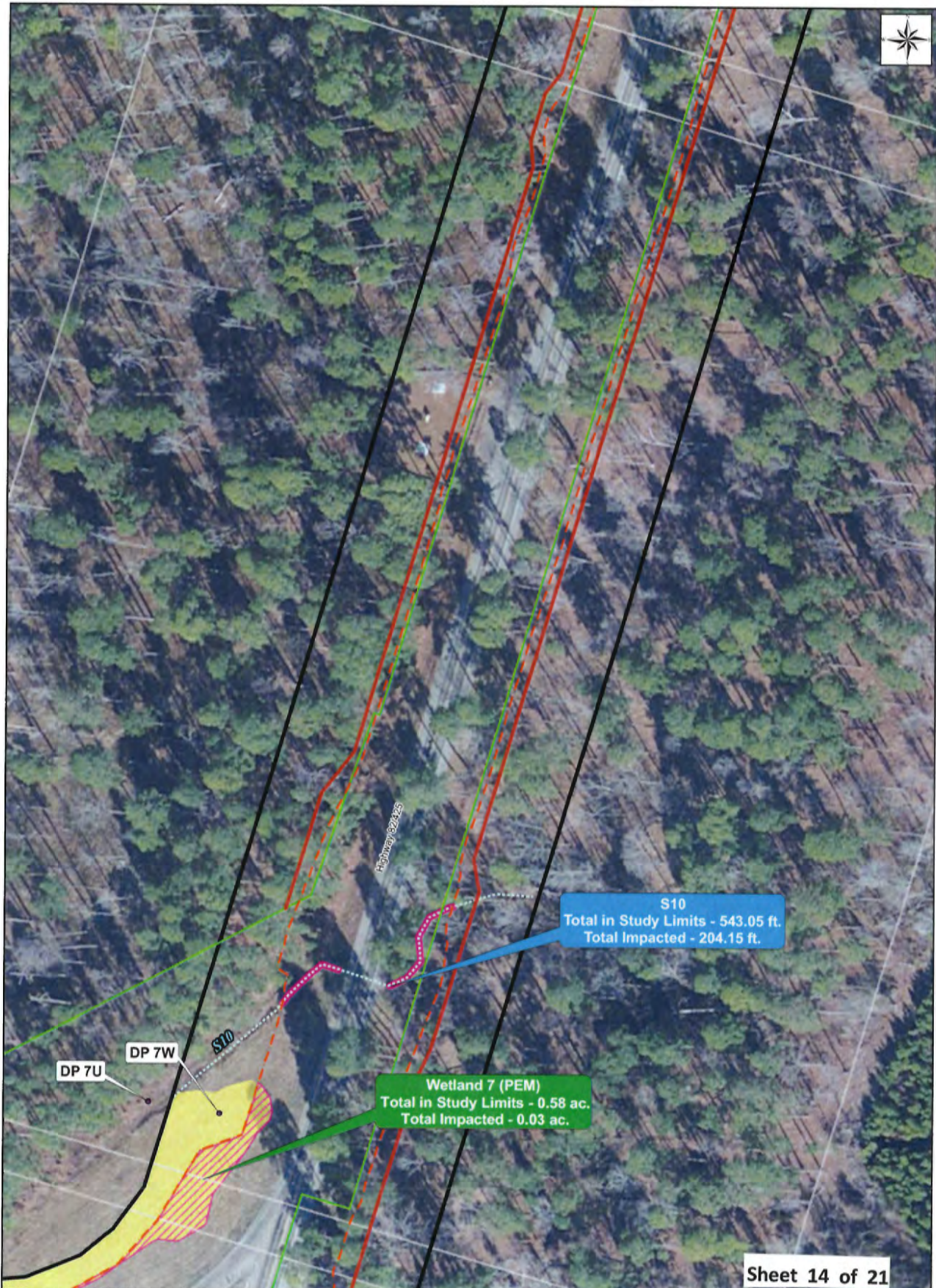
Sheet 12 of 21

<ul style="list-style-type: none"> — Proposed ROW — Proposed Construction Limits — Existing ROW <p>Wetlands in Study Limits</p> <ul style="list-style-type: none"> PEM PFO Wetland Impact 	<p>Watercourses in Study Limits</p> <ul style="list-style-type: none"> — Ephemeral Stream — Intermittent Stream — Perennial Stream — Watercourse Impact Study Limits Sheet Boundaries 	<p style="text-align: center;">Jurisdictional Waters Map</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Sheet 9 of 24</td> <td style="text-align: center;">Date: 4/11/2016</td> </tr> </table> <p style="text-align: center;">0 25 50 100 Feet</p> <p style="text-align: center;">1 inch = 90 feet</p>	Sheet 9 of 24	Date: 4/11/2016	<p>ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT</p> <p>CONNECTING ARKANSAS PROGRAM HWY.425 - HAMBURG (WIDENING) (S) ASHLEY COUNTY, ARKANSAS</p> <p style="text-align: center;">JOB CA0202</p>
Sheet 9 of 24	Date: 4/11/2016				



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<ul style="list-style-type: none"> — Proposed ROW - - - Proposed Construction Limits — Existing ROW <p>Wetlands in Study Limits</p> <ul style="list-style-type: none"> PEM PFO Wetland Impact 	<p>Watercourses in Study Limits</p> <ul style="list-style-type: none"> — Ephemeral Stream - - - Intermittent Stream — Perennial Stream — Watercourse Impact Study Limits Sheet Boundaries 	<p style="text-align: center;">Jurisdictional Waters Map</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Sheet 12 of 24</td> <td style="text-align: center;">Date: 4/11/2016</td> </tr> </table> <p style="text-align: center;">0 25 50 100 Feet</p> <p style="text-align: center;">1 inch = 90 feet</p>	Sheet 12 of 24	Date: 4/11/2016	<p style="text-align: center;">ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT</p> <p style="text-align: center;">CONNECTING ARKANSAS PROGRAM HWY.425 - HAMBURG (WIDENING) (S) ASHLEY COUNTY, ARKANSAS</p> <p style="text-align: center;">JOB CA0202</p>
Sheet 12 of 24	Date: 4/11/2016				



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Proposed ROW	Watercourses in Study Limits
Proposed Construction Limits	Ephemeral Stream
Existing ROW	Intermittent Stream
Wetlands in Study Limits	Perennial Stream
PEM	Watercourse Impact
PFO	Study Limits
Wetland Impact	Sheet Boundaries

Jurisdictional Waters Map	
Sheet 13 of 24	Date: 4/11/2016
1 inch = 90 feet	

ARKANSAS STATE HIGHWAY AND
TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
HWY.425 - HAMBURG (WIDENING) (S)
ASHLEY COUNTY, ARKANSAS

JOB CA0202



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Proposed ROW	Watercourses in Study Limits
Proposed Construction Limits	Ephemeral Stream
Existing ROW	Intermittent Stream
Wetlands in Study Limits	Perennial Stream
PEM	Watercourse Impact
PFO	Study Limits
Wetland Impact	Sheet Boundaries

Jurisdictional Waters Map

Sheet 14 of 24 Date: 4/11/2016

0 25 50 100
Feet

1 inch = 90 feet

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

**CONNECTING ARKANSAS PROGRAM
HWY.425 - HAMBURG (WIDENING) (S)
ASHLEY COUNTY, ARKANSAS**

JOB CA0202



S12
 Total in Study Limits - 605.24 ft.
 Total Impacted - 184.7 ft.

S13
 Total in Study Limits - 312.85 ft.
 Total Impacted - 36.65 ft.

Sheet 16 of 21

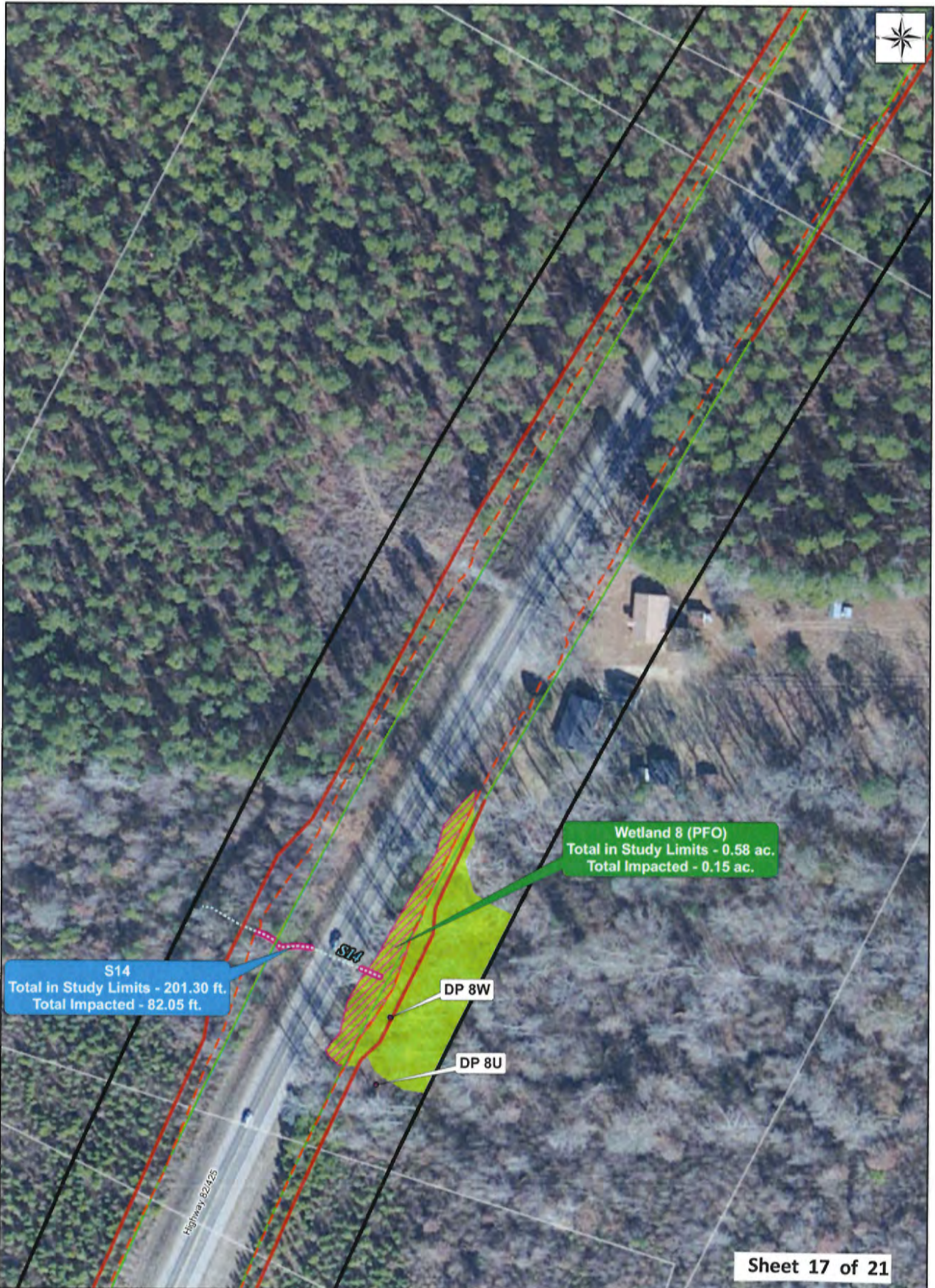
Proposed ROW	Watercourses in Study Limits
Proposed Construction Limits	Ephemeral Stream
Existing ROW	Intermittent Stream
Wetlands in Study Limits	Perennial Stream
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Jurisdictional Waters Map	
Sheet 15 of 24	Date: 4/11/2016
 1 inch = 90 feet	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
 HWY.425 - HAMBURG (WIDENING) (S)
 ASHLEY COUNTY, ARKANSAS

JOB CA0202



Proposed ROW	Watercourses in Study Limits
Proposed Construction Limits	Ephemeral Stream
Existing ROW	Intermittent Stream
Wetlands in Study Limits	Perennial Stream
PEM	Watercourse Impact
PFO	Study Limits
Wetland Impact	Sheet Boundaries

Jurisdictional Waters Map	
Sheet 17 of 24	Date: 4/11/2016
1 inch = 90 feet	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
HWY.425 - HAMBURG (WIDENING) (S)
ASHLEY COUNTY, ARKANSAS

JOB CA0202



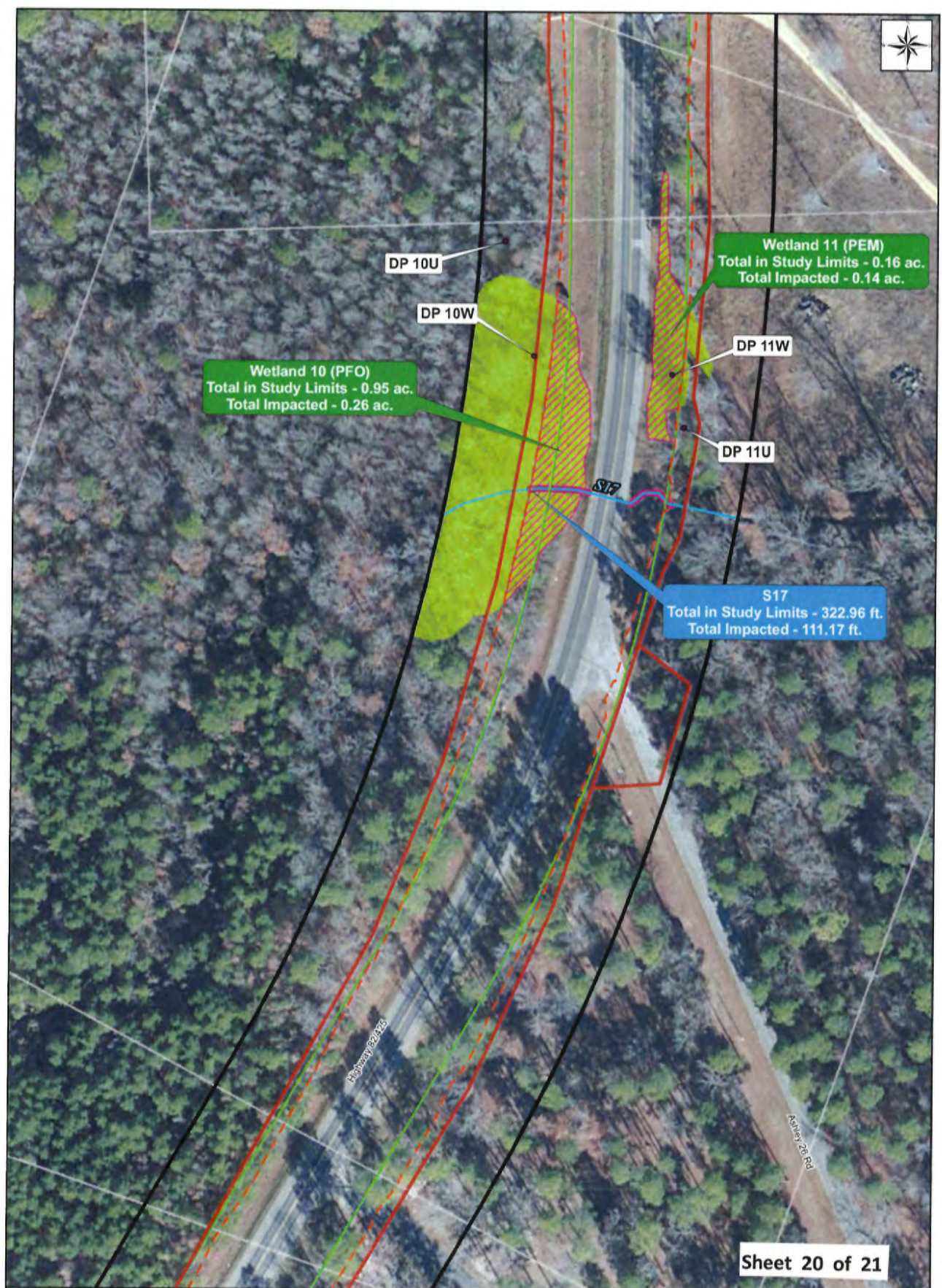
Sheet 18 of 21

<ul style="list-style-type: none"> — Proposed ROW - - - Proposed Construction Limits — Existing ROW <p>Wetlands in Study Limits</p> <ul style="list-style-type: none"> PEM PFO Wetland Impact 	<p>Watercourses in Study Limits</p> <ul style="list-style-type: none"> — Ephemeral Stream - - - Intermittent Stream — Perennial Stream — Watercourse Impact Study Limits Sheet Boundaries 	<p style="text-align: center;">Jurisdictional Waters Map</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Sheet 20 of 24</td> <td style="text-align: center;">Date: 4/11/2016</td> </tr> </table> <p style="text-align: center;">0 25 50 100 Feet 1 inch = 90 feet</p>	Sheet 20 of 24	Date: 4/11/2016	<p style="text-align: center;">ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT</p> <p style="text-align: center;">CONNECTING ARKANSAS PROGRAM HWY.425 - HAMBURG (WIDENING) (S) ASHLEY COUNTY, ARKANSAS</p> <p style="text-align: center;">JOB CA0202</p>
Sheet 20 of 24	Date: 4/11/2016				



Sheet 19 of 21

<ul style="list-style-type: none"> — Proposed ROW - - - Proposed Construction Limits — Existing ROW <p>Wetlands in Study Limits</p> <ul style="list-style-type: none"> PEM PFO Wetland Impact 	<p>Watercourses in Study Limits</p> <ul style="list-style-type: none"> — Ephemeral Stream - - - Intermittent Stream — Perennial Stream — Watercourse Impact Study Limits Sheet Boundaries 	<p style="text-align: center;">Jurisdictional Waters Map</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">Sheet 21 of 24</td> <td style="width: 50%;">Date: 4/11/2016</td> </tr> </table> <p style="text-align: center;">0 25 50 100 Feet 1 inch = 90 feet</p>	Sheet 21 of 24	Date: 4/11/2016	<p style="text-align: center;">ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT</p> <p style="text-align: center;">CONNECTING ARKANSAS PROGRAM HWY.425 - HAMBURG (WIDENING) (S) ASHLEY COUNTY, ARKANSAS</p> <p style="text-align: center;">JOB CA0202</p>
Sheet 21 of 24	Date: 4/11/2016				



Wetland 10 (PFO)
 Total in Study Limits - 0.95 ac.
 Total Impacted - 0.26 ac.

Wetland 11 (PEM)
 Total in Study Limits - 0.16 ac.
 Total Impacted - 0.14 ac.

S17
 Total in Study Limits - 322.96 ft.
 Total Impacted - 111.17 ft.

Sheet 20 of 21

Proposed ROW	Watercourses in Study Limits
Proposed Construction Limits	Ephemeral Stream
Existing ROW	Intermittent Stream
Wetlands in Study Limits	Perennial Stream
PEM	Watercourse Impact
PFO	Study Limits
Wetland Impact	Sheet Boundaries

Jurisdictional Waters Map	
Sheet 23 of 24	Date: 4/11/2016
 1 inch = 90 feet	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONNECTING ARKANSAS PROGRAM
 HWY.425 - HAMBURG (WIDENING) (S)
 ASHLEY COUNTY, ARKANSAS

JOB CA0202

Required Mitigation Credits Worksheet for a Commercial Mitigation Bank

Factor	Wetland 1	Wetland 2a	Wetland 2b	Wetland 3a	Wetland 3b	Wetland 4	Wetland 5	Wetland 6	Wetland 7	Wetland 8	Wetland 9	Wetland 10	Wetland 11	TOTALS
Wetland Type	Emergent	Forested	Emergent	Forested	Emergent	Emergent	Forested	Emergent	Emergent	Forested	Emergent	Forested	Wetland 11 Emergent	
Lost Type	Type B 0.2	Type A 3.0	Type B 0.2	Type A 3.0	Type B 0.2	Type B 0.2	Type A 3.0	Type B 0.2	Type B 0.2	Type A 3.0	Type B 0.2	Type A 3.0	Type A 3.0	Type B 0.2
Priority Category	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary	Tertiary
Existing Condition	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0	0.5 Slightly impaired 2.0
Duration	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0	Over 10 2.0
Dominant Impact	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0	Fill 3.0
Cumulative Impact	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001	Low 0.001
Location	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
Sum of r Factors (Rx)	7.7	10.5	7.7	10.5	7.7	7.7	10.5	7.7	7.7	10.5	7.7	10.5	7.7	7.7
Impacted Area (AAx)	0.07	0.04	0.01	0.01	0.13	0.03	0.08	0.05	0.03	0.15	0.1	0.26	0.14	1.1
RxAA=	0.54	0.42	0.08	0.11	1.00	0.23	0.84	0.39	0.23	1.58	0.77	2.73	1.08	9.98

Total Required Credits = $\sum(RxAA)$ = 9.98
**** Credit per acre at Commercial Mitigation Bank = 3.5**
Acres = 2.85

* Assume that the commercial mitigation site's service area will cover the project area in the Bayou Bartholomew 8-digit HUC (Pelican Foster Mitigation Bank or Lower Cutoff Mitigation Bank).

** Assume commercial mitigation bank credit per acre of 3.5.