

Arkansas Public Service Commission

Docket Summary Cover Sheet

**(For all dockets other than Rate Cases, "TD", "C" and "TF" Dockets
Must be filed with each new docket filed at the Commission**

STYLE OF DOCKET: (Style may be changed by Secretary of Commission) **Docket Number:**

IN THE MATTER OF THE APPLICATION OF ENTERGY ARKANSAS, INC. FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED TO CONSTRUCT AND OPERATE A 230 KV TRANSMISSION LINE AND ASSOCIATED TRANSMISSION FACILITIES IN JEFFERSON COUNTY, ARKANSAS	Docket No. 14-043-U
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DOCKET DESIGNATOR: U A R P
 SD

RELATED DOCKETS:

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Nature of Action: (See second sheet)

PETITIONER/INITIATING PARTY*

ATTORNEYS' NAME, ADDRESS, PHONE, FAX AND E-MAIL

Entergy Arkansas, Inc.	N. Wesley Hunt, Counsel Entergy Services, Inc. 425 West Capitol Avenue P. O. Box 551 Little Rock, AR 72203 Telephone: (501) 377-4303 Fax: (501) 377-5426 nhunt1@entergy.com
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*If the initiating party is not a jurisdictional utility in Arkansas, please provide mailing address, phone, fax and e-mail for the company

Pursuant to Rule 2.03(b) of the Commission's Rules of Practice and Procedure, please provide name, address, phone, fax, e-mail of at least one, but not more than two names to appear on the Service List for this docket

N. Wesley Hunt, Counsel, Entergy Services, Inc., 425 West Capitol Avenue, P. O. Box 551, Little Rock, AR 72203, Telephone: 501-377-4303, Fax 501-377-5426, nhunt1@entergy.com; Laura R. Landreaux, Manager, Regulatory Affairs, Entergy Arkansas, Inc., 425 West Capitol Avenue, P. O. Box 551, Little Rock, AR 72203, Telephone 501-377-5876, Fax 501-377-4415, lraffae@entergy.com
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Write a brief statement, limited to the space provided herein describing the case that you are filing.

Please provide enough information to assure that the nature of your docket is clear.

EAI proposes to construct and operate a new approximately 23 mile 230 kV transmission line and high voltage terminal facilities between the existing Woodward 230/115 kV Substation and the existing White Bluff 500/115 kV Substation (the "Proposed Transmission Line"), which terminal substations would be expanded on existing Company property to contain new 230 kV switchyards (all inclusively referred to as the "Proposed Electrical Facilities").

Representing: EAI

NATURE OF ACTION: Please choose at least one, but no more than three docket types

<input type="checkbox"/> Accounting	<input type="checkbox"/> Lifeline/link up
<input type="checkbox"/> Acquisition/Sales	<input type="checkbox"/> Market Power
<input type="checkbox"/> Act 310 of 1981 (Surcharge)	<input type="checkbox"/> Merger/Transfer
<input type="checkbox"/> Act 821 of 1987 (Cooperatives Rate Change)	<input type="checkbox"/> Municipal Franchise Tax
<input type="checkbox"/> Administrative Procedures	<input type="checkbox"/> Net Metering
<input type="checkbox"/> Affiliate Rules	<input type="checkbox"/> Nuclear Decommissioning
<input type="checkbox"/> Annual Reports/Assessment	<input type="checkbox"/> One Call
<input type="checkbox"/> Ar Energy Conservation Act (Efficiency Programs)	<input type="checkbox"/> Pipeline Safety
<input type="checkbox"/> Arbitration	<input type="checkbox"/> Pole attachment issues
<input type="checkbox"/> Arkansas High Cost Fund	<input type="checkbox"/> Protective Order
<input type="checkbox"/> Arkansas Intralata Toll Pool	<input type="checkbox"/> Public Utility Holding Company Act
<input type="checkbox"/> Arkansas Universal Service Fund	<input type="checkbox"/> Public Utility Regulatory Policy Act
<input type="checkbox"/> ARSI Arkansas Relay Service, Inc.	<input type="checkbox"/> Purchase Power
<input type="checkbox"/> Auto Adjustment	<input type="checkbox"/> Railroad
<input type="checkbox"/> Avoided Cost	<input type="checkbox"/> Rates
<input type="checkbox"/> CCN Cancellation	<input type="checkbox"/> Refund
<input type="checkbox"/> CCN Facility	<input type="checkbox"/> Reports
<input type="checkbox"/> CCN License	<input type="checkbox"/> Resource Plan
<input checked="" type="checkbox"/> CECPN	<input type="checkbox"/> Restructuring
<input type="checkbox"/> Cost of Gas/Energy seasonal/unscheduled	<input type="checkbox"/> Retail
<input type="checkbox"/> Customer release/Abandonment	<input type="checkbox"/> River Crossing
<input type="checkbox"/> Declaratory Judgment	<input type="checkbox"/> Regional Transmission Organization
<input type="checkbox"/> Depreciation	<input type="checkbox"/> Rulemaking
<input type="checkbox"/> Dialing/Numbering	<input type="checkbox"/> Self-Direct Certification
<input type="checkbox"/> Disabilities Act of 1990	<input type="checkbox"/> Service Quality
<input type="checkbox"/> Earnings Review	<input type="checkbox"/> Shielded Outdoor Lighting
<input type="checkbox"/> Eligible Telecommunications Carrier Designation	<input type="checkbox"/> Show Cause
<input type="checkbox"/> Energy Policy Act	<input type="checkbox"/> Stranded Costs
<input type="checkbox"/> Energy/Fuel Purchasing Practices	<input type="checkbox"/> Sustainable Energy Resources
<input type="checkbox"/> EWG Exempt Wholesale Generator	<input type="checkbox"/> Terms and Conditions
<input type="checkbox"/> Extended Area Service	<input type="checkbox"/> Territory/release/unallocated territory
<input type="checkbox"/> Extension of Telecommunications Facilities Fund	<input type="checkbox"/> Transition costs
<input type="checkbox"/> Extraordinary Property Loss	<input type="checkbox"/> Unbundling
<input type="checkbox"/> FCC	<input type="checkbox"/> USOA (Uniform System of Accounts)
<input type="checkbox"/> Finance (Bonds/issue & sell; stock; prom note)	<input type="checkbox"/> Waiver/Exemption
<input type="checkbox"/> Grand Gulf	<input type="checkbox"/> Weather
<input type="checkbox"/> Integrated Resource Planning	<input type="checkbox"/> Wholesale
<input type="checkbox"/> Interconnection Agreements	<input type="checkbox"/> Wholesale Rate Adjustment
<input type="checkbox"/> Interest/Customer Deposit	
<input type="checkbox"/> Investigation/Inquiry	

BEFORE THE
ARKANSAS PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION)	
OF ENTERGY ARKANSAS, INC. FOR A)	
CERTIFICATE OF ENVIRONMENTAL)	
COMPATIBILITY AND PUBLIC NEED)	DOCKET NO. 14-043-U
TO CONSTRUCT AND OPERATE A 230 KV)	
TRANSMISSION LINE AND ASSOCIATED)	
TRANSMISSION FACILITIES IN)	
JEFFERSON COUNTY, ARKANSAS)	

APPLICATION FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED

COMES NOW Entergy Arkansas, Inc. (“EAI” or the “Company”), and for its Application for a Certificate of Environmental Compatibility and Public Need, states:

DESCRIPTION OF THE COMPANY

1. The Company is a corporation organized and existing under the laws of the State of Arkansas, and is a public utility, as defined by Ark. Code Ann. § 23-1-101 *et seq.*, subject to the jurisdiction of the Arkansas Public Service Commission (“APSC” or the “Commission”). The Company’s principal place of business is located at the Simmons Tower, 425 West Capitol Avenue, Little Rock, Arkansas 72201. A copy of the Company’s Agreement of Consolidation of Merger (Articles of Incorporation) is on file with the APSC and is hereby incorporated by reference.

2. The Company's property consists of facilities for the generation, transmission, and distribution of electric power and energy to retail and wholesale customers. These facilities are located principally in the State of Arkansas. As of December 31, 2013, the Company provided retail electrical service subject to the jurisdiction of the Commission to a total of 699,107 customers. Of these customers, 585,378 were residential; 90,045 were commercial; 23,001 were industrial; and 683 were public agencies, institutions, or others.

3. EAI owns or operates two nuclear generating units, four coal-fueled generating units, two hydroelectric plants, one large natural gas-fueled steam electric generation station, two natural gas-fueled combined cycle gas turbine generating facilities and two gas fired combustion turbines, for a total generating capacity of approximately 6,851 MW. EAI owns approximately 4734 MW of this capacity. In addition, EAI purchases 458 MW under a long-term power purchase agreement from the Grand Gulf Nuclear Station in Mississippi and 499 MW under a mid-term power purchase agreement from Union Power Station in Arkansas for a total capability of 5,691 MW. EAI has long-term sales from this capacity equal to approximately 314 MW. EAI also owns and operates approximately 938 circuit miles of extra high voltage transmission lines of 345 kV or greater; 169 circuit miles of transmission lines of 230 kV; 3,538 circuit miles of transmission lines of 161 kV and lower; transmission substations, distribution substations, and associated facilities necessary to provide electric service.

JURISDICTION AND APPLICABLE LAW

4. This Application is filed pursuant to Subchapter 5 Ark. Code Ann. § 23-18-501 *et seq.* – The Utility Facility Environmental and Economic Protection Act, and Section 6 of the APSC Rules of Practice and Procedure (“RPP”), which govern the authorization and placement of major utility facilities. The electrical facilities to be constructed under this Application constitute a major utility facility as defined in Ark. Code Ann. § 23-18-503(5)(B).

PROPOSED ELECTRICAL FACILITIES

5. EAI proposes to construct and operate a new approximately 23-mile 230 kV transmission line and high-voltage terminal facilities between the existing Woodward 230/115 kV Substation and the existing White Bluff 500/115 kV Substation (the “Proposed Transmission Line”), which terminal substations would be expanded on existing Company property to contain new 230 kV switchyards (all inclusively referred to as the “Proposed Electrical Facilities”). The Proposed Electrical Facilities are more fully described in EAI Application Exhibits A, B, C, and D. The Proposed Electrical Facilities will be located in Jefferson County. EAI Application Exhibit A shows the location of the Proposed Electrical Facilities in relation to the jurisdictional service territory in Jefferson County. EAI Application Exhibit B illustrates the location of the Proposed Electrical Facilities within the local area electrical network system. EAI Application Exhibit C shows the Proposed Electrical Facilities along with EAI’s

regional area electrical network system. EAI Application Exhibit D is a detailed description of the Proposed Electrical Facilities.

6. The direct testimony of Company witness Greg A Borne, Project Manager for EAI, introduces the other EAI witnesses in this proceeding and explains the Company's team (the "Project Team")¹ approach for developing the final recommendations for the project to include the selection of a final route (the "Proposed Route") from the alternatives developed by the Company's transmission line routing consultant. Mr. Borne's testimony describes the general location, design, planned construction, economics of construction design types, installation costs, alternatives considered, land requirements, and the schedule for construction of the Proposed Electrical Facilities. In addition, Mr. Borne discusses the first three of seven factors of the Commission's seven-factor criteria for siting transmission facilities.² Finally, he describes the identification of landowners and notifications. Company witness Kyle M. Watson, Senior Engineer, Transmission Planning for Entergy Services, Inc. ("ESI")³ discusses the operations of the transmission system, EAI's planning and coordination process with that of the Midcontinent Independent System Operator, Inc.

¹ The Project Team consists of a diverse group of individuals with expertise in the various disciplines necessary for planning, developing, and recommending a project plan that will result in construction of the Proposed Electrical Facilities.

² Docket No. 89-164-U, Order No. 12 at 20; Docket No. 91-182-U, Order No. 5 at 6.

³ Entergy Services, Inc. is a subsidiary of Entergy Corporation that provides technical and administrative services to all the Entergy Operating Companies. The Entergy Operating Companies include EAI; Entergy Gulf States Louisiana, L.L.C.; Entergy Louisiana, LLC; Entergy Mississippi, Inc.; Entergy New Orleans, Inc.; and Entergy Texas, Inc.

("MISO"), the development of the MISO Transmission Expansion Plan,⁴ and the need and benefits for the Proposed Electrical Facilities. Myra L. Talkington, Manager, Revenue Filings for ESI, provides an estimate of the effects on energy costs to customers' base rates as a result of the construction and operation of the Proposed Electrical Facilities. Gregory L. Phillips, Senior Scientist with GBMC & Associates ("GBM^C") describes the methodology and selection of the preferred and alternative transmission line routes, the environmental effects of the Proposed Electrical Facilities, and the results of the environmental analyses of the project. Mr. Phillips' testimony includes an overview of any adverse environmental effects that cannot be avoided as well as any irreversible and irretrievable commitments of resources that would be involved in the construction of the Proposed Electrical Facilities. Additionally, Mr. Phillips discusses the final four factors of the Commission's seven-factor criteria for siting transmission facilities. Mr. Phillips also sponsors the Environmental Impact Statement ("EIS") for the project, a copy of which is attached hereto as EAI Application Exhibit F.

7. The Proposed Transmission Line would consist of an approximately 23-mile, single-circuit, 230 kV transmission line, originating from the existing 230/115 Woodward kV Substation located in Pine Bluff, Arkansas, and extending west and north through Jefferson County to the existing 500/115 kV White Bluff

⁴ A strategic transmission plan, prepared in conjunction with an inclusive stakeholder process, to identify and support development of transmission infrastructure that is sufficiently robust to meet local and regional reliability standards, and enable competition among wholesale energy suppliers.

Substation located near Redfield, Arkansas adjacent to the White Bluff Steam Electric Station. The design of the Proposed Transmission Line would be EAI's standard 230 kV over-head, three-phase, shielded, transmission line design primarily using a Delta conductor configuration on single-pole steel or concrete structures within a new 125-foot right-of-way ("ROW"). The single-pole design would be installed with direct buried, steel base plated caisson, or drilled pier foundations, and the electrical conductor will be 954 million circular mills, aluminum covered steel supported, capable of transporting 640 MVA electrical load at 230 kV, attached to the poles with polymer/fiberglass type post insulators to insulate and support the conductors. The end-terminal facilities, located at the Woodward Substation and the White Bluff Substation, consist of EAI's standard high-voltage circuit breakers with motor-operated sectionalizing switches and related electronic and supervisory controls.

Operation of the Proposed Electrical Facilities would be coordinated by the Transmission Operations Center. As the Regional Transmission Organization, MISO will have visibility into EAI's operations and the right to direct EAI to operate the facilities as necessary. The design and construction of the Proposed Electrical Facilities are explained more fully in EAI Application Exhibit D.

8. The Company projects a life expectancy of 40 years for the Proposed Electrical Facilities based upon depreciation studies that estimate the

remaining life of transmission lines and other facilities depending on the maintenance and improvements performed on them. If the Proposed Electrical Facilities are approved, constructed, but later abandoned, EAI would remove the equipment and structures from the ROW. Any salvaged material would be sold as scrap. The estimated cost in current dollars to remove the transmission line and transmission facilities is approximately \$1,500,000, with salvage values less than \$750,000. Reuse of this type material is very unlikely due to possible contamination or damage to the material during removal.

SELECTION OF THE PROPOSED ROUTE

9. The Proposed Route selected by the Company's Project Team was the result of an evaluation of the EIS and a routing analysis study. GBM^C provided recommendations based upon a detailed analysis from data collected in the field, as well as through conversations with landowners, governmental officials, and other interested persons. Data collected in the study included information obtained from persons attending an open house held in Pine Bluff, Arkansas on February 5, 2013. A detailed description of the Proposed Route is included in EAI Application Exhibit D.

The following criteria, which are consistent with the seven factors promulgated by the Commission to explain that the guiding principle in a proposed facility siting is whether the project best serves the public interest and

results in the least amount of public harm,⁵ were utilized in the evaluation and selection of the location of the Proposed Route:

- Maximize use of undevelopable lands within rural and community areas;
- Maximize use of lands proposed for industrial land uses and open space;
- Maximize use of existing natural and man-made corridors effectively;
- Minimize the impact on areas planned and zoned for commercial and residential activity;
- Avoid or minimize the impact on federal and state parks, wildlife management areas, and national forests;
- Minimize the potential to impact waterways and major streams in the area;
- Minimize the number of crossings of streets and highways;
- Minimize the potential impact to general public use and recreational areas;
- Minimize impact to federal and state roadways;
- Minimize and mitigate areas of probable impact to existing and possibly unrecorded cultural resources;

⁵ Docket No. 89-164-U, Order No. 12 at 20.

- Minimize impact to existing utility ROWs, existing electrical load and growth areas, existing distribution and transmission facilities and related service reliability;
- Minimize and mitigate areas of potential impact to other environmental sensitive issues; and
- Avoid congestion and impacts to nearby streets and subdivisions with the design of terminal points of the Proposed Transmission Line at the existing terminal substations.

Messrs. Borne and Phillips further describe in their direct testimonies how the Proposed Route is consistent with the Commission's seven-factor test and guiding principles.

10. Construction, operation, and maintenance of the Proposed Electrical Facilities along the Proposed Route should offer minimal, if not the least, amount of adverse environmental impact to the natural, cultural, residential, commercial, recreational, and industrial environment as compared to the alternative routes. The Proposed Route was the longest route evaluated. However, it was deemed equal to or superior to other alternative routes for a number of reasons, including:

- It transverses as few or less stream crossings;
- It has lesser forested wetland impacts;
- It has the lowest impacts to historical sites;

- It parallels or extends along a greater distance of existing natural and manmade corridors;
- It extends through a rural environment for greater lengths;
- It impacts non-residential areas for more of its length;
- It has the least disruption to planned manmade property uses; and
- It creates the least additional aesthetic displeasure.

In addition other benefits of the Proposed Route include:

- There is only one radio/cell tower located within approximately 1,000 feet of the ROW;
- It is not located within 5,000 feet of any heliports;
- It is not located within 5,000 feet of any private airstrips;
- It is not located within 10,000 feet of any FAA registered public use airports;
- No parks or recreation areas are crossed by the Proposed Transmission Line;
- It crosses no known/occupied federally endangered or threatened species habitat; and
- It is not located within 500 feet of any known cultural resources (historical sites or archeological sites).

Finally, the Proposed Route is in accordance with Section 216(a) of the Federal Power Act, in which the U.S. Department of Energy has designated only two National Interest Electric Transmission Corridors, neither of which is in

Arkansas or this region of the country. Accordingly, there is no consideration that must be given to a National Interest Transmission Corridor.⁶

ALTERNATIVE TRANSMISSION LINE ROUTES

11. GBM^C previously developed and evaluated approximately 102 preliminary alternative transmission line segments within the study area along south to north corridors between Woodward Substation and the White Bluff Substation. The Study Area selected by GBM^C is shown in EAI Application Exhibit D Attachment 1, at page 17. The preliminary line segments were reviewed by GBM^C and presented to EAI for review and comment. EAI reviewed the initial preliminary line segments while considering additional factors such as cost of facilities, health and safety, and engineering and technical concerns. Together, GBM^C and the EAI Project Team eliminated, modified, and added certain segments which were then combined to form multiple route pathways comprising the resultant alternative line segments, which were later presented to the public at an open house event. See EAI Application Exhibit D Attachment 1 at page 18 for a map showing the preliminary alternative line segments and routes. Subsequently, GBM^C and the EAI Project Team analyzed the comments from the public, data collected from desktop research, and field reviews. GBM^C then recommended three alternative line routes and related segments for detailed analysis. EAI and GBM^C met and conducted further evaluation,

⁶ See Ark. Code Ann. §23-18-519(b)(11) and (12).

eliminating and modifying certain preliminary alternative line segments, and then agreed to the three final alternative routes. The three final alternative routes are presented in Table 1 below as Routes A, B, and C. Route A was ultimately recommended as the Proposed Route by GBM^C and selected by the EAI Project Team.

Table 1
Final Alternative Transmission Line Routes and Segments

Route Alternatives	Route Segments	Length (Feet)
A Proposed Route	100, 101, 105, 106, 110, 114, 116, 117, 118, 120, 122, 124, 125, 129, and 130	121,100
B	200, 201, 218, 220, 221, 224, 225, 226, 228, 229, 129, and 130	91,000
C	300, 301, 303, 306, 307, 309, 311-A, 331, 310-B, 317, 320, 326, 327, 329, and 330	95,250

Mr. Phillips explains the selection and evaluation of the alternative routes in his direct testimony. A map showing the locations of the primary alternative transmission line segments, the Proposed Route, and final alternative routes is included in Attachment 1 of EAI Application Exhibit D, at page 19.

NEED FOR PROPOSED ELECTRICAL FACILITIES

12. The Proposed Electrical Facilities are needed to improve operational reliability, low voltage conditions, and existing area transmission line overloads that occur during certain contingencies in the south-central Arkansas service area. Demand for energy in this area of EAI's service territory is projected to continue to grow. The present transmission infrastructure is insufficient to accommodate the existing and future projected demands and maintain voltage levels under certain contingencies that include low voltage occurrences on the 115 kV transmission network in and around Pine Bluff with the:

- Loss of the Woodward to Pine Bluff McCamant 115 kV Transmission Line;
- Loss of the Woodward to Pine Bluff Watson Chapel 115 kV Transmission Line;
- Loss of the Monticello East to Montongo 115 kV Transmission Line;
- and
- Loss of the White Bluff 500/115 kV Autotransformers.

Also, the White Bluff to Pine Bluff Arsenal D to Woodward 115 kV Transmission Line will overload for the loss of the White Bluff to Pine Bluff Arsenal C 115 kV Transmission Line.

Such events could result in extended outages. Therefore, construction of the Proposed Electrical Facilities, which are a component part of a long-term

series of projects in the southeast area of Arkansas, is necessary to provide continued reliable electric service and voltage stability in this region.

COST AND METHOD OF FINANCING

13. The total estimated project cost of the Proposed Electrical Facilities is shown in Table 2.

**Table 2
Estimated Cost of Proposed Electrical Facilities**

Cost Category	\$ Millions
Direct Costs: Transmission and Substation Materials, Engineering Design, Contract Labor	18.5
Land Purchase, ROW Preparation, Environmental, Legal Expense	12.7
Contingency: Uncertainty (Contract, Material, Labor, ROW/Environmental), Risk (1 – 13)	8.3
Other Indirects/Misc/Overheads	4.8
TOTAL ESTIMATE	44.3

EAI would finance the construction with funds available from various sources, including retained earnings, debt, and capital securities. No other alternative financing methods are considered appropriate at this time. This project does not

qualify for any issuance of tax-exempt bonds. The total estimated investment in the Proposed Electrical Facilities is approximately \$44.3 million, which compares to the Company's total transmission and substation plant in-service balance of approximately \$1.92 billion⁷ as of December 31, 2013.

ENVIRONMENTAL IMPACT OF THE PROPOSED ELECTRICAL FACILITIES

14. Once operational, the Proposed Electrical Facilities would have little, if any, adverse impacts on the surrounding environment. The evaluation and selection of the Proposed Route and the alternative routes are discussed in more detail by Mr. Phillips. GBM^C was commissioned to prepare an EIS related to the construction and operation of the Proposed Electrical Facilities. Effective route evaluation, project design, and environmental planning have resulted in the recommendation and selection of the line route most suitable for the application and solution of the transmission operations problems in south-central Arkansas. The transmission design proposed is aesthetically appropriate and would consist of facilities that are maintained by periodic inspection in accordance with current vegetation specifications. By utilizing the Proposed Route, the Proposed Transmission Line would be constructed primarily in rural topography mostly in the western portions of Jefferson County and west of Pine Bluff which is primarily wooded and open pasture land, avoiding any heavily populated residential areas or planned subdivisions, avoiding dedicated federal lands (Pine Bluff Arsenal,

⁷ FERC Form No. 1, Dec. 31, 2013 (includes Distribution Substation Accounts 360 – 362) at 207.

National Center for Toxicological Research), would parallel county roadways and rural lanes, would parallel EAI-owned ROW property for a portion of the Proposed Route, and would primarily follow property boundary lines and section and quarter-section lines to minimize impacts to adjacent lands.

The impact to forested wetlands along the Proposed Route is expected be minimal, requiring less acres than the alternative routes for mitigation as identified in the U.S. Fish and Wildlife Service's National Wetlands Inventory. The Proposed Route crosses the least length of the U.S. Fish and Wildlife Service's National Wetlands Inventory mapped wetlands and a wetland delineation would be required to determine the level of U.S. Army Corps of Engineers permitting and compensatory mitigation required, if any. The conversion from forested wetlands to emergent wetlands impacts would be offset through purchase of wetland mitigation credits from an approved mitigation bank. In addition, other related environmental impact is thought to be negligible because the current land use is primarily rural residential with a mixture of pasture land, upland forested terrain, bottomlands, drainage ditches and streams, and grassy flat-lands supporting some low growing woody vegetation along the Proposed Route. The construction of the Proposed Electrical Facilities is not anticipated to have any significant adverse effects on the physiographic or geologic features/resources of the area, no adverse impact to ground water resources or floodplains, and no adverse impact to navigable waters of the United States. The ROW along the Proposed Route contains no known occurrences of listed threatened or endangered plant species.

The Proposed Electrical Facilities would not impact state parks, national parks, national monuments, wild and scenic rivers, national natural landmarks, wilderness areas, or national forests, nor would they materially impact State and National Scenic Byways, wildlife management areas, or similar sensitive areas or attractions in south-central Arkansas. A detailed discussion of the environmental impacts that may result from the construction of the Proposed Electrical Facilities is included in the EIS.

EAI will meet or exceed the requirements of the National Electrical Safety Code, which has been adopted by this Commission as the minimum standard for utility construction for Arkansas public utilities, with respect to the safety factors identified therein.

ECONOMIC IMPACT ON THE COMMUNITY,
THE COMPANY, AND ITS CUSTOMERS

15. During the construction phase of the project, there would be little economic impact on the local community, whether through increased employment or through impact to commerce or business. Construction of the Proposed Electrical Facilities requires a specialized crew, and it is not expected that such skilled and experienced workers would be available from the local market. Thus, the construction of the Proposed Electrical Facilities would not increase employment opportunities for workers in the area. Impact from construction and operation of the Proposed Electrical Facilities would be minor.

PROOF OF SERVICE AND NOTICE

16. EAI has identified and provided certified mail notification of the filing of this Application to landowners of record along the Proposed Route, in compliance with Rule 6.03, and has provided notification to governmental officers, including a copy of the application and the EIS, by first class mail. In addition, each owner of real property on the alternative transmission line routes was served notice of the filing of the Application in this docket by certified mail. These landowners were determined based on property tax statements and other methods, as appropriate. These landowners and government officials are identified in EAI Application Exhibit E, and copies of the associated notifications are more fully described in the direct testimony of Mr. Borne. In accordance with Rule 6.07(a)(6), Certification of Proof of Service upon these individuals and officers also is included in EAI Application Exhibit E. In addition, EAI will publish a notice of the filing of this Application, in compliance with Rules 6.03(b)(2) and (3), on two separate occasions in the Pine Bluff Commercial newspaper, which is a newspaper circulating in the cities, communities, and rural areas of Jefferson County that have substantial circulation in the area where the Proposed Electrical Facilities would be constructed.

A copy of the documents filed in this proceeding, to include a copy of the EIS, have been placed in libraries located in Jefferson County. Certification of Proof of Service that a copy of the Application has been made available for public inspection at all public libraries in Jefferson County in which the Proposed Electrical Facilities would be located is included in EAI Application Exhibit E.

WITNESSES

17. The direct testimonies and exhibits of Messrs. Borne, Watson, and Phillips and Ms. Talkington are filed in support of this Application.

SERVICE LIST

18. EAI requests that the following individuals be included on the service list in this docket:

Laura R. Landreaux
Manager, Regulatory Affairs – Arkansas
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Telephone: (501) 377-5876
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N. Wesley Hunt
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425 W. Capitol Ave., 28th Floor
Little Rock, Arkansas 72201
Telephone: (501) 377-4303
nhunt1@entergy.com

Wherefore, EAI respectfully requests that the Commission grant the Company a Certificate of Environmental Compatibility and Public Need authorizing construction and operation of the Proposed Electrical Facilities, and for all other necessary and proper relief.

Respectfully submitted,

ENTERGY ARKANSAS, INC.

By /s/ N. Wesley Hunt
N. Wesley Hunt
Counsel, Entergy Services, Inc.
425 W. Capitol Ave., 28th Floor
Little Rock, Arkansas 72201
Telephone: (501) 377-4303
nhunt1@entergy.com

ATTORNEY FOR
ENTERGY ARKANSAS, INC.

CERTIFICATE OF SERVICE

I, N. Wesley Hunt, do hereby certify that a copy of the foregoing has been served upon all parties of record by forwarding the same by electronic mail and/or first class mail, postage prepaid, this 16th day of May 2014.

/s/ N. Wesley Hunt
N. Wesley Hunt

BEFORE THE
ARKANSAS PUBLIC SERVICE COMMISSION

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JEFFERSON COUNTY, ARKANSAS)

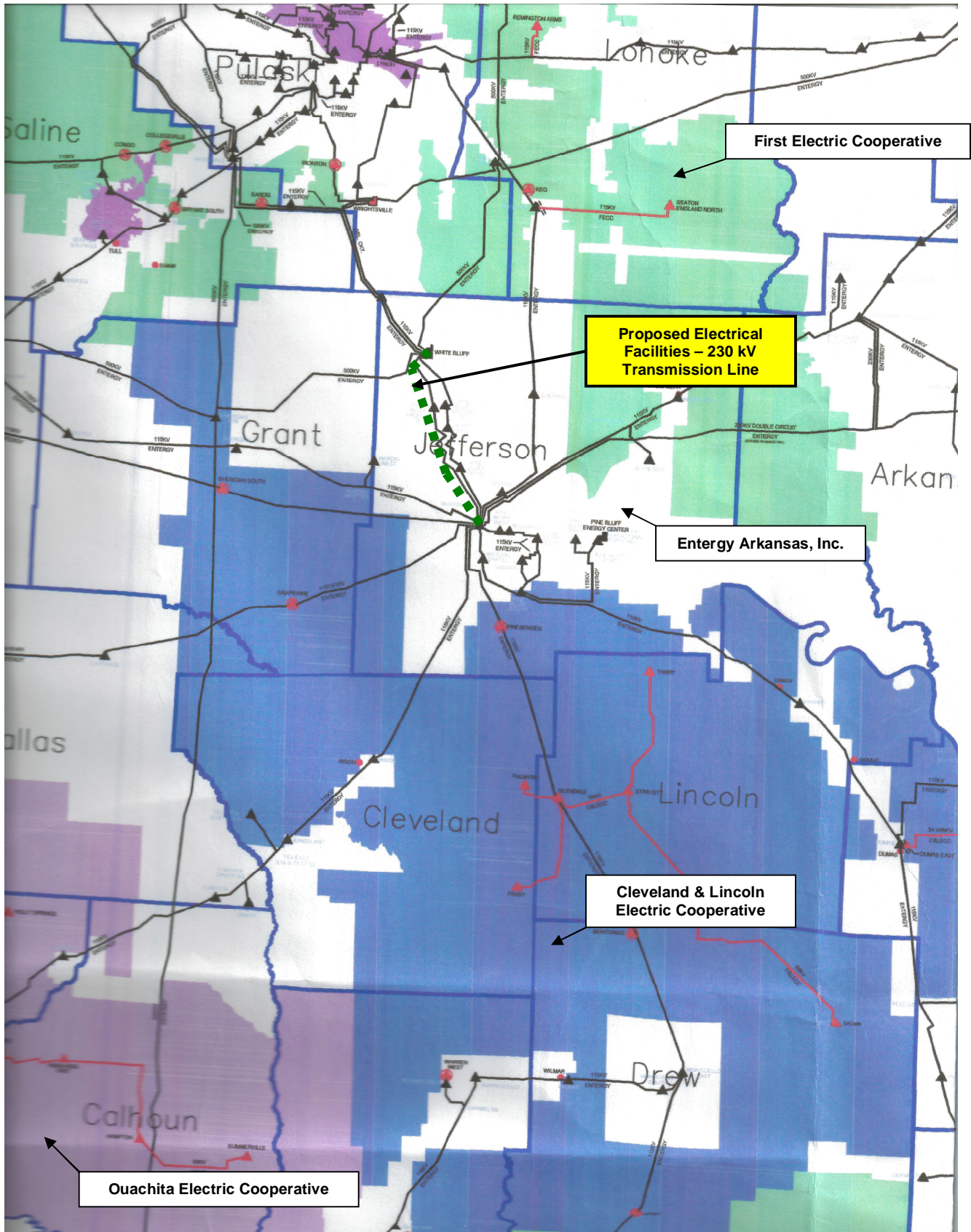
DOCKET NO. 14-043-U

EAI APPLICATION EXHIBIT A

LOCATION MAP – ALLOCATED SERVICE AREA

ENTERGY ARKANSAS, INC.

ELECTRIC UTILITY SERVICE AREAS



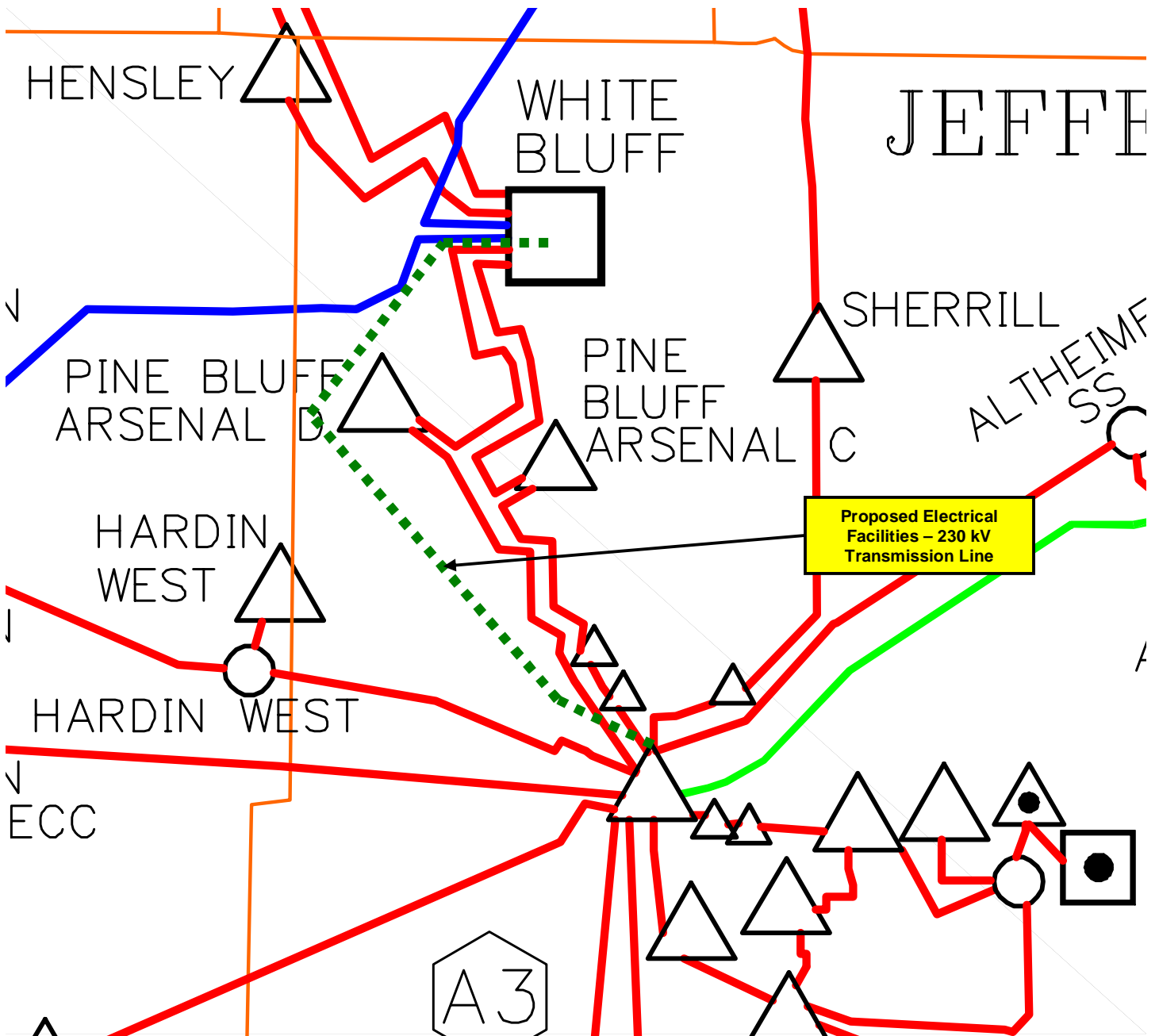
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TRANSMISSION LINE AND ASSOCIATED)
TRANSMISSION FACILITIES IN)
JEFFERSON COUNTY, ARKANSAS)

EAI APPLICATION EXHIBIT B

LOCATION MAP – PROPOSED ELECTRICAL FACILITIES
LOCAL AREA ELECTRICAL NETWORK SYSTEM

ENTERGY ARKANSAS, INC.
LOCAL AREA ELECTRICAL NETWORK



BEFORE THE
ARKANSAS PUBLIC SERVICE COMMISSION

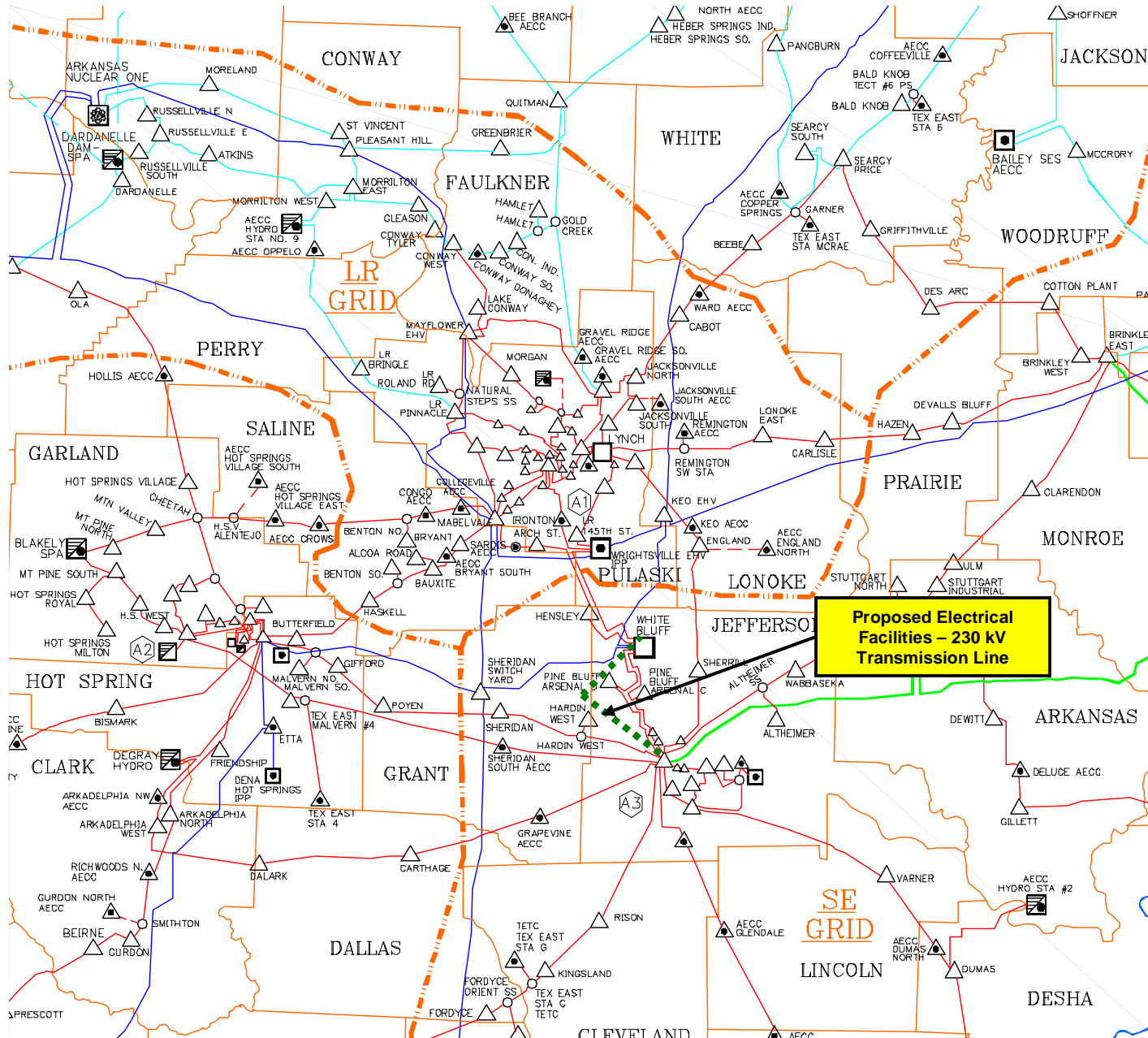
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TRANSMISSION FACILITIES IN)
JEFFERSON COUNTY, ARKANSAS)

EAI APPLICATION EXHIBIT C

LOCATION MAP – PROPOSED ELECTRICAL FACILITIES
REGIONAL AREA ELECTRICAL NETWORK SYSTEM

ENTERGY ARKANSAS, INC.

REGIONAL AREA ELECTRICAL NETWORK



BEFORE THE
ARKANSAS PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION)
OF ENTERGY ARKANSAS, INC. FOR A)
CERTIFICATE OF ENVIRONMENTAL)
COMPATIBILITY AND PUBLIC NEED)
TO CONSTRUCT AND OPERATE A 230 KV)
TRANSMISSION LINE AND ASSOCIATED)
TRANSMISSION FACILITIES IN)
JEFFERSON COUNTY, ARKANSAS)

DOCKET NO. 14-043-U

EAI APPLICATION EXHIBIT D

DESCRIPTION OF PROPOSED ELECTRICAL FACILITIES

PROJECT DESCRIPTION

PINE BLUFF WOODWARD SUBSTATION TO

WHITE BLUFF STEAM ELECTRIC STATION

230 KV TRANSMISSION LINE

Location – Proposed and Alternative Transmission Line Routes

This project, is located in Jefferson County, Arkansas, and consists of approximately 23 miles of a new single circuit 230 kV transmission line located between the existing Pine Bluff Woodward Substation and the existing White Bluff Steam Electric Station (“White Bluff SES”). The location of the Proposed Transmission Line south termination facility at the Pine Bluff Woodward Substation is at 5201 West Barraque Street in Pine Bluff and is located in Section 35, Range 10 West, Township 5 South, (Latitude 34° 13′ 56.9” N, Longitude 92° 03′ 32.5” W). The location of the north termination facility at the White Bluff SES is located at 1100 White Bluff Road near Redfield, Arkansas and is in Section 25, Range 10 West, Township 3 South, Jefferson County, (Latitude 34° 25′ 25.0” N, Longitude 92° 08′ 40.0” W). The two 230 kV transmission line terminal points were established by EAI and given to GBM^C for development of a study area to determine the least environmental intrusive routing for a new 230 kV transmission line. Attachment 1 at page 17 is a map of the study area which GBM^C developed to study and to determine the potential

transmission line routes between the Pine Bluff Woodward Substation and White Bluff SES.

The following final routing segments shown in Table 2 below were initially selected and analyzed by GBM^C and subsequently combined to form several alternative transmission line routes along the 3 separate corridors, A, B, and C, between the Pine Bluff Woodward Substation and the White Bluff SES which GBM^C presented to the Company for further review. The attached map, Attachment 2, at page 18 to this EAI Application Exhibit D, shows the various transmission line segments developed by GBM^C and the locations of the preliminary transmission line pathways selected and investigated, including the Proposed Route.

**Table 2
Corridors with Alternative Transmission Line Segment Lengths**

CORRIDOR A		CORRIDOR B		CORRIDOR C	
Segment Number	Segment Length (feet)	Segment Number	Segment Length (feet)	Segment Number	Segment Length (feet)
100	556	200	1,268	300	3,304
101	1,544	201	39,211	301	2,304
102	2,552	202	6,307	302	4,393
103	1,015	203	5,913	303	4,503
104	1,432	204	20,633	304	7,063
105	391	205	655	305	3,391
106	4,974	206	2,250	306	1,682
107	188	207	22,408	307	16,172
108	5,044	208	4,201	308	25,267
109	3,081	209	13,057	309	16,643
110	4,956	210	1,335	310-A	7,189
111	1,108	211	4,477	310-B	17,413
112	4,667	212	25,056	311-A	3,065
113	24,541	213	23,960	311-B	18,483
114	2,191	214	4,719	312	2,314
115	23,884	215	14,880	313	2,443
116	28,495	216	1,476	314	713

Table 3
Primary Alternative Transmission Line Routes and Segments

Route Alternatives	Route Segments	Length (Miles)
A Proposed Route	100, 101, 105, 106, 110, 114, 116, 117, 118, 120, 122, 124, 125, 129, and 130	22.93
B	200, 201, 218, 220, 221, 224, 225, 226, 228, 229, 129, and 130	17.23
C	300, 301, 303, 306, 307, 309, 311-A, 331, 310-B, 317, 320, 326, 327, 329, and 330	18.03

The Proposed Route, Alternative Route A, may be described as follows:

The Proposed Route A (Proposed Route) exits the Pine Bluff Woodward Substation (located in the NE ¼ of the SE ¼ of Section 35, T-5-S, R-10-W, Jefferson County, Arkansas) (Latitude 34° 13' 56.9" N, Longitude 92° 03' 32.5" W) to the west parallel to and approximately 250 feet south of an existing transmission line, crossing North Hutchinson Street and continuing west along the north side of West Barraque Street, then crossing two other existing transmission lines, North Thomas Road, and to a point on the east side of US Interstate Highway I-530 (US I-530) and south of Stump Road, a distance of approximately 7,500 feet (Line Segments 100, 101, 105, and 106). At this point the Proposed Route turns southwest and crosses US I-530 continuing due west along the south edge of an existing lake, then crossing an existing transmission line and Willis Road and on westerly to a point approximately 800 feet north of Princeton Pike in the NW¼ SE¼ Section 33 (T-5-S, R-10-W, Jefferson County) for a distance of approximately 5,000 feet (Line Segment 110). The Proposed Route then continues west for approximately 900 feet, turns south, crosses Princeton Pike and extends to a point approximately 650 feet south of Princeton Pike for a total distance of approximately 2,200 feet (Line Segment 114). The Proposed Route continues south for approximately 1,700 feet then turns due west and extends approximately 24,000 feet, crossing Webster Road and Summers Road and to a point in the SW¼ SW¼ Section 1 (T-6-S, R-11-W, Jefferson County) where the Proposed Route turns due north and

extends to the south side of Princeton Pike for a total distance of approximately 28,500 feet (Line Segment 116). The Proposed Route continues north crossing Princeton Pike and extends to an existing transmission line, a distance of approximately 4,000 feet (Line Segment 117). The Proposed Route crosses the existing transmission line and continues north crossing another transmission line, Bruce Trail and then US 270 to the east of Stowe Road, continuing north along the west side of Fernleaf Drive, crossing Castro Road, German Springs Road, Gravel Pit Road and extending to a point on the west side of US I-530 where the Proposed Route turns east and crosses US I-530. The Proposed Route then turns north and extends to the west of an existing communication tower, crossing Wishbone Farm Road and West Stagecoach Road and west of the community of Jefferson, parallel to an existing pipeline right-of-way, then crossing Woodland Drive, a gas pipeline, and Reynolds Road (at about the intersection of the two) then extending to the south side of an existing 500 kV transmission line, a total distance of approximately 60,400 feet (Line Segment 118, 120, and 122). At this point the Proposed Route turns east to run on the south side and parallel to the existing transmission line, crosses State Highway 365 and then turns northeast following the east edge of the existing 500 kV transmission line where it crosses Kearney Road and the entrance road (State Highway 46) to the White Bluff Steam Electric Station (White Bluff SES), a distance of approximately 10,500 feet (Line Segments 124 and 125). The Proposed Route then turns due east and extends to the White Bluff SES 230 kV Switchyard, a distance of approximately 3,000 feet (Line Segments 129 and 130) (Located in Section 25, T-3-S, R-10-W, Jefferson County) (Latitude 34° 25' 25.0" N, Longitude 92° 08' 40.0" W). Total distance for the Proposed Route is approximately 121,100 feet or 22.9 miles.

The other alternative transmission line routes that were not selected as the Proposed Route and shown in Table 3 above are further described as follows:

The Optional Route B (Route B) exits the Pine Bluff Woodward Substation (located in the NE ¼ of the SE ¼ of Section 35, R-10-W, T-5-S, Jefferson County, Arkansas) (Latitude 34° 13' 56.9" N, Longitude 92° 03' 32.5" W) to the north crossing Martha Mitchell Expressway and then turns northwest following the expressway along the north side, crossing the right-of-way of several

transmission lines to a point just east of North Hutchinson Street, for a distance of approximately 1,300 feet (Line Segment 200). At this point Route B turns north and follows the west edge of the existing transmission line(s) right-of-way, crossing S. Richland Drive, Malcomb Street, Bullock Street, and U.S. Highway 65 to a point where the existing transmission lines split to the northwest and the northeast. At this point the Route B turns northwest and continues to parallel the west edge of the existing transmission line crossing North Hutchinson Street, Smart Avenue, Industrial Drive South, Jefferson Parkway, Caney Bayou, East Hoadley Road, and to a point in the SW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 4 (T-5-S, R-10-W, Jefferson County). Route B then turns west and crosses Dollarway Road (State Highway 365) and continues to a pipeline right-of-way and to a point near the mid-point of Section 6 (T-5-S, R-10-W, Jefferson County), for a distance of approximately 39,200 feet (Line Segment 201). Route B then turns northwest and follows the pipeline right-of-way to the south section line of Section 31 (T-4-S, R-10-W, Jefferson County), where the Route B turns due west and crosses County Road 104 extending to a point east of Skoal Road where Route B turns due north and continues to a point in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 36 (T-4-S, R-10-W, Jefferson County), for a distance of approximately 3,400 feet (Line Segments 218 and 220). Route B then extends northwest crossing Caney Bayou and then to the near mid-point of the west section line of Section 25 (T-4-S, R-10-W, Jefferson County) for a distance of approximately 5,200 feet (Line Segment 224). Route B then continues north along the west section lines of Sections 25, 24, 13, 12, and 1 (T-4-S, R-10-W) and the west section line of Sections 36 and 25 (T-3-S, R-10-W, Jefferson County), where Route B crosses Gravel Pit Road, State Highway 365, a Union Pacific Railroad track, Ussery Road, Jefferson River Road, Kady Road, an existing pipeline, Kearney Road, and the entrance road (State Highway 46) to the White Bluff Steam Electric Station (White Bluff SES), and then extending on north to the east edge of a pipeline, for a distance of approximately 31,600 feet (Line Segments 225, 226, 228, and 229). The Route B then turns due east and extends to the White Bluff SES 230 kV Switchyard, a distance of approximately 3,000 feet (Line Segments 129 and 130) (Located in Section 25, T-3-S, R-11-W, Jefferson County) (Latitude 34 $^{\circ}$ 25' 25.0" N, Longitude 92 $^{\circ}$ 08' 40.0" W). Total distance for the Proposed Route is approximately 91,000 feet or 17.2 miles.

The Optional Route C (Route C) exits the Pine Bluff Woodward Substation (located in the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 35, R-10-

W, T-5-S, Jefferson County, Arkansas) (Latitude $34^{\circ} 13' 56.9''$ N, Longitude $92^{\circ} 03' 32.5''$ W) to the east following Martha Mitchell Expressway along the south edge of the highway right-of-way for approximately 850 feet, and then Route C turns northeast and crosses Martha Mitchell Expressway and extends to a point approximately 1,000 feet west of Rhinehart Road and 1,500 feet south of U.S. Highway 65, a distance of approximately 3,300 feet (Line Segment 300). Route C then turns to the north and extends northerly crossing the intersection of North Blake Street and Rhinehart Road and on to a point where it turns northeast and crosses the Missouri Pacific Railroad track, the north portion of the Pine Bluff Kiwanis Golf Course in Oakland Park and a railroad spur track where it then continues northeast to a point approximately 1,400 feet north of North Birch Street, in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 30, R-9-W, T-5-S, Jefferson County, a distance of approximately 8,500 feet (Line Segments 301, 303, and 306). At this point Route C turns north and continues north for approximately 13,750 feet, crossing the right-of-way of three parallel transmission lines, Jefferson Parkway, a railroad spur track, Williams Road, and continues north along the western edge of McFadden Road and along the eastern boundary of the U.S. Army Pine Bluff Arsenal (Pine Bluff Arsenal) to a point where Route C turns west and enters the Pine Bluff Arsenal property and then turns back north to a point just southwest of Lake Lee, in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 12, T-5-S, R-10-W, Jefferson County, a distance of approximately 16,200 feet (Line Segment 307). Route C continues north-northwest through the Pine Bluff Arsenal property to the west of the Arkansas River, passing Yellow Lake to the east, and by-passing a military storage facility along the west side, and running on the east side of Doolittle Road, crossing Webster Road, and continuing northwest and to the west of US Army Corps of Engineers Lock and Dam No. 5, entering White Bluff Steam Electric Station property along the southeast boundary and then terminating into the White Bluff Switchyard from the north, a distance of approximately 67,250 feet (Line Segments 309, 311-A, 331, 310-B, 317, 320, 326, 327, 329, and 330), (Located in Section 25, T-3-S, R-11-W, Jefferson County) (Latitude $34^{\circ} 25' 25.0''$ N, Longitude $92^{\circ} 08' 40.0''$ W). Total distance for Route C is approximately 95,250 feet or 18.0 miles.

Transmission Line Structures

The 230 kV overhead, three-phase, shielded, single circuit electrical transmission line will be supported by single pole, steel or concrete structures,

installed in a 125-foot right-of-way ("ROW"). These single pole structures will consist of tangent structures, guyed medium angle structures and dead-end structures. Attachment 4, pages 20 – 24, shows typical Company design specification drawings illustrating the general appearance of these transmission line structures and a photograph of a typical 230 kV transmission line single-pole structure. The proposed line will consist mostly of tangent structures with angle structures or dead-end structures at points of intersection or major changes in direction. All structures will meet or exceed requirements of the National Electrical Safety Code ("NESC") with applicable overloads (NESC Medium – extreme wind of 100 mph 25.6 psf), extreme Ice of 1.0 inch loading and concurrent 30 mph wind).

The tangent structures (up to 6 degree angles) will be a single pole designed to meet the loading requirements specified above, varying in height depending on clearance requirements. The phase conductors will be supported by braced post polymer insulators, approximately 8 1/2 feet long, in a delta or vertical configuration, and the shield wire will be supported by a bracket located near the pole top. The poles will be embedded in the earth at a depth varying from 9 feet to 15 feet depending on soil conditions, and if required, piles may be used to obtain solid foundations in wetland type areas. Piles may range from 20 to 30 feet long.

The medium angle structures (6 to 20 degree angles) will consist of a single pole designed to meet the specified loading conditions, varying in length, with sufficient guying to accommodate the transverse wind and line angle loads

imposed by the conductors and shield wires. Down guys, each connected to a helical type anchor, are necessary for structural stability. The in-line poles will be embedded in the earth at varying depths depending on soil conditions and running angle structures would have steel base plated caisson foundations.

The large angle dead-end structures (30 to 50 degree angles) will be either single pole or three-pole structures, designed to meet the specified loading conditions, varying in length, with a polymer post insulator to support the conductor connections around the pole if required by the line angle. The shield wire and conductors will be attached directly to the pole with connecting hardware. Down guys, each connected to a helical type anchor, are necessary to accommodate the transverse and longitudinal loads imposed by the conductors and shield wires and to provide structural stability. Bisector guys will be provided for dead-ends with small angles. The dead-end structures would have steel base plated caisson foundations.

The terminal dead-end structures may consist of three poles designed to meet the specified loading conditions, spaced 25 feet apart, varying from 60 feet to 85 feet in height, and utilizing polymer post insulators to support the conductor connections around the pole. The shield wire and conductors will be attached directly to the pole with connecting hardware. Down guys, each connected to a helical type anchor, are necessary to accommodate the longitudinal loads imposed by the conductors and shield wire. Where feasible and economically viable, self-supporting steel structures with socket-piles will be utilized to

minimize the use of guy wires. The terminal dead-end structures would have steel base plated caisson foundations.

Insulators

The insulators will be polymer/fiberglass units designed to support the loading specified by the NESC. Braced post polymer insulators will be used on tangent structures, and polymer strain insulators will be used on dead-ends.

Dry and wet flashover values and positive and negative critical impulse (lightning performance) values for tangent, angle and dead-end assemblies are tabulated below.

	FLASHOVER (kV)		IMPULSE (kV)	
	<u>DRY</u>	<u>WET</u>	<u>POSITIVE</u>	<u>NEGATIVE</u>
Single Pole Tangent	785	565	1265	1275
Pole Dead-end	830	600	1345	1360

Transmission Conductors

The conductors planned for each phase of the three phase circuit will be 954 MCM ACSS (Aluminum Covered Steel Supported) stranded aluminum conductor with a supporting galvanized steel core, capable of transporting 640 MVA (at 175° C) electrical load at 230 kV. This conductor has 54 strands of aluminum over 7 strands of steel. Its code reference is "Cardinal". Characteristics of the cables are tabulated below:

Physical Characteristics

Outside diameter, inches	1.196
Weight, pounds per foot	1.227
Ultimate strength, pounds	28,000

Electrical Characteristics

Electrical resistance (20° C), ohm per mile	0.0919
Ampacity (at 347° F)	1,607

Installation Characteristics

NESC medium loading tension, pounds	11,400
60° F. unloaded tension after 10 years, pounds	4,000

The overhead shield wire will be a 7 No. 7 Alumoweld, with fiber optic cable OPGW .528 inch diameter, AlumaCore 48 Fiber (DNO-8161). Characteristics of the cable are tabulated below:

Physical Characteristics

Outside diameter, inches	0.433
Weight, pounds per foot	0.330
Ultimate strength, pounds	19,060

Installation Characteristics

NESC medium loading tension, pounds	3,425
60° F. unloaded tension after loading, 10 years	1,448

The spans will average between 500 and 650 feet. A minimum conductor clearance to ground of 26 feet at 212° F. will be maintained. Where electrical distribution or communication lines are crossed, a clearance of 10 feet will be maintained for a conductor operating temperature of 212° F.

Transmission Line Terminal Point Facilities

1. Pine Bluff Woodward 230/115 Substation

The southern terminal point for the Proposed Transmission Line will be the existing Pine Bluff Woodward Substation. The existing substation site is large enough to expand and accommodate the connection of the Proposed Transmission Line and it is not anticipated that additional acreage will be required. The existing 230 kV switchyard area will be redesigned and rebuilt for a 3-breaker ring bus operation. The 230 kV switchyard will connect directly with the existing 115 kV switchyard through a 230/115 kV autotransformer. The reconstruction of the 230 kV switchyard and final operation at 230 kV will be coordinated with the completion of other 230 kV projects being planned and/or under construction throughout the southeast area region.¹ The initial 230 kV transmission line terminals at Pine Bluff Woodward Substation would consist of:

¹ Such 230 kV projects include new 230 kV transmission lines connecting Lake Village Bagby to Reed Switching Station, Reed Switching Station to Monticello East, Woodward to Watson Chapel, and eventually expanding to other EAI substations in Pine Bluff and southeast Arkansas.

- Pine Bluff Woodward Substation to Stuttgart Ricuskey 230 kV Transmission Line;
- Pine Bluff Woodward Substation to White Bluff Substation 230 kV Transmission Line, *i.e.*, the Proposed Transmission Line; and
- Autotransformer position connecting to the existing 115 kV Woodward switchyard.

2. White Bluff SES Substation

The northern terminal point for the Proposed Transmission Line is the existing White Bluff SES. The substation property is large enough to terminate the Proposed Transmission Line at the 230 kV design voltage. The existing 500 kV transmission switchyard will be expanded by installing a line bay to connect the new 500/230 kV autotransformer position that would then connect to a new 230 kV switchyard. The 230 kV switchyard will be constructed as a ring-bus design, consisting of high-voltage, gas operated, circuit breakers with disconnect and sectionalizing motor-operated air-brake switches. The 230 kV switchyard will ultimately consist of the following initial line bays:

- White Bluff SES to Pine Bluff Woodward Substation 230 kV Transmission Line, *i.e.*, the Proposed Transmission Line;
- White Bluff SES autotransformer position connecting to the existing 115 kV White bluff SES switchyard; and a
- Spare 230 kV transmission line position for a future line position.

Construction

The Proposed Electrical Facilities will be designed by ESI personnel for EAI and construction will be accomplished by pre-qualified electrical contract crews under the supervision of EAI personnel in a sequential operation of surveying, clearing, structure erection, conductor installation and clean-up.

The first operation is to survey the proposed route to establish the centerline, edge of ROW, and profile of the transmission line. Primarily, only men and small items of equipment will be required for surveying. Centerline staking and profiling may require cutting some trees and undergrowth, if necessary.

ROW clearing, if necessary, will be performed by EAI construction crews or by a contractor under the supervision of EAI personnel to ensure that the clearing is done as specified. Trees that may exist outside of the ROW which endanger the safe and reliable operation of the transmission line will be cut to provide necessary clearance.

Removal of the existing Transmission Line will follow and then new structure installation takes place which consists of three phases: transporting, assembling, and erecting. Necessary material is transported by flatbed tractor-trailer from a storage yard to each structure location and is unloaded with a small crane or boom truck. The structures are assembled, as much as is practical, on the ground; the poles are then set in augured holes with a tracked or rubber-tired

crane. The holes will be backfilled with gravel and/or concrete. Final hardware connections will then be completed.

Conductor stringing is accomplished with tensioning equipment to keep the conductor from contacting the ground or other objects which may damage it. A pulling line is installed on the structures in stringing blocks from a puller to the tensioner. The reels of conductor are mounted on reel stands and the conductor is threaded through the tensioner and attached to the pulling line. The puller operates to pull the conductor while the tensioner operates to maintain the proper tension.

Conductor installation is a critical operation. Many vehicles and items of equipment are required to install the conductor; and, although they may not necessarily proceed down the ROW, they must intermittently be positioned on it. As with vehicles and equipment associated with other construction phases, care will be exercised to minimize damage to the terrain.

Aesthetical Engineering Design Considerations

Single modular structures will be used to provide tangent, angle turns, and dead-ends for the transmission line, which will be located within the 125-foot ROW. These type transmission line structures require nominal ROW width and were selected to minimize the aesthetic displeasure of the installation. Use of wood pole, H-frame design transmission structures, would increase the actual transmission line width and thus increase the aesthetic displeasure of the Proposed Electrical Facilities. While underground, high-voltage transmission line

design would eliminate the above-ground transmission line structures, the cost would be prohibitive due to the differential cost associated with overhead and underground facilities for the approximate 23-mile length of the Proposed Transmission Line.

BEFORE THE
ARKANSAS PUBLIC SERVICE COMMISSION

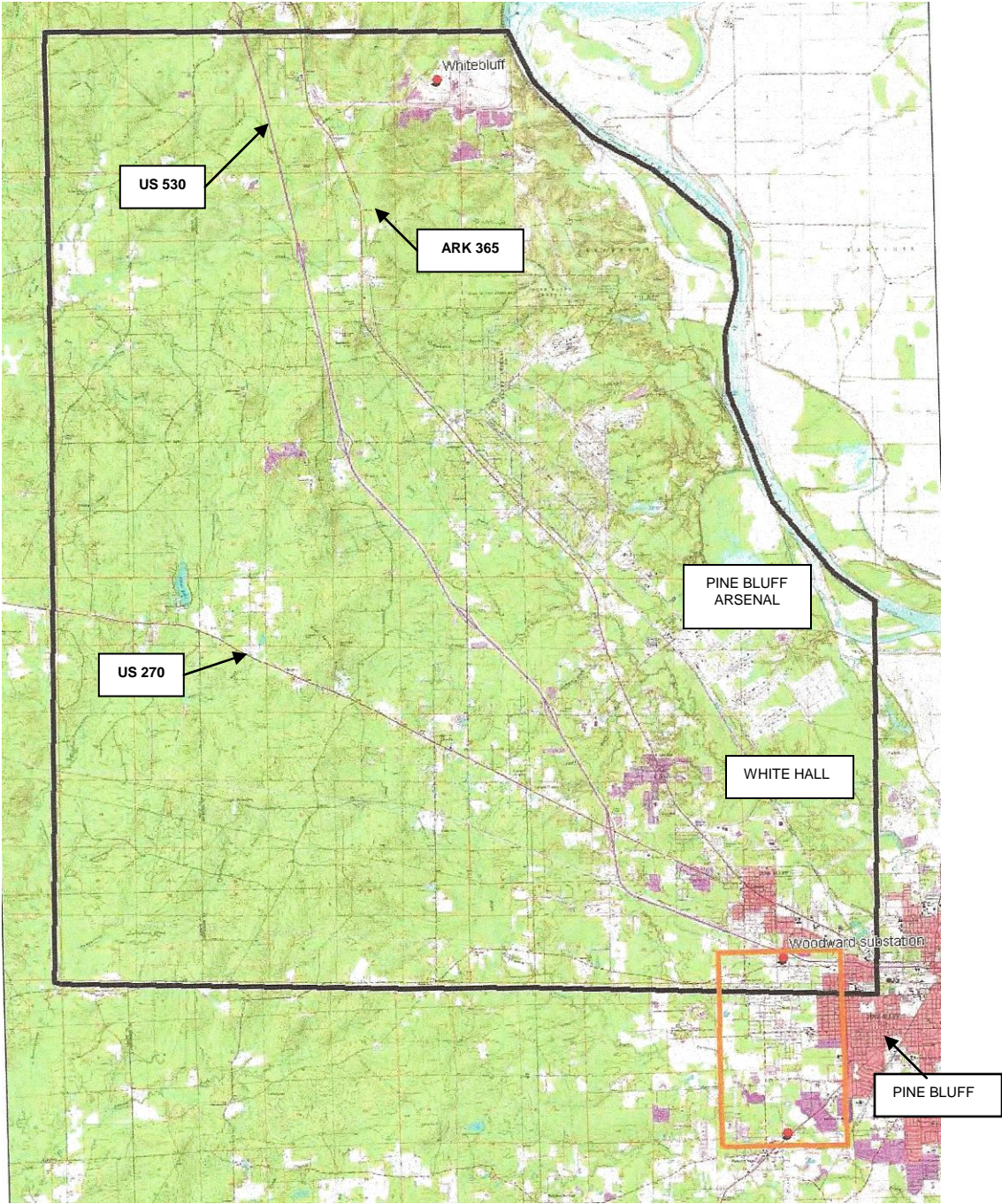
IN THE MATTER OF THE APPLICATION)
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EAI APPLICATION EXHIBIT D

ATTACHMENT 1 – PROJECT STUDY AREA MAP

ENTERGY ARKANSAS, INC
PROJECT STUDY AREA MAP



BEFORE THE
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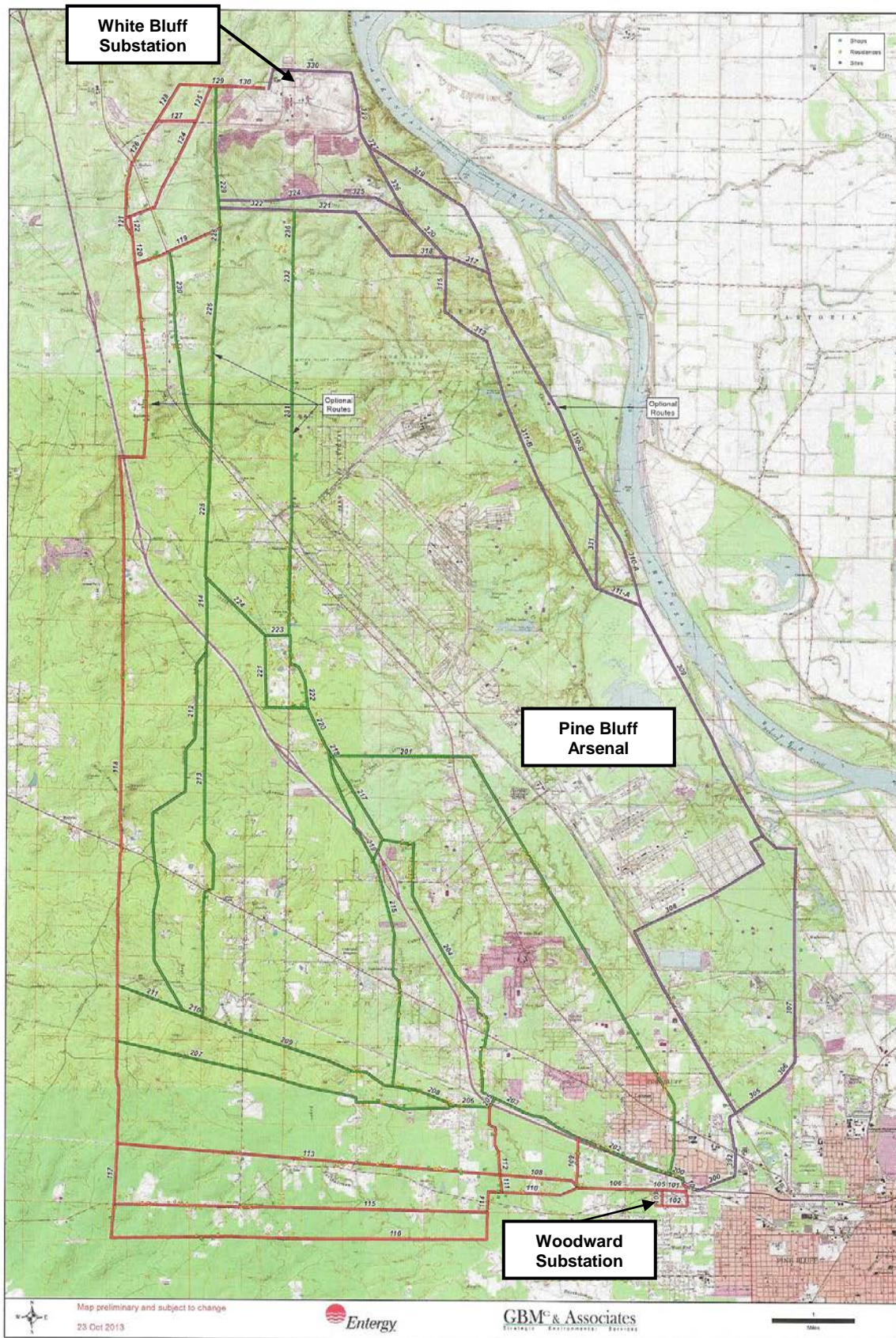
DOCKET NO. 14-043-U

EAI APPLICATION EXHIBIT D

ATTACHMENT 2 – ALTERNATIVE TRANSMISSION LINE SEGMENTS
AND LINE ROUTES

ENTERGY ARKANSAS, INC

ALTERNATIVE LINE SEGMENTS AND ROUTES



Map preliminary and subject to change
23 Oct 2013



IN THE MATTER OF THE APPLICATION)
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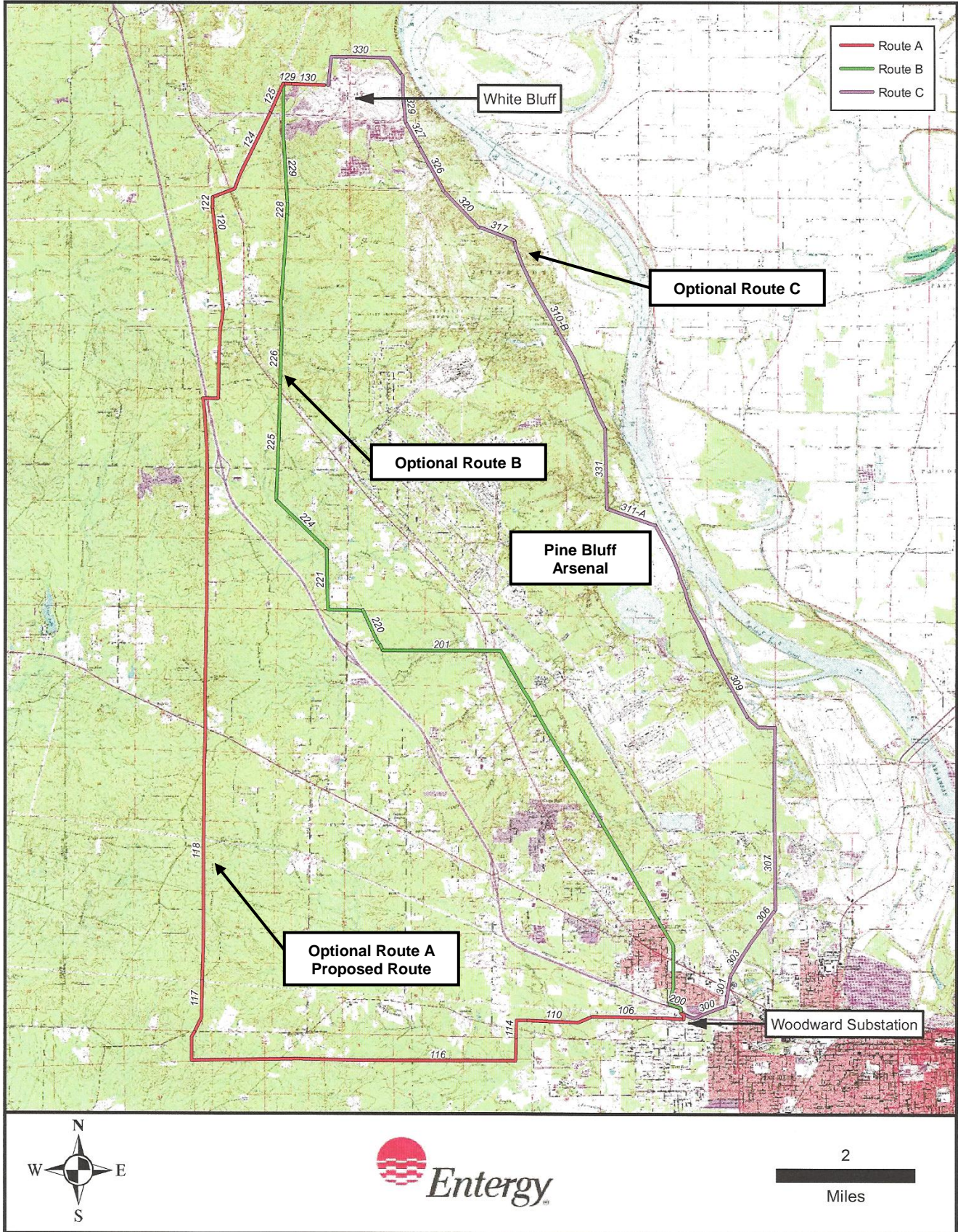
DOCKET NO. 14-043-U

EAI APPLICATION EXHIBIT D

ATTACHMENT 3 – FINAL ALTERNATIVE TRANSMISSION LINE ROUTES

ENTERGY ARKANSAS, INC.

PROPOSED AND OPTIONAL ROUTES



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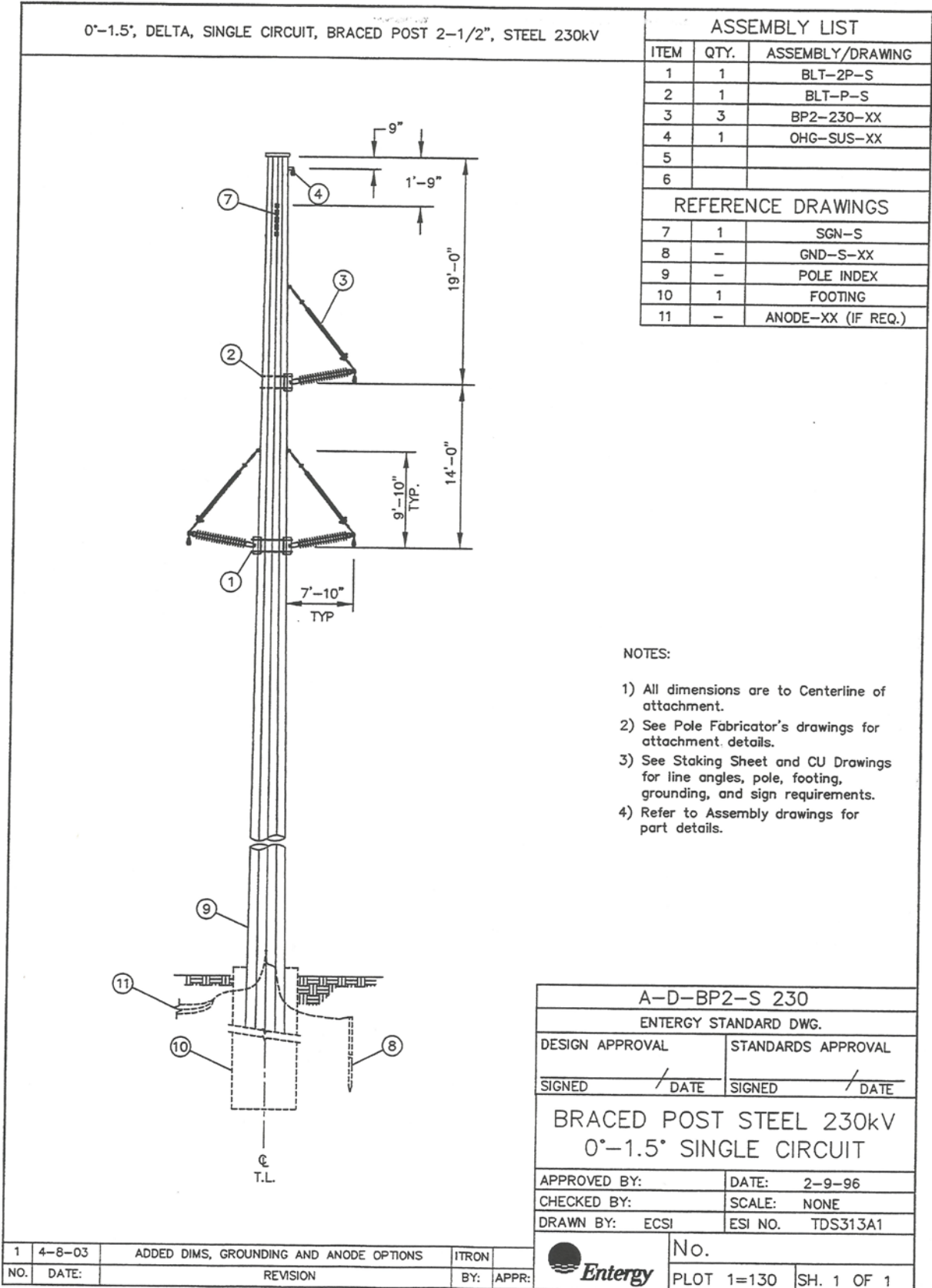
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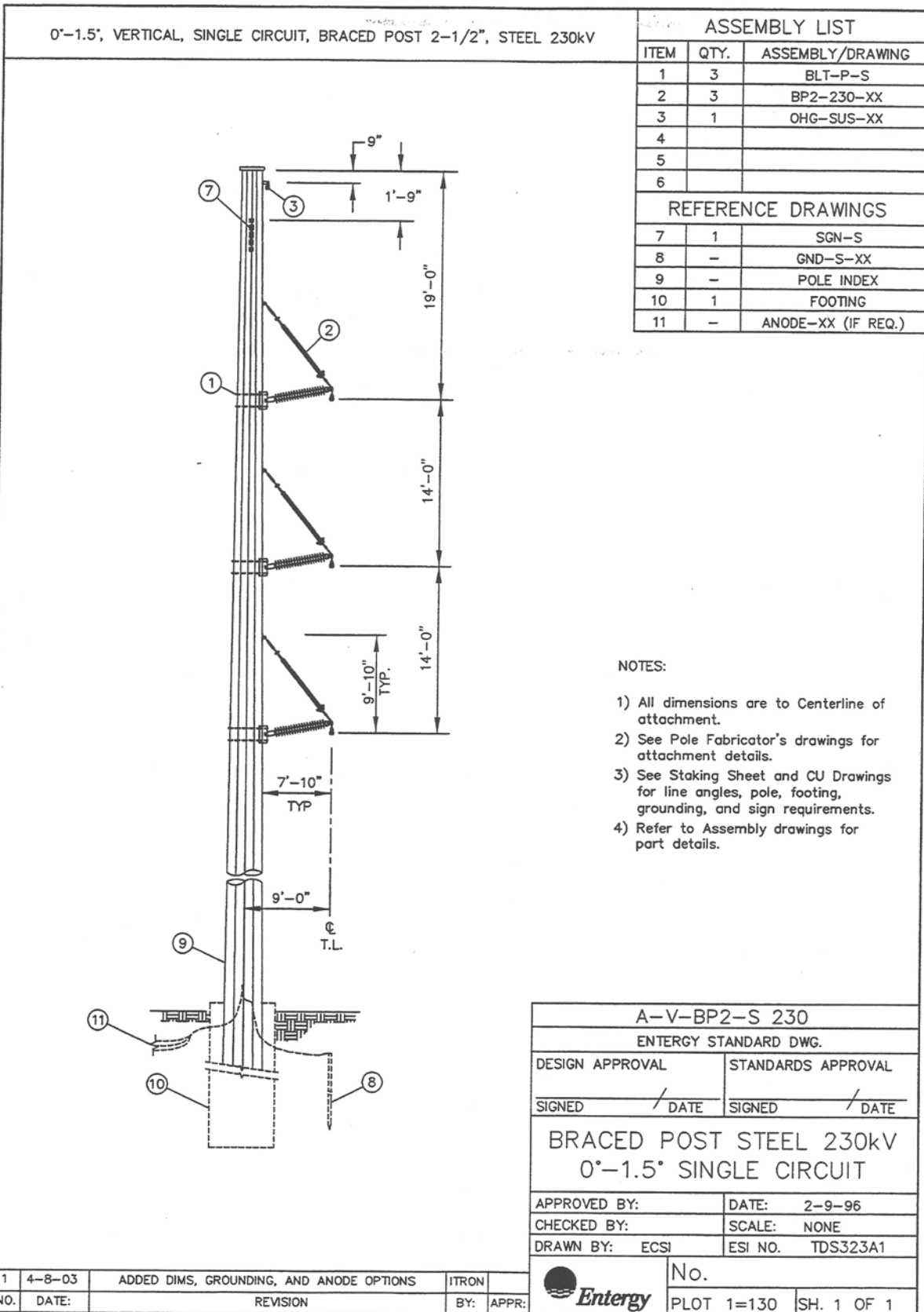
ATTACHMENT 4 – TYPICAL TRANSMISSION LINE STRUCTURE DRAWINGS

230 kV Delta, Braced Post 2.5", Steel, 0° - 1.5°, Single Circuit	-	No. TDS313A1 A-D-BP2-S 230
230 kV Vertical, Braced Post 2.5", Steel, 0° - 1.5°, Single Circuit	-	No. TDS323A1 A-V-BP2-S 230
230 kV Dead-End, Guy (L-ALL), DE Poly, 70° - 120°, Steel, Single Circuit	-	No. TDS368A2 D-LA-DEP-S 230
230 kV Dead-End w/Jumper & Bisector Guy, (B+L-ALL), DE Polymer, Steel, Single Circuit	-	No. TDS362A2 DJB-BL-DEP-S 230

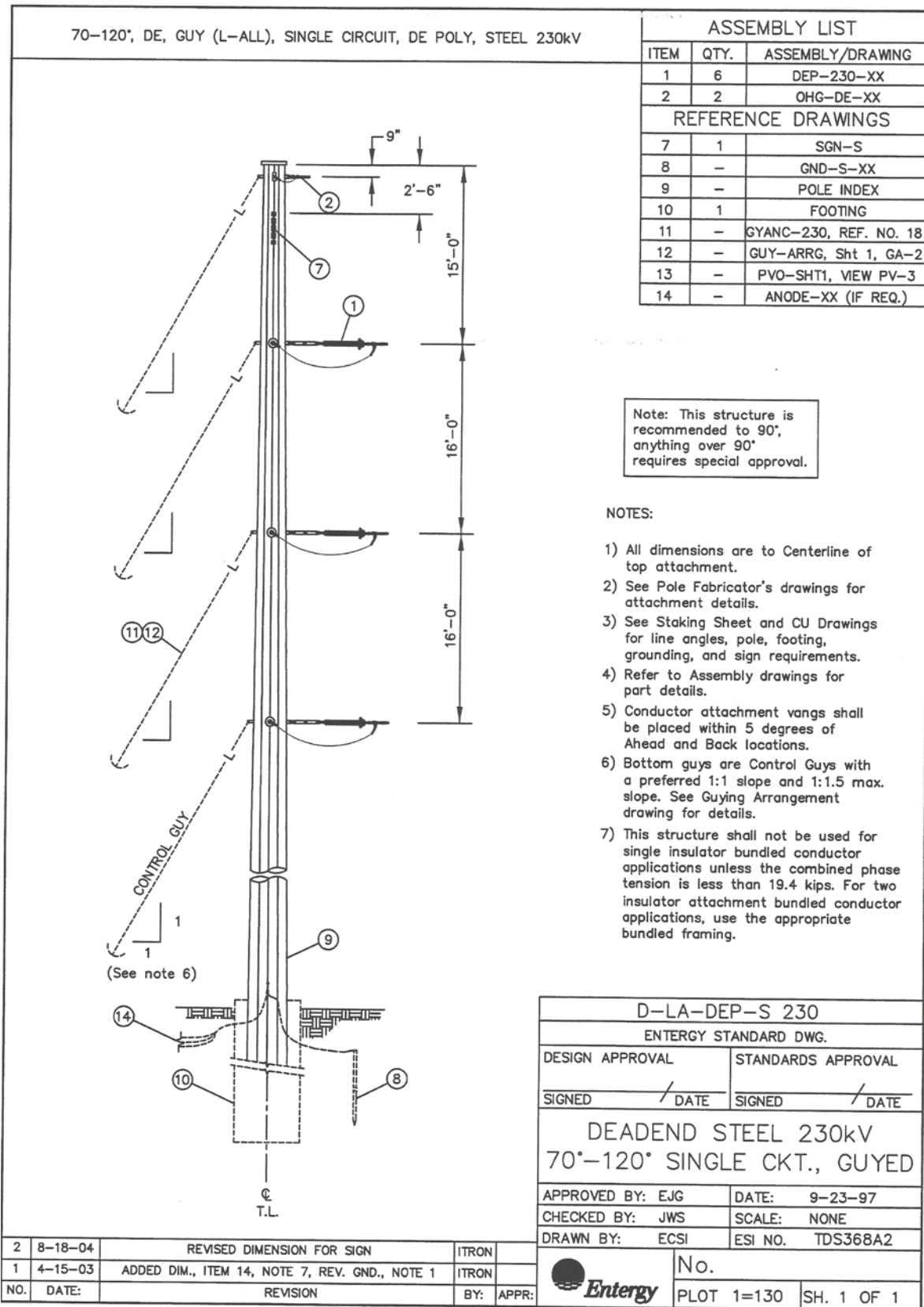
230 KV STEEL TRANSMISSION LINE STRUCTURE



230 KV STEEL TRANSMISSION LINE STRUCTURE



230 KV STEEL TRANSMISSION LINE STRUCTURE



230 KV STEEL TRANSMISSION LINE STRUCTURE

25°-45°, DE w/JUMPER & BISECTOR GUY, GUY (B+L-ALL), SINGLE CIRCUIT, DE POLYMER, STEEL 230kV		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">ASSEMBLY LIST</th> </tr> <tr> <th style="width: 10%;">ITEM</th> <th style="width: 10%;">QTY.</th> <th style="width: 80%;">ASSEMBLY/DRAWING</th> </tr> </thead> <tbody> <tr><td>1</td><td>3</td><td>BLT-P-S</td></tr> <tr><td>2</td><td>6</td><td>DEP-230-XX</td></tr> <tr><td>3</td><td>3</td><td>JLP-230-XX</td></tr> <tr><td>4</td><td>2</td><td>OHG-DE-XX</td></tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">REFERENCE DRAWINGS</th> </tr> <tr> <th style="width: 10%;">ITEM</th> <th style="width: 10%;">QTY.</th> <th style="width: 80%;">ASSEMBLY/DRAWING</th> </tr> </thead> <tbody> <tr><td>7</td><td>1</td><td>SGN-S</td></tr> <tr><td>8</td><td>-</td><td>GND-S-XX</td></tr> <tr><td>9</td><td>-</td><td>POLE INDEX</td></tr> <tr><td>10</td><td>1</td><td>FOOTING</td></tr> <tr><td>11</td><td>-</td><td>GYANC-230, REF. NO. 12</td></tr> <tr><td>12</td><td>-</td><td>GUY-ARRG, Sht 2, GA-4</td></tr> <tr><td>13</td><td>-</td><td>PVO-SHT2, VIEW PV-13</td></tr> <tr><td>14</td><td>-</td><td>ANODE-XX (IF REQ.)</td></tr> </tbody> </table>	ASSEMBLY LIST			ITEM	QTY.	ASSEMBLY/DRAWING	1	3	BLT-P-S	2	6	DEP-230-XX	3	3	JLP-230-XX	4	2	OHG-DE-XX	REFERENCE DRAWINGS			ITEM	QTY.	ASSEMBLY/DRAWING	7	1	SGN-S	8	-	GND-S-XX	9	-	POLE INDEX	10	1	FOOTING	11	-	GYANC-230, REF. NO. 12	12	-	GUY-ARRG, Sht 2, GA-4	13	-	PVO-SHT2, VIEW PV-13	14	-	ANODE-XX (IF REQ.)
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	<p>NOTES:</p> <ol style="list-style-type: none"> 1) All dimensions are to Centerline of top attachment or BLT-XX. 2) See Pole Fabricator's drawings for attachment details. 3) See Staking Sheet and CU Drawings for line angles, pole, footing, grounding, and sign requirements. 4) Refer to Assembly drawings for part details. 5) Conductor attachment vangs shall be placed within 5 degrees of Ahead and Back locations. 6) Bottom guys are Control Guys with a preferred 1:1 slope and 1:1.5 max. slope. See Guying Arrangement drawing for details. 7) This structure shall not be used for single insulator bundled conductor applications unless the combined phase tension is less than 19.4 kips. For two insulator attachment bundled conductor applications, use the appropriate bundled framing. 																																																	
C.L. T.L.		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;">DJB-BL-DEP-S 230</td> </tr> <tr> <td colspan="2" style="text-align: center;">ENTERGY STANDARD DWG.</td> </tr> <tr> <td style="width: 50%;">DESIGN APPROVAL</td> <td style="width: 50%;">STANDARDS APPROVAL</td> </tr> <tr> <td>SIGNED / DATE</td> <td>SIGNED / DATE</td> </tr> <tr> <td colspan="2" style="text-align: center; padding: 5px;"> DEADEND STEEL 230kV 25°-45° SINGLE CKT., GUYED </td> </tr> <tr> <td>APPROVED BY: EJG</td> <td>DATE: 9-23-97</td> </tr> <tr> <td>CHECKED BY: JWS</td> <td>SCALE: NONE</td> </tr> <tr> <td>DRAWN BY: ECSI</td> <td>ESI NO. TDS362A2</td> </tr> <tr> <td colspan="2" style="text-align: center;"> No. </td> </tr> <tr> <td colspan="2" style="text-align: center;"> PLOT 1=130 SH. 1 OF 1 </td> </tr> </table>	DJB-BL-DEP-S 230		ENTERGY STANDARD DWG.		DESIGN APPROVAL	STANDARDS APPROVAL	SIGNED / DATE	SIGNED / DATE	DEADEND STEEL 230kV 25°-45° SINGLE CKT., GUYED		APPROVED BY: EJG	DATE: 9-23-97	CHECKED BY: JWS	SCALE: NONE	DRAWN BY: ECSI	ESI NO. TDS362A2	No.		PLOT 1=130 SH. 1 OF 1																													
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ENTERGY ARKANSAS, INC.

TYPICAL 230 KV TRANSMISSION LINE STRUCTURE



BEFORE THE
ARKANSAS PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION)
OF ENTERGY ARKANSAS, INC. FOR A)
CERTIFICATE OF ENVIRONMENTAL)
COMPATIBILITY AND PUBLIC NEED)
TO CONSTRUCT AND OPERATE A 230 KV)
TRANSMISSION LINE AND ASSOCIATED)
TRANSMISSION FACILITIES IN)
JEFFERSON COUNTY, ARKANSAS)

DOCKET NO. 14-043-U

EAI APPLICATION EXHIBIT E

CERTIFICATION OF PROOF OF SERVICE

BEFORE THE
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IN THE MATTER OF THE APPLICATION)
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JEFFERSON COUNTY, ARKANSAS)

CERTIFICATION OF PROOF OF SERVICE

I, Steven K. Strickland – Vice President, Regulatory Affairs -- Arkansas, for Entergy Arkansas, Inc. -- certify that pursuant to Rules 3.03(b)(3) of the Rules of Practice and Procedure of the Arkansas Public Service Commission and Ark. Code Ann. § 23-18-513, each owner of real property on the proposed transmission line route, shown on the attached list #1, was served notice of the filing of the Application in this Docket by certified mail; each owner of real property on the alternative transmission line routes, shown on the attached list #2, was served notice of the filing of the Application in this Docket by certified mail; and each government official shown on the attached list #3 was served notice to include a copy of the Application and exhibits filed in this Docket by first class mail or personal delivery. A representative copy of the form letters of notification of the Application filing to these landowners and government officials, including a route location map is filed in EAI Exhibit GAB-3 in the Direct Testimony of Company Witness Greg A. Borne.

In addition, I certify that copies of the Application, Testimony, and Exhibits, to include the Environmental Impact Statement, have been placed in the following Libraries in Jefferson County: (1) Altheimer Public Library; (2) Cora Matheny Economos White Hall Public Library; (3) Pine Bluff and Jefferson County Library HQ; (4) Redfield Public Library - Leenita Gober Cotheran Memorial; (5) Southeast Arkansas College Library and Center for E-Learning; (6) John B. Watson Memorial Library – UAPB; and (7) Watson Chapel Public Library.

A copy of the letter transmitting the filing documents to each of the libraries is attached.



Steven K. Strickland
Vice President, Regulatory Affairs
Entergy Arkansas, Inc.

LANDOWNER LIST #1 – PROPOSED ROUTE

LAST NAME	FIRST NAME	ADDRESS	CITY	ST	ZIP
GRISSOM ALLEN TRUSTEE		GRISSOM FAMILY TRUST 2802 W 40TH AVE	PINE BLUFF	AR	71603
C & J INC		22 W SOUTHERN PINES DR	PINE BLUFF	AR	71603
ABRAM	ALLA B HENCE	8348 WAVERLY AVE	KANSAS CITY	KS	66109
ALFORD	CHARLES & WF	3108 ALFORD LN	PINE BLUFF	AR	71602
ALFORD	KEITH & WF	113 ROSE ST	HARRISON	AR	72601
AMERICAN TIMBERLAND LLC		ATTN REGIONS TIMBERLAND GROUP 1180 W PEACHTREE ST STE 1200	ATLANTA	GA	30309
ARK STATE HWY COMM		PO BOX 2261	LITTLE ROCK	AR	72203
ASHMORE	CARRIE	PO BOX 6281	PINE BLUFF	AR	71611
AZLIN	DAVID L ET AL	114 DOGWOOD AVE	WHITE HALL	AR	71602
BASS	JAMES JR & LETZY	3603 S MISSOURI ST	PINE BLUFF	AR	71601
BAUGH		ATTN JIMMY BAUGH SR 516 W STAGECOACH RD	JEFFERSON	AR	72079
BAUGH	FRANKLIN P IV & JAMES D	10 GOLF COURSE RD	ELDON	MO	65026
BAUGH	EDDIE & WF	4708 HIGHWAY 365 S	JEFFERSON	AR	72079
BIRAM	ANTHONY N	PO BOX 301	JEFFERSON	AR	72079
BISHOP	JERRY W & LARRY D ET AL	9605 WEDDINGTON RD	FORT SMITH	AR	72908

BLEVINS	PAULETTE	1704 W 19TH ST	LITTLE ROCK	AR	72202
BLUE SKY TIMBER PROPERTIES LLC		150 AIRPORT RD	HOPE	AR	71801
BLUFF ASSOC LTD PARTNERSHIP		ATTN ENTERGY TAX DEPT L-ENT-12B 639 LOYOLA AVE	NEW ORLEANS	LA	70113
BRAINARD	WARREN D	ATTN JAMES ABBOTT 2206 COUNTRY CLUB LN	LITTLE ROCK	AR	72207
BRANTLEY	ALVA DUEL & WF	2256 BRADFIELD RD	RUSSELLVILLE,	AR	72802
BREEDING	CHAD & TONIA BABCOCK	600 KEARNEY RD	REDFIELD	AR	72132
BROWN & BROWN LAND & TIMBER LLC		PO BOX 927	SHERIDAN	AR	72150
BUCHAN	REBECCA JANE	PO BOX 62	GRADY	AR	71644
BUTLER	ELTON & WF	7325 EUCLID AVE	KANSAS CITY	MO	64132
C & J INC		22 W SOUTHERN PINES DR	PINE BLUFF	AR	71603
CALVERT	CHARLES T	412 THOMAS RD	PINE BLUFF	AR	71602
CALVERT	JERRY WAYNE	ATTN MARGARET BELL504 THOMAS RD	PINE BLUFF	AR	71602
CANNON	HENRY	ATTN BERTHA PITTS 4707 S CHARLES RD	BELLWOOD	IL	60104
CANNON	ROBERT S & WF	300 WOODLAND DR & 306	REDFIELD	AR	72132
CANNON	SHERMAN	ATTN BERTHA PITTS 4539 LEE BERRY RD	PINE BLUFF	AR	71602
CANNON	O C & WF	3001 CLAUD RD	WHITE HALL	AR	71602
CANNON CONTRACTING INC		6404 PRINCETON PIKE	PINE BLUFF	AR	71602

CASH	DAVID M & WF	PO BOX 203	JEFFERSON	AR	72079
CHAPMON	BILLIE J & WF	3401 FERNLEAF DR	PINE BLUFF	AR	71602
CLARK	JAMES B & LISA	PO BOX 124	JEFFERSON	AR	72079
CLARK	JAMES JR & WF	1326 RED STAG PL	ROUND ROCK	TX	78665
COCKRELL	HORACE DAVID JR	407 E HOLLAND AVE	WHITE HALL	AR	71602
COCKRELL	BARRY	213 BOYS SCHOOL RD	PINE BLUFF	AR	71602
COCKRELL	AUSTIN B	213 BOYS SCHOOL RD	PINE BLUFF	AR	71602
COCKRELL	SAMUEL B	7701 PRINCETON PIKE	PINE BLUFF	AR	71602
COCKRELL	BRIAN L	7901 PRINCETON PIKE	PINE BLUFF	AR	71602
CONWAY	OLIVIA ET AL	12823 S JUSTINE ST	CALUMET PARK	IL	60643
CRABB	GWENDOLYN D	3710 WALLS RD	PINE BLUFF	AR	71602
CRAIG	KENNETH L & WF	640 W MAIN ST	CARBONDALE	KS	66414
CROW	PATRICIA	3301 FERNLEAF DR	PINE BLUFF	AR	71602
DANAHER & DANAHER		3211 CANAL DR	PINE BLUFF	AR	71602
DANIELS	CARRIE ET AL	ATTN ROY OLIVER 428 ADELAIDE ST	MADERA	CA	93638
DEHART	JIM L	10450 SUMMERS RD	PINE BLUFF	AR	71602
DELTA SOUTHERN RESOURCE LLC		17732 HIGHLAND RD STE G-285	BATON ROUGE	LA	70810

DELTIC TIMBER CORP		P.O. BOX 7200	EL DORADO	AR	71731
DODD	PEGGY LYNN ET AL	501 BRANTLEY RD	PINE BLUFF	AR	71602
DYKE	BUDDY HAROLD & WF	9106 E SWAN LAKE REC RD	ALTHEIMER	AR	72004
DYKES	DONNA S	10601 SUMMERS RD	PINE BLUFF	AR	71602
EDWARDS	SHIRLEY ET AL	2017 N PRYCE ST	PINE BLUFF	AR	71602
ESQUIBEL	TERRY	4790 APPIAN WAY	WHITE HALL	AR	71602
EVANS	CURTIS & WF	4705 LEE BERRY RD	PINE BLUFF	AR	71602
FARNSWORTH	GLEN DALE & JOANN	2905 WALNUT	BENTON	AR	72019
FARNSWORTH	ANDY & WF	213 WOODLAND DR	REDFIELD	AR	72132
FITZHUGH	KATHLEEN J	602 LONGLEAF LN	WHITE HALL	AR	71602
FOUR H PROPERTIES INC		PO BOX 1466	MAGNOLIA	AR	71753
FURGASON	HEATHER E	2314 HIGHWAY 365 S	REDFIELD	AR	72132
GARLAND	SHEILA E	5601 W BARRAQUE ST	PINE BLUFF	AR	71602
GARNER	JAMES & WF	614 WINCHESTER AVE	WHITE HALL	AR	71602
GOMAN	SHANE L	1312 STOWE RD	PINE BLUFF	AR	71602
GRANT OLIVER INC		622 W PRATT RD	LITTLE ROCK	AR	72206
GRAYAM	CHARLES LEARLIE	120 JEFFERSON CEMETERY RD	JEFFERSON	AR	72079

GREEN	SAMUEL H JR ET AL	76 GRANT 445	PRATTSVILLE	AR	72129
HARNESS	RAY D	319 W STAGECOACH RD	JEFFERSON	AR	72079
HARRIS	SHARON A	PO BOX 21464	WHITE HALL	AR	71612
HARRIS	LARRY W & JAMES FINKS JR	1521 LINDSEY DR	PINE BLUFF	AR	71603
HARRIS	RONALD L & WF	655 NCTR RD	REDFIELD	AR	72132
HAYDEN	LYNDAL J BAUGH	530 W STAGECOACH RD	JEFFERSON	AR	72079
HENDRIX	GLEN W & WF	6001 FARM LN	PINE BLUFF	AR	71603
HENNING	WILLIAM	101 E THOMAS ST	SULPHUR	LA	70663
HERITAGE LAND & TIMBER LLC		7510 HIGHWAY 300	LITTLE ROCK	AR	72223
HERREN	CHARLES T & WF	212 WOODLAND DR	REDFIELD	AR	72132
HERRING	ROBERT C JR & WF	12101 HIGHWAY 270	WHITE HALL	AR	71602
HIXSON PROPERTIES LLC		PO BOX 816028	DALLAS,	TX	75381
HOBBS	GLEN ALAN	508 WOODLAND DR	REDFIELD	AR	72132
HODGES	SANDY	401 WOODLAND DR	REDFIELD	AR	72132
HOOPER	LYNETTE	1822 TURNER DR	HOUSTON	TX	77093
IRVIN HARVESTER ET AL		ATTN MATHEW ERVIN 3009 S CHERRY ST	PINE BLUFF	AR	71603
JAGGERS	CHRISTOPHER D	1106 STOWE RD	PINE BLUFF	AR	71602

JEFF SAMP & DEX WTR USERS ASSN		PO BOX 1	JEFFERSON	AR	72079
JOHNSON	MORRIS & WF	6801 SUNSET RD	PINE BLUFF	AR	71602
JOHNSON	WALTER JOHN & WF	10034 WEBSTER RD	PINE BLUFF	AR	71602
JOHNSON	GLAYTON	322 S LARCH ST	PINE BLUFF	AR	71601
KELLEY	JOHNNY O & WF	8217 PRINCETON PIKE	PINE BLUFF	AR	71602
KELLEY	JOHNNY & LINDA	426 LONGLEAF LN	WHITE HALL	AR	71602
KELLEY	DANIEL A	4572 CHANDLER RD	JEFFERSON	AR	72079
KIRKPATRICK	PATSY D B ET AL	11806 STYLES RD	BAUXITE	AR	72011
KITTLER	BILLY D & WF	905 W 44TH AVE	PINE BLUFF	AR	71603
KNIGHT	JAMES & WF	1628 GRANT 77	SHERIDAN	AR	72150
LAUNIUS	JANELLE W	6305 GRANADA TRL	PINE BLUFF	AR	71603
LEVER	JULIUS C	211 N CHERRY ST	PINE BLUFF	AR	71601
LEVER	ROBERTHA ET AL	ATTN JAMES & E J GREEN 982 BOSTON RD	STAR CITY	AR	71667
LEVER	J D ET AL	425 CENTRAL PARK WEST APT 5J	NEW YORK	NY	10025
LOCKHART	ART & WF	717 ELKINS RD	PINE BLUFF	AR	71602
MAY	DARREL RAY & WF	10819 SUMMERS RD	PINE BLUFF	AR	71671
MCBEE	PHILLIP M & MARY STOWE	1413 STOWE RD	PINE BLUFF	AR	71602

MCBEE	MARY	307 STEVE DR	PINE BLUFF	AR	71602
MCCORMICK	PERVIA BEATRICE ET AL	ATTN THOMAS E BARNES 2516 N 11TH ST	KANSAS CITY	KS	66104
MCGARITY	CHARLES W & MELISSA D	803 HILBURN RD	KILGORE	TX	75662
MCKISSACK	JIMMIE	3418 HIGHWAY 65 S	PINE BLUFF	AR	71603
MEDLOCK	KEVIN L & WF	4201 GERMAN SPRINGS RD	PINE BLUFF	AR	71602
MERRITT MCCLARY & FRANCES TRUST		11160 PRINCETON PIKE	PINE BLUFF	AR	71602
MILLIGAN	SAVERN DALE & WF	7 LAKEWOOD LN	PINE BLUFF	AR	71603
MOORE	THOMAS H	11531 HIGHWAY 270	WHITE HALL	AR	71602
MOORE	JOHN A	3200 KRISTI DR	PINE BLUFF	AR	71602
MOSELEY	CLYDE DERIAL	3310 FERNLEAF DR	PINE BLUFF	AR	71602
MOSELEY	CLYDE DERIAL & WF	HC 73 BOX 198-7	STAR CITY	AR	71667
MULLIKIN	LEWIS DEE & WF	PO BOX 20006	WHITE HALL	AR	71612
NELSON ALTA M REVOCABLE TRUST		126 SILVERWOOD PT	HOT SPRINGS	AR	71913
NICHOLS	ROSA SHARON GEORGE	12403 CANTATA CT	SUN CITY	AZ	85351
OAKLEY	DILLARD B & FRANKIE B TR	9015 SHADY DR	PINE BLUFF	AR	71603
OAKLEY	KENNETH B	GRANT 748	SHERIDAN	AR	72150
OLIVER	GRANT E	720 KEARNEY RD	REDFIELD	AR	72132

OLLOWAY	C W	200 CHARLESTOWNE DR	MADISON	MS	39110
PANELL	HAROLD WAYNE	320 WOODLAND DR	REDFIELD	AR	72132
PARADISE PROPERTIES		12400 VENTURA BLVD #400	STUDIO CITY	CA	91604
PECK	CHRIS & WF	PO BOX 82	JEFFERSON	AR	72079
PINE BLUFF SAND & GRAVEL CO		PO BOX 7008	PINE BLUFF	AR	71611
PITTS BERTHA L TRUSTEE REVOCABLE		4539 LEE BERRY RD	PINE BLUFF	AR	71602
PLUM CREEK TIMBERLANDS LP		ATTN CHARLOTTE MILLER 128 MAIN ST	CROSSETT	AR	71635
PLUM CREEK TIMBERLANDS LP		999 THIRD AVE STE 4300	SEATTLE	WA	98104
PRIDGEON	CLAUDE ALLEN & WF	9871 WEBSTER RD	PINE BLUFF	AR	71603
RAWLINGS	JOHN A	PO BOX 177	STAR CITY	AR	71667
RAY	ROSA SHARON GEORGE	12403 CANTATA CT	SUN CITY	AZ	85351
RETT	CLARA B ET AL	2522 WINONA ST	FLINT	MI	48504
ROMINE	DONALD W & JUDY A	507 WOODLAND DR	REDFIELD	AR	72132
RYAN	BILLY R	2200 TARGET VALLEY RD	PINE BLUFF	AR	71603
S & J TAYLOR FAMILY LTD PTNR		140 GRANT 167077	SHERIDAN	AR	72150
SANDERS	BILLY W & WF	700 GANDY AVE	WHITE HALL	AR	71602
SANDERS HILL LLC		PO BOX 20334	WHITE HALL	AR	71612

SCRUGGS	DONNA ET AL	P.O. BOX 14	JEFFERSON	AR	72079
SEXTON	HERMAN L & WF	1421 LAUREL HALL LN	LITTLE ELM	TX	75068
SIMMONS	MARY ANN P	2 SHALLOWBROOK DR	O FALLON	IL	62269
SMITH	CHARLIE L & WF	10416 SUMMERS RD	PINE BLUFF	AR	71602
SORTAY INVESTMENTS LLC		140 GRANT 167077	SHERIDAN	AR	72150
STARKS	LEON & WF	215 N BRYANT ST	PINE BLUFF	AR	71602
STELL	DENNIS & DIANA K	149 CEDAR VALLEY RD	FAIRFIELD BAY	AR	72088
STINGLEY	DERRICK ET AL	7846 N SHERMAN BLVD	BROWN DEER	WI	53209
STINGLEY	CRAIG L & DERRICK V	3336 N 48TH ST	MILWAUKEE	WI	53216
STOKES	THEODORE R JR	327 W STAGECOACH RD	JEFFERSON	AR	72079
STORZ	ELLEN B	4527 CHANDLER RD	JEFFERSON	AR	72079
STORZ	KEVIN D & HEATHER E	4527 CHANDLER RD	JEFFERSON	AR	72079
SUMMERS	EUARL C & LOIS J	12100 HIGHWAY 270	WHITE HALL	AR	71602
TAYLOR	CEDRIC	7919 PRINCETON PIKE	PINE BLUFF	AR	71602
TAYLOR	JASPER M & SYLVIA	2601 W PULLEN ST	PINE BLUFF	AR	71601
THOMAS	MALEDA FAMILY LLC	3800 S VIRGINIA ST	PINE BLUFF	AR	71601
THOMAS MALEDA FAMILY LLC		3800 S VIRGINIA ST	PINE BLUFF	AR	71601

TILLMAN	BRENDA S	2 CINDERELLA CIRCLE	LITTLE ROCK	AR	72204
TP FORESTLANDS LLC		PO BOX 390	WARREN	AR	71671
TRANTHAM	MARY	1300 STOWE RD	PINE BLUFF	AR	71602
TURNER	MILDRED MULLIKIN	9106 MIDDLE WARREN RD	PINE BLUFF	AR	71603
TYLER	TERESA ANN	2410 W REEKER ST	PINE BLUFF	AR	71601
VANDERHOOF	JOHN M JR & CHRISTINE	PO BOX 20334	WHITE HALL	AR	71612
VICTORY FAITH CHRISTIAN CENTER		1517 S POPLAR ST	PINE BLUFF	AR	71601
WALLS	EZELL JR	32556 REGENTS BLVD	UNION CITY	CA	94581
WATSON	MOSE & MATTIE	4113 W 11TH AVE	PINE BLUFF	AR	71603
WHITMORE	KEN & WF	7907 PRINCETON PIKE	PINE BLUFF	AR	71602
WIL-LEY PARTNERSHIP		8530 HIGHWAY 35 N	RISON	AR	71665
WILLINGHAM	NATASHA	1600 DANCING RABBIT DR	PINE BLUFF	AR	71603
WILLIS	ARTHIELIA S	3301 WILLIS RD	WHITE HALL	AR	71602
WILLIS	GLEN D & BARBARA A	3403 WILLIS RD	WHITE HALL	AR	71602
WILLIS	CLOYD R JR ET AL	2004 VAUGINE ST	PINE BLUFF	AR	71601
WILLIS	LEYDELL JOHNSON ET AL	2004 VAUGINE ST	PINE BLUFF	AR	71601
WILSON FRANK & GRADY PARTNERSHIP		8530 HIGHWAY 35 N	RISON	AR	71665

WISELOGEL	NORA M NELSON	14840 BRANSTEN CT	MORGAN HILL	CA	95037
YORK	DAVID & WF	P.O. BOX 51	JEFFERSON	AR	72079
YORK	CONNIE S	P.O. BOX 51	JEFFERSON	AR	72079
YOUNG	TERRANCE A	PO BOX 9033	PINE BLUFF	AR	71611
YOUNG	TIMOTHY H & WF	PO BOX 2202	PINE BLUFF	AR	71613

LANDOWNER LIST #2 – ALTERNATE ROUTES

LAST NAME	FIRST NAME	ADDRESS	CITY	ST	ZIP
CITY OF WHITE HALL		PO BOX 20100	WHITE HALL	AR	71612
HARTFIELD FAMILY TRUST		3903 MCFADDEN RD	PINE BLUFF	AR	71602
5311 INDUSTRIAL DRIVE LLC		ATTN STEPHEN NICOLAI 1793 ENTERPRISE PKWY	TWINSBURG	OH	44087
ADAIR	MARCUS L	14808 DOLLARWAY RD	WHITE HALL	AR	71602
ALLEN	LARRY	3202 W HIGH ST	PINE BLUFF	AR	71601
ALLRED	STEPHEN C	2523 N PRYCE ST	PINE BLUFF	AR	71602
ALLRED	CHARLES WAYNBURN	3200 HIGHWAY 104	PINE BLUFF	AR	71601
ALLTEL COMM WIRELESS INC		ATTN: NETWORK REAL ESTATE 180 WASHINGTON VALLEY RD	BEDMINSTER	NJ	7921
ANN BARTLETT PUGH TRUSTEE ET AL	HOWARD BARTLETT FAMILY TRUST	1700 W 35TH AVE	PINE BLUFF	AR	71603
AR STATE HWY COMM		PO BOX 2261	LITTLE ROCK	AR	72203
ARCHER	WANDA	2308 N HUTCHINSON ST	PINE BLUFF	AR	71602
ASHMORE	MARILYN	14826 DOLLARWAY RD	WHITE HALL	AR	71602
BANKS ET AL	THELMA WILLIAMS	PO BOX 315	REDFIELD	AR	72312
BASCOM SOUTHERN LLC		ATTN JENNIFER CARD 3850 OLD HWY 45N	MERIDIAN	MS	39301
BEJAY FARMS INC		ATTN BILL JONES 54 WELLINGTON COLONY DR	LITTLE ROCK	AR	72211

BENTON ET AL	ANN BARTLETT TRUST	1701 W 35TH AVE	PINE BLUFF	AR	71603
BLACKWELL, TRUSTEE	WANDA A	121 EARLS POINT	HOT SPRINGS	AR	71913
BLAYLOCK	CHARLES	1101 LAKEVIEW DR	WHITE HALL	AR	71602
BLEVINS	EDWARD EUGENE	1101 ROBIN RD	WHITE HALL	AR	71602
BOATRIGHT	CAROLYN & JAMES BAILEY	2219 N PRYCE ST	PINE BLUFF	AR	71602
BOHANNAN	CHARLES D & LENA M	1708 BUSH ST	PINE BLUFF	AR	71602
BOHANNON	LENA & CHARLES D	1712 BUSH ST	PINE BLUFF	AR	71602
BOHANNON	DOUG	1708 BUSH ST	PINE BLUFF	AR	71601
BONE	TOMMY DALE	PO BOX 787	STRONG	AR	71765
BONNER TRUST ET AL	CHARLES R	3902 S HOLLY ST	PINE BLUFF	AR	71603
BOSWELL	DOVIE LOUISE	ATTN DOVIE BOSWELL PO BOX 1381	ROCKDALE	TX	76567
BOUDRA	DEBRA	204 MUSGROVE RD	WHITE HALL	AR	71602
BOWERS	FRANK	707 ROSS LN	WHITE HALL	AR	71602
BRADLEY ET AL	TROY C & WF	111 W 4TH ST	FORDYCE	AR	71742
BRANTON	LUCILLE E	ATTN WILEY A BRANTON JR 138 MARGEAUX DR	MAUMELLE	AR	72113
BRAZEALE GENE LUMBER CO INC		1858 HIGHWAY 128	SPARKMAN	AR	71763
BRENKE	WHITNEY L & CHARLES Q	3195 DAN RD	WHITE HALL	AR	71602

BRIDGEFORTH	NEODROS V TR	601 W 120TH ST	LOS ANGELES	CA	90044
BROWN	LARRY D & WF	3818 MCFADDEN RD	PINE BLUFF	AR	71602
BROWN	STEVEN S & WF	3312 MCFADDEN RD	PINE BLUFF	AR	71602
BROWN	THOMAS EDWARD	1715 W 35TH AVE	PINE BLUFF	AR	71602
BROWN ET AL	FELIX MARVIN	6823 BROWN RD	PINE BLUFF	AR	71602
BROWN THOMAS E TRUSTEE		1715 W 35TH AVE	PINE BLUFF	AR	71603
BRUNSTON	BONNIE & JULIA	ATTN MARION BRUNSTON 5617 SMART ST	PINE BLUFF	AR	71602
BUCKINGHAM	GWENDOLYN THOMAS TR	PO BOX 1511	PINE BLUFF	AR	71613
BUMPASS	RANDY	5010 N SASSAFRAS TRL	WHITE HALL	AR	71602
BURGESS	SCOTT E	609 E HOLLAND AVE	WHITE HALL	AR	71602
BURNLEY	CURTIS	4108 MCFADDEN RD	PINE BLUFF	AR	71602
BUSH, SR	TOMMY E	4317 MCFADDEN RD	PINE BLUFF	AR	71602
C & J INC		22 W SOUTHERN PINES DR	PINE BLUFF	AR	71603
CARTER	RALPH E	801 LONGLEAF LN	WHITE HALL	AR	71602
CH TRIPLETT CO.		PO BOX 6206	PINE BLUFF	AR	71611
CHAPMON	RAY LARRY	2801 HIGHWAY 104	PINE BLUFF	AR	71602
CHASTAIN ARKANSAS GROUP LLC		10741 GREY HERON CT	PORT SAINT LUCIE	FL	34986

CITY OF PINE BLUFF		200 E 8TH AVE	PINE BLUFF	AR	71601
COLLINS	BUSTER L	3310 HIGHWAY 104	PINE BLUFF	AR	71601
CONNER	DOUGLAS	4300 CHARLES RD	WHITE HALL	AR	71602
COOLEY	JOHNNY J	13211 DOLLARWAY RD	WHITE HALL	AR	71602
CORLEY	DENNIS A	3501 PERSONAL DR	WHITE HALL	AR	71602
COX	E HARLEY	10 JEFFERSON PL	PINE BLUFF	AR	71603
CRAIG	LEVI T	6222 KILCREASE RD	PINE BLUFF	AR	71603
CROMWELL	JAY & KAY	3300 HIGHWAY 104	PINE BLUFF	AR	71601
CUMMINGS	VARLON RAY	1309 CANEY RD	PINE BLUFF	AR	71602
CUMMINGS	RAYMOND & LACENE S	1107 CANEY RD	PINE BLUFF	AR	71602
DANIEL	CARLA	90 S RICHARD DR	PINE BLUFF	AR	71602
DARBY	WILLIAM H & RUBY LEE	19 WINTHROP POINT	LITTLE ROCK	AR	72211
DAVID A & BARBARA J JAMES TRUST		2805 HIGHWAY 104	WHITE HALL	AR	71602
DEJARNETTE	SHERI	408 NATURAL DR	WHITE HALL	AR	71602
DELTA NATURAL KRAFT LLC		1701 JEFFERSON PKWY	PINE BLUFF	AR	71602
DELTA SOUTHERN RESOURCE LLC		17732 HIGHLAND RD STE G-285	BATON ROUGE	LA	70810
DIAMOND H CORP		8637 W GILMORE AVE	LAS VEGAS	NV	89129

DILLARD, ET AL	BARBARA	4800 S SASSAFRAS TRL	WHITE HALL	AR	71602
DOMINIQUE	JOHN M & SHERRI	5200 N SASSAFRAS TRL	WHITE HALL	AR	71602
DOMON	LEIGH ANN	902 ELLEN DR	WHITE HALL	AR	71602
DORRIS, SR	DOUGLAS	10914 DOLLARWAY RD	WHITE HALL	AR	71602
DOUCEY	RICKEY & BRENDA	305 WHITEFIELD DR	WHITE HALL	AR	71602
DRAUGHN	LENNIE	12202 BLAKLEY AVE	LOS ANGELES	CA	90059
EARHART	DENNIS & WF	3404 MCFADDEN RD	PINE BLUFF	AR	71602
ECONOMIC DEL ALLIANCE OF JEFF CO		PO BOX 5069	PINE BLUFF	AR	71611
EDWARDS, TRUSTEE	DAVID L	4709 CHARLES RD	WHITE HALL	AR	71602
ELLIS	FRANKLYN D	3116 HIGHWAY 104	PINE BLUFF	AR	71601
FORD	DAVID	4810 S SASSAFRAS TRL	WHITE HALL	AR	71602
FRANKLIN	A D	4130 MCFADDEN RD	PINE BLUFF	AR	71602
FUNDERBURG	WILLIAM JR& LOLA (BD)	717 E HOLLAND AVE	WHITE HALL	AR	71602
FUNDERBURG	KATHRYN A	721 E HOLLAND AVE	WHITE HALL	AR	71602
GARRETT	DAVID J	210 E BALDWIN RD	WHITE HALL	AR	71602
GIBSON	JEFFERY B	1201 CANEY RD	PINE BLUFF	AR	71602
GILL	RANDY & CINDY	13558 SULPHUR SPRINGS RD	MALVERN	AR	72104

GOLDSMITH	CORNELIOUS	PO BOX 8833	FORT WAYNE	IN	46898
GREENWOOD MARTHA HOLMES TRUSTEE		ATTN DELORIS S MUMPHREY PO BOX 53	JEFFERSON	AR	72079
GRESHAM	DOROTHY C	615 TURNER AVE	WHITE HALL	AR	71602
H G TOLER & SON LUMBER CO		PO BOX 125	LEOLA	AR	72084
HALE	JOHNNY L	2307 JAMESTOWN DR	PINE BLUFF	AR	71602
HALL	LARRY WAYMON	2430 HIGHWAY 35 N	RISON	AR	71665
HARTFIELD FAMILY TRUST		3903 MCFADDEN RD	PINE BLUFF	AR	71602
HARTFIELD FAMILY TRUST		3904 MCFADDEN RD	PINE BLUFF	AR	71602
HARTIN	JOHN D	6801 SUNSET RD	PINE BLUFF	AR	71601
HATLEY	LARRY OTIS	3010 BESLY RD	WHITE HALL	AR	71602
HAWKINS	AUDERELLA	43859 GINGHAM AVE	LANCASTER	CA	93535
HAYES	LOUISA	315 NCTR RD	REDFIELD	AR	72132
HAYLEY	GREGORY M	PO BOX 20491	WHITE HALL	AR	71602
HELTON	DONALD G & SANDRA L	2811 SKOAL RD	PINE BLUFF	AR	71601
HEMMONS, ET AL	EVETTE	1048 APPLE BLOSSOM LN	CORONA	CA	92881
HENDRICKS	JOHNNY L & WF	4401 MCFADDEN RD	PINE BLUFF	AR	71602
HENRY	MILDRED	10421 EL CENTRO RD	OAK HILLS	CA	92345

HERRIN	BILLY F	1407 N HUTCHINSON ST	PINE BLUFF	AR	71602
HILLARD	LILLIE MAE	2604 S GEORGIA	PINE BLUFF	AR	71601
HOFFMAN	RONALD	1509 OAKWOOD CIR	WHITE HALL	AR	71602
HORNADAY	DANIEL AUBREY	4201 DALE CV	JEFFERSON	AR	72079
HOWARD	SARAH	ATTN G HOWARD JR 1316 W 2ND AVE	PINE BLUFF	AR	71601
HUNT	CATHY L & HUSB	96 S RICHARD DR	PINE BLUFF	AR	71602
INTERFIRST BANK DALLAS TR		ATTN HARDING & CARBONE INC 3903 BELLAIRE BLVD	HOUSTON	TX	77025
JACOBS	CHARLES STEVEN	3201 S PALM ST	PINE BLUFF	AR	71603
JEFFERSON INVESTORS INC		PO BOX 5069	PINE BLUFF	AR	71611
JELKS	MARK	2714 OLD DOLLARWAY RD	WHITE HALL	AR	71602
JOHNSON	SANDRA M	1601 S OAK ST	PINE BLUFF	AR	71601
JOHNSON	ROYCE	74 BRISTOL DR	BRYANT	AR	72022
JONES	JO ELLEN	315 WHITEFIELD DR	WHITE HALL	AR	71602
JONES ET AL	M L	ATTN SIMMONS TRUST DEPT PO BOX 7009	PINE BLUFF	AR	71611
JONES ET AL	MRS W D	ATTN CAPITAL AGRI PROP REED LAKE 6750 POPLAR AVE STE 710	MEMPHIS	TN	38138
KAMM	CHARLES HENRY	333 LINKS DR APT 1212	TEXARKANA	AR	71854
KEEN	JOHNNY	98 S RICHARD DR	PINE BLUFF	AR	71602

KIMBRELL	D H	2206 N HUTCHINSON ST	PINE BLUFF	AR	71602
KIMBRELL, SR	LEON	23920 MAJESTIC FOREST	NEW CANEY	TX	77357
KING	ADAM DEMERS & SUSAN L	1227 NE 35TH	TOPEKA	KS	66617
KING		1226 NE 35TH	TOPEKA	KS	66617
L & H INVESTMENTS INC		ATTN CARPORT ONE OF VICKSBURG 1880 S FRONTAGE RD	VICKSBURG	MS	39180
LAMB	BRANDON & WF	1505 IVY ST	ALEXANDER	AR	72002
LAMB	JULIA R	3410 MCFADDEN RD	PINE BLUFF	AR	71603
LAMB	JULIA R	3411 MCFADDEN RD	PINE BLUFF	AR	71603
LANGRELL FARMS LLC		2714 OLD DOLLARWAY RD	WHITE HALL	AR	71602
LANNI	RICHARD J	3895 CANE CREEK CV	WHITE HALL	AR	71602
LAUDEN	WILLIAM	ATTN GLADYS LUSK 1703 W CIRCLE DR	PINE BLUFF	AR	71603
LEE	MARY ANN	1816 FLETCHER RD	PINE BLUFF	AR	71602
LEE	ELONIA D	1816 FLETCHER RD	PINE BLUFF	AR	71602
LIM, TRUSTEES	RODOLFO & VERONICA	RODOLFO & VERONICA LIM TRUST 3716 PRIVATEWOOD	PINE BLUFF	AR	71603
LIVELY	RANDALL	PO BOX 1625	PINE BLUFF	AR	71613
LOCKE	DONALD RUSSELL JR	4521 MCFADDEN RD	PINE BLUFF	AR	71602
LOFTON	CHRISTOPHER A & TARRAH L	2910 NENNIG LN	REDFIELD	AR	72132

MALOY	DANNY	3009 PINE CREEK LN	WHITE HALL	AR	71602
MANNING	DONALD	PO BOX 662	ALTHEIMER	AR	72004
MATTHEWS	ROY G	1303 TANGLEWOOD DR	WHITE HALL	AR	71602
MAY	WALTER CHRISTOPHER & WF	4210 MCFADDEN RD	PINE BLUFF	AR	71602
MCCAMPBELL	TERRY	1500 GOODMAN AVE	WHITE HALL	AR	71602
MCCOY TRUSTEE	BENNIE J	17 ARCHWOOD DR	LITTLE ROCK	AR	72204
MCCULLOUGH	RANDOLPH & WENDELIN	PO BOX 226473	MIAMI	FL	33122
MCDANIEL	LEA P	1115 CANEY RD	PINE BLUFF	AR	71602
MCDANIEL	DIANE	702 MEREDITH ST	WHITE HALL	AR	71602
MCKISSIC THIRLAND		4131 MCFADDEN RD	PINE BLUFF	AR	71602
MID-AMERICA PACKAGING LLC		1793 ENTERPRISE PKWY	TWINSBURG	OH	44087
MID-AMERICA PACKAGING LLC		ATTN GRAPHIC PACKAGING 1500 RIVEREDGE PKY STE 100 8TH FL	ATLANTA	GA	30328
MIDDLEBROOKS	J B	2223 N PRYCE ST	PINE BLUFF	AR	71602
MINCHEW	SHARON A	1302 LAKEVIEW DR	WHITE HALL	AR	71602
MOTSINGER	STAN & WF	324 ELIZABETH ANN DR	WHITE HALL	AR	71602
MUSGROVE	PATSY LOU	306 MUSGROVE RD	WHITE HALL	AR	71602
MYERS	WILLIAM O & LEOLA A	2901 SKOAL RD	PINE BLUFF	AR	71601

NASH	DALE & HAZEL	902 USSERY RD	JEFFERSON	AR	72079
NEW BETHEL MISSIONARY BAPT CHRCH		2522 N PRYCE ST	PINE BLUFF	AR	71602
NEWBY	PATRICK L & DEBORAH F	701 ENGLAND ST	WHITE HALL	AR	71602
NEWBY	PATRICK L	703 REYNOLDS AVE	WHITE HALL	AR	71602
NORMAN	B J	611 HARROD RD	WHITE HALL	AR	71602
OAK HILL INC		ATTN BRANDON TAYLOR 5120 N SASSAFRAS TRL	WHITE HALL	AR	71602
OAK HILL INC		ATTN PAUL COCKMAN 15906 HARDWOOD LN	ST ROBERT	MO	65584
ORRELL	SAMANTHA M	704 ENGLAND ST	WHITE HALL	AR	71602
PARKER	LILLIE BELL SANDERS	4103 NCTR RD	REDFIELD	AR	72132
PARNELL	T L	5419 CHEATHAM ST	PINE BLUFF	AR	71602
PENISTER	ORINTHANS	2502 N HUTCHINSON ST	PINE BLUFF	AR	71602
PIEPER	MARK C	2974 NENNIG LN	REDFIELD	AR	72132
PLUMLEE	BENJAMIN	5210 SASSAFRAS TRL	WHITE HALL	AR	71602
PLUMMER, JR	JOHN	2721 W HENSLEY RD	HENSLEY	AR	72065
PRATHER	WILLIAM RONALD	3105 BESLY DR	WHITE HALL	AR	71602
QUAPAW AREA COUNCIL BOY SCOUTS		3220 CANTRELL RD	LITTLE ROCK	AR	72202
QUARLES	BETTY & BARBARA BOWDEN	3007 PONY TRL	PINE BLUFF	AR	71602

QUICK, TRUSTEE	ARILYN T	11501 DOLLARWAY RD	WHITE HALL	AR	71602
RAILROAD		2 DOLLARWAY	PINE BLUFF	AR	71602
RAYFUS	SANDRA FAYE COLEMAN	3815 MCFADDEN RD	PINE BLUFF	AR	71602
RAYFUS	SANDRA FAYE COLEMAN	3816 MCFADDEN RD	PINE BLUFF	AR	71602
REDDEN	JOANNA	223 E 6TH ST	NATCHITOCHE	LA	71457
RLJ LAND COMPANY LLC		PO BOX 331	WARREN	AR	71671
ROBERTSON	CHARLES BRANDON	720 S HARKRIDER ST	CONWAY	AR	72032
ROGERS	RONNIE WARREN	2210 N HUTCHINSON ST	PINE BLUFF	AR	71602
ROWE	JAMES	ATTN JAMES & ANGELA FRANCIS 1109 LAKEVIEW DR	WHITE HALL	AR	71602
ROWELL	MARILYN V & HUSBAND	1160 N BRADLEY RD 25	WARREN	AR	71671
ROWLAND ET AL	ROY	2219 WALKER ST	LITTLE ROCK	AR	72204
RUSHING	BRAD	2809 HIGHWAY 104	PINE BLUFF	AR	71602
SANDERS	H STEWART	PO BOX 20334	WHITE HALL	AR	71602
SANDERS HILL LLC		ATTN: MICHAEL B SMITH 2314 HIGHWAY 365 S	REDFIELD	AR	72132
SHADLE, JR	LANCE LEON	5002 N SASSAFRAS TRL	WHITE HALL	AR	71602
SHADLE, SR, ET AL	LANCE LEON	5000 N SASSAFRAS TRL	WHITE HALL	AR	71602
SHIREK	MAUDELLE MILLER	601 W 120TH ST	LOS ANGELES	CA	90044

SIM JR	RAY	1241 E DALE AVE	PINE BLUFF	AR	71602
SIMMS	RACHEL	PO BOX 144	JEFFERSON	AR	72079
SINGH ET AL	BALJINDER	4314 DOLLARWAY RD	PINE BLUFF	AR	71601
SMALL	WILLIAM	3211 PONY TRL	PINE BLUFF	AR	71602
SNOWDEN	KARA JEAN	511 ENGLAND ST	WHITE HALL	AR	71602
SORTAY INVESTMENTS LLC		141 GRANT 167077	SHERIDAN	AR	72150
SORTAY INVESTMENTS LLC		140 GRANT 167077	SHERIDAN	AR	72150
SOSA	PAOLA	6040 MOODY RD	PINE BLUFF	AR	71602
SOUTH ARK LIVESTOCK SHOW INC		420 N BLAKE ST	PINE BLUFF	AR	71601
SPRINKLE	MARIE	3 EASTWOOD CT	PINE BLUFF	AR	71601
SPRINKLE	SHEILA J	209 E BALDWIN RD	WHITE HALL	AR	71601
SPRINKLE REALTY CO INC		3 EASTWOOD CT	PINE BLUFF	AR	71601
STANFIELD	MARK	5220 N SASSAFRAS TRL	WHITE HALL	AR	71602
STEPHENS	MICHAEL CLAY	2007 W 28TH AVE STE 1	PINE BLUFF	AR	71603
STEWART	L JEANETTE	2813 W 40TH AVE	PINE BLUFF	AR	71603
SUTTON	WILLIAM K & WF	92 S RICHARD DR	PINE BLUFF	AR	71602
TALBOT	BEAU	ATTN DEBBIE BUFFKIN PO BOX 20042	WHITE HALL	AR	71602

TAYLOR & LUNS福德 LAND & TIMBER		175 GRANT 167077	SHERIDAN	AR	72150
TERRY	JAMES WESLEY	PO BOX 165822	LITTLE ROCK	AR	72216
THOMPSON	MELBA	1203 LAKEVIEW DR	WHITE HALL	AR	71602
THOMPSON	JEFFREY W & TRACY D	753 GRANT 16	GRAPEVINE	AR	72057
THOMPSON, JR	DONALD	4126 DALE CV	JEFFERSON	AR	72079
TOLER H G & SON LUMBER CO INC		PO BOX 125	LEOLA	AR	72084
TOLER H G & SON LUMBER CO INC		PO BOX 126	LEOLA	AR	72084
TP FORESTLANDS LLC		PO BOX 390	WARREN	AR	71671
TURNER	FRANCIS E	805 SEMORA RD	WHITE HALL	AR	71602
TURNER FAMILY LTD PARTNERSHIP		5 BLACKTHORNE ST	LITTLE ROCK	AR	72223
TYSON FOODS INC		PO BOX 2020	SPRINGDALE	AR	72765
US GOVERNMENT		2 DOLLARWAY	PINE BLUFF	AR	71613
VALDES	HECTOR	6039 MOODY RD	PINE BLUFF	AR	71602
VANLANDINGHAM	PAUL	3603 PERSONAL DR	WHITE HALL	AR	71602
VAUGH ET AL	DAVID C	3920 MCFADDEN RD	PINE BLUFF	AR	71602
VAUGHN	DAVID & MAXINE	3919 MCFADDEN RD	PINE BLUFF	AR	71602
VERNOR	SUSIE	5020 N SASSAFRAS TRL	WHITE HALL	AR	71602

WAHEED	ABDUL	6 KENSINGTON CV	PINE BLUFF	AR	71603
WALLACE	MADISON	4708 CONGRESS AVE	OAKLAND	CA	94601
WALLACE	MARGIE & JACKIE F	PO BOX 21143	WHITE HALL	AR	71612
WALLACE	RONNIE	200 TRACY RD	PINE BLUFF	AR	71602
WARD	NEAL	151 COTTONDALE RD	PINE BLUFF	AR	71601
WEBB	MATTHEW	2522 W 17TH AVE	PINE BLUFF	AR	71603
WEBB	MICHEAL C	514 HARROD RD	WHITE HALL	AR	71602
WENDEL	JUSTIN G & SALLY A	724 E HOLLAND AVE	WHITE HALL	AR	71602
WHEELING ACQUISITION CORP		ATTN GENERAL COUNSEL 15660 N DALLAS PKWY STE 500	DALLAS	TX	75248
WIL-LEY PARTNERSHIP		8530 HIGHWAY 35 N	RISON	AR	71665
WILLIAMS, JR	JOHN RUSSELL	14414 DOLLARWAY RD	WHITE HALL	AR	71602
WILSON	JAMES	405 E HOADLEY RD	PINE BLUFF	AR	71602
WILSON	FRANK & WF	8530 HIGHWAY 35 N	RISON	AR	71665
WOLTER	RONALD & PATRICIA	510 HARROD RD	WHITE HALL	AR	71602
WOOD	BARRY & KIM	2905 HIGHWAY 104	WHITE HALL	AR	71602
YORK	SUSAN	1105 LAKEVIEW DR	WHITE HALL	AR	71602

LIST #3 – KEY LEADERS AND GOVERNMENT OFFICIALS

Name_1	Name_2	Job_Title	Agency_Dept	Address_1	Address_2	City_State_Zip
COL Jeffery R.	Eckstein	District Engineer	U.S. Army Corps of Engineers Vicksburg District	4155 E Clay Street		Vicksburg, MS 39183
David	Lofton	Section Chief	Permit Section Corps of Engineers	Attn: CEMVK-OD-F	4155 E Clay Street	Vicksburg, MS 39183
COL Donald E.	Jackson	District Engineer	U.S. Army Corps of Engineers Little Rock District	Attn: CESWL-PR-R	P.O. Box 867	Little Rock, AR 72203
Pine Bluff	Arsenal		ATTN: COL David Musgrave	10020 Kabrich Circle		Pine Bluff, AR 71602-9500
The Honorable Mike	Beebe	Governor	State Capitol	Governor's Office Room 250		Little Rock, AR 72201
The Honorable Dustin	McDaniel	Attorney General	Tower Building Suite 200	323 Center Street		Little Rock, AR 72201
Mike	Knoedl	Director	Arkansas Game & Fish Commission	2 Natural Resources Drive		Little Rock, AR 72205
Teresa	Marks	Director	Arkansas Department of Environmental Quality	5301 Northshore Drive		North Little Rock, AR 72118-5317
Paul K.	Halverson	Director	Arkansas Department of Health	4815 W. Markham St.		Little Rock, AR 72205
Grant	Tennille	Executive Director	Arkansas Economic Development Commission	900 W. Capitol Ave., Suite 400		Little Rock, AR 72201
Richard	Weiss	Director	Department of Finance and Administration	1509 West 7 th Street		Little Rock, AR 72201
Joe	Fox	Director/State Forrester	Arkansas Forestry Commission	3821 West Roosevelt		Little Rock, AR 72204
Chris	Benson	Director	Arkansas State Energy Office	900 W. Capitol Ave., Suite 400		Little Rock, AR 72201
Butch	Calhoun	Secretary of Agriculture	Arkansas Agriculture Department	1 Natural Resources Drive		Little Rock, AR 72205
John	Thurston	Land Commissioner	Arkansas Commissioner of State Lands	109 State Capital		Little Rock, AR 72201
Michael	Sullivan	State Conservationist	Arkansas NRCS State Office	700 W Capitol Ave, Ste 3416		Little Rock, AR 72201-3215
J. Randy	Young, P.E.	Executive Director	Arkansas Natural Resources Commission	101 E. Capitol, Suite 350		Little Rock, AR 72201
Cathie	Matthews	Director SHPO	Department of Arkansas Heritage	1500 Tower Building	323 Center Street	Little Rock, AR 72201
Scott	Bennett	Director	Arkansas Highways Department	Hwy 30		Little Rock, AR 72201
Beckki	White	Director and State Geologist	Arkansas Geological Survey	Geology	3815 West Roosevelt	Little Rock, AR 72201
Valerie	Boyce	Attorney	Arkansas Public Service Commission	1000 Center Street	P.O. Box 400	Little Rock, AR 72203

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Clark	Cotten	P.E.	Arkansas Public Service Commission	1000 Center Street	P.O. Box 400	Little Rock, AR 72203
Joe	Rice	Director	Arkansas Department of Parks and Tourism	One Capitol Mall	Room 4A-900	Little Rock, AR 72201
John	Knight	Director	Arkansas Department of Aeronautics	2315 Crisp Drive	Hangar 8	Little Rock, AR 72202
Joe	Krystofik	State Coordinator	U.S. Fish and Wildlife Service	100 South Amity, Suite 300		Conway, AR 72032
The Honorable Mark	Prior	US Senator	United States Senate	500 Clinton Ave Suite 401		Little Rock, AR 72201
The Honorable John	Boozman	US Senator	United States Senate	213 W. Monroe Ave #K		Lowell, AR 72745-9451
The Honorable Tom	Cotton	Congressman	United States Congress, AR District 4	415 Cannon House Office Bldg.		Washington, DC 20515
The Honorable Henry	Wilkins	State Representative	Arkansas House of Representatives District 17	717 West 2 nd Avenue		Pine Bluff, AR 71601
The Honorable Mike	Holcomb	State Representative	Arkansas House of Representatives District 10	9108 Sulphur Springs Rd.		Pine Bluff, AR 71603
The Honorable James	Word	State Representative	Arkansas House of Representatives District 16	6503 Little Dove Dr.		Pine Bluff, AR 71603
The Honorable Ken	Bragg	State Representative	Arkansas House of Representatives District 15	63 Pinecrest Cir.		Sheridan, AR 72150
The Honorable Stephanie	Flowers	State Senator	Arkansas Senate District 25	104 Main Street, Ste C		Pine Bluff, AR 71601
The Honorable Bobby	Pierce	State Senator	Arkansas Senate District 27	587 N. Grand #758		Sheridan, AR 72150
The Honorable Debe	Hollingsworth	Mayor	City of Pine Bluff	200 E. 8 th Street		Pine Bluff, AR 71601
The Honorable Noel	Foster	Mayor	City of White Hall	P.O. Box 20100		White Hall, AR 71612
The Honorable Donald	Robinson	Mayor	City of Altheimer	P.O. Box 728		Altheimer, AR 72004
The Honorable Alice	Black	Mayor	City of Humphrey	P.O. Box 191		Humphrey, AR 7207
The Honorable Tony	Lawhon	Mayor	City of Redfield	P.O. Box 81		Redfield, AR 72132
The Honorable Jody	Campbell	Mayor	City of Sherrill	P.O. Box 203		Sherrill, AR 72152
The Honorable Myra	Edwards	Mayor	City of Wabbaseks			Wabbaseks, AR 721
The Honorable Dutch	King	County Judge	Jefferson County	que Street		Pine Bluff, AR 7160
Jeff	Small	Attorney	MISO	P.O. Box 4202		Carmel, IN 46082-4
Randy	Bynum	Partner	Dover, Dixon, and Horne, PLLC	Metropolitan Bank Building Suite 3700	425 West Capitol Ave.	Little Rock, AR 7220

EAI Application Exhibit E
Docket No. 14-043-U
Page 30 of 37

Jerre	George	Director	Pine Bluff Planning Commission	200 E. 8 th Street		Pine Bluff, AR 71601
Larry	Matthews	Director	Pine Bluff Economic Development	200 E. 8 th Street		Pine Bluff, AR 71601
Lou Ann	Nisbett	President	Economic Development Alliance of Jefferson County	510 Main Street	P.O. Box 5069	Pine Bluff, AR 71611



Entergy Arkansas, Inc.
Transmission & Substation
5115 Thibault Road
P.O. Box 551
Little Rock, AR 72203-0551

Murry K. Witcher
Regulatory Project Coordinator

May 15, 2014

Alzheimer Public Library
222 South Edline
Alzheimer, 72004-8589

Re: APSC Docket No. 14-043-U
CECPN Pine Bluff Woodward to White Bluff Substation 230 kV Project

Dear Library Director:

Please find attached a copy of the filing documents, enclosed in a 3-ring binder, concerning Entergy Arkansas's recent filing with the Arkansas Public Service Commission for a Certificate of Environmental Compatibility and Public Need to construct a 230 kV transmission line and related substation facilities in Pine Bluff, Jefferson County, Arkansas. In accordance with our previous conversation, please put this on file in your legal notice section or applicable reference file for review by the patrons of the Library.

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Thanks so much for your assistance in making this information available to the residents and patrons of Jefferson County. Please let me know if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Murry Witcher".

Murry Witcher
(501) 490-4779
Cc: Ms. Tandee White



Entergy Arkansas, Inc.
Transmission & Substation
5115 Thibault Road
P.O. Box 551
Little Rock, AR 72203-0551

Murry K. Witcher
Regulatory Project Coordinator

May 15, 2014

Pine Bluff and Jefferson County Library HQ
200 East 8th Avenue
Pine Bluff, 71601-5006

Re: APSC Docket No. 14-043-U
CECPN Pine Bluff Woodward to White Bluff Substation 230 kV Project

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Entergy Arkansas, Inc.
Transmission & Substation
5115 Thibault Road
P.O. Box 551
Little Rock, AR 72203-0551

Murry K. Witcher
Regulatory Project Coordinator

May 15, 2014

Redfield Public Library
Leenita Gober Cotheran Memorial
310 N. Brodie St.
P.O. Box 70
Redfield, 72132-0070

Re: APSC Docket No. 14-043-U
CECPN Pine Bluff Woodward to White Bluff Substation 230 kV Project

Dear Library Director:

Please find attached a copy of the filing documents, enclosed in a 3-ring binder, concerning Entergy Arkansas's recent filing with the Arkansas Public Service Commission for a Certificate of Environmental Compatibility and Public Need to construct a 230 kV transmission line and related substation facilities in Pine Bluff, Jefferson County, Arkansas. In accordance with our previous conversation, please put this on file in your legal notice section or applicable reference file for review by the patrons of the Library.

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Entergy Arkansas, Inc.
Transmission & Substation
5115 Thibault Road
P.O. Box 551
Little Rock, AR 72203-0551

Murry K. Witcher
Regulatory Project Coordinator

May 15, 2014

Southeast Arkansas College Library and Center for E-Learning
1900 Hazel St.
Pine Bluff, 71603

Re: APSC Docket No. 14-043-U
CECPN Pine Bluff Woodward to White Bluff Substation 230 kV Project

Dear Library Director:

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Entergy Arkansas, Inc.
Transmission & Substation
5115 Thibault Road
P.O. Box 551
Little Rock, AR 72203-0551

Murry K. Witcher
Regulatory Project Coordinator

May 15, 2014

John B. Watson Memorial Library
University of Arkansas at Pine Bluff
1200 University Dr.
Pine Bluff, 71601

Re: APSC Docket No. 14-043-U
CECPN Pine Bluff Woodward to White Bluff Substation 230 kV Project

Dear Library Director:

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Entergy Arkansas, Inc.
Transmission & Substation
5115 Thibault Road
P.O. Box 551
Little Rock, AR 72203-0551

Murry K. Witcher
Regulatory Project Coordinator

May 15, 2014

Watson Chapel Public Library
4120 Camden Road
Pine Bluff, 71603-9096

Re: APSC Docket No. 14-043-U
CECPN Pine Bluff Woodward to White Bluff Substation 230 kV Project

Dear Library Director:

Please find attached a copy of the filing documents, enclosed in a 3-ring binder, concerning Entergy Arkansas's recent filing with the Arkansas Public Service Commission for a Certificate of Environmental Compatibility and Public Need to construct a 230 kV transmission line and related substation facilities in Pine Bluff, Jefferson County, Arkansas. In accordance with our previous conversation, please put this on file in your legal notice section or applicable reference file for review by the patrons of the Library.

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Cc: Ms. Tandee White



Entergy Arkansas, Inc.
Transmission & Substation
5115 Thibault Road
P.O. Box 551
Little Rock, AR 72203-0551

Murry K. Witcher
Regulatory Project Coordinator

May 15, 2014

Cora Matheny Economos White Hall Public Library
300 Anderson Street
White Hall, 71602-2711

Re: APSC Docket No. 14-043-U
CECPN Pine Bluff Woodward to White Bluff Substation 230 kV Project

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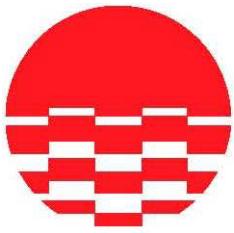
BEFORE THE
ARKANSAS PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION)
OF ENTERGY ARKANSAS, INC. FOR A)
CERTIFICATE OF ENVIRONMENTAL)
COMPATIBILITY AND PUBLIC NEED)
TO CONSTRUCT AND OPERATE A 230 KV)
TRANSMISSION LINE AND ASSOCIATED)
TRANSMISSION FACILITIES IN)
JEFFERSON COUNTY, ARKANSAS)

DOCKET NO. 14-043-U


EAI APPLICATION EXHIBIT F

ENVIRONMENTAL IMPACT STATEMENT



Entergy[®]

GBM^c



**Entergy Arkansas, Inc.
Environmental Impact Statement
For the White Bluff to Woodward
230 kV Project
(230 kV Transmission Line Project)**

April 25, 2014

ENVIRONMENTAL IMPACT STATEMENT FOR THE WHITE BLUFF TO WOODWARD 203 KV PROJECT (230 kV TRANSMISSION LINE PROJECT)

Prepared for:

Entergy Arkansas, Inc.



Prepared by:

GBM^c & Associates
219 Brown Lane
Bryant, AR 72022

April 25, 2014

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Appendix B – Information on Existing Environment
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Appendix D – Agency Correspondence
Appendix E – Public Comment/Survey Results
Appendix F – Maps, Routes and Decision Support Matrix

1.0 PROJECT DESCRIPTION

Entergy Arkansas, Inc. (EAI) is proposing to construct approximately 20 miles of 230 kilovolt (kV) transmission line (T-line) between Redfield and Pine Bluff in Jefferson County, Arkansas. The proposed line will require a 120 foot wide right-of-way (ROW) and extend between EAI's existing substation at the White Bluff Steam Electric Station near Redfield and the Woodward Substation in Pine Bluff. Additional information on the project is provided in Appendix A.

1.1 Purpose and Necessity

In order to continue to provide efficient and reliable electricity to industrial, commercial, agricultural, and residential customers in the southeast Arkansas region, EAI must periodically build new structures and upgrade existing electrical facilities. The demand for energy in southeast Arkansas is projected to continually grow. The present transmission infrastructure is insufficient to accommodate existing demand under certain contingencies. These contingencies cause low voltage and thermal overloads throughout the southeast. For example, loss of a single 115 kV north bus at Woodward causes the 115 kV line from White Bluff to Arsenal "D" to Woodward to overload. This new line will limit such contingencies and improve overall power reliability in the area.

1.2 Location

The proposed project would be located in Jefferson County, Arkansas between Redfield and Pine Bluff (Figure 1). White Bluff Steam Electric Station is located near Redfield (Lat. 34.42585°N, Long. -92.14431°W) and the Woodward Substation is located at 5201 West Barraque Street in Pine Bluff (Lat. 34.1944°N, Long. -92.0592°W). The area sits entirely within the Mississippi Alluvial Plain and South Central Plains geographical regions. The proposed area for the project is shown in Appendix A. The project area is bordered on the north by a forested area immediately southeast of the city of Redfield. The Arkansas River runs adjacent and parallel to the eastern border of the project area. The northern portion of the eastern border runs through the Pine Bluff Arsenal. The southern border of the proposed project area lies just inside Pine Bluff, while the western border of the area is predominantly forested, passing through residential areas along Highway 270 west of Interstate-530. The City of White Hall lies within the proposed project area.

1.3 Structures and ROW

New structures utilized for the proposed 230 kV T-lines will be single modular steel or concrete poles (Figure 2). Typical structure heights will be approximately 110 ft above the ground, but will vary with local conditions to ensure National Electric Safety Code (NESC) clearances are maintained. The standard EAI ROW for a 230 kV line is 100 ft - 125 ft wide which is in accordance with the electrical code of the National Electric Safety Council. The proposed project will utilize a ROW width of approximately 120 ft.

1.4 Project Schedule

- Approval of Certificate of Environmental Compatibility and Public Need (CECPN), Initiate Purchases – 1st Quarter 2014
- Construction Contracts, Mobilize Construction – 2nd Quarter 2014
- Complete Construction, Final Testing, In Service – 2nd Quarter 2016

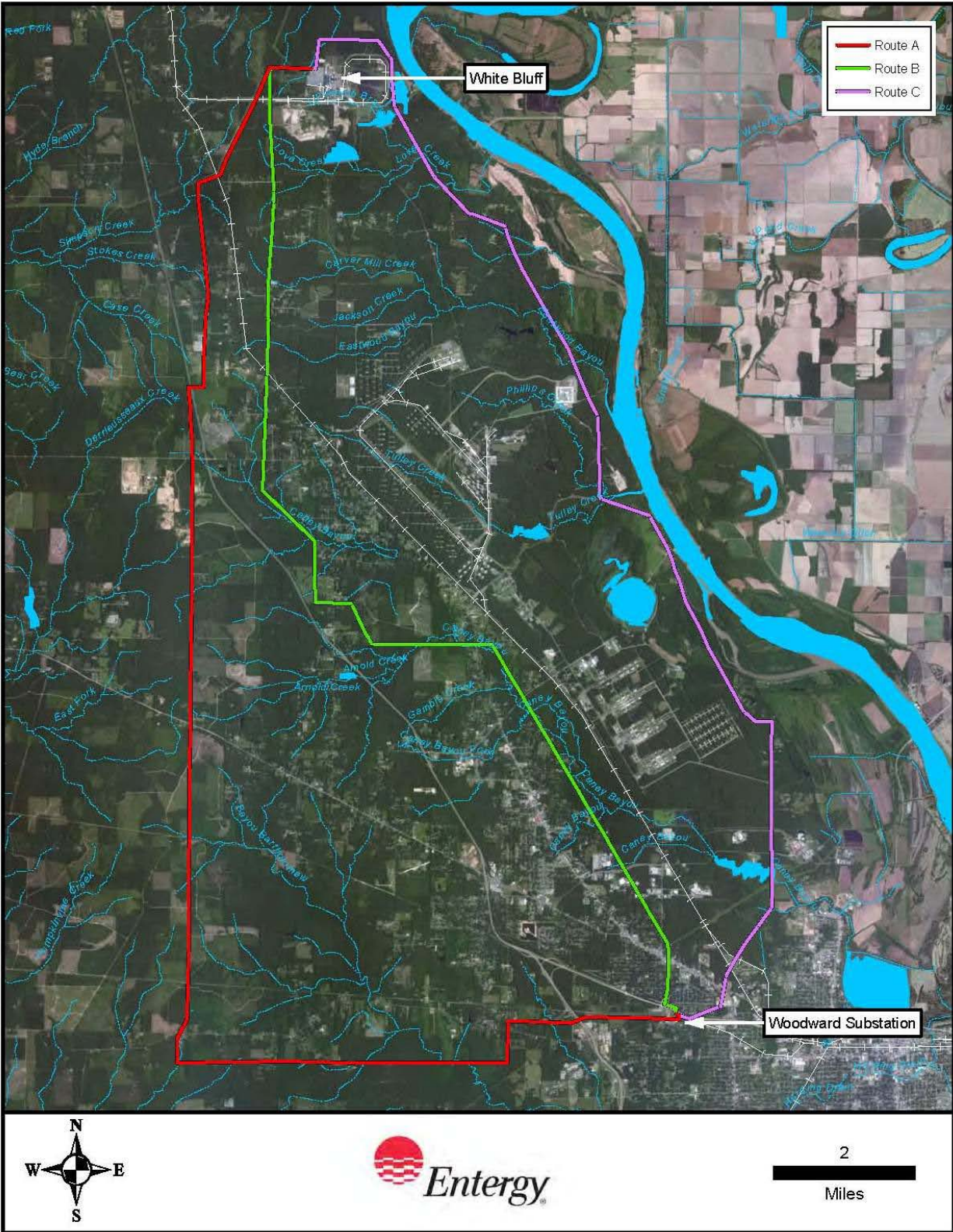


Figure 1. The proposed project area comprised of three potential routes.



Figure 2. Typical T-Line Pole Configuration.

2.0 DESCRIPTION OF EXISTING ENVIRONMENT

2.1 Natural Resources

2.1.1 Land Use & Topography

The project lies near the outskirts of Redfield and Pine Bluff in Jefferson County, Arkansas. Forested land covers the majority of the proposed project area, accounting for 70% of total land use in the area. Approximately 8% of the proposed ROW is marked by herbaceous and woody cover. Urban land use, particularly residential, accounts for approximately 11% of the land use in the proposed project area while intense urban use, marked by a high percentage of roads and parking lots, accounts for another nearly 4% of uses in the project area. Aside from forested cover, herbaceous and woody cover, and urban use, a small amount of the area is covered with seasonal grasses. Land use maps are provided in Appendix B.

The proposed project area lies within the Mississippi Alluvial Plain and South Central Plains. This ecoregion is a nearly-level landscape dominated by agriculture with a limited number of levees, terraces, and swales. The majority of the forested land in the western third of the project area is owned by timber companies and managed for wood products, while the majority of the forested land in the eastern third of the project area is Department of Army land. The project area's elevation decreases from northwest to southeast, with elevations ranging from approximately 300 ft above sea level to 215 ft above sea level.

2.1.2 Soils

Soils in the proposed project area consist primarily of Savannah fine sandy soils, Sacul fine sandy loam, Smithdale fine sandy loam and Crevasse soils. However, a large number of soil types are represented in the area are in a complex matrix, which includes smaller amounts of Amy silt loam, Pheba silt loam, Calloway silt loam, Calloway-Urban, Henry silt loam, Sawyer silt loam, Ouachita soils, and minute amounts of various other soil types. Details regarding each soil type are summarized in Table 1. Additional soils data is provided in Appendix B.

Table 1. Summary of soil characteristics in the proposed project area.

Soil type	Soil texture	Slope	Drainage Class
Amy silt loam	Silt loam	0-1%	Poorly drained
Amy soils, frequently flooded	Silt loam	0-1%	Poorly drained
Amy-Urban land complex	Silt loam	0-1%	Poorly drained
Calloway silt loam	Silt loam	0-1%	Somewhat poorly drained
Calloway silt loam	Silt loam	1-3%	Somewhat poorly drained
Calloway-Urban land complex	Silt loam	1-3%	Somewhat poorly drained
Coushatta soils, occasionally flooded	Silt loam	0-3%	Well drained
Crevasse loamy fine sand	Loamy fine sand	0-1%	Excessively drained
Crevasse soils, frequently flooded	Loamy fine sand	0-1%	Excessively flooded
Grenada silt loam	Silt loam	1-3%	Moderately well drained
Grenada silt loam	Silt loam	3-8%	Moderately well drained
Grenada-Urban land complex	Silt loam	1-3%	Moderately well drained
Grenada-Urban land complex	Silt loam	3-8%	Moderately well drained
Hebert silt loam	Silt loam	0-1%	Somewhat poorly drained
Henry silt loam	Silt loam	0-1%	Poorly drained
Henry-Urban land complex	Silt loam	0-1%	Poorly drained
McGehee silt loam	Silt loam		Somewhat poorly drained
McGehee silt loam, occasionally flooded	Silt loam	0-2%	Somewhat poorly drained
Oklared fine sandy loam, occasionally flooded	Fine sandy loam	0-1%	Well drained
Ouachita soils, frequently flooded	Silt loam	0-1%	Well drained
Perry clay	Clay	0-1%	Poorly drained
Perry clay, occasionally flooded	Clay	0-1%	Poorly drained
Pheba silt loam	Silt loam	0-2%	Somewhat poorly drained
Pheba-Urban land complex	Silt loam	0-2%	Somewhat poorly drained
Portland clay	Clay	0-1%	Somewhat poorly drained
Portland clay, occasionally flooded	Clay	0-1%	Somewhat poorly drained

Soil type	Soil texture	Slope	Drainage Class
Portland-Urban land complex	Clay	0-1%	Somewhat poorly drained
Rilla silt loam	Silt loam	0-1%	Well drained
Ruston fine sandy loam	Silt loam	0-3%	Well drained
Sacul fine sandy loam	Fine sandy loam	1-3%	Moderately well drained
Sacul fine sandy loam	Fine sandy loam	3-8%	Moderately well drained
Savannah fine sandy loam	Fine sandy loam	1-3%	Moderately well drained
Savannah fine sandy loam	Fine sandy loam	3-8%	Moderately well drained
Savannah-Urban land complex	Fine sandy loam	1-3%	Moderately well drained
Savannah-Urban land complex	Fine sandy loam	3-8%	Moderately well drained
Sawyer silt loam	Silt loam	1-3%	Moderately well drained
Sawyer silt loam	Silt loam	3-8%	Moderately well drained
Smithdale fine sandy loam	Fine sandy loam	3-8%	Well drained
Smithdale fine sandy loam	Fine sandy loam	8-12%	Well drained
Wabbeseka-Latanier complex, undulating	Clay	0-3%	Moderately well drained

2.1.3 Watersheds & Streams

The ROW lies predominantly within the Lower Arkansas-Maumelle watershed, while the extreme southern end of the ROW falls just inside the Bayou Bartholemew watershed boundary. The Lower Arkansas-Maumelle watershed lies within the Arkansas River basin, with the Arkansas River serving as the main channel adjacent to the proposed project area. The watershed encompasses the area surrounding the Maumelle River west of Little Rock, which confluences with the Arkansas River, following the southeast course of the river channel to Pine Bluff. The Arkansas River creates the eastern boundary of the project area.

Other streams in the immediate area include, from north to south, Lipscomb Branch Creek, Love Creek, an unnamed tributary of the Arkansas River, Eastwood Bayou, Phillips Creek, Jackson Creek, Tulley Creek, Gamble Creek, Caney Bayou and Bayou Bartholemew. Water quality in the watershed is generally good. One stream within the proposed project area, Bayou Bartholemew, is listed on the Arkansas 303(d) list of Impaired Waterbodies due to elevated lead levels. No streams in the area are listed as Extraordinary Resource Waters.

2.1.4 Wetlands

Wetland boundaries are defined by the hydrology, vegetation, and soil in an area. Specifically, an area must exhibit hydrologic markers that indicate an area of permanent or at least intermittent ground saturation, hydrophytic vegetation, and hydric soils in order to be considered a wetland.

The National Wetlands Inventory provided by the United States Fish and Wildlife Service (USFWS) identifies an extensive array of wetland polygons in the proposed project area. Most of these wetlands are associated with the streams in the project area, and the majority are adjacent to Corridor B, though the wetland complex associated with Caney Bayou extends to cross Corridor C in the southern portion of the proposed ROW. The vast majority of these wetlands fall under the Palustrine classification, which are non-tidal wetlands such as freshwater marshes or swamps. A small amount of Lacustrine wetlands fall within the project area as well as a small number of Riverine wetlands. Lacustrine wetlands are situated in a topographic depression or dammed river channel, lack trees or emergent vegetation, and must exceed 20 acres, while Riverine wetlands are directly associated with a intermittent or perennial channel. Wetland polygons noted are predominantly Palustrine Forested wetlands, Palustrine Scrub-Shrub wetlands, and Palustrine Unconsolidated Bottom wetlands, with a small number of Lacustrine Limnetic Unconsolidated Bottom wetlands and permanent Riverine Unconsolidated Bottom wetlands. Palustrine Forested wetlands consist of an intermittently flooded landscape in a broad-leaved deciduous forest. The Palustrine Forested wetlands within the project area exhibit a range of hydrologic regimes, from temporarily flooded to semi-permanently flooded wetlands. Palustrine Scrub-Shrub wetlands consist of woody vegetation less than twenty feet tall. Species in these areas include true shrubs and saplings. The Scrub-Shrub wetlands within the project area also exhibit a range of hydrologic regimes, from temporarily flooded to semi-permanently flooded wetlands. Palustrine Unconsolidated Bottom wetlands are permanent wetlands with less than 30% vegetated cover. The Unconsolidated Bottom wetlands in the project area mostly resulted from manmade impoundments. The Lacustrine Limnetic Unconsolidated Bottom wetlands in the project area also resulted mainly from manmade impoundments and are an artificially-flooded system. The Riverine Unconsolidated Bottom wetlands in the area result from the flooding and slow drainage of stream channels. An evaluation of soils in the project area indicates a dominance of hydric soils with high potential for wetland occurrence.

2.1.5 Threatened and Endangered Species

Three Jefferson County species are registered on the federal list of endangered species, the bald eagle, the Florida panther, and the interior least tern. The bald eagle (*Haliaeetus leucocephalus*) is federally listed as threatened and quickly recovering throughout the US and Arkansas. In Jefferson County it primarily is sighted along the Arkansas River. The Florida panther (*Puma concolor*) is listed as endangered federally and extremely rare on the state list. The panther is believed to have been eradicated from all Arkansas counties. The interior least tern (*Sterna antillarumathalassos*) lives in bare or sparsely vegetated sandbars

along rivers, sand and gravel pits, or shorelines of reservoirs and lakes. The interior least tern is listed as imperiled throughout most of the southern United States as well as parts of the midwest, and critically imperiled through much of the midwest and Texas.

One plant species in Jefferson County is listed as threatened in the State of Arkansas. The rose pogonia (*Pogoniaophioglossoides*), also known as the snakemouth orchid, is distributed throughout the eastern United States and is listed as imperiled or endangered in several other southern and midwestern states. Excerpts of USFWS threatened and endangered species tables are provided in Appendix B.

2.1.6 Dominant Flora, Fauna, & Habitats

Pine forests and pine mixed forests dominate the region in undeveloped areas. Dominant flora in the proposed project area includes loblolly pine (*Pinustaeda*) and sweetgum (*Liquidambar styraciflua*) trees. Grasses such as broom sedge (*Andropogonvirginicus*) and maintained areas of turf grasses occur in more developed portions of the project area.

Habitats adjacent to the project area provide habitat for wildlife such as song birds, black bears, waterfowl, alligator snapping turtles, and game species. Dominant aquatic fauna include sunfishes and minnows in the smaller streams and rough fish (carp, buffalo), catfish, and black bass in the Arkansas River.

2.2 Human Resources

This section provides a summary of the human resources and conditions within the study area. Topics to be discussed include population, housing, demographics, major employers, and a cultural resources literature and records search. A discussion of the possible impacts of the preferred and optional T-line routes on the human resources in the study area can be found in Section 4.0.

2.2.1 Community Background

The proposed ROW runs from near Redfield to Pine Bluff. Redfield is located adjacent to the west bank of the Arkansas River approximately 23 miles south of Little Rock and approximately 18 miles northwest of Pine Bluff. Interstate-530 is the main roadway connecting the community to the Little Rock metropolitan area. Highway 365 runs north to south, connecting both areas. Most residents (96%) in Redfield commute out-of-town for work. The mean drive time for commuters is 28.9 minutes (<http://www.city-data.com/city/Redfield-Arkansas.html>).

The proposed project area passes through White Hall, Arkansas as it runs to the southeast. White Hall is located 38 miles south of Little Rock and approximately 3 miles northwest of Pine Bluff. As with Redfield, Interstate-530 and Hwy 365 are the main roadway's connecting the city to Little Rock and Pine Bluff. The average commute lasts 22 minutes, with 96.4% of residents traveling out of town for employment (www.city-data.com/city/Pine-Bluff-Arkansas.html).

Pine Bluff is the 3rd largest population center in Arkansas. Pine Bluff sits along the Arkansas River approximately 40 miles south of Little Rock. U.S. Highway 65 bisects Pine Bluff from the east to west. Interstate-530 is the primary highway utilized by commuters from Pine Bluff to the City of Little Rock. The majority (83.4%) of people in Pine Bluff commute to work alone by car, truck, or van (U.S. Census Bureau). The average drive time for people commuting in Pine Bluff is 18.9 minutes and over 6,700 people are commuting out of Pine Bluff during the day for work. Pine Bluff has been nicknamed the 'Bass Capital of the World' due to the success of bass fishing on the nearby Arkansas River. The city is home to several institutions of higher learning, such as the University of Arkansas-Pine Bluff, Jefferson Regional Medical Center School of Nursing, and Southeast Arkansas College.

2.2.2 Socioeconomic Patterns

Population

Redfield is located in Jefferson County, Arkansas. As of 2011, the population of Redfield is 1,297 (Figure 3). The population is primarily Caucasian (92%), followed by African-American (5%).

White Hall is also located in Jefferson County, with a population of 5,516 (Figure 4). Residents of White Hall are predominantly Caucasian (93%), followed by African American (5%) (Figure 4).

Pine Bluff is also located in Jefferson County and has population of 49,009 as of 2011 (Figure 5). The population is predominantly African American (75%) with a Caucasian minority (21%). Portions of Pine Bluff and the suburban area of Watson Chapel are located in and adjacent to the study area.

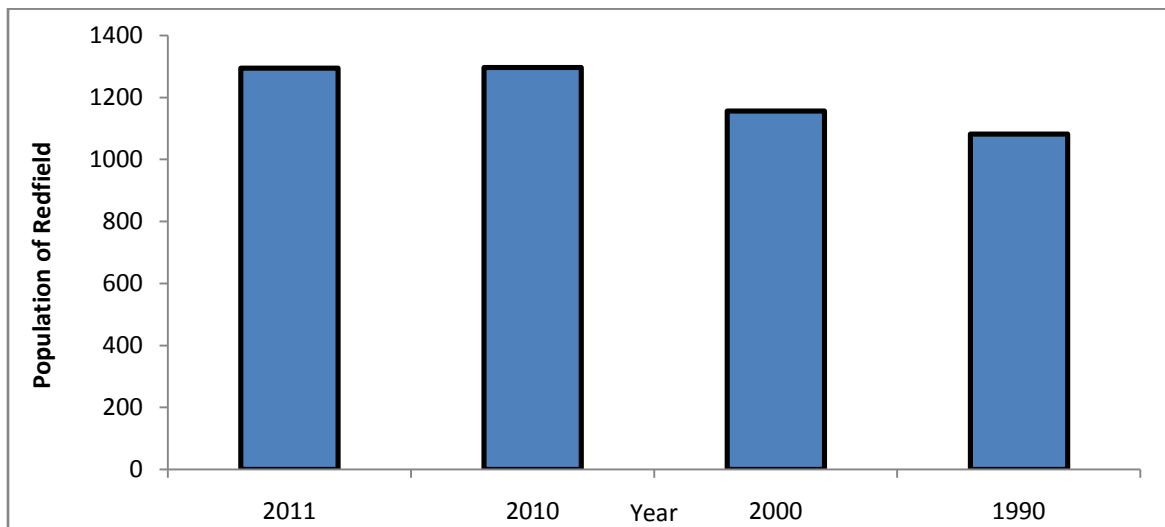


Figure 3. The population of Redfield, Arkansas from 1990-2011.

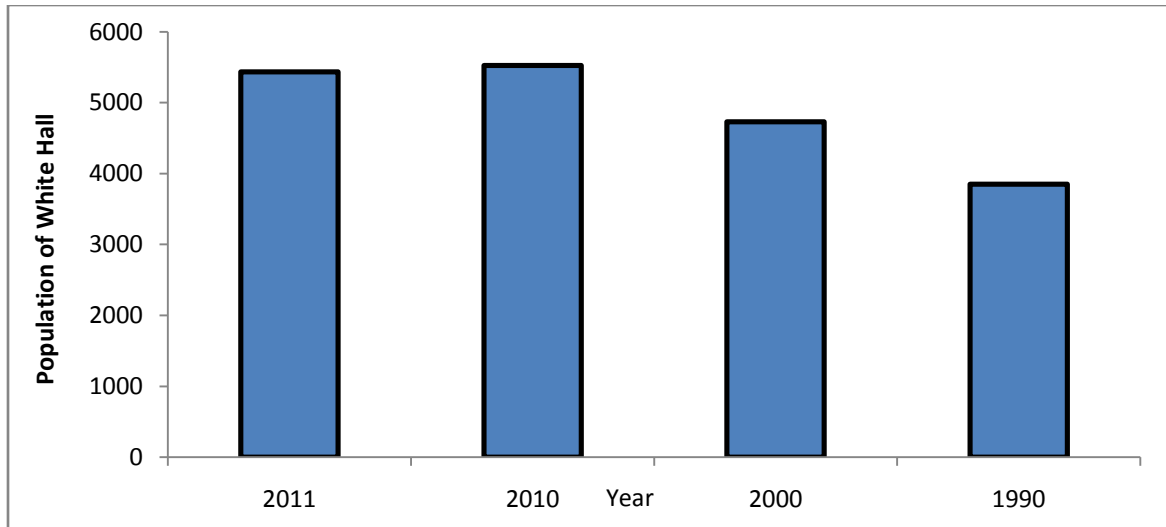


Figure 4. The population of White Hall, Arkansas from 1990-2011.

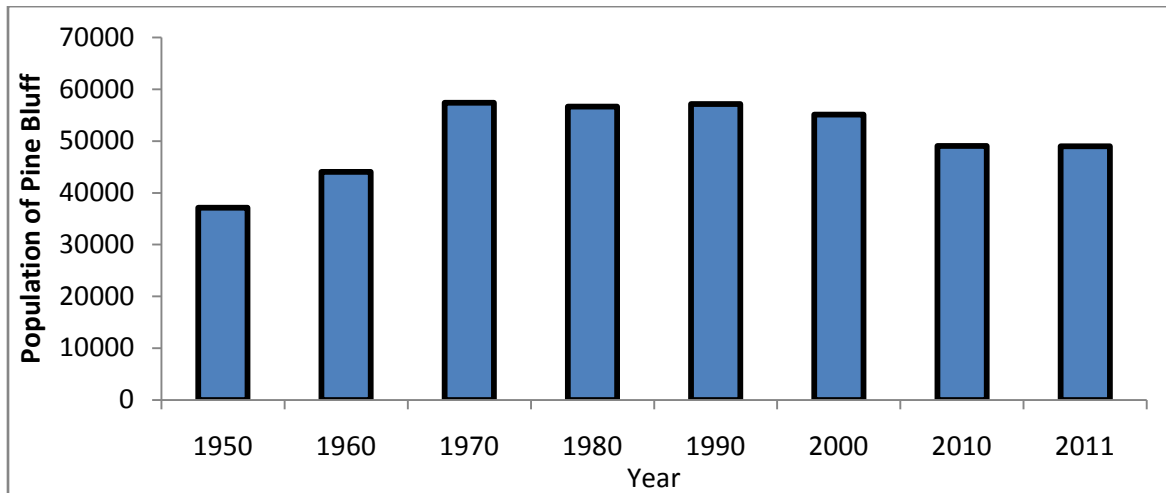


Figure 5. The population of Pine Bluff, Arkansas from 1950-2011.

Housing

Each of the three optional new T-line routes run from Redfield into Pine Bluff. Electricity is the primary source of heat in most homes in Pine Bluff as of 2007.

The median home value in Redfield Arkansas is \$99,572 with an average household size of 2.5 individuals. The majority of homes (70.3%) consist of a single or dual parent family. The average income for a family household in Redfield is approximately \$36,302/year.

The majority of homes in White Hall are single-unit, detached homes (Table 2). The majority of these homes (29.2%) are valued between \$100,000 and \$149,999. Average household size is 2.8 residents with an average family household consisting of 3.0 individuals. The average income for a household in White Hall is approximately \$74,967/year.

The majority of homes in Pine Bluff are single-unit detached homes (Table 3). A large percentage of the homes in Pine Bluff (41.8%) are valued between \$50,000 and \$99,999, while 34.4% are valued at less than \$50,000. Average household size is 2.6 and average family

household is 3.4. The average income for a family household in Pine Bluff is approximately \$43,386/year.

Table 2. Housing units in structure in the city of White Hall.

Housing Units in Structure*	Number*	Percent*
1-unit, detached	1,609	78.9%
1-unit, attached	38	1.9%
2 units	42	2.1%
3 or 4 units	55	2.7%
5 to 9 units	63	3.1%
10 to 19 units	27	1.3%
20 or more units	10	0.5%
Mobile home	160	7.8%
Boat, RV, van, etc.	35	1.7%
* Data taken from U.S. Census Bureau from 2007-2011 American Community Survey, with 2,039 total housing units.		

Table 3. Housing units in structure in the city of Pine Bluff.

Housing Units in Structure*	Number*	Percent*
1-unit, detached	15,232	71.6%
1-unit, attached	376	1.8%
2 units	853	4.0%
3 or 4 units	883	4.2%
5 to 9 units	1,006	4.7%
10 to 19 units	1,128	5.3%
20 or more units	787	3.7%
Mobile home	1,004	4.7%
Boat, RV, van, etc.	0	0%
* Data taken from U.S. Census Bureau from 2007-2011 American Community Survey, with 21,269 total housing units.		

Employment

Specific employment statistics for Redfield were not available. The unemployment rate in the area was 9.0% in March 2012.

The leading employers of residents of White Hall are area schools, Jefferson Regional Medical Center, and other social assistance positions. Other workforce areas occupied by the majority of White Hall residents include retail trade and public administration (Table 4).

Many residents of both Redfield and White Hall commute to Pine Bluff for work. Historically agriculture was the primary source of income for the workforce of Pine Bluff. The leading products in agriculture have been cotton, soybeans, cattle, rice, poultry, timber, and catfish. Recently, Pine Bluff has shifted to an industrial and service oriented economy which includes educational and medical services, cotton processing, wire products, poultry processing, electric transformers, paper and wood products, and metal fabrication (Table 5). Pine Bluff has two paper mills within the area which employ significant numbers of people. Other major employers are Jefferson Regional Medical Center, Simmons First National Bank, Tyson Foods, the Pine Bluff Arsenal, and the Union Pacific Railroad (Pinebluff.com).

Table 4. Employment statistics for the city of White Hall, Arkansas as of 2011.

Occupation	Percentage of people employed for 16 years and over
Agriculture, forestry, fishing and hunting, and mining	0.8%
Construction	2.2%
Manufacturing	5.8%
Wholesale trade	1.5%
Retail trade	16.0%
Transportation and warehousing, and utilities	7.0%
Information	1.1%
Finance and insurance, and real estate and rental and leasing	9.4%
Professional, scientific, and management, and administrative and waste management services	8.8%
Educational services, and health care and social assistance	20.5%
Arts, entertainment, and recreation, and accommodation and food services	9.3%
Other services, except public administration	4.2%
Public administration	13.3%

Table 5. Employment statistics for the city of Pine Bluff, Arkansas as of 2011.

Occupation	Percentage of people employed for 16 years and over
Agriculture, forestry, fishing and hunting, and mining	0.5%
Construction	3.3%
Manufacturing	15.7%
Wholesale trade	1.7%
Retail trade	12.1%
Transportation and warehousing, and utilities	3.5%
Information	1.4%
Finance and insurance, and real estate and rental and leasing	3.2%
Professional, scientific, and management, and administrative and waste management services	5.8%
Educational services, and health care and social assistance	31.2%
Arts, entertainment, and recreation, and accommodation and food services	7.7%
Other services, except public administration	3.4%
Public administration	10.6%

2.2.3 Historical Resources

Panamerican Consultants conducted a cultural resources literature and records search for the proposed project area. The goal of the research was to identify all known cultural resources within the study area and develop a sense of unknown cultural resources that may exist within the study area. The research concluded that there are 65 previously recorded sites located within the proposed project area (Appendix C), of these sites, 6 are listed in the National Register of Historic Places (NRHP), 32 of the sites are not eligible for listings in the NRHP and require no further archaeological management action, and the other 32 sites should be avoided by any proposed work as they have undetermined NRHP statuses, unreported statuses, or are eligible for listing in the NRHP. Thirteen state structures within the project boundaries are listed in the Arkansas Historic Preservation Program (AHPP). A copy of the Panamerican report is provided in Appendix C. Additionally, a Phase I survey was completed on the proposed route and no new sites of significance were discovered (Appendix C).

3.0 EVALUATION OF ALTERNATIVES AND PREFERRED ROUTE SELECTION

3.1 Optional Routes Determination

The Arkansas Public Service Commission (APSC) required that GBMc & Associates (GBMc) developed a multi-route system consisting of three T-line corridors between the Woodward Substation and White Bluff Substation. Corridors A, B, and C can be viewed in Figure 6. Each corridor contained potential routes for the new T-line. The goal was to establish a preferred route and two optional routes. These preliminary routes were selected via a desktop review of aerial photographs (Google Earth), topographic maps, and National Wetland Inventory (NWI) maps. The primary focus of route selection was to avoid environmental and socioeconomic obstacles to the extent practicable. Routes were selected by following/paralleling natural pathways such as property lines, wood lines, field lines, fence lines, trails, roads and existing T-lines to limit impacts to private property and agricultural/silviculture. Other factors that played a significant role in route selection involved avoidance of residential areas, archeological sites, airports/landing strips, wells, wetlands, cropland, open water and radio towers. T-line directional changes (large angles) were also avoided to the extent practicable.

Once three possible route corridors were established, multiple route pathways in each corridor were established. Each route pathway was broken up into smaller segments and numbered (Figure 6). Route segments were developed to allow short sections to be evaluated independently of the entire route. Segments were selected to avoid constraints (social and environmental obstacles) and take advantage of opportunities (such as open fields) to the extent practicable. Adjustments to segment positions were made based on the parameters listed above. In addition, major road crossings, stream crossings, forest clearing and routes near residences were minimized, to the extent practicable. Final numbered segments allowed for the concise examination of specific routes. Segments were numbered by starting at the Woodward Substation and numbering in an ascending fashion to the White Bluff Substation, within each corridor. Corridor A was numbered as a 100 series with 31 segments, Corridor B was numbered as a 200 series with 37 segments and Corridor C was numbered as a 300 series with 34 segments. Numbered segments can also be viewed in Appendix F.

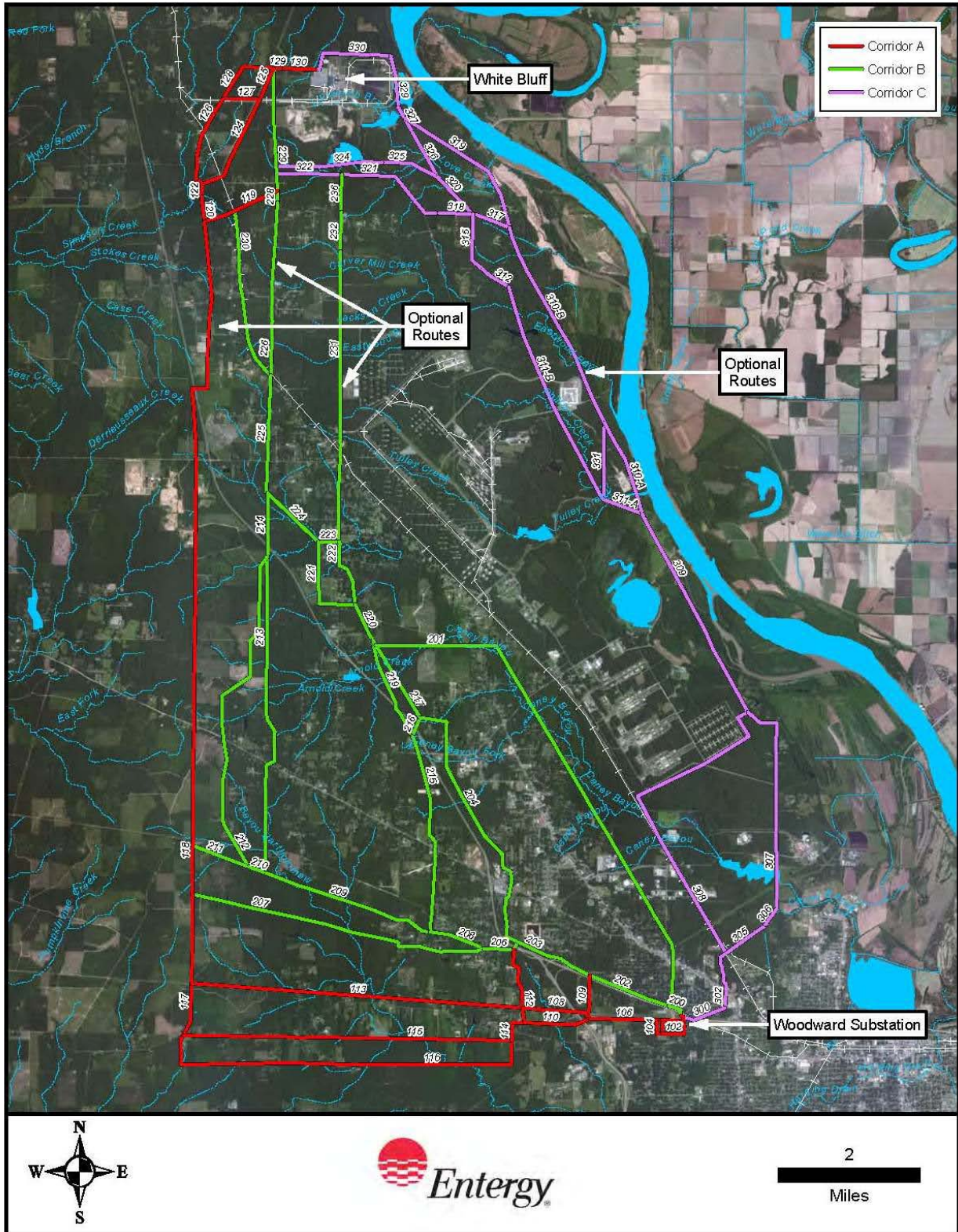


Figure 6. Route/Segment options with segment numbering.

3.2 Decision Support Matrix

GBMc developed a Decision Support Matrix to aid in quantifying constraints for each of the segments. The matrix evaluated each segment independently according to 28 parameters. The detailed data for each segment is found in the Decision Support Matrix which is provided in Appendix F. Parameters were selected based on requirements of the APSC and were designed to encompass the complete scope of each segments impact in the region. Parameters were divided into three categories: Engineering, Socioeconomic, and Environmental/Land Use. Many parameters are based on the proximity of environmental or social factors to the proposed line segment.

Engineering parameters consist of:

- T-line total length,
- total major T-line angles,
- length of new cleared (deforested) ROW,
- T-line adjacent to existing ROW,
- major T-line crossings,
- T-line adjacent to road,
- number of road crossings,
- number of major highway crossings,
- number of trail/driveway crossings, and
- number of railroad crossings.

Socioeconomic parameters consist of:

- number of residences within 50 ft,
- number of residences between 51-200 ft,
- number of residences between 201-300 ft,
- length of T-line in residentially developed area,
- length of T-line in non-residentially developed area,
- number of airports/airfields within 1,350 ft,
- distance in/across agricultural field,
- number of wells within 200 ft,
- number of historical sites within 500 ft,
- number of commercial/industrial structures within 100 ft, and
- number of radio/cell towers.

Accounting of residences out to 300 ft from the T-line compared to only 100 ft for industrial/commercial structures places a higher importance on avoidance of homes.

Environmental/Land Use parameters consist of:

- estimated distance (T-line length) in known forested wetlands,
- estimated distance in non-forested wetlands,
- distance in the US Army Pine Bluff Arsenal (PBA),
- number of navigable river crossings,
- number of perennial stream crossings,
- number of intermittent/ephemeral stream crossings, and
- distance in floodplains.

3.3 Public Involvement

Public involvement was included in the Routing Study. GBMc delivered a topographic map of the proposed project to the local newspaper and provided information about an open house that was scheduled for February 5, 2013 at the Reynolds Community Center in Pine Bluff. Letters describing the project including a map of the proposed routes were sent to local government officials and to land owners adjoining the optional lines to inform them of the project and invite them to the open house. The public was provided questionnaires to document any concerns about the proposed project and any segment in particular. Notable officials from EAI and GBM^c were present at the open house to field questions and comments. Detailed information about the project as well as general information about typical activities associated with T-line construction, operation, and maintenance was presented on an individual basis for those attending. Large scale aerial and topographic maps were displayed as a visual aid during the meeting. Additionally, a brochure was distributed which provided details about the project, general construction practices associated with building a T-line, a projected schedule, and considerations and steps in selecting the preferred route.

The Jefferson County Judge and the City of Pine Bluff Mayor's office were also contacted independently via phone and email to solicit comments and concerns. None were received. The mayor of White Hall was contacted by phone and expressed that Corridor A and B was not promising and that Corridor C should be used.

Thirty-seven (37) surveys were submitted by the public on this project. Comments varied but were mostly related to concerns with proximity to residences or loss of property usefulness. Survey results are provided in Appendix E. Two meetings have been held with the Pine Bluff Arsenal (PBA) to evaluate the feasibility of Route C, which runs through Department of the Army property. Discussions with the United States Army Corps of Engineers (USACE) Little Rock District Real-Estate Office (which handles Army land issues) have also been held to determine steps required for approval to utilize PBA land for the new transmission line. PBA is open to the possibility of the transmission line being constructed partially on PBA property. However, there are three concerns they have raised which make routing through the PBA problematic.

1. Timing. It will take the Department of Defense (DOD) more than a year to achieve a final yes or no on the project.
2. Access to the property will be controlled by special pass only. Construction personnel and future maintenance staff will require special passes to access the line on PBA property.

3. Construction of the proposed Corridor C runs through areas of the PBA which could contain unexploded ordinance. Special precautions will be required during construction of the line.

3.4 How Segments Were Eliminated/Forcing Issues/Entities

Segments were evaluated and some eliminated prior to the open house based on redundancy and impracticality. Generally, two segments that had equal impacts and ended at the same location were evaluated and the longer and more angled of the two were eliminated as options. Segments with no obvious benefit socioeconomically or environmentally may have also been eliminated if they did not follow a natural course of constructability. Segments 227, 233, 234, 235, 313, 314, 316, 323, and 328 were eliminated using these methods. Segments remaining in each corridor were presented as route options at the open house.

Discussion and comments received during the open house meeting were taken into consideration which triggered manipulation of five of the segments. Segments 116 and 117 were shifted west at the Princeton Pike crossing to avoid residences and transecting two properties. Segment 118 was manipulated in three separate areas. The first area is located between Stagecoach Rd. and Woodland Rd. This shift was due to the fact that Entergy is not able to share the ROW with a gas pipeline. The segment was shifted west enough so that the T-line ROW abuts the gas pipeline ROW. The second area is located off Wishbone Farm Rd. This shift was due to a radio tower guy wire and residence pinch point. The ROW was not able to be located between the two obstacles. A site visit revealed that the landowner preferred the segment be located between his chicken houses and residence following an existing distribution line. The landowner had plans to expand his chicken business to the west of the existing chicken houses so a shift to the west was not good for the landowner. The third area is located at the Highway 270 crossing. This shift was to straighten the segment to avoid unnecessary angles. The original segment avoided a residence that was later found to be uninhabited after a site visit. Segments 124 and 125 were shifted south to move the location of a 500 kV T-line crossing closer to the White Bluff property.

After the open house, and public input received as a result of the open house, the Decision Support Matrix was used to evaluate segments. Each of the parameters identified for the Decision Support Matrix were assigned a numeric value typically representing a linear length or a number count. In the absence of public comment on a specific segment, segments were eliminated by the matrix score alone. All matrix parameters were initially weighted equally (considered of equal importance). In an effort to ensure the matrix parameters would be weighted evenly all values were normalized to a scale of 0-10. Normalization was accomplished by dividing each value by the maximum value in that category then multiplying by ten. This allowed values in each category to remain proportional to one another, but put all parameter values into the same scale. A large number of surveys included comments expressing the need to avoid residences or home sites. As a result this was weighted heavier in the matrix. Residences were weighted 1.5 times greater to emphasize importance to the community. Also, due to the problems encountered on PBA property should Route C be selected, distance on PBA land was weighted 3 times greater. Lower matrix scores indicate fewer constraints.

Parameter scores that reflect beneficial elements (running parallel to roads for example) were subtracted from the total score and negative parameters (obstacles and challenges) were added to the total score. Where multiple segments allowed access to the same location the lower scoring segment received priority. This process was repeated, eliminating the higher scoring segments, until only three possible routes remained (one in each corridor). The Segment Summation Matrix can be viewed in Appendix F. After segment selection in each corridor was complete, final route lengths were 121,089 feet for Route A, 90,998 feet for Route B, and 95,222 feet for Route C. Segments present in each route, matrix scores, and length of each segment are shown in Tables 6 through 8.

Table 6. Segments, matrix scores, and segment lengths along Route A.

Route A		
Segment	Score	Length (ft)
100	4.12	556
101	7.03	1544
105	1.04	391
106	10.45	4974
110	16.63	4956
114	14.67	2191
116	49.23	28495
117	11.43	3994
118	90.68	57588
120	1.03	1904
122	2.13	894
124	18.42	8116
125	6.40	2451
129	0.39	547
130	13.76	2488
Sum	247.43	121089

Table 7. Segments, matrix scores, and segment lengths along Route B.

Route B		
Segment	Score	Length (ft)
200	20.12	1268
201	142.26	39211
218	-0.03	452
220	4.50	2952
221	18.41	7264
224	13.13	5239
225	24.41	8747
226	29.21	12839
228	2.83	866
229	33.71	9125
129	0.39	547
130	13.76	2488
Sum	302.69	90998

Table 8. Segments, matrix scores, and segment lengths along Route C.

Route C		
Segment	Score	Length (ft)
300	16.70	3304
301	9.84	2304
303	8.62	4503
306	7.50	1682
307	56.65	16172
309	56.74	16643
311-A	16.74	3065
331	22.65	5711
310-B	30.66	17413
317	4.23	2891
320	5.02	3800
326	9.31	3820
327	4.27	2141
329	3.64	3794
330	15.63	7979
Sum	268.19	95222

3.5 Preferred Route Selection Summary

A preferred route and two optional routes resulted from the final segment evaluation and elimination (Figure 5). A route from each corridor was selected based on the lowest combined segment scores in that corridor that achieved a complete T-line between the Woodward Substation and the White Bluff Substation. Corridor A's route will be referred to as Option A (Segments 100, 101, 105, 106, 110, 114, 116, 117, 118, 120, 122, 124, 125, 129, and 130), Corridor B's route as Option B (Segments 200, 201, 218, 220, 221, 224, 225, 226, 228, 229, 129, and 130) and Corridor C's route as Option C (Segment 300, 301, 303, 306, 307, 309, 311-A, 331, 310-B, 317, 320, 326, 327, 329, and 330). A final route map from Corridor A, B, and C can be viewed in Appendix F. Route B scored the highest with a sum of 302.69, Route C scored in the middle with 268.19, and Route A scored the lowest with 247.43, making it the most feasible to construct. A summary of each routes score in key environmental and socioeconomic categories is provided in Table 9. Final lengths for Routes A, B, and C were 121,089 feet, 90,998 feet, and 95,222 feet, respectively.

Route A was selected as the preferred route due to its lower score which is largely based on the fact the route avoids the PBA and passes through mostly timber company land, which avoids many other constraints (particularly proximity to residences and historical sites). This route passes through pine stands with sandy soils that contain minimal wetlands. Routes B and C were selected as optional routes. Route A matrix data can be viewed in Appendix F.

Table 9. Summary of Key Attribute Scores.

Route	Total Weighted Scores						Total Score
	Number of Residences within 200 ft	Number of Historical Sites within 500 ft	Length in forest (ft)	Number of perennial stream crossings	Distance in wetlands (ft)	Number of commercial structures within 100 feet	All 28 Parameters
A	13.33	0.00	18.71	12.00	1.67	11.82	247.43
B	54.98	2.50	12.02	12.00	11.75	16.36	302.69
C	3.84	17.50	14.02	16.00	8.12	2.73	268.19

4.0 ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT AND PREFERRED ROUTE A

4.1 Natural Resources

- **Hydrology** - Construction and operation of the preferred route (Route A) will have no permanent adverse impacts to hydrology. The ROW will cross Bayou Bartholomew in six locations and unnamed tributaries of Bayou Bartholomew in five locations, unnamed tributaries of Caney Bayou in five locations, unnamed tributaries of Johnson Creek in four areas, unnamed tributaries of Stokes Creek in two areas, unnamed tributaries of Tar Camp Creek in two locations, and Simpson Creek in one location. These waterways are narrow and will be easily spanned. Best management practices (BMP's) and a storm water pollution prevention plan (SWPPP) will be utilized to ensure the streams and waterways within the project area are not adversely affected by sediment during construction.
- **Vegetation** - Disturbance and loss of vegetation will result from the construction and operation of the preferred route. Construction of the 120 ft wide ROW will require the clearing of approximately 281 acres, consisting mostly of pine stands.
- **T&E Species** - Three Jefferson County species are registered on the federal list of endangered species, and one plant species in Jefferson County is listed as threatened in the State of Arkansas. The interior least tern (*Sterna antillarumathalassos*), the bald eagle, (*Haliaeetusleucocephalus*) and the Florida panther (*Felisconcolorcoryi*) are listed, but do not occupy a habitat that is located within the preferred route. The rose pogonia (*Pogoniaophioglosoides*) also known as the snakemouth orchid, is threatened in the State of Arkansas. The USFWS has issued a T&E clearance letter for this project (Appendix D) indicating they do not believe the project would have any impact on trust resources.
- **Wetlands** - The National Wetlands Inventory provided by the USFWS identifies eight small wetland polygons in the preferred route ROW. All but two of these wetlands fall under the Palustrine classification, which are non-tidal wetlands such as freshwater marshes or swamps totaling 3.9 acres. Two polygons are under the Riverine classification, which mainly includes all wetland and deep water habitats contained within a channel totaling 0.17 acres. Wetland polygons noted are five Palustrine Forested wetlands, one Palustrine Unconsolidated Bottom wetland, one Riverine Intermittent, and one Riverine Lower Perennial. Physical inspection of the preferred route will be carried out by GBMc personnel in order to assess soils and vegetation in areas that may not be included in the National Wetlands Inventory. A detailed Jurisdictional Determination report will be prepared and submitted to the U.S. Army Corps of Engineers along with appropriate preconstruction notification prior to project initiation.

To minimize impacts to wetlands, the line will avoid or span wetland areas to the extent practicable. The spacing of poles will avoid or minimize placement in wetlands.

Appropriate permits from the U.S. Army Corps of Engineers will be obtained and complied with for any work activities within wetlands or other jurisdictional waters.

- **Wildlife** - Temporary displacement resulting from disturbance during line construction will likely be the most common occurrence. Based on the approximate 120 ft wide clearing of the ROW, approximately 281 acres of forest habitat will be converted to grassland or scrub/shrub habitat.

4.2 Human Resources

- **Population** - The installation of the new T-line along the preferred route will not directly result in a change in population size or demographics in the area. Construction is expected to be completed in under a year with workers likely commuting instead of relocating to the area. The local residents, businesses, and industries will all benefit from the increased reliability of the electrical infrastructure provided by the proposed project.
- **Employment and Income** - There will be no significant effect on employment and income in the preferred route area by the construction and operation of the line. Workers will likely commute to and from the work site on a daily or weekly basis. The purchases of lodging, food, fuel, and other merchandise by the workers may result in a slight increase in retail sales in the general vicinity of the project.
- **Urban/Residential Areas** - The preferred route runs through several residential areas near the City of Redfield and through the City of Pine Bluff. Two residences occur within but on the edge of the ROW and twenty-one residences occur within 51-200ft of the ROW centerline. Thirteen residences occur within 201-300ft of the ROW centerline. Thirteen shops/commercial facilities exist within 100 ft of the ROW centerline. The residences nearby will experience temporary short term impacts from construction activities, such as dust, traffic, and noise disruption.
- **Cultural Resources** - There are no known sites that lie within or near the proposed ROW and all reasonable measures will be taken to avoid or minimize impacts to these sites. A Phase I cultural resources field survey was completed on the proposed route and no significant sites or issues were revealed. A request for site clearance was submitted to the Arkansas State Historic Preservation office (SHPO). The SHPO determined no additional field work was required. Any new sites discovered during construction will be avoided and/or protected as necessary.
- **Recreation** - No recreational facilities will be adversely impacted by the construction and operation of the line on the preferred route.
- **Transportation and Utilities** - The preferred route has 35 road crossings, including 4 highway crossings. It also has 34 trail/driveway crossings. Construction for this T-line may occasionally slow traffic, but this is short term and temporary. Driveway permits with the Arkansas Highway Department will be obtained where needed. This includes the installation of stabilized entrances/exits wherever vehicles and equipment will be entering the ROW from roadways.

5.0 UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

5.1 Natural Resources

Unavoidable adverse effects to natural resources are generally associated with the additional land clearing required for the new ROW and the construction of the project including ROW access. Specific natural resources affected are listed below.

1. Land clearing activities are required to construct the ROW. ROW widths are established by the National Electrical Safety Council in Section 23 of the code. Entergy construction practices meet or exceed this standard. The construction of the ROW will require that some forested areas be cleared. Clearing of forest area will have the following impacts:
 - Soil loss caused by the erosive properties associated with soil disturbance
 - Loss of forest and conversion to grass or scrub/shrub habitats
 - Loss of forest habitat for wildlife
 - Loss of forested wetland as wetland is converted from forested to emergent wetlands
2. Wildlife may experience temporary disturbance while the project is being constructed. Once the project is complete wildlife habits will return to normal over time.
3. Water quality in Simpson Creek, Bayou Bartholomew, and in unnamed tributaries of Bayou Bartholomew, Caney Bayou, Johnson Creek, Stokes Creek, and Tar Camp Creek may be temporarily affected by surface runoff from the construction site. Disturbance would be primarily in the form of minor sedimentation, which will be minimized through use of soil and erosion control best management practices (BMP's) and implementation of the storm water pollution prevention plan (SWPPP).
4. Impacts to the avian community include some loss of habitat as a result of the land clearing necessary to install the ROW. Avian mortality due to electrical line collisions will continue to be a possibility.

5.2 Human Resources

Unavoidable adverse effects to human resources will be mostly associated with the land clearing required for the new ROW and the construction of the project including ROW access. Specific human resources potentially affected are listed below.

1. Land clearing activities near residences will have the most effect on human resources. The ROW clearing will require that trees adjacent to some residences

be cut down or trimmed. Loss of these trees and the associated encroachment of the T-line ROW will have the following impacts:

- Reduced aesthetic features
 - Reduction in shading of home and/or property
 - Loss of property usability options within new ROW
2. Construction of the project will require access to the ROW in multiple locations and the use of large construction equipment such as dozers, excavators, dump trucks and cranes. The construction phase of the project will have the following impacts which are all temporary:
 - Increased noise in and near the ROW
 - Increase in traffic in the project area
 - Increase in dust in and near the ROW
 3. Cultural/Historical resources will receive minimal impacts as a result of the project. All cultural and historical resources within the project area will be avoided to the extent practicable.

6.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Once this project has been completed there are certain resources that cannot be recuperated. A discussion of these resources is provided below.

Natural Resources

1. Loss of forest will occur due to clearing of the ROW. Although, if the project was abandoned and given enough time the forest will regenerate.
2. Loss of forest habitat for wildlife in areas forest is cleared.
3. Loss of timber land available for harvest and sale.

Human Resources

1. Loss of man hours spent for project construction.
2. Loss of materials used for construction.
3. Loss of operation and maintenance costs for equipment used during construction.

7.0 RECOMMENDED MITIGATION MEASURES

Construction projects that require soil disturbance generally have some level of associated environmental and socioeconomic impacts. These impacts can be mitigated through careful project planning and implementation. The key to mitigating project impacts is focused in two areas: (1) avoidance of critical areas and (2) minimization of the construction footprint (area

of land disturbance). The following section describes the mitigation measures recommended for this project.

Natural Resources

Mitigation for land clearing impacts will center around the SWPPP. The SWPPP for the project will govern how construction activities on the site are conducted and what best management practices are utilized to prevent soil erosion and sedimentation. The SWPPP will include guidelines for:

- Construction staging,
- Soil stabilization BMP's,
- Sediment control BMP's, and
- Vegetation replanting and mulching.

Water quality impacts will also be mitigated largely by the SWPPP. The soil and erosion control BMP's will be designed for protection of water quality with a focus on reduction and/or elimination of sedimentation into streams and wetlands. In addition, stream side buffer zones will be left intact to a width of at least 25 ft where possible. Where the ROW intersects streams in forested areas, trees will be removed, but shrub habitat and herbaceous cover will be left intact along the stream side buffer zone.

Wetlands will be impacted along the ROW, but impacts will be minimized to the extent practicable. Where forested wetlands occur in areas of the ROW that require expansion of width, the trees will have to be removed converting the wetlands to emergent wetlands in these areas. No changes to topography will occur. The conversion (wooded wetlands to emergent wetlands) impacts will be offset through purchase of wetland mitigation credits from an approved mitigation bank. Construction mats will be used when heavy equipment usage is required in wetlands. Placement of T-line poles will be determined in an effort to avoid placement in wetlands to the extent practicable. Where placement of a pole in a wetland is unavoidable the impacts will be offset through purchase of mitigation credits.

Threatened and endangered (T&E) species are not believed to be a concern in the project area. The USFWS provided a clearance letter for this project (Appendix D). Therefore, no specific mitigation measures are required for T&E species.

Avian deterrent features will be placed on the lines at designated intervals to deter birds away from the lines. Placement of these deterrents will limit avian mortality.

Human Resources

Land use impacts are mitigated by minimizing the construction footprint. Clearing of forested land and large trees in the ROW near residences will be avoided and minimized to the extent practicable. Access, in most areas, will be limited to the duration of the construction project. However, long term access at select locations will be required for future maintenance needs.

Permits for road crossings, utility crossings and drive way access to the ROW will be acquired where necessary. The SWPPP will outline BMP's required for crossing road side ditches and construction entrances.

There are minimal impacts to cultural or historical resource sites on this project. These resources have largely been avoided through selection of the existing T-line ROW for the project. A Phase I cultural resources field survey was completed and revealed no new significant sites or issues near the T-line ROW. Any new sites discovered during construction, or any T-line encroachment on existing sites, will be avoided as necessary.

Summary and Conclusions

This project will have a moderate impact on local natural resources or human resources.

- Impacts have been minimized through careful selection of the T-line route.
- Soil erosion and water quality impacts will be minimized through adherence to the SWPPP
- Wetland impacts will be minimized through use of construction mats, which will be used when heavy equipment usage is required in wetlands.
- Residences have been avoided thorough selection of a route that is mostly rural. Where the line crosses near homes, adjustments have been made to minimize impacts.
- There are no significant cultural resources identified within the T-line corridor. All cultural resources within the proposed project area will be avoided to the extent practicable and all impacts will be minimized.

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Appendix A

Project Description



**Entergy Arkansas, Inc.
Public Open House**

February 5, 2013

**Donald W. Reynolds Community Center
211 West 3rd Street, Pine Bluff, AR**

4 – 7 P.M.

**Proposed White Bluff to Woodward
230 kV Transmission Line**

Improved Electrical Reliability in Southeast Arkansas

The areas in southeast Arkansas which include the Pine Bluff metro and the communities in Jefferson County have been very successful at continuing to expand existing economic infrastructure as well as promoting new business for the region. Entergy Arkansas, Inc. is pleased to be a part of this success by providing efficient and reliable electricity to industrial, commercial, agricultural, and residential customers that meets the region's needs today and for years to come. To support continued reliability of the system, it is necessary to periodically build new structures and upgrade existing electrical facilities to carry power from where it is generated to where it will be used.

Entergy Arkansas Inc. is planning to construct a new transmission line and upgrade existing transmission lines to 230 kV within the southeast Arkansas region. The current project consists of constructing a new 230 kV transmission line between two existing substations in Jefferson County. The new line, approximately 17 miles in length, will extend between the existing White Bluff

Substation near Red Field and the Woodward Substation in Pine Bluff. Woodward Substation is located at 5201 W. Barraque Street in Pine Bluff. The proposed new transmission line will have highly efficient and reliable terminal facilities consisting of circuit switching and protective relaying devices at the existing substations. These new and upgraded 230 kV facilities will enhance voltage levels and service reliability to all the areas in Pine Bluff and to Jefferson, Desha, Chicot and Arkansas Counties.

Why Are the Transmission Line and Substation Improvements Necessary?

Demand for energy in the southeast Arkansas area is projected to continue to grow. The present transmission infrastructure is insufficient to accommodate the required voltage levels and existing demand under certain contingencies in addition to the current growth rate projections. These contingencies cause low voltages and thermal overloads throughout the southeast area. This project is necessary to provide continued reliable electric service and voltage stability in the southeast region of Arkansas.

Specifically, the 230/115 kV Woodward Substation is a major substation in the Pine Bluff area and under certain contingencies, transmission low voltages occur in the 115 kV transmission network in Pine Bluff and south along the extremely long 115 kV lines connecting to the 230 kV source at Lake Village. A bus-tie breaker fault or stuck bus-tie breaker at Woodward will clear the entire 115 kV bus causing major outages for the area. Loss of the single 115 kV north bus at Woodward causes the 115 kV line from White Bluff to Arsenel 'D' to Woodward to over load, which also causes low voltages in Pine Bluff that extend to the Camden, Monticello, and Dumas areas. The benefits of this project include not having to shed the load at risk in the event that contingencies occur during peak loading conditions and to alleviate the anticipated violation of North American Electric Reliability Corporation Planning Standards.

What Transmission Line Improvements Are Needed?

The company plans to build a new, approximate 17-mile, 230 kV line from the White Bluff Substation to the Woodward Substation which will involve purchasing new right-of-way. The proposed project will consist of rebuilding the Woodward Substation which includes converting the 230 kV switchyard to a ring-bus design and redesigning the 115 kV bus at the station. The company will be using the latest and most highly efficient and reliable technology available in the industry for the new transmission line and switchyard which includes 230 kV polymer braced post insulation, 1200 ampere current carrying conductors, single modular steel pole structures, and installation of an optical fiber communication system for protective switchgear and transmission line relay operations at each terminal substation. The overall project facilities will provide a much needed and upgraded 230 kV transmission source that will furnish back-up power and maintenance capability to the area through substations located in Pine Bluff, Watson Chapel, Monticello, McGehee, Stuttgart, Helena and Lake Village, which substations connect directly or indirectly with the generation plants - White Bluff Steam Electric Station near Red Field, Ritchie Steam Electric Station at Helena, Gerald Andrus Steam Electric Station at Greenville, Mississippi, and the AECC Dam #2 Hydro Electric Station on the Arkansas River. These improvements will protect the southeast Arkansas area from potential

under-voltages and thermal overload problems that would result from the loss of a single line contingency, and also will facilitate needed periodic maintenance outages to the existing Entergy Arkansas transmission system.

This project is being coordinated with an overall expansion of the transmission facilities for southeast Arkansas that include:

- ◆ Expanding existing southeast Arkansas substations to tie with 230 kV sources and installing a new 115 kV transmission line between AECC Dam #2 Hydro Generation Station to Gillett;
- ◆ Constructing new 230 kV transmission lines to link substations at Lake Village, Reed, Monticello, Watson Chapel, and Woodward; and
- ◆ Constructing and/or redesigning new 230 kV switching stations at White Bluff, Reed and Lake Village.

Transmission Line Route Selection Process

In choosing a transmission line route and related facilities, Entergy Arkansas considers several factors, including:

- ◆ Input from our customers, area residents, and community leaders;
- ◆ Proximity to existing transmission lines, other utilities, and related facilities;
- ◆ Proximity to the customers and to the electrical load centers being served;
- ◆ Construction costs - terrain, areas of congestion, ease of access, and length of the line all affect construction costs;
- ◆ Price of the land - both the land on which the terminal substation facilities are to be expanded and any new transmission line right-of-way that must be purchased. All land and construction costs become part of the rate base and are, therefore, eventually paid by all Entergy Arkansas customers;
- ◆ Aesthetic considerations and other environmental factors. We prefer to place substation facilities where they are not highly visible and we try to minimize impacts on the environment;
- ◆ We try to use existing manmade and natural corridors, property boundaries, and field edges where economically feasible and electrical reliability is not unduly penalized, and
- ◆ These considerations are consistent with rules of the Arkansas Public Service Commission, which require the company to include in its evaluations: cost, health and safety, engineering and technical concerns, ecological/environmental disruptions, disruptions to existing and planned manmade property uses, and aesthetics.

Entergy Arkansas Typical 230 KV Transmission Line Structure



Transmission Line and Right-of-Way Considerations

Entergy Arkansas intends to make improvements in collaboration with community members and key leaders. All final decisions regarding new transmission line facilities will be made only after considering public input through the following sources:

- ◆ **Customer feedback** - Input from our customers, area residents, and community leaders is essential in developing an effective and efficient project plan;
- ◆ **Public open house** - Entergy Arkansas is sponsoring an open house to enable the public to review the proposed project requirements and offer comments. Entergy personnel who specialize in land and right-of-way, environmental, engineering, transmission operation, construction, regulatory affairs, vegetation management, and customer service will be there to answer questions. All impacted landowners and interested persons are encouraged to attend. Personal invitations have been distributed to the media, local community leaders, city/state/federal government entities, and other organizations. Also, the company has published an open invitation in the Pine Bluff Commercial Newspaper.

- ◆ **Notice to landowners** - All landowners of record within reasonable distance from the potential transmission line routing segments(s) have been notified by first class mail. This notification included an invitation to the open house and a transmission line route map that depicts existing and alternative transmission line segments and substations as well as a photograph of a typical transmission line structure.

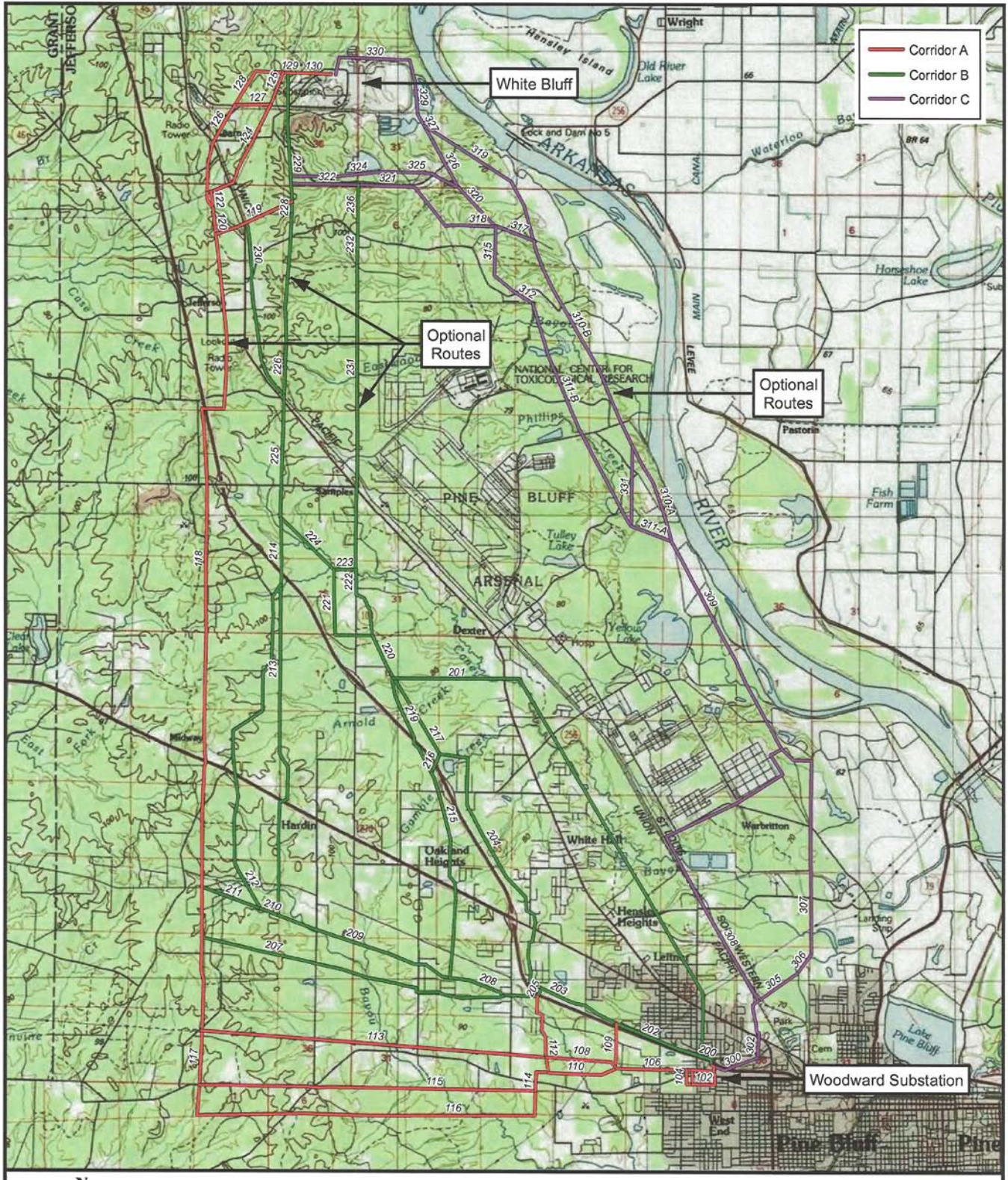
Several factors must be considered when embarking on a project of this scale, including:

- ◆ **Construction costs.** Terrain and ease of access affect construction costs. All construction costs become part of the rate base and are, therefore, eventually paid by customers. The current estimated cost of the planned transmission line project is approximately \$32 million;
- ◆ **Right-of-way for the new transmission line.** Entergy will design its new transmission line under its existing standards for 230 kV right-of-way, which is 125 feet wide based on utilization of single-pole steel or concrete structures. Additional right-of-way may be required above the 125 feet range to accommodate guy wires for angle structures and cutting of danger trees (refer to page 8 of brochure);
- ◆ **Aesthetic considerations and other environmental factors.** Single modular steel or concrete poles will be used to provide tangent, angle turns, and dead-ends for the transmission line. These types of transmission line structures were selected to minimize the aesthetic displeasure of the installation;
- ◆ **Health and safety.** Safety is a priority with Entergy and, in accordance with the requirements set forth in the National Electrical Safety Code, the company will construct and operate the proposed electrical facilities at its standard voltage design and will observe reasonable safety precautions to prevent jeopardizing the public safety. Construction methods and activities in the field will also meet U.S. Department of Labor Occupational Safety and Health Organization requirements. Entergy also maintains and follows its own safety policies and procedures in the Entergy Transmission and Distribution Safety Manual, most recently updated in 2012, and
- ◆ **Regulatory and permitting.** The Arkansas Public Service Commission requires the company to file an application for approval of a Certificate of Environmental Compatibility and Public Need to construct the proposed transmission line. The U.S. Army Corps of Engineers as well as other federal and state agencies require the company to file for approval of various permits for the new transmission line.

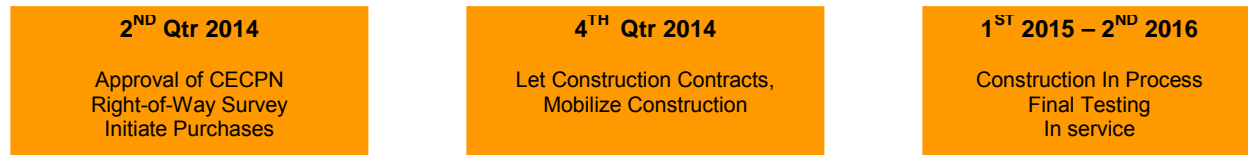
Alternative Transmission Facilities

Entergy Arkansas has identified several alternative transmission line segments that will be evaluated and then selected to comprise optional transmission line routes – see map below. Each alternative line segment and line route has advantages and drawbacks. No decisions on a final route will be made until customers and property owners have had an opportunity to offer their input. The alternative transmission line segments shown in the following map consists of 89 optional transmission line segments that extend through Pine Bluff and Jefferson County. Depending on the segments selected, the length of the final transmission line will be approximately 17 miles in length.

Entergy Arkansas 230 KV Transmission Line Segments



Project Schedule



Construction dates are tentative at this time and could be subject to change.

Next Steps

- ◆ **Customer contact and site access.** Through a contract with external consultants, residents will be contacted for assistance in developing plans to temporarily access new and existing right-of-way prior to construction. These plans may include ground surveys, soil testing and test borings.
- ◆ **Construction phase.** The proposed electrical facilities will be designed by Entergy Services, Inc. personnel for Entergy Arkansas. Construction will be performed by pre-qualified electrical contractor crews under the supervision of Entergy Arkansas personnel in a sequential operation of surveying, clearing, structure erection, conductor installation and clean-up. The first operation is to survey the proposed route to establish the centerline, edge of right-of-way, and profile of the transmission line. Centerline staking and profiling may require cutting some trees and undergrowth. Right-of-way clearing, if necessary, will also be performed by contracted crews under the supervision of Entergy Arkansas personnel. Trees outside of the right-of-way that endanger the safe and reliable operation of the transmission line (danger trees – see page 8) will be cut to provide necessary clearance.

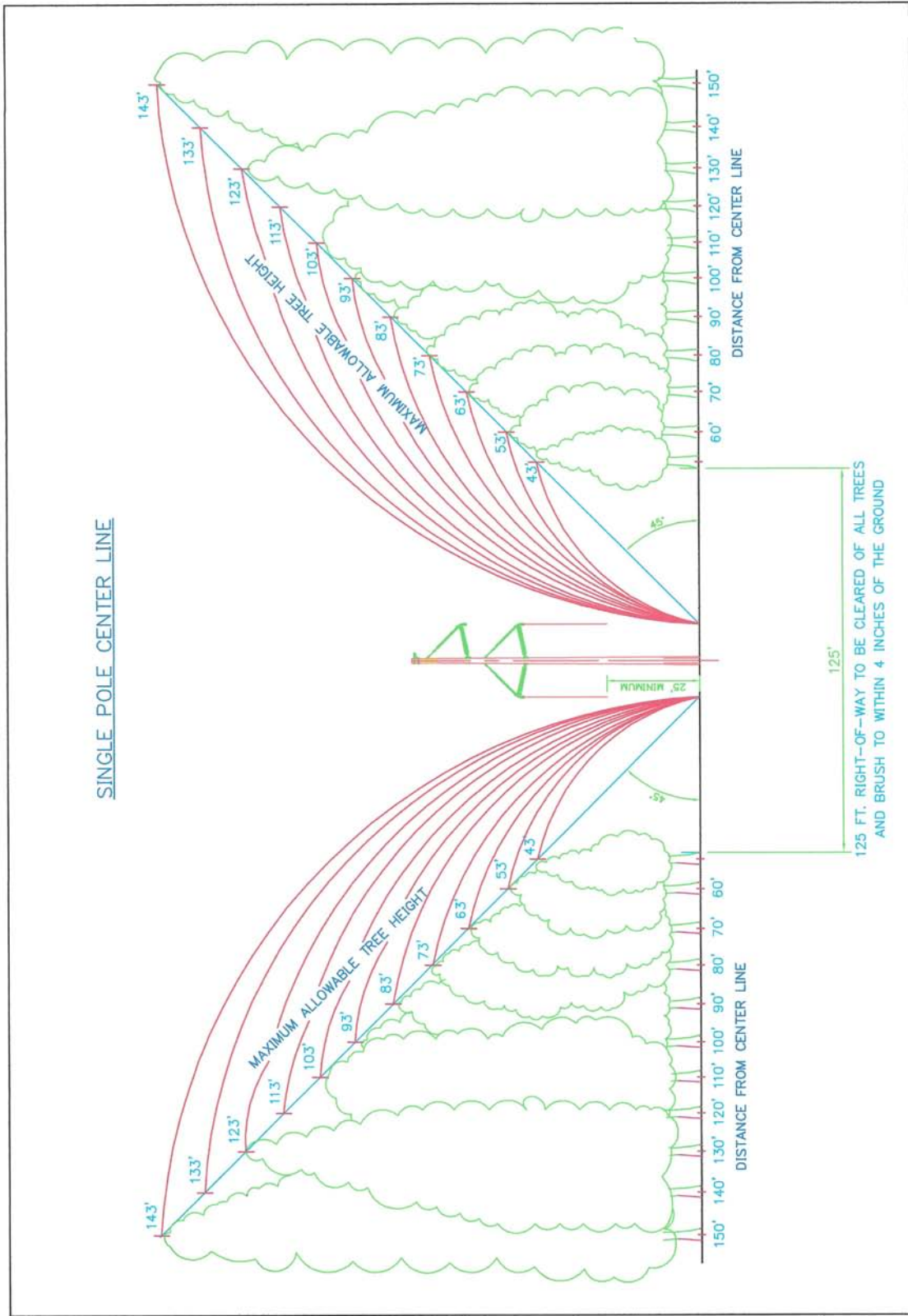
Structure installation takes place in three phases: transporting, assembling, and erecting. Material is transported to each location where structures are assembled, as much as is practical, on the ground; the poles are then set in augured holes and backfilled with appropriate fill material (directly-imbedded). Once the structure is assembled, installing conductor is the next critical step. Many vehicles and items of equipment are required to install the conductor. As with vehicles and equipment associated with other construction phases, crews will exercise care to minimize damage to the terrain and landowner premises.

Contact List

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Chattanooga, TN 37402
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423 326-8802
spitt@mesainc.com

Danger Tree Identification



If anyone was unable to attend the open house, and/or would like to voice a comment, please contact Greg Phillips or Steve Pitt shown on the previous page contact list.

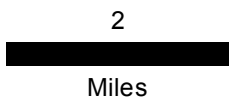
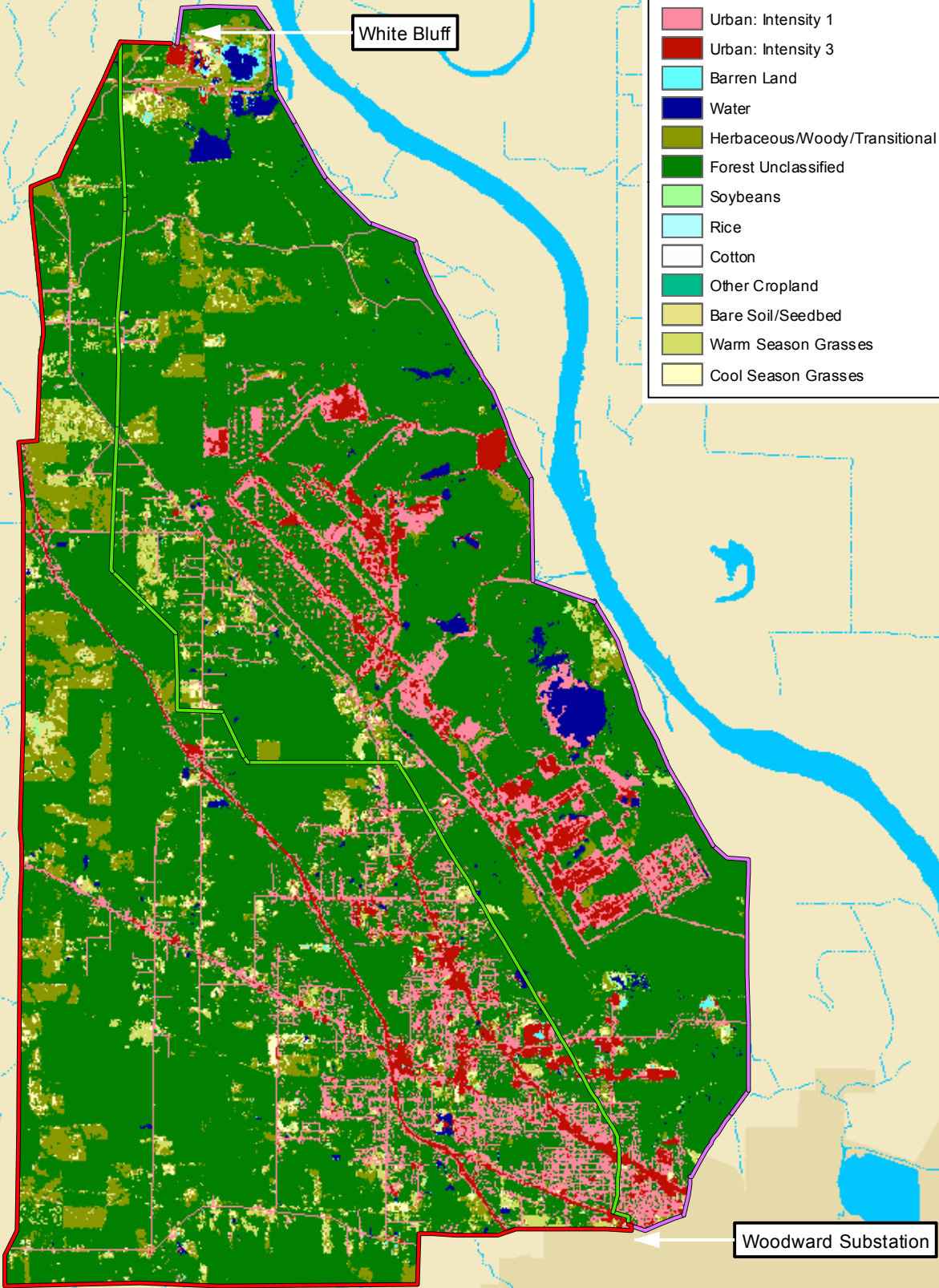
Appendix B

Information on Existing Environment

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- Route A
- Route B
- Route C

- ### Land Use Land Cover
- Urban: Intensity 1
 - Urban: Intensity 3
 - Barren Land
 - Water
 - Herbaceous/Woody/Transitional
 - Forest Unclassified
 - Soybeans
 - Rice
 - Cotton
 - Other Cropland
 - Bare Soil/Seedbed
 - Warm Season Grasses
 - Cool Season Grasses





United States
Department of
Agriculture



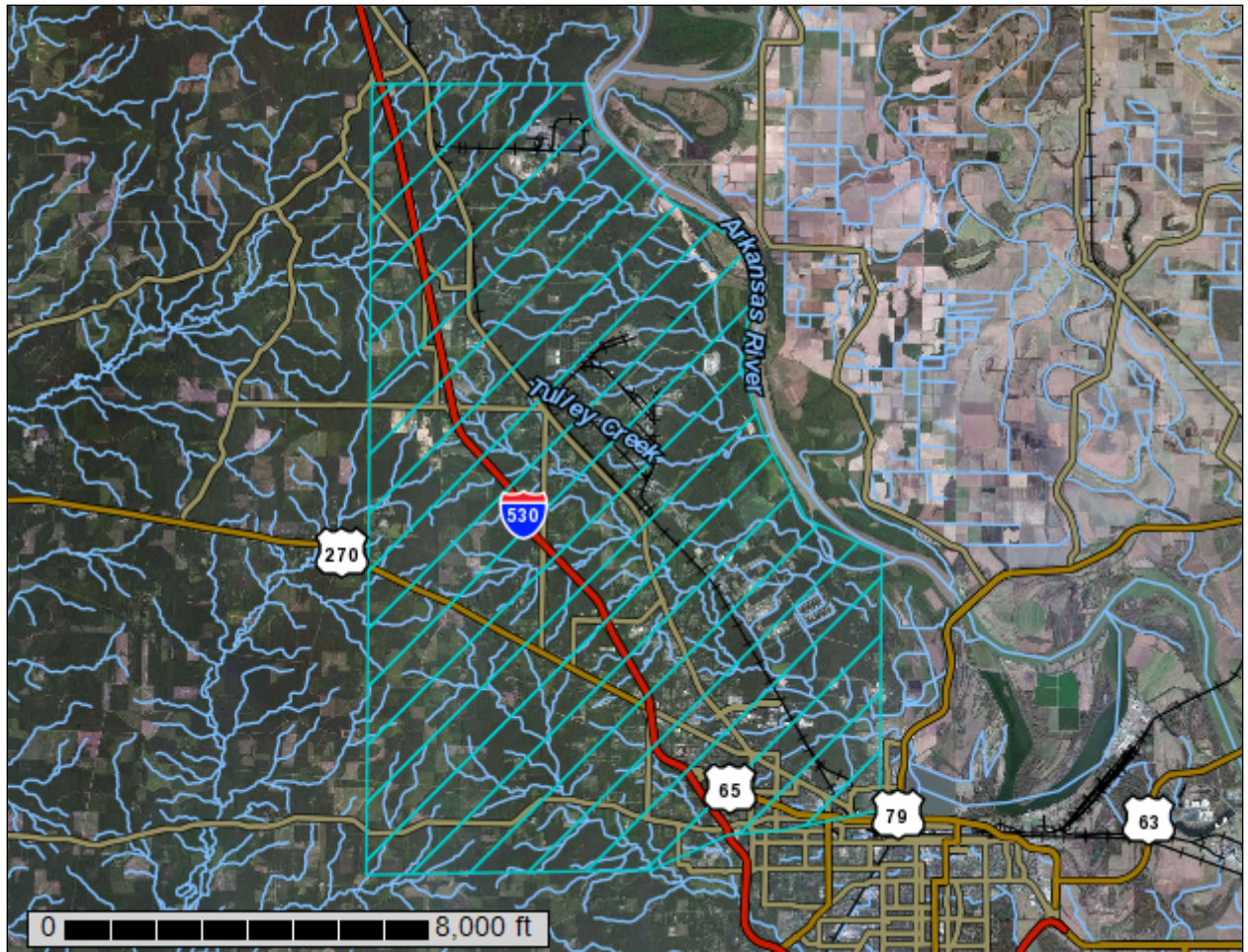
NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Jefferson and Lincoln Counties, Arkansas

Pine Bluff Voltage Support Phase 2



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://soils.usda.gov/sqi/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Soil Data Mart Web site or the NRCS Web Soil Survey. The Soil Data Mart is the data storage site for the official soil survey information.

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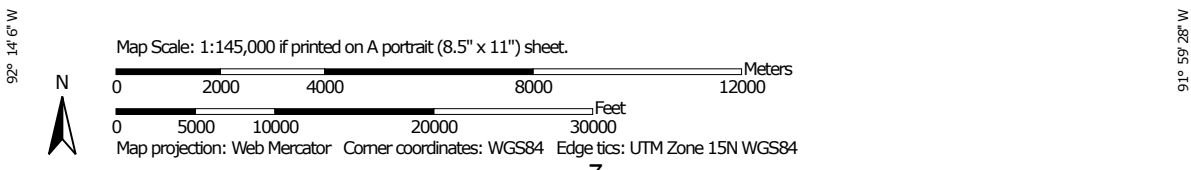
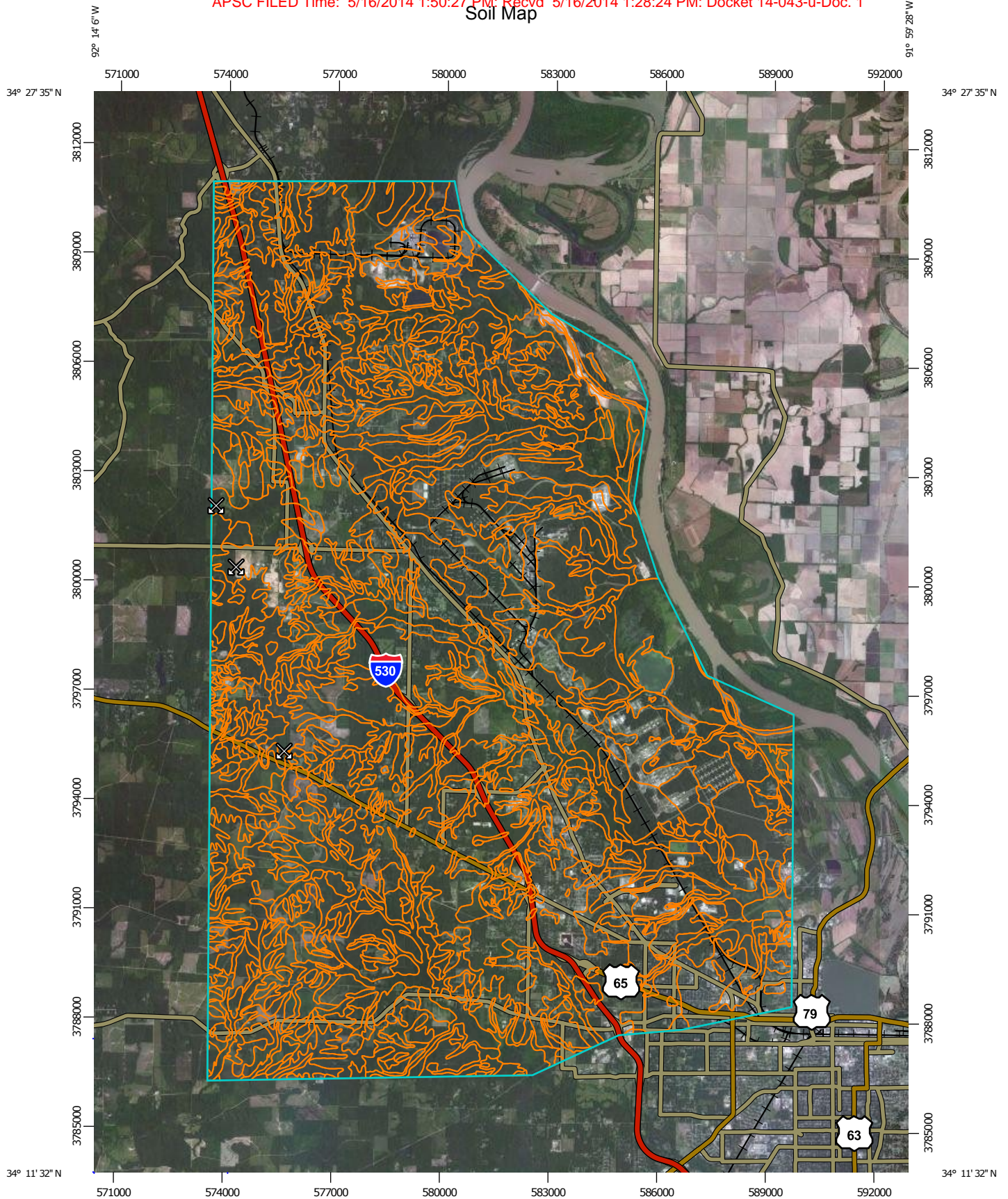
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Soil Map


The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Jefferson and Lincoln Counties, Arkansas
Survey Area Data: Version 9, Sep 28, 2012

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 5, 2010—Jun 5, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Jefferson and Lincoln Counties, Arkansas (AR660)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Amy silt loam	2,019.0	2.6%
2	Amy soils frequently flooded	1,763.9	2.3%
3	Amy-Urban land complex	59.9	0.1%
4	Calloway silt loam, 0 to 1 percent slopes	1,352.9	1.7%
5	Calloway silt loam, 1 to 3 percent slopes	1,270.7	1.6%
6	Calloway-Urban land complex	1,502.7	1.9%
9	Coushatta soils, occasionally flooded	196.0	0.3%
11	Crevasse loamy fine sand	15.9	0.0%
12	Crevasse soils, frequently flooded	2,616.8	3.3%
15	Grenada silt loam, 1 to 3 percent slopes	121.3	0.2%
16	Grenada silt loam, 3 to 8 percent slopes	681.3	0.9%
17	Grenada-Urban land complex, 1 to 3 percent slopes	106.8	0.1%
18	Grenada-Urban land complex, 3 to 8 percent slopes	387.6	0.5%
19	Hebert silt loam	9.6	0.0%
20	Henry silt loam	1,169.2	1.5%
21	Henry-Urban land complex	123.6	0.2%
22	McGehee silt loam	191.4	0.2%
23	McGehee silt loam, occasionally flooded	375.9	0.5%
24	Oklared fine sandy loam, occasionally flooded	90.8	0.1%
25	Ouachita soils, frequently flooded	5,210.6	6.7%
26	Perry clay, 0 to 1 percent slopes	21.1	0.0%
27	Perry clay, 0 to 1 percent slopes, occasionally flooded	24.4	0.0%
28	Pheba silt loam, 0 to 2 percent slopes	21,462.7	27.5%
29	Pheba-Urban land complex, 0 to 2 percent slopes	907.8	1.2%
30	Portland clay, 0 to 1 percent slopes	208.8	0.3%
31	Portland clay, 0 to 1 percent slopes, occasionally flooded	297.4	0.4%

Jefferson and Lincoln Counties, Arkansas (AR660)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
33	Rilla silt loam, 0 to 1 percent slopes	1.3	0.0%
38	Ruston fine sandy loam, 1 to 3 percent slopes	218.0	0.3%
39	Sacul fine sandy loam, 1 to 3 percent slopes	881.0	1.1%
40	Sacul fine sandy loam, 3 to 8 percent slopes	7,452.9	9.5%
41	Savannah fine sandy loam, 1 to 3 percent slopes	4,657.2	6.0%
42	Savannah fine sandy loam, 3 to 8 percent slopes	12,821.9	16.4%
43	Savannah-Urban land complex, 1 to 3 percent slopes	388.6	0.5%
44	Savannah-Urban land complex, 3 to 8 percent slopes	195.6	0.3%
45	Sawyer silt loam, 1 to 3 percent slopes	1,300.0	1.7%
46	Sawyer silt loam, 3 to 8 percent slopes	4,522.4	5.8%
47	Smithdale fine sandy loam, 3 to 8 percent slopes	2,506.0	3.2%
48	Smithdale fine sandy loam, 8 to 12 percent slopes	97.5	0.1%
49	Wabbaseka-Latanier complex, undulating	2.3	0.0%
52	Water	873.5	1.1%
54	Dam	12.8	0.0%
Totals for Area of Interest		78,119.0	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be

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made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Jefferson and Lincoln Counties, Arkansas

1—Amy silt loam

Map Unit Setting

Elevation: 50 to 250 feet
Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Amy and similar soils: 90 percent
Minor components: 10 percent

Description of Amy

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Silty alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 10.2 inches)

Interpretive groups

Farmland classification: Prime farmland if drained
Land capability (nonirrigated): 3w
Hydrologic Soil Group: C

Typical profile

0 to 3 inches: Silt loam
3 to 24 inches: Silt loam
24 to 40 inches: Silty clay loam
40 to 56 inches: Silt loam
56 to 72 inches: Silty clay loam

Minor Components

Pheba

Percent of map unit: 5 percent

Aquults

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

2—Amy soils frequently flooded

Map Unit Setting

Elevation: 50 to 250 feet
Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Amy and similar soils: 90 percent
Minor components: 10 percent

Description of Amy

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water capacity: High (about 10.2 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 5w
Hydrologic Soil Group: C

Typical profile

0 to 3 inches: Silt loam
3 to 24 inches: Silt loam
24 to 40 inches: Silty clay loam
40 to 56 inches: Silt loam
56 to 72 inches: Silty clay loam

Minor Components

Ouachita

Percent of map unit: 5 percent

Aquults

Percent of map unit: 5 percent
Landform: Depressions

Down-slope shape: Concave
Across-slope shape: Convex

3—Amy-Urban land complex

Map Unit Setting

Elevation: 50 to 250 feet
Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Amy and similar soils: 60 percent
Urban land: 30 percent
Minor components: 10 percent

Description of Amy

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Silty alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 10.2 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 3w
Hydrologic Soil Group: C

Typical profile

0 to 3 inches: Silt loam
3 to 24 inches: Silt loam
24 to 40 inches: Silty clay loam
40 to 56 inches: Silt loam
56 to 72 inches: Silty clay loam

Minor Components

Pheba

Percent of map unit: 5 percent

Aquults

Percent of map unit: 5 percent

Landform: Depressions

Down-slope shape: Concave

Across-slope shape: Convex

4—Calloway silt loam, 0 to 1 percent slopes

Map Unit Setting

Mean annual precipitation: 38 to 61 inches

Mean annual air temperature: 52 to 73 degrees F

Frost-free period: 220 to 260 days

Map Unit Composition

Calloway and similar soils: 90 percent

Minor components: 10 percent

Description of Calloway

Setting

Landform: Terraces

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Loess

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: 33 to 41 inches to fragipan

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 7 to 18 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Moderate (about 6.4 inches)

Interpretive groups

Farmland classification: All areas are prime farmland

Land capability (nonirrigated): 2w

Hydrologic Soil Group: C

Typical profile

0 to 6 inches: Silt loam

6 to 21 inches: Silt loam

21 to 37 inches: Silt loam

37 to 67 inches: Silt loam
67 to 75 inches: Silt loam

Minor Components

Henry

Percent of map unit: 5 percent
Landform: Stream terraces

Aqualfs

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

5—Calloway silt loam, 1 to 3 percent slopes

Map Unit Setting

Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Calloway and similar soils: 90 percent
Minor components: 10 percent

Description of Calloway

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: 33 to 41 inches to fragipan
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 7 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.4 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 2e
Hydrologic Soil Group: C

Typical profile

0 to 6 inches: Silt loam
6 to 21 inches: Silt loam
21 to 37 inches: Silt loam
37 to 67 inches: Silt loam
67 to 75 inches: Silt loam

Minor Components

Henry

Percent of map unit: 5 percent
Landform: Stream terraces

Aqualfs

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

6—Calloway-Urban land complex

Map Unit Setting

Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Calloway and similar soils: 60 percent
Urban land: 30 percent
Minor components: 10 percent

Description of Calloway

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: 33 to 41 inches to fragipan
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 7 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.4 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 2e
Hydrologic Soil Group: C

Typical profile

0 to 6 inches: Silt loam
6 to 21 inches: Silt loam
21 to 37 inches: Silt loam
37 to 67 inches: Silt loam
67 to 75 inches: Silt loam

Minor Components

Henry

Percent of map unit: 5 percent
Landform: Stream terraces

Aqualfs

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

9—Coushatta soils, occasionally flooded

Map Unit Setting

Elevation: 10 to 80 feet
Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Coushatta and similar soils: 90 percent
Minor components: 10 percent

Description of Coushatta

Setting

Landform: Flood plains, natural levees
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Stratified loamy alluvium

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: About 48 to 72 inches

Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 12.0 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 2w
Hydrologic Soil Group: B

Typical profile

0 to 8 inches: Silt loam
8 to 15 inches: Silt loam
15 to 30 inches: Silty clay loam
30 to 52 inches: Very fine sandy loam
52 to 60 inches: Silty clay loam

Minor Components

Aquents

Percent of map unit: 10 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

11—Crevasse loamy fine sand

Map Unit Setting

Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Crevasse and similar soils: 95 percent
Minor components: 5 percent

Description of Crevasse

Setting

Landform: Natural levees, channels
Down-slope shape: Convex, concave
Across-slope shape: Convex, linear
Parent material: Sandy alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 42 to 72 inches
Frequency of flooding: RareNone

Frequency of ponding: None
Available water capacity: Very low (about 2.8 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 4s
Hydrologic Soil Group: A

Typical profile

0 to 9 inches: Loamy fine sand
9 to 65 inches: Fine sand

Minor Components

Aquents

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

12—Crevasse soils, frequently flooded

Map Unit Setting

Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Crevasse and similar soils: 85 percent
Minor components: 15 percent

Description of Crevasse

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 42 to 72 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water capacity: Very low (about 2.8 inches)

Interpretive groups

Farmland classification: Not prime farmland

Land capability (nonirrigated): 5w
Hydrologic Soil Group: A

Typical profile

0 to 9 inches: Loamy fine sand
9 to 65 inches: Fine sand

Minor Components

Crevasse, flooded, long

Percent of map unit: 10 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Aquents

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

15—Grenada silt loam, 1 to 3 percent slopes

Map Unit Setting

Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Grenada and similar soils: 90 percent
Minor components: 10 percent

Description of Grenada

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: 25 to 33 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.4 inches)

Interpretive groups

Farmland classification: All areas are prime farmland

Land capability (nonirrigated): 2e

Hydrologic Soil Group: C

Typical profile

0 to 4 inches: Silt loam

4 to 26 inches: Silt loam

26 to 29 inches: Silt loam

29 to 72 inches: Silt loam

Minor Components

Calloway

Percent of map unit: 5 percent

Henry

Percent of map unit: 5 percent

Landform: Stream terraces

16—Grenada silt loam, 3 to 8 percent slopes

Map Unit Setting

Mean annual precipitation: 38 to 61 inches

Mean annual air temperature: 52 to 73 degrees F

Frost-free period: 220 to 260 days

Map Unit Composition

Grenada and similar soils: 90 percent

Minor components: 10 percent

Description of Grenada

Setting

Landform: Terraces

Landform position (three-dimensional): Riser

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Loess

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 25 to 33 inches to fragipan

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 12 to 24 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Moderate (about 6.4 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance

Land capability (nonirrigated): 3e

Hydrologic Soil Group: C

Typical profile

0 to 4 inches: Silt loam

4 to 26 inches: Silt loam

26 to 29 inches: Silt loam

29 to 72 inches: Silt loam

Minor Components

Henry

Percent of map unit: 5 percent

Landform: Stream terraces

Calloway

Percent of map unit: 5 percent

17—Grenada-Urban land complex, 1 to 3 percent slopes

Map Unit Setting

Mean annual precipitation: 38 to 61 inches

Mean annual air temperature: 52 to 73 degrees F

Frost-free period: 220 to 260 days

Map Unit Composition

Grenada and similar soils: 50 percent

Urban land: 30 percent

Minor components: 20 percent

Description of Grenada

Setting

Landform: Terraces

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Loess

Properties and qualities

Slope: 1 to 3 percent

Depth to restrictive feature: 25 to 33 inches to fragipan

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 12 to 24 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Moderate (about 6.4 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 2e
Hydrologic Soil Group: C

Typical profile

0 to 4 inches: Silt loam
4 to 26 inches: Silt loam
26 to 29 inches: Silt loam
29 to 72 inches: Silt loam

Minor Components

Calloway

Percent of map unit: 10 percent

Henry

Percent of map unit: 10 percent
Landform: Stream terraces

18—Grenada-Urban land complex, 3 to 8 percent slopes

Map Unit Setting

Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Grenada and similar soils: 50 percent
Urban land: 30 percent
Minor components: 20 percent

Description of Grenada

Setting

Landform: Terraces
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 25 to 33 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.4 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 3e
Hydrologic Soil Group: C

Typical profile

0 to 4 inches: Silt loam
4 to 26 inches: Silt loam
26 to 29 inches: Silt loam
29 to 72 inches: Silt loam

Minor Components

Henry

Percent of map unit: 10 percent
Landform: Stream terraces

Calloway

Percent of map unit: 10 percent

19—Hebert silt loam

Map Unit Setting

Elevation: 50 to 90 feet
Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Hebert and similar soils: 90 percent
Minor components: 10 percent

Description of Hebert

Setting

Landform: Natural levees
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 10.8 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 2w
Hydrologic Soil Group: C

Typical profile

0 to 7 inches: Silt loam
7 to 44 inches: Silty clay loam
44 to 60 inches: Silt loam

Minor Components

Aquepts

Percent of map unit: 10 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

20—Henry silt loam

Map Unit Setting

Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Henry and similar soils: 90 percent
Minor components: 10 percent

Description of Henry

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loess

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 24 to 32 inches to fragipan
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 5 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.1 inches)

Interpretive groups

Farmland classification: Prime farmland if drained

Land capability (nonirrigated): 3w
Hydrologic Soil Group: D

Typical profile

0 to 3 inches: Silt loam
3 to 28 inches: Silt loam
28 to 52 inches: Silty clay loam
52 to 72 inches: Silt loam

Minor Components

Calloway

Percent of map unit: 5 percent

Aqualfs

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

21—Henry-Urban land complex

Map Unit Setting

Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Henry and similar soils: 50 percent
Urban land: 30 percent
Minor components: 15 percent

Description of Henry

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loess

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 24 to 32 inches to fragipan
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 5 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.1 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 3w
Hydrologic Soil Group: D

Typical profile

0 to 3 inches: Silt loam
3 to 28 inches: Silt loam
28 to 52 inches: Silty clay loam
52 to 72 inches: Silt loam

Minor Components

Calloway

Percent of map unit: 10 percent

Aqualfs

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

22—McGehee silt loam

Map Unit Setting

Elevation: 100 to 240 feet
Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Mcgehee and similar soils: 90 percent
Minor components: 10 percent

Description of Mcgehee

Setting

Landform: Natural levees, stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex, concave
Across-slope shape: Convex, linear
Parent material: Silty and clayey alluvium

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None

Frequency of ponding: None
Available water capacity: High (about 10.5 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 2w
Hydrologic Soil Group: C

Typical profile

0 to 7 inches: Silt loam
7 to 14 inches: Silt loam
14 to 30 inches: Silty clay loam
30 to 60 inches: Silty clay

Minor Components

Perry

Percent of map unit: 5 percent
Landform: Backswamps
Down-slope shape: Concave
Across-slope shape: Convex

Aquents

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

23—McGehee silt loam, occasionally flooded

Map Unit Setting

Elevation: 100 to 240 feet
Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Mcgehee and similar soils: 90 percent
Minor components: 10 percent

Description of Mcgehee

Setting

Landform: Stream terraces, flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave, linear
Across-slope shape: Linear
Parent material: Silty and clayey alluvium

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Available water capacity: High (about 10.5 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 4w
Hydrologic Soil Group: C

Typical profile

0 to 7 inches: Silt loam
7 to 14 inches: Silt loam
14 to 30 inches: Silty clay loam
30 to 60 inches: Silty clay

Minor Components

Perry

Percent of map unit: 5 percent
Landform: Backswamps
Down-slope shape: Concave
Across-slope shape: Convex

Aquents

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

24—Oklared fine sandy loam, occasionally flooded

Map Unit Setting

Elevation: 300 to 1,000 feet
Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Oklared and similar soils: 95 percent
Minor components: 5 percent

Description of Oklared

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Loamy alluvium

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: About 42 to 60 inches

Frequency of flooding: OccasionalNone

Frequency of ponding: None

Available water capacity: Moderate (about 8.3 inches)

Interpretive groups

Farmland classification: All areas are prime farmland

Land capability (nonirrigated): 2w

Hydrologic Soil Group: B

Typical profile

0 to 12 inches: Fine sandy loam

12 to 70 inches: Stratified fine sandy loam to loamy fine sand

Minor Components

Aquents

Percent of map unit: 5 percent

Landform: Depressions

Down-slope shape: Concave

Across-slope shape: Convex

25—Ouachita soils, frequently flooded

Map Unit Setting

Elevation: 120 to 250 feet

Mean annual precipitation: 38 to 61 inches

Mean annual air temperature: 52 to 73 degrees F

Frost-free period: 220 to 260 days

Map Unit Composition

Ouachita and similar soils: 80 percent

Minor components: 15 percent

Description of Ouachita

Setting

Landform: Flood plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Loamy alluvium

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water capacity: High (about 11.2 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability (nonirrigated): 4w
Hydrologic Soil Group: C

Typical profile

0 to 8 inches: Silt loam
8 to 33 inches: Silt loam
33 to 56 inches: Loam
56 to 68 inches: Fine sandy loam
68 to 72 inches: Fine sandy loam

Minor Components

Ouachita, flooded, long

Percent of map unit: 10 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Amy

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

26—Perry clay, 0 to 1 percent slopes

Map Unit Setting

Elevation: 40 to 280 feet
Mean annual precipitation: 32 to 87 inches
Mean annual air temperature: 60 to 66 degrees F
Frost-free period: 213 to 271 days

Map Unit Composition

Perry and similar soils: 90 percent
Minor components: 10 percent

Description of Perry

Setting

Landform: Backswamps
Landform position (three-dimensional): Tread

Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Clayey alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 9.0 inches)

Interpretive groups

Farmland classification: Prime farmland if drained
Land capability (nonirrigated): 3w
Hydrologic Soil Group: D

Typical profile

0 to 6 inches: Clay
6 to 30 inches: Clay
30 to 80 inches: Clay

Minor Components

Portland

Percent of map unit: 5 percent
Landform: Backswamps
Down-slope shape: Concave
Across-slope shape: Convex

Perry, flooded

Percent of map unit: 5 percent
Landform: Backswamps
Down-slope shape: Concave
Across-slope shape: Convex

27—Perry clay, 0 to 1 percent slopes, occasionally flooded

Map Unit Setting

Elevation: 40 to 280 feet
Mean annual precipitation: 32 to 87 inches
Mean annual air temperature: 60 to 66 degrees F
Frost-free period: 213 to 271 days

Map Unit Composition

Perry and similar soils: 85 percent
Minor components: 15 percent

Description of Perry

Setting

Landform: Backswamps
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Clayey alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 24 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water capacity: Moderate (about 9.0 inches)

Interpretive groups

Farmland classification: Prime farmland if drained
Land capability (nonirrigated): 4w
Hydrologic Soil Group: D

Typical profile

0 to 6 inches: Clay
6 to 30 inches: Clay
30 to 80 inches: Clay

Minor Components

Portland

Percent of map unit: 5 percent
Landform: Backswamps
Down-slope shape: Concave
Across-slope shape: Convex

Hebert

Percent of map unit: 5 percent
Landform: Natural levees

Perry, non-flooded

Percent of map unit: 5 percent
Landform: Backswamps
Down-slope shape: Concave
Across-slope shape: Convex

28—Pheba silt loam, 0 to 2 percent slopes

Map Unit Setting

Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Pheba and similar soils: 90 percent
Minor components: 10 percent

Description of Pheba

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy marine deposits

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 25 to 33 inches to fragipan
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 9 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.5 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 3w
Hydrologic Soil Group: C

Typical profile

0 to 4 inches: Silt loam
4 to 9 inches: Silt loam
9 to 23 inches: Silt loam
23 to 29 inches: Silt loam
29 to 72 inches: Silt loam

Minor Components

Amy

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

Aquults

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

29—Pheba-Urban land complex, 0 to 2 percent slopes

Map Unit Setting

Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Pheba and similar soils: 60 percent
Urban land: 30 percent
Minor components: 10 percent

Description of Pheba

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy marine deposits

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 25 to 33 inches to fragipan
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 9 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.5 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 3w
Hydrologic Soil Group: C

Typical profile

0 to 4 inches: Silt loam
4 to 9 inches: Silt loam
9 to 23 inches: Silt loam
23 to 29 inches: Silt loam
29 to 72 inches: Silt loam

Minor Components

Amy

Percent of map unit: 10 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

30—Portland clay, 0 to 1 percent slopes

Map Unit Setting

Elevation: 60 to 220 feet
Mean annual precipitation: 32 to 87 inches
Mean annual air temperature: 60 to 66 degrees F
Frost-free period: 220 to 268 days

Map Unit Composition

Portland and similar soils: 80 percent
Minor components: 20 percent

Description of Portland

Setting

Landform: Backswamps
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 9.2 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 3w
Hydrologic Soil Group: D

Typical profile

0 to 4 inches: Clay
4 to 30 inches: Clay
30 to 50 inches: Clay
50 to 80 inches: Stratified silty clay

Minor Components

Aquents

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

Perry

Percent of map unit: 5 percent
Landform: Backswamps
Down-slope shape: Concave
Across-slope shape: Convex

Portland, flooded

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Hebert

Percent of map unit: 5 percent
Landform: Natural levees

31—Portland clay, 0 to 1 percent slopes, occasionally flooded

Map Unit Setting

Elevation: 70 to 220 feet
Mean annual precipitation: 32 to 87 inches
Mean annual air temperature: 60 to 66 degrees F
Frost-free period: 215 to 268 days

Map Unit Composition

Portland and similar soils: 90 percent
Minor components: 10 percent

Description of Portland

Setting

Landform: Backswamps
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: About 12 to 24 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water capacity: High (about 9.2 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 4w
Hydrologic Soil Group: D

Typical profile

0 to 4 inches: Clay
4 to 30 inches: Clay
30 to 50 inches: Clay
50 to 80 inches: Stratified silty clay

Minor Components

Perry

Percent of map unit: 10 percent
Landform: Backswamps
Down-slope shape: Concave
Across-slope shape: Convex

33—Rilla silt loam, 0 to 1 percent slopes

Map Unit Setting

Elevation: 50 to 100 feet
Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Rilla and similar soils: 95 percent
Minor components: 5 percent

Description of Rilla

Setting

Landform: Stream terraces, natural levees
Down-slope shape: Concave, convex
Across-slope shape: Linear, convex
Parent material: Clayey alluvium

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: About 48 to 72 inches

Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water capacity: Very high (about 12.2 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 1
Hydrologic Soil Group: B

Typical profile

0 to 9 inches: Silt loam
9 to 15 inches: Silt loam
15 to 42 inches: Silt loam
42 to 55 inches: Loam
55 to 72 inches: Loam

Minor Components

Aquepts

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

38—Ruston fine sandy loam, 1 to 3 percent slopes

Map Unit Setting

Elevation: 100 to 550 feet
Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Ruston and similar soils: 100 percent

Description of Ruston

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy marine deposits

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 8.7 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 2e
Hydrologic Soil Group: B

Typical profile

0 to 9 inches: Fine sandy loam
9 to 46 inches: Sandy clay loam
46 to 55 inches: Fine sandy loam
55 to 80 inches: Sandy clay loam

39—Sacul fine sandy loam, 1 to 3 percent slopes

Map Unit Setting

Elevation: 150 to 450 feet
Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Sacul and similar soils: 100 percent

Description of Sacul

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy and clayey marine deposits

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 48 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 9.5 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 3e
Hydrologic Soil Group: C

Typical profile

0 to 3 inches: Fine sandy loam
3 to 7 inches: Fine sandy loam

7 to 36 inches: Clay
36 to 56 inches: Clay loam
56 to 72 inches: Clay loam

40—Sacul fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

Elevation: 150 to 450 feet
Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Sacul and similar soils: 100 percent

Description of Sacul

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy and clayey marine deposits

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 48 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 9.5 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 4e
Hydrologic Soil Group: C

Typical profile

0 to 3 inches: Fine sandy loam
3 to 7 inches: Fine sandy loam
7 to 36 inches: Clay
36 to 56 inches: Clay loam
56 to 72 inches: Clay loam

41—Savannah fine sandy loam, 1 to 3 percent slopes

Map Unit Setting

Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Savannah and similar soils: 95 percent
Minor components: 5 percent

Description of Savannah

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy marine deposits

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: 16 to 32 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 16 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.5 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 2e
Hydrologic Soil Group: C

Typical profile

0 to 9 inches: Fine sandy loam
9 to 24 inches: Loam
24 to 59 inches: Loam
59 to 72 inches: Sandy loam

Minor Components

Amy

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

42—Savannah fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Savannah and similar soils: 95 percent
Minor components: 5 percent

Description of Savannah

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy marine deposits

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 16 to 32 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 16 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.5 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability (nonirrigated): 3e
Hydrologic Soil Group: C

Typical profile

0 to 9 inches: Fine sandy loam
9 to 24 inches: Loam
24 to 59 inches: Loam
59 to 72 inches: Sandy loam

Minor Components

Amy

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

43—Savannah-Urban land complex, 1 to 3 percent slopes

Map Unit Setting

Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Savannah and similar soils: 60 percent
Urban land: 30 percent
Minor components: 10 percent

Description of Savannah

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy marine deposits

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: 16 to 32 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 16 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.5 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 2e
Hydrologic Soil Group: C

Typical profile

0 to 9 inches: Fine sandy loam
9 to 24 inches: Loam
24 to 59 inches: Loam
59 to 72 inches: Sandy loam

Minor Components

Amy

Percent of map unit: 10 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

44—Savannah-Urban land complex, 3 to 8 percent slopes

Map Unit Setting

Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Savannah and similar soils: 60 percent
Urban land: 30 percent
Minor components: 10 percent

Description of Savannah

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy marine deposits

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 16 to 32 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 16 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.5 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 3e
Hydrologic Soil Group: C

Typical profile

0 to 9 inches: Fine sandy loam
9 to 24 inches: Sandy clay loam
24 to 59 inches: Loam
59 to 72 inches: Sandy loam

Minor Components

Amy

Percent of map unit: 10 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

45—Sawyer silt loam, 1 to 3 percent slopes

Map Unit Setting

Elevation: 150 to 450 feet
Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Sawyer and similar soils: 95 percent
Minor components: 5 percent

Description of Sawyer

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy and clayey marine deposits

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 10.5 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 2e
Hydrologic Soil Group: C

Typical profile

0 to 5 inches: Silt loam
5 to 12 inches: Silt loam
12 to 36 inches: Silty clay loam
36 to 80 inches: Silty clay

Minor Components

Aqualls

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

46—Sawyer silt loam, 3 to 8 percent slopes

Map Unit Setting

Elevation: 150 to 450 feet

Mean annual precipitation: 38 to 61 inches

Mean annual air temperature: 52 to 73 degrees F

Frost-free period: 220 to 260 days

Map Unit Composition

Sawyer and similar soils: 100 percent

Description of Sawyer

Setting

Landform: Interfluves

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Loamy and clayey marine deposits

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 18 to 30 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: High (about 10.5 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance

Land capability (nonirrigated): 3e

Hydrologic Soil Group: C

Typical profile

0 to 5 inches: Silt loam

5 to 12 inches: Silt loam

12 to 36 inches: Silty clay loam

36 to 80 inches: Silty clay

47—Smithdale fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

Mean annual precipitation: 38 to 61 inches

Mean annual air temperature: 52 to 73 degrees F

Frost-free period: 220 to 260 days

Map Unit Composition

Smithdale and similar soils: 100 percent

Description of Smithdale

Setting

*Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy marine deposits*

Properties and qualities

*Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 9.2 inches)*

Interpretive groups

*Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 3e
Hydrologic Soil Group: B*

Typical profile

*0 to 13 inches: Fine sandy loam
13 to 34 inches: Loam
34 to 80 inches: Sandy loam*

48—Smithdale fine sandy loam, 8 to 12 percent slopes

Map Unit Setting

*Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days*

Map Unit Composition

Smithdale and similar soils: 100 percent

Description of Smithdale

Setting

*Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy marine deposits*

Properties and qualities

Slope: 8 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 9.2 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 4e
Hydrologic Soil Group: B

Typical profile

0 to 13 inches: Fine sandy loam
13 to 34 inches: Loam
34 to 80 inches: Sandy loam

49—Wabbaseka-Latanier complex, undulating

Map Unit Setting

Elevation: 10 to 250 feet
Mean annual precipitation: 38 to 61 inches
Mean annual air temperature: 52 to 73 degrees F
Frost-free period: 220 to 260 days

Map Unit Composition

Wabbaseka and similar soils: 60 percent
Latanier and similar soils: 30 percent
Minor components: 10 percent

Description of Wabbaseka

Setting

Landform: Swales
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey alluvium over loamy alluvium

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately
low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 8.5 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 3w
Hydrologic Soil Group: D

Typical profile

0 to 4 inches: Clay
4 to 18 inches: Clay
18 to 42 inches: Fine sandy loam
42 to 80 inches: Loamy fine sand

Description of Latanier

Setting

Landform: Swales
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey alluvium over loamy alluvium

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 5 percent
Available water capacity: High (about 11.2 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 3w
Hydrologic Soil Group: D

Typical profile

0 to 4 inches: Clay
4 to 21 inches: Clay
21 to 26 inches: Clay
26 to 60 inches: Very fine sandy loam

Minor Components

Aquents

Percent of map unit: 10 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Convex

Custom Soil Resource Report

52—Water

Map Unit Setting

Mean annual precipitation: 38 to 61 inches

Mean annual air temperature: 52 to 73 degrees F

Frost-free period: 220 to 260 days

Map Unit Composition

Water: 100 percent

54—Dam

Map Unit Setting

Mean annual precipitation: 38 to 61 inches

Mean annual air temperature: 52 to 73 degrees F

Frost-free period: 220 to 260 days

Map Unit Composition

Dam: 100 percent

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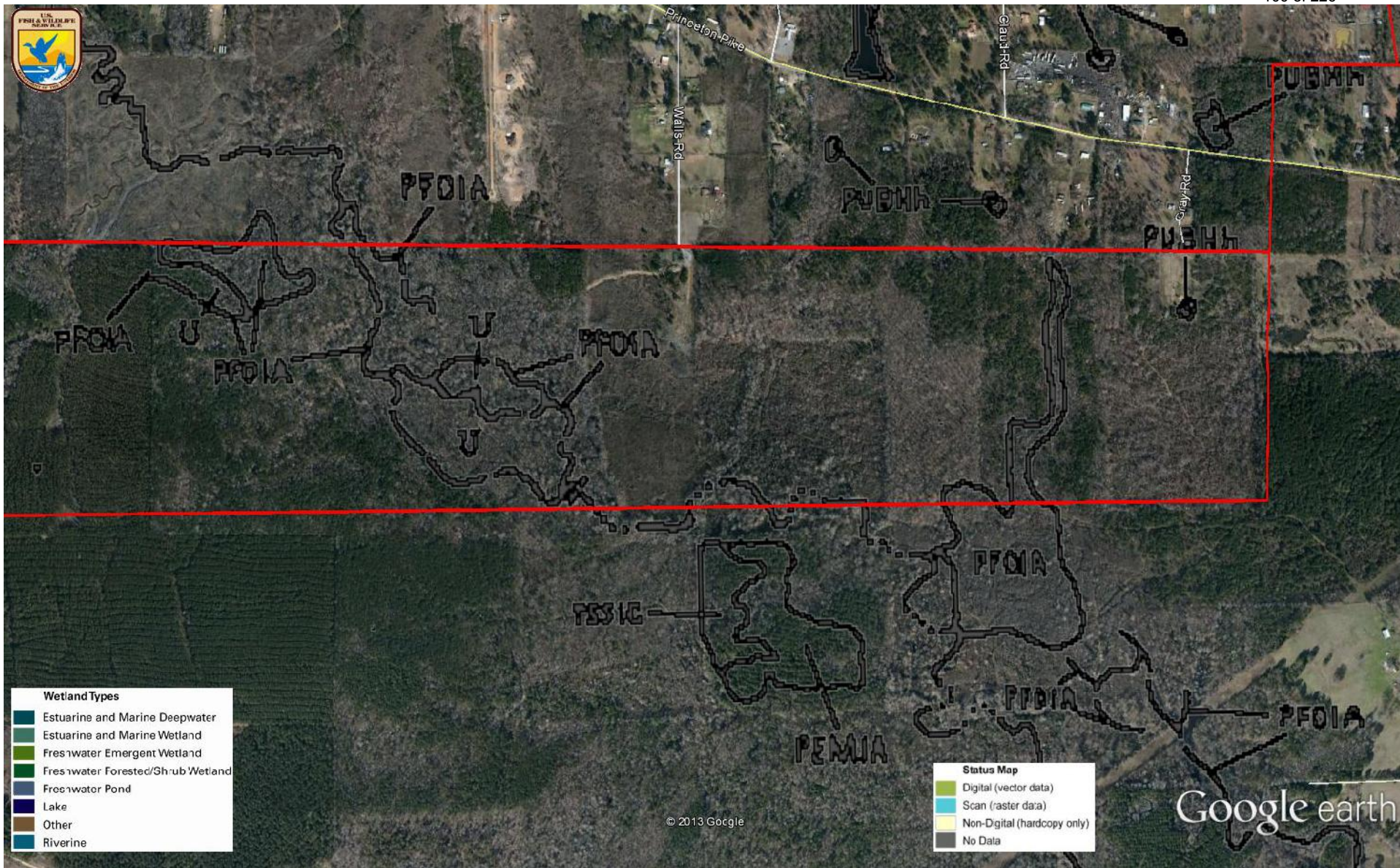
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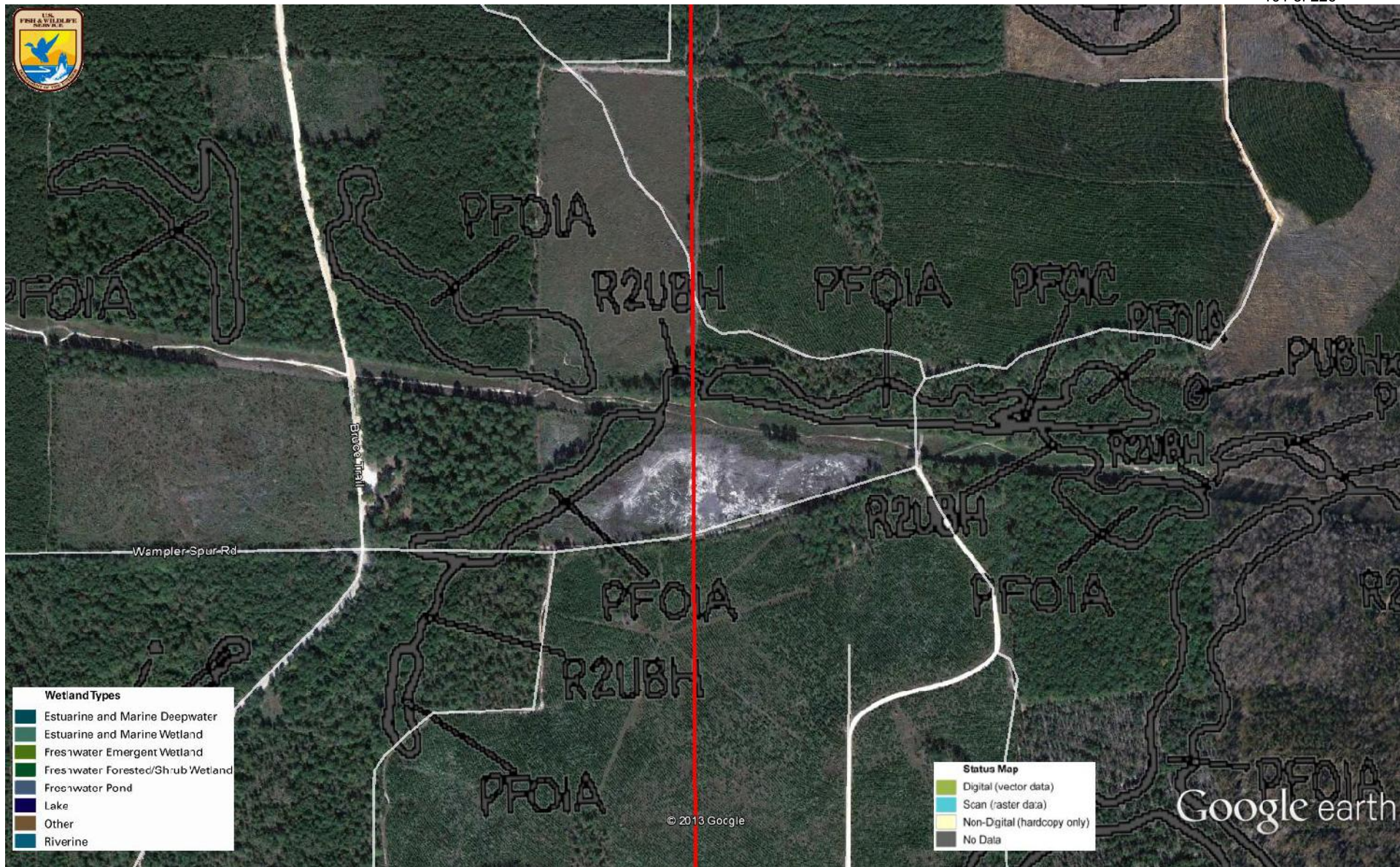
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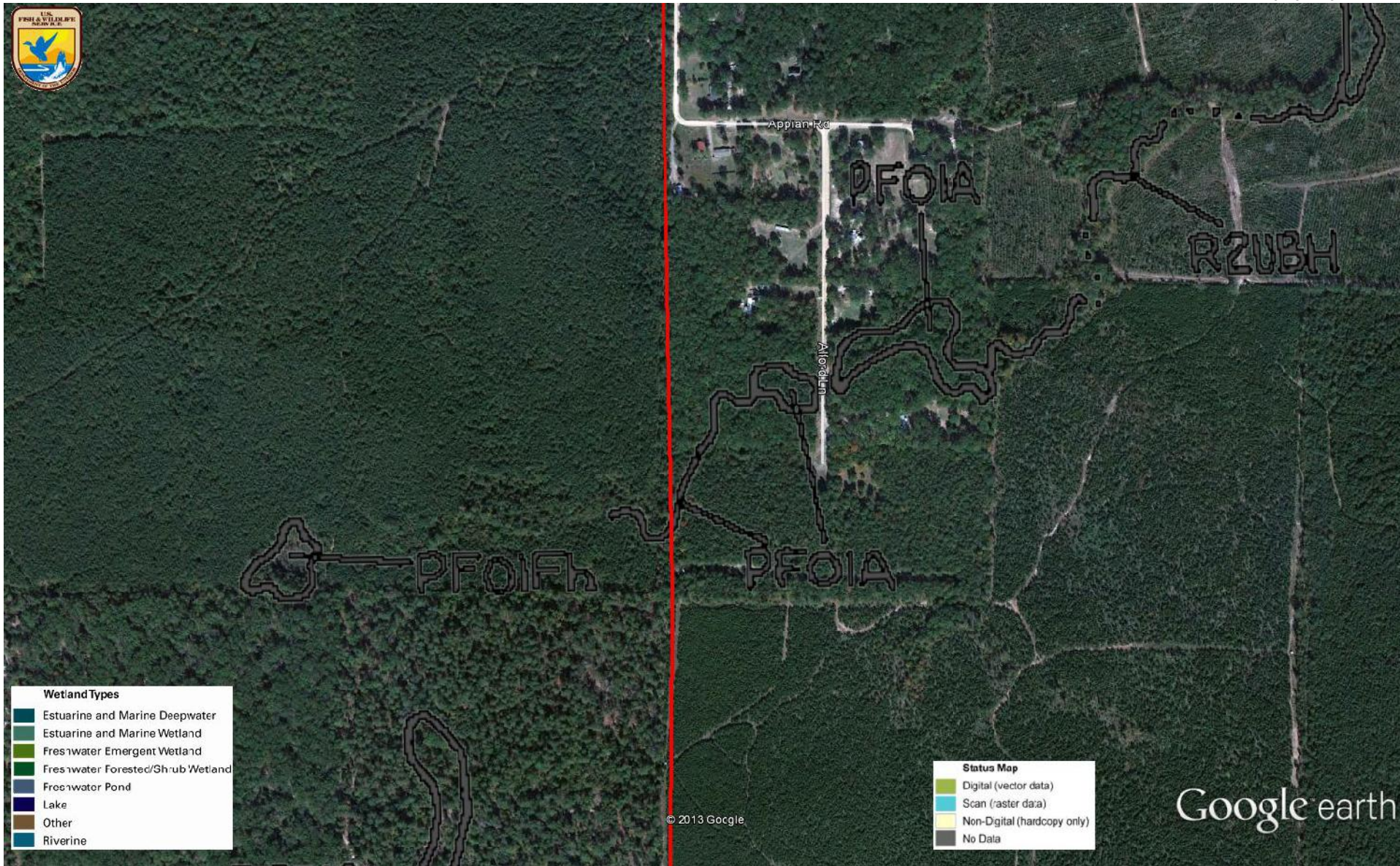
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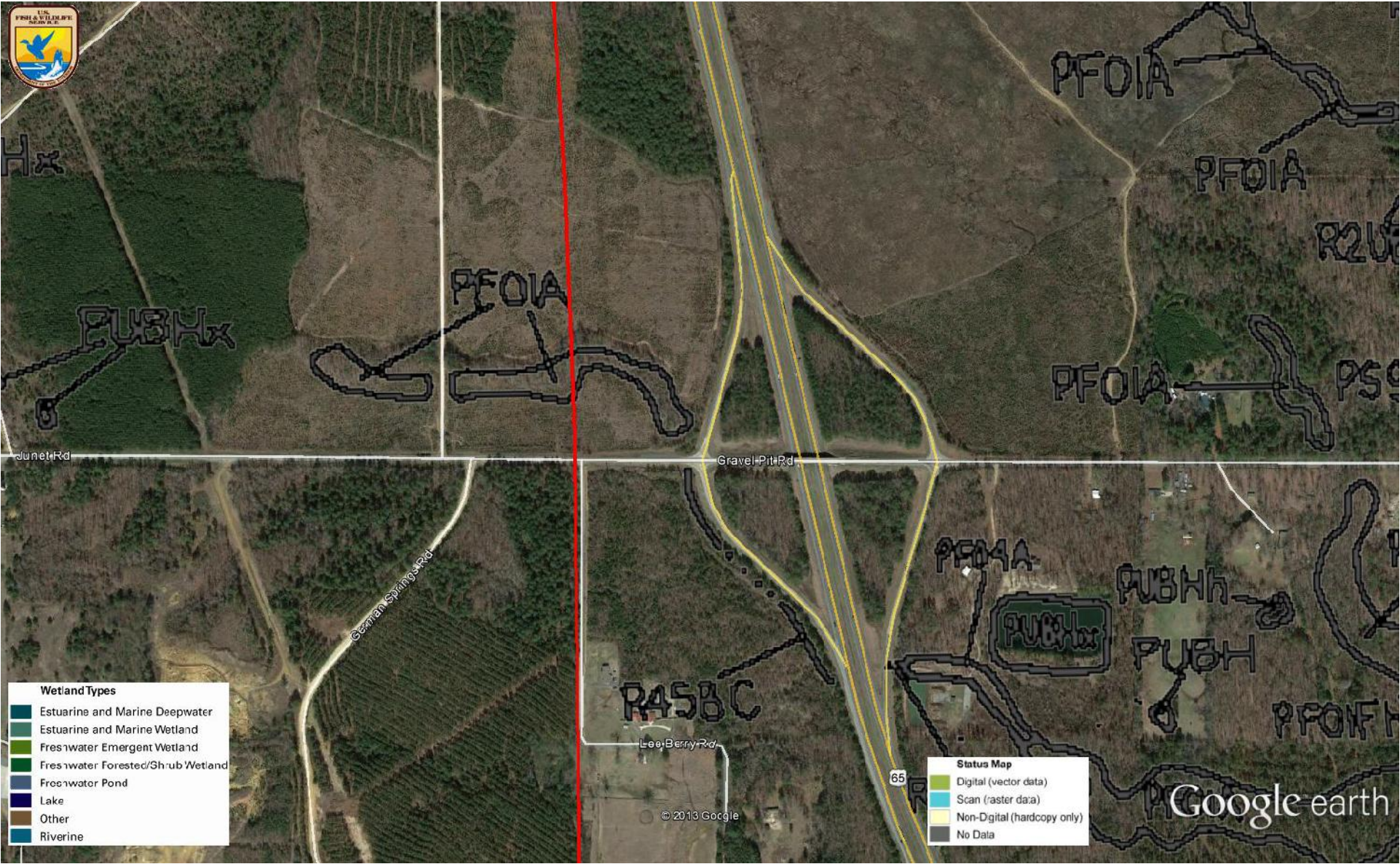
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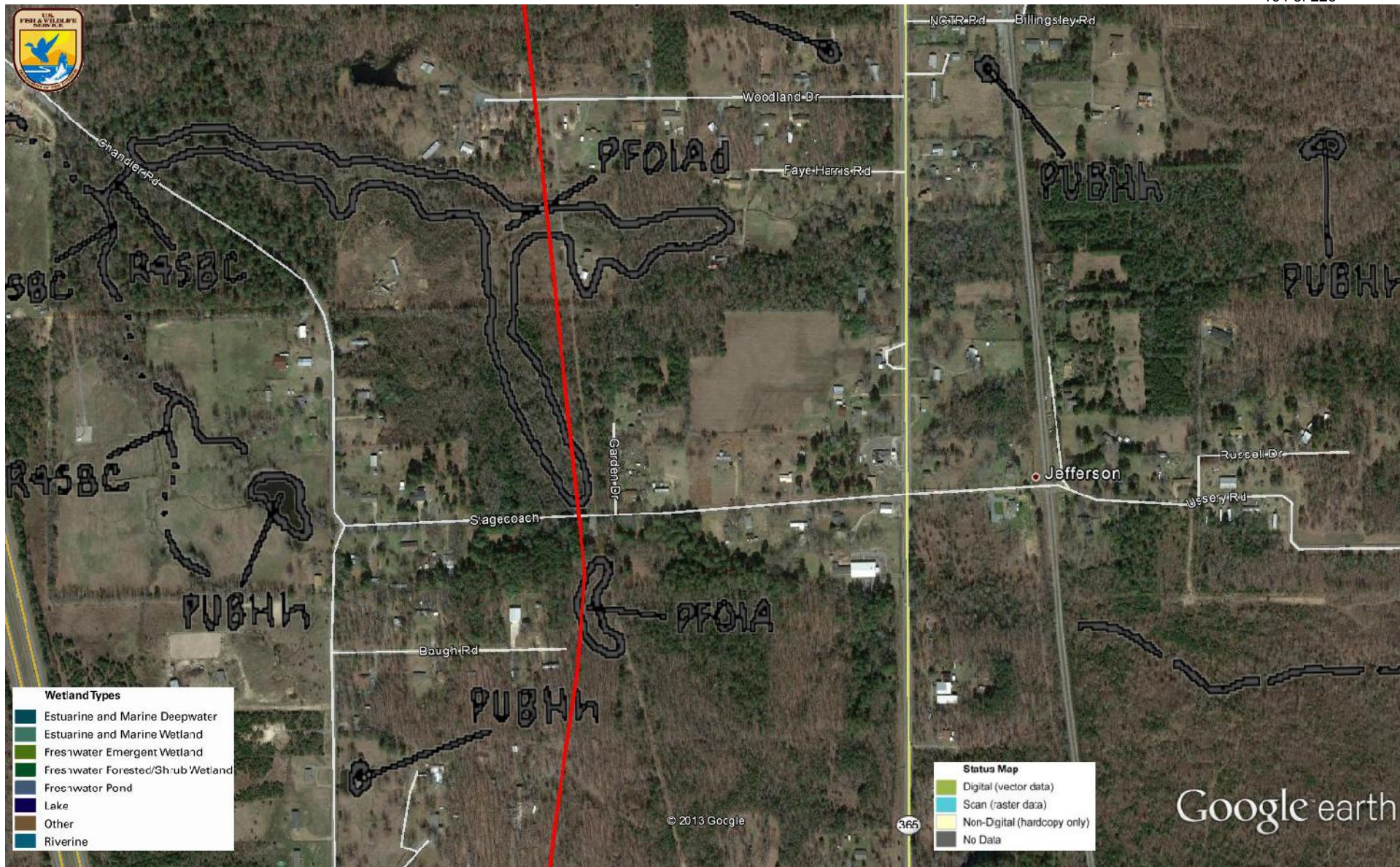
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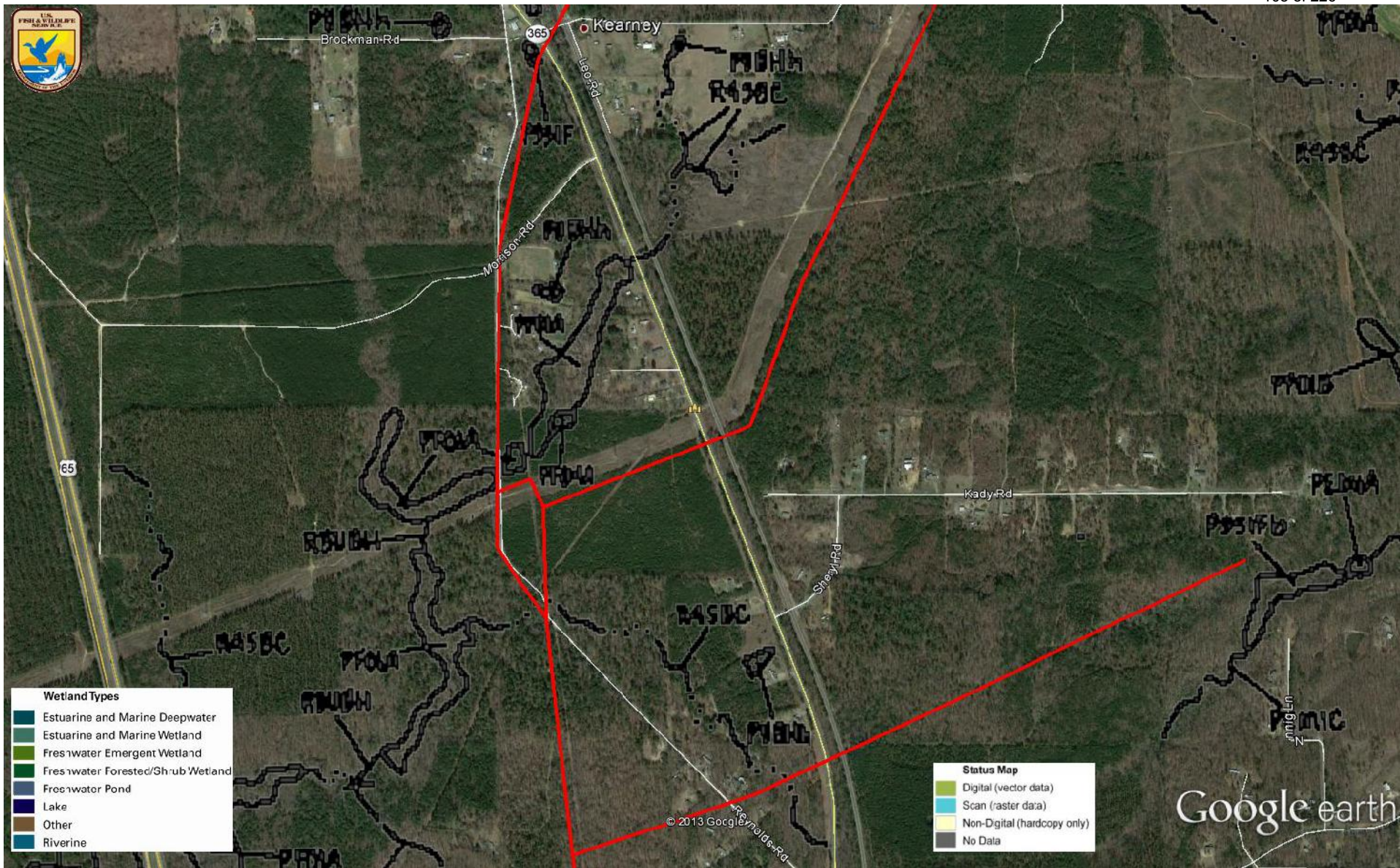
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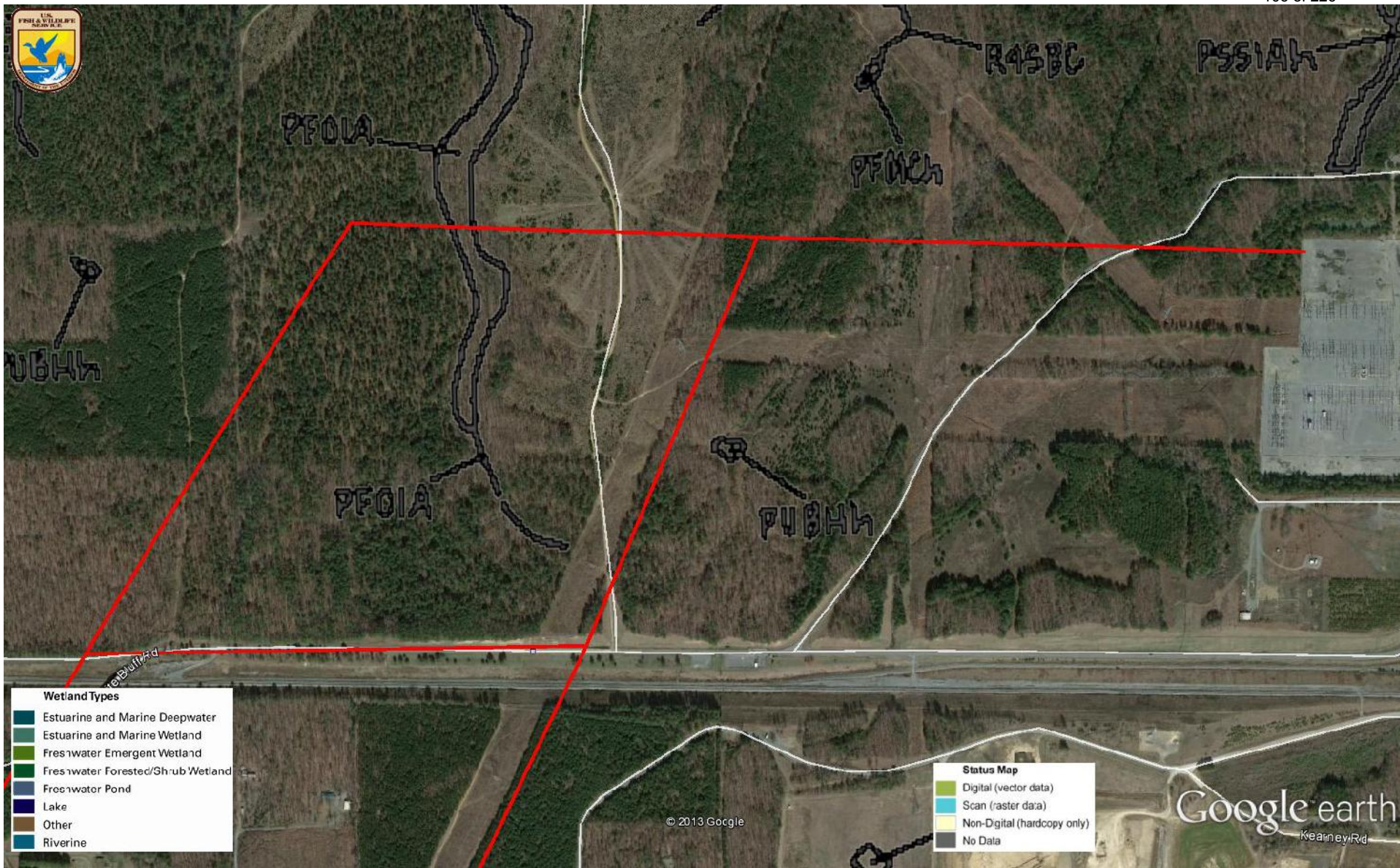
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Map Unit Name

Aggregation Method: No Aggregation Necessary
Tie-break Rule: Lower

Jefferson and Lincoln Counties, Arkansas
Survey Area Version and Date: 8 - 12/02/2008

Map symbol	Map unit name	Rating
1	Amy silt loam	Amy silt loam
2	Amy soils frequently flooded	Amy soils frequently flooded
3	Amy-Urban land complex	Amy-Urban land complex
4	Calloway silt loam, 0 to 1 percent slopes	Calloway silt loam, 0 to 1 percent slopes
5	Calloway silt loam, 1 to 3 percent slopes	Calloway silt loam, 1 to 3 percent slopes
6	Calloway-Urban land complex	Calloway-Urban land complex
7	Caspiana silt loam, 0 to 1 percent slopes	Caspiana silt loam, 0 to 1 percent slopes
8	Coushatta silt loam	Coushatta silt loam
9	Coushatta soils, occasionally flooded	Coushatta soils, occasionally flooded
10	Coushatta-Urban land complex	Coushatta-Urban land complex
11	Crevasse loamy fine sand	Crevasse loamy fine sand
12	Crevasse soils, frequently flooded	Crevasse soils, frequently flooded
13	Desha clay	Desha clay
14	Desha clay, occasionally flooded	Desha clay, occasionally flooded
15	Grenada silt loam, 1 to 3 percent slopes	Grenada silt loam, 1 to 3 percent slopes
16	Grenada silt loam, 3 to 8 percent slopes	Grenada silt loam, 3 to 8 percent slopes
17	Grenada-Urban land complex, 1 to 3 percent slopes	Grenada-Urban land complex, 1 to 3 percent slopes
18	Grenada-Urban land complex, 3 to 8 percent slopes	Grenada-Urban land complex, 3 to 8 percent slopes
19	Hebert silt loam	Hebert silt loam
20	Henry silt loam	Henry silt loam
21	Henry-Urban land complex	Henry-Urban land complex
22	McGehee silt loam	McGehee silt loam
23	McGehee silt loam, occasionally flooded	McGehee silt loam, occasionally flooded
24	Oklared fine sandy loam, occasionally flooded	Oklared fine sandy loam, occasionally flooded
25	Ouachita soils, frequently flooded	Ouachita soils, frequently flooded
26	Perry clay	Perry clay
27	Perry clay, occasionally flooded	Perry clay, occasionally flooded
28	Pheba silt loam, 0 to 2 percent slopes	Pheba silt loam, 0 to 2 percent slopes
29	Pheba-Urban land complex, 0 to 2 percent slopes	Pheba-Urban land complex, 0 to 2 percent slopes
30	Portland clay	Portland clay
31	Portland clay, occasionally flooded	Portland clay, occasionally flooded
32	Portland-Urban land complex	Portland-Urban land complex

Map Unit Name

Aggregation Method: No Aggregation Necessary
Tie-break Rule: Lower

Jefferson and Lincoln Counties, Arkansas
Survey Area Version and Date: 8 - 12/02/2008

Map symbol	Map unit name	Rating
33	Rilla silt loam, 0 to 1 percent slopes	Rilla silt loam, 0 to 1 percent slopes
34	Rilla silt loam, undulating	Rilla silt loam, undulating
35	Roxana silt loam	Roxana silt loam
36	Roxana silt loam, occasionally flooded	Roxana silt loam, occasionally flooded
37	Roxana-Urban land complex	Roxana-Urban land complex
38	Ruston fine sandy loam, 1 to 3 percent slopes	Ruston fine sandy loam, 1 to 3 percent slopes
39	Sacul fine sandy loam, 1 to 3 percent slopes	Sacul fine sandy loam, 1 to 3 percent slopes
40	Sacul fine sandy loam, 3 to 8 percent slopes	Sacul fine sandy loam, 3 to 8 percent slopes
41	Savannah fine sandy loam, 1 to 3 percent slopes	Savannah fine sandy loam, 1 to 3 percent slopes
42	Savannah fine sandy loam, 3 to 8 percent slopes	Savannah fine sandy loam, 3 to 8 percent slopes
43	Savannah-Urban land complex, 1 to 3 percent slopes	Savannah-Urban land complex, 1 to 3 percent slopes
44	Savannah-Urban land complex, 3 to 8 percent slopes	Savannah-Urban land complex, 3 to 8 percent slopes
45	Sawyer silt loam, 1 to 3 percent slopes	Sawyer silt loam, 1 to 3 percent slopes
46	Sawyer silt loam, 3 to 8 percent slopes	Sawyer silt loam, 3 to 8 percent slopes
47	Smithdale fine sandy loam, 3 to 8 percent slopes	Smithdale fine sandy loam, 3 to 8 percent slopes
48	Smithdale fine sandy loam, 8 to 12 percent slopes	Smithdale fine sandy loam, 8 to 12 percent slopes
49	Wabbaseka-Latanier complex, undulating	Wabbaseka-Latanier complex, undulating
50	Wabbaseka-Latanier complex, occasionally flooded	Wabbaseka-Latanier complex, occasionally flooded
51	Yorktown silty clay	Yorktown silty clay
52	Water	Water
53	Levee	Levee
54	Dam	Dam

Map Unit Name

Rating Options

Attribute Name: Map Unit Name

A soil map unit is a collection of soil areas or nonsoil areas (miscellaneous areas) delineated in a soil survey. Each map unit is given a name that uniquely identifies the unit in a particular soil survey area.

Aggregation Method: No Aggregation Necessary

Aggregation is the process by which a set of component attribute values is reduced to a single value to represent the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. The components in the map unit name represent the major soils within a map unit delineation. Minor components make up the balance of the map unit. Great differences in soil properties can occur between map unit components and within short distances. Minor components may be very different from the major components. Such differences could significantly affect use and management of the map unit. Minor components may or may not be documented in the database. The results of aggregation do not reflect the presence or absence of limitations of the components which are not listed in the database. An on-site investigation is required to identify the location of individual map unit components.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be generated. Aggregation must be done because, on any soil map, map units are delineated but components are not. The majority of soil attributes are associated with a component of a map unit, and such an attribute has to be aggregated to the map unit level before a thematic map can be rendered. Map units, however, also have their own attributes. An attribute of a map unit does not have to be aggregated in order to render a corresponding thematic map. Therefore, the "aggregation method" for any attribute of a map unit is referred to as "No Aggregation Necessary".

Tie-break Rule: Lower

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Rare Species Search Engine: Find Arkansas Endangered Species

Jefferson

Name	Status		Rank	
	Federal	State	Global	State
Animals - Invertebrates				
Caecidotea dentadactyla (an isopod)	-	INV	GNR	S1
Caecidotea obtusa (an isopod)	-	INV	GNR	S1
Cicindela hirticollis (beach-dune tiger beetle)	-	INV	G5	S2S3
Crangonyx obliquus (an amphipod)	-	INV	G5	S3?
Daedalochila peregrina (white liptooth)	-	INV	G2	SNR
Euphyes dukesi (Duke's skipper)	-	INV	G3	S1S2
Fallicambarus gilpini (a crayfish)	-	INV	G2	S1
Lirceus louisianae (an isopod)	-	INV	GNR	S1
Speyeria diana (Diana)	-	INV	G3G4	S2S3
Synurella bifurca (an amphipod)	-	INV	GNR	S3?
Uniomerus declivis (tapered pondhorn)	-	INV	G5Q	S2
Animals - Vertebrates				
Ambystoma annulatum (ringed salamander)	-	INV	G4	S3
Corynorhinus rafinesquii (Rafinesque's big-eared bat)	-	INV	G3G4	S3
Etheostoma parvipinne (goldstripe darter)	-	INV	G4G5	S2
Gallinula chloropus (Common Moorhen)	-	INV	G5	S1B,S2N
Haliaeetus leucocephalus (Bald Eagle)	-	INV	G5	S2B,S4N
Lasiurus seminolus (Seminole bat)	-	INV	G5	S3
Limnothlypis swainsonii (Swainson's Warbler)	-	INV	G4	S3B
Moxostoma pisolabrum (pealip redhorse)	-	INV	G5	S2?
Myotis austroriparius (southeastern myotis)	-	INV	G3G4	S3
Nerodia cyclopion (Mississippi green water snake)	-	INV	G5	S3
Notropis hubbsi (bluehead shiner)	-	INV	G3	S3
Notropis maculatus (taillight shiner)	-	INV	G5	S3
Regina grahamii (Graham's crayfish snake)	-	INV	G5	S2
Regina rigida sinicola (gulf crayfish snake)	-	INV	G5T5	S3
Sterna antillarum athalassos (Interior Least Tern)	LE	INV	G4T2Q	S2B
Plants - Vascular				
Alophia drummondii (pinewoods-lily)	-	INV	G4	S2
Calopogon tuberosus var. tuberosus (tuberous grass-pink)	-	INV	G5T5	S1
Carex arkansana (Arkansas sedge)	-	INV	G4	S1

<u>Cypripedium kentuckiense</u> (Kentucky lady's-slipper)	-	INV	G3	S3
<u>Dalea lanata var. lanata</u> (woolly prairie-clover)	-	INV	G5TNR	S2S3
<u>Eleocharis flavescens var. flavescens</u> (spike-rush)	-	INV	G5T5	S1S2
<u>Eustoma exaltatum</u> (catchfly prairie-gentian)	-	INV	G5	S2
<u>Fiorena bushii</u> (Bush's umbrella sedge)	-	INV	G5	S3
<u>Gymnopogon brevifolius</u> (short-leaf skeleton grass)	-	INV	G5	S2
<u>Heliotropium convolvulaceum</u> (phlox heliotrope)	-	INV	G5	S2
<u>Leitneria floridana</u> (corkwood)	-	INV	G3	S3
<u>Platanthera cristata</u> (crested fringed orchid)	-	INV	G5	S1S2
<u>Platanthera x channellii</u> (Channell's fringed orchid)	-	INV	GNA	S1
<u>Pogonia ophioglossoides</u> (rose pogonia)	-	ST	G5	S2
<u>Prenanthes barbata</u> (barbed rattlesnake-root)	-	INV	G3	S2
<u>Pycnanthemum verticillatum</u> (Whorled Mountain-mint)	-	INV	G5	S1
<u>Rhynchospora globularis var. globularis</u> (beaksedge)	-	INV	G5?T5?	S2
<u>Solidago tortifolia</u> (twist-leaf goldenrod)	-	INV	G4G5	S2
<u>Spiranthes lacera var. lacera</u> (northern slender ladies'-tresses)	-	INV	G5T5	S1
<u>Utricularia subulata</u> (zigzag bladderwort)	-	INV	G5	S2

Special Elements - Natural Communities

Lowland pine-oak forest	-	INV	GNR	S1
West Gulf Coastal Plain Pine-Hardwood Forest	-	INV	GNR	SNR

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ARKANSAS NATURAL HERITAGE COMMISSION
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Hydric Soils

Jefferson and Lincoln Counties, Arkansas

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
3: Amy-Urban land complex	Amy	60	Stream terraces	Yes	2B3
	Aquults	5	Depressions	Yes	2B3, 3
25: Ouachita soils, frequently flooded	Ouachita, flooded, long	10	Flood plains	Yes	4
	Amy	5	Flood plains	Yes	2B3, 4
41: Savannah fine sandy loam, 1 to 3 percent slopes	Amy	5	Depressions	Yes	2B3
43: Savannah-Urban land complex, 1 to 3 percent slopes	Amy	10	Depressions	Yes	2B3

Explanation of hydric criteria codes:

1. All Histels except for Folistels, and Histosols except for Follsts.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
 - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
 - B. are poorly drained or very poorly drained and have either:
 - 1.) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
 - 2.) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
 - 3.) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

Redfield, Arkansas

[Back to Redfield, AR housing info](#), [Jefferson County, Arkansas](#), [AR smaller cities](#), [AR small cities](#), [All Cities](#).

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We are giving away **\$1200** in prizes - enter simply by sending us your own city pictures!

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70°F

Current weather forecast for Redfield, AR

Wind: 14 mph
Pressure: 29.92 in
Humidity: 94%

Jefferson County

Population in 2011: 1,295. Population change since 2000: +11.9%

Males: 636 (49.1%)
Females: 659 (50.9%)

Median resident age: **38.5 years**
Arkansas median age: **42.2 years**

Zip codes: **72132**.

Estimated median household income in 2009: **\$47,650** (it was **\$36,302** in 2000)

Redfield: **\$47,650**

Arkansas: **\$37,823**

Estimated per capita income in 2009: **\$21,104**

Redfield city income, earnings, and wages data

Estimated median house or condo value in 2009: **\$99,572** (it was **\$64,300** in 2000)

Redfield: **\$99,572**

Arkansas: **\$102,900**

Mean prices in 2009: All housing units: **\$109,152**; Detached houses: **\$121,446**; In 3-to-4-unit structures: **\$207,541**; Mobile h
\$64,365

Median gross rent in 2009: **\$503**.

Redfield, AR residents, houses, and apartments details



Profiles of local businesses

- [Something Old, Something New and Consignment Too](#)
- [Farmers Insurance of East End](#)

[OSM Map](#) [General Map](#) [Google Map](#)



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OpenStreetMap and contributors, CC-BY-SA

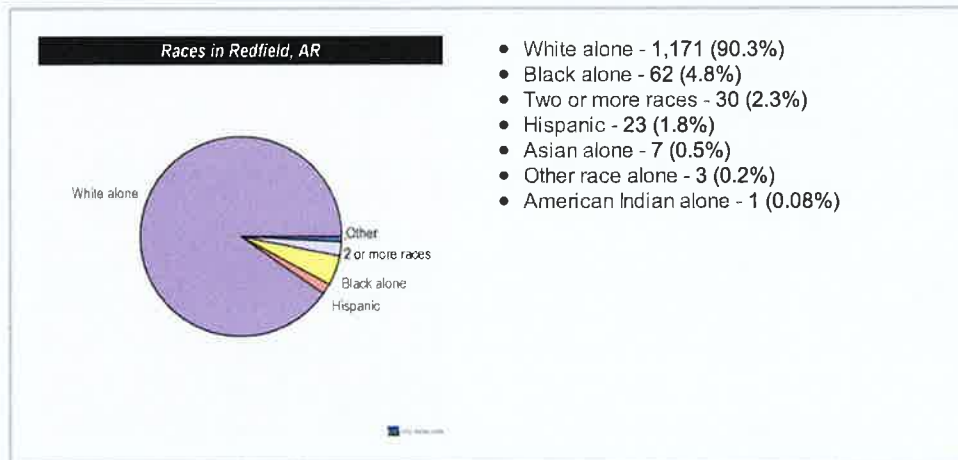
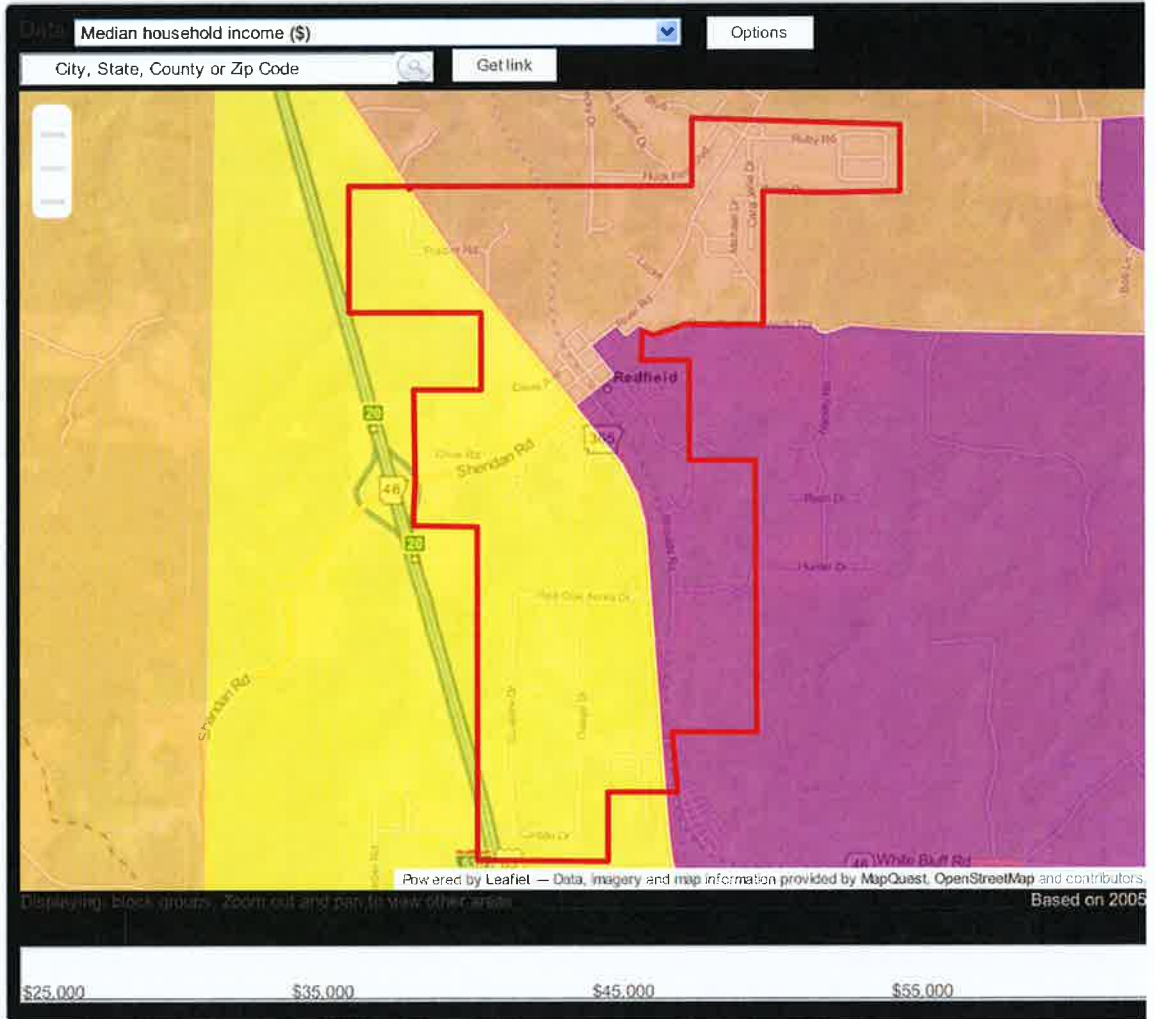
Live Webinar
April 26:
Water Quality Data Collection Made Easy
A Practical Solution for Continuous Monitoring
Free Registration

VSI
a xylem brand

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APSC FILED Time: 5/16/2014 1:50:27 PM; Recvd: 5/16/2014 1:28:24 PM; Docket 14-043-u-Doc 1
Put your B2B business profile right here for free. 30,000 businesses already created their profiles!

Business Search - 14 Million verified businesses
Search for: near: Redfield, AR



Races in Redfield detailed stats: ancestries, foreign born residents, place of birth

Mar. 2012 cost of living index in Redfield: 80.2 (low, U.S. average is 100)



Recent posts about Redfield, Arkansas on our local forum with over 1,500,000 registered users. Redfield is mentioned 22 times

recent posts about Redfield, Arkansas on our local forum with over 1,500,000 registered users. [APSC FILED Time: 5/16/2014 1:50:27 PM: Recvd 5/16/2014 1:28:24 PM: Docket 14-043-u-Doc. 1](#)

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- [Relocating to Pine Bluff](#) (46 replies)
- [Buying Land in Central Arkansas](#) (0 replies)
- [Is it safe to work in Pine Bluff?](#) (18 replies)
- [New job in Pine Bluff - Recommended Area to Live](#) (13 replies)
- [Maybe relocating for job in White Hall, but LR native \(21 years ago...\)](#) (2 replies)

Latest news from Redfield, AR collected exclusively by city-data.com from local newspapers, TV, and radio stations

Rita Carol Golliver Families Randolph County News

Golliver of Pocahontas; daughter Annette Cusher of Redfield; three brothers Alan Rogers of Pocahontas, Wayne Rogers of Lettsworth, LA, and Larry Biggers; three sisters Millie Thompson of Hoxie, Patsy Hall and ([randolphcounty.kaif8.com](#))

Redfield student writes letter to president to save school todaysthv.com

a month ago, asking him to do whatever he can to save Redfield Middle School. It is set to close this fall. ([todaysthv.com](#))

topnews

now only parent have sounded off in the fight to save Redfield Middle School, but now some students are getting involved and taking their concerns to "the top." ([todaysthv.com](#))

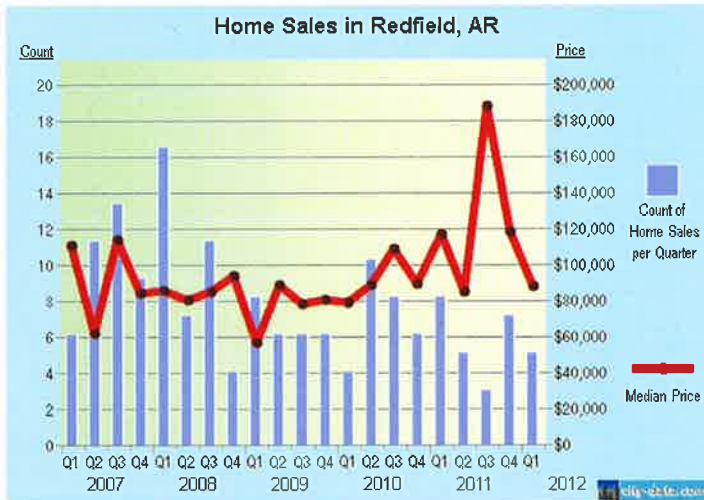
Ancestries: United States (18.0%), Irish (13.2%), German (10.5%), English (10.1%), French (6.1%), Scotch-Irish (4.5%).

Current Local Time: 8:55:21 AM CST time zone

Elevation: 301 feet

Land area: 2.69 square miles.

Population density: 482 people per square mile (low).



\$100 OFF CLOSING COSTS

By completing our online financial literacy training

Home Value Estimate

Address:

Unit (optional):

City: State: Zip:

Recent Home Sales

Address: **APSC FILED Time: 5/16/2014 1:50:27 PM: Recvd 5/16/2014 1:28:24 PM: Docket 14-043-u-Doc. 1**

City: State: Zip:

Min Price (optional): Max Price (optional):

Prioritization: Sale Date Distance

For population 25 years and over in Redfield:

- High school or higher: 83.5%
- Bachelor's degree or higher: 14.0%
- Graduate or professional degree: 4.4%
- Unemployed: 4.2%
- Mean travel time to work (commute): 29.8 minutes

For population 15 years and over in Redfield city:

- Never married: 20.9%
- Now married: 57.1%
- Separated: 1.8%
- Widowed: 7.4%
- Divorced: 12.8%

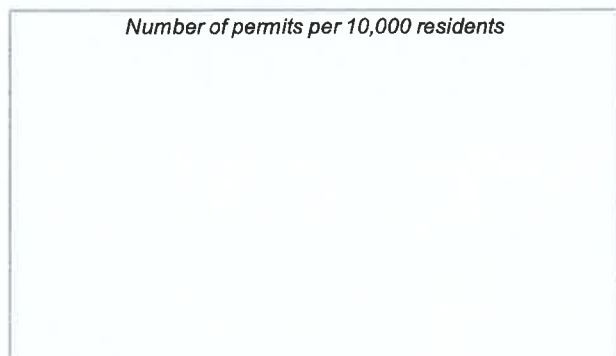
23 residents are foreign born
 This city:
 Arkansas:

Median real estate property taxes paid for housing units with mortgages in 2009: **\$465 (0.5%)**
 Median real estate property taxes paid for housing units with no mortgage in 2009: **\$516 (0.7%)**

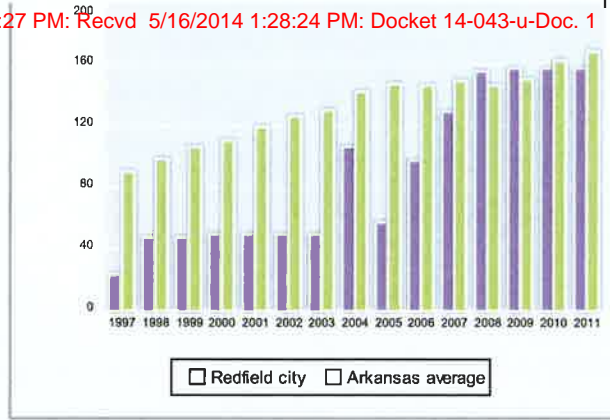
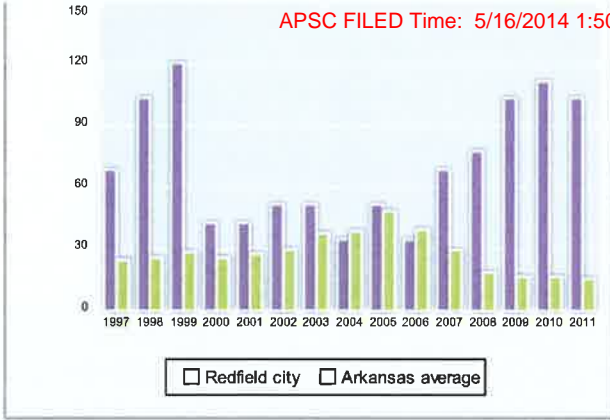
- Nearest city with pop. 50,000+: **Pine Bluff, AR** (18.2 miles , pop. 55,085).
 Nearest city with pop. 200,000+: **Memphis, TN** (134.0 miles , pop. 650,100).
 Nearest city with pop. 1,000,000+: **Dallas, TX** (288.5 miles , pop. 1,188,580).
 Nearest cities: Hensley, AR (2.1 miles) , **Woodson, AR** (2.5 miles) , **East End, AR** (3.4 miles) , **Wrightsville, AR** (3.4 miles) , **White Hall, AR** (3.6 miles) , **Parkers-Iron Springs, AR** (3.7 miles) , Sherrill, AR (3.7 miles) , **England, AR** (3.7 miles) .

Single-family new house construction building permits:

- 1997: 8 buildings, average cost: \$24,400
- 1998: 12 buildings, average cost: \$48,200
- 1999: 14 buildings, average cost: \$48,200
- 2000: 5 buildings, average cost: \$50,000
- 2001: 5 buildings, average cost: \$50,000
- 2002: 6 buildings, average cost: \$50,000
- 2003: 6 buildings, average cost: \$50,000
- 2004: 4 buildings, average cost: \$106,500
- 2005: 6 buildings, average cost: \$58,300
- 2006: 4 buildings, average cost: \$98,400
- 2007: 8 buildings, average cost: \$130,000
- 2008: 9 buildings, average cost: \$155,600
- 2009: 12 buildings, average cost: \$157,900
- 2010: 13 buildings, average cost: \$157,900
- 2011: 12 buildings, average cost: \$157,900

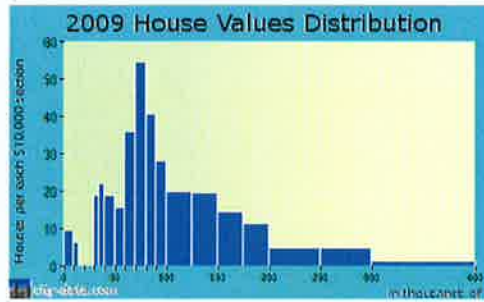
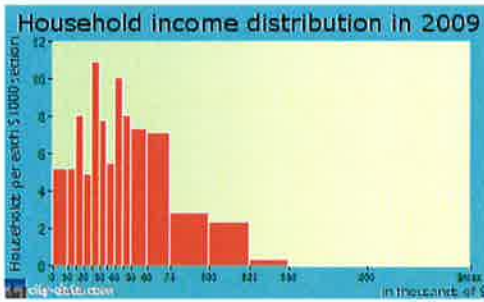


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Latitude: 34.45 N, Longitude: 92.18 W

Area code: 501

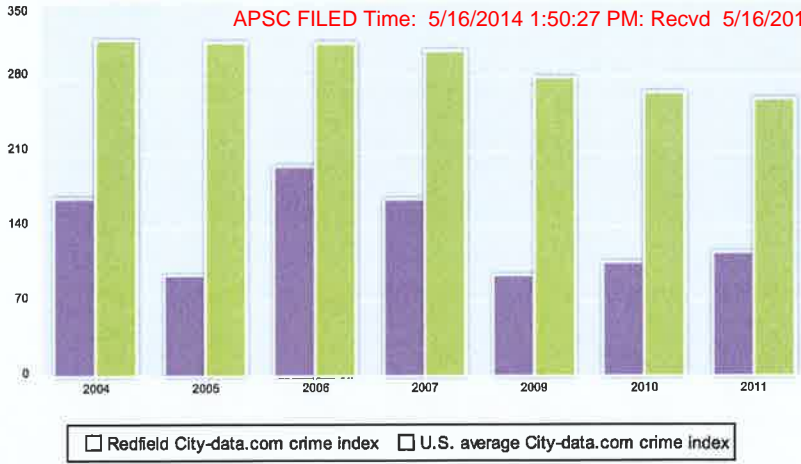


Crime in Redfield by Year

Type	2004	2005	2006	2007	2009	2010	2011
Murders	0	0	0	0	0	0	0
per 100,000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rapes	0	0	0	1	0	0	0
per 100,000	0.0	0.0	0.0	85.4	0.0	0.0	0.0
Robberies	0	0	0	0	0	0	0
per 100,000	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Assaults	4	1	2	1	1	1	0
per 100,000	340.4	83.8	168.6	85.4	85.4	84.0	0.0
Burglaries	7	7	15	5	5	9	10
per 100,000	595.7	586.3	1264.8	427.0	427.0	755.7	765.1
Thefts	13	8	12	9	7	10	13
per 100,000	1106.4	670.0	1011.8	768.6	597.8	839.6	994.6
Auto thefts	1	1	4	2	3	0	3
per 100,000	85.1	83.8	337.3	170.8	256.2	0.0	229.5
Arson	1	1	0	1	0	0	0
per 100,000	85.1	83.8	0.0	85.4	0.0	0.0	0.0
City-data.com crime index (higher means more crime, U.S. average = 319.1)	167.4	95.0	197.5	166.2	95.1	107.5	116.3

(click on a table row to update graph)

4/16/13 APSC FILED Time: 5/16/2014 1:50:27 PM: Recvd 5/16/2014 1:28:24 PM: Docket 14-043-u-Doc. 1



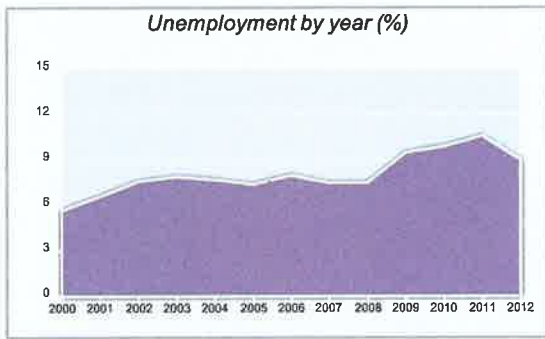
City-data.com crime index counts serious crimes more heavily. It adjusts for the number of visitors and daily workers commuting into cities.

Crime in Redfield detailed stats: murders, rapes, robberies, assaults, burglaries, thefts, arson

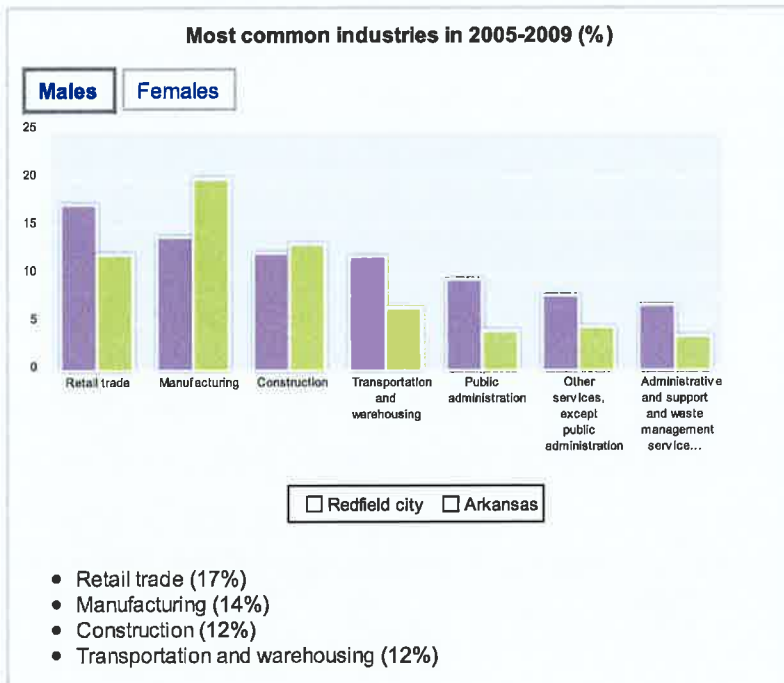
Full-time law enforcement employees in 2011, including police officers: 5 (4 officers).
 Officers per 1,000 residents here: 3.06
 Arkansas average: 1.97

This city's Wikipedia profile

Unemployment in August 2012:
 Here: 9.0%
 Arkansas: 7.0%



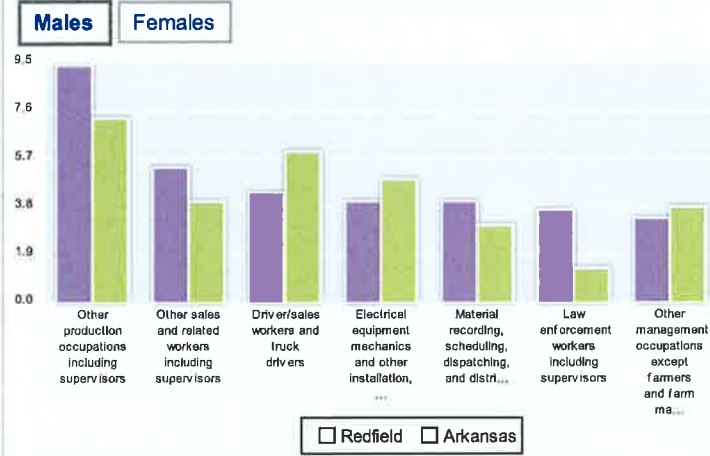
Population change in the 1990s: +75 (+6.9%).



- Retail trade (17%)
- Manufacturing (14%)
- Construction (12%)
- Transportation and warehousing (12%)

- Public administration (9%)
- Other services, except public administration (8%)
- Administrative and support and waste management services (7%)

Most common occupations (%)



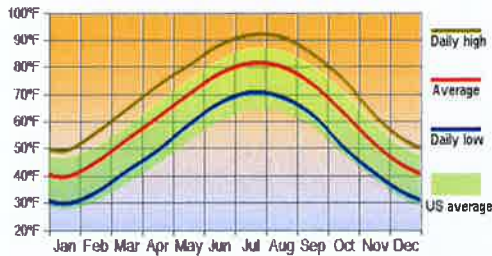
- Other production occupations including supervisors (9%)
- Other sales and related workers including supervisors (5%)
- Driver/sales workers and truck drivers (4%)
- Electrical equipment mechanics and other installation, maintenance, and repair occupations including supervisors (4%)
- Material recording, scheduling, dispatching, and distributing workers (4%)
- Law enforcement workers including supervisors (4%)
- Other management occupations except farmers and farm managers (3%)

Work and jobs in Redfield: detailed stats about occupations, industries, unemployment, workers, commute

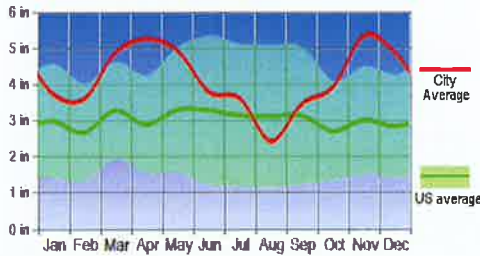
Average climate in Redfield, Arkansas

Based on data reported by over 4,000 weather stations

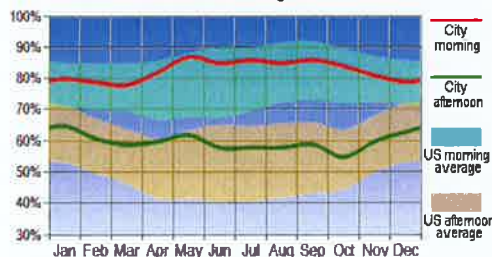
Average Temperatures



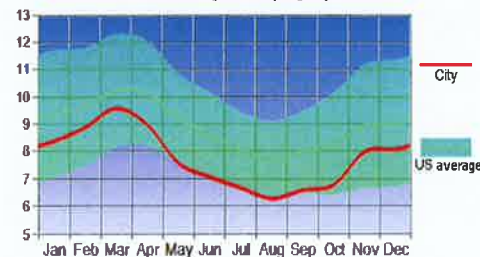
Precipitation



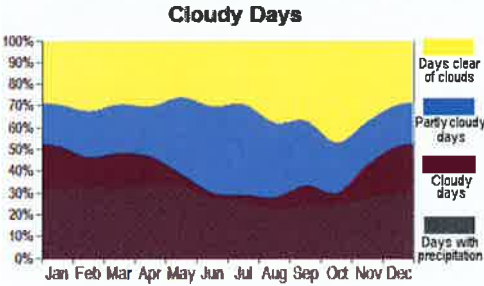
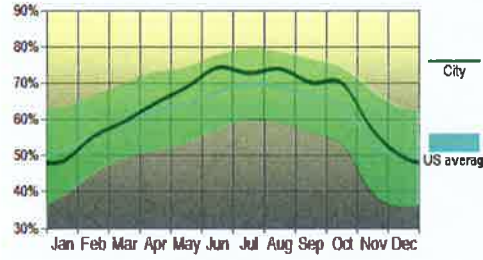
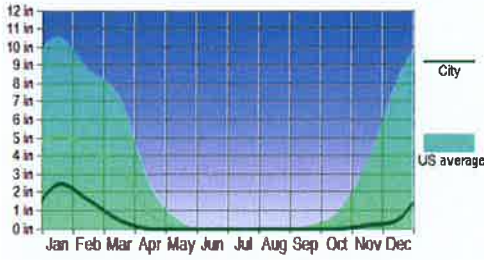
Humidity



Wind Speed (mph)



Snowfall APSC FILED Time: 5/16/2014 1:50:27 PM: **Sunshine** 5/16/2014 1:28:24 PM: Docket 14-043-u-Doc. 1



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Tornado activity:

Redfield-area historical tornado activity is above Arkansas state average. It is 241% greater than the overall U.S. average.

On 3/1/1997, a category F4 (max. wind speeds 207-260 mph) tornado 15.4 miles away from the Redfield city center killed 5 people and injured 180 people.

On 3/1/1997, a category F4 tornado 17.1 miles away from the city center killed 10 people and injured 40 people.

Earthquake activity:

Redfield-area historical earthquake activity is significantly below Arkansas state average. It is 87% smaller than the overall U.S. average.

On 1/21/1982 at 00:33:54, a magnitude 4.7 (4.5 MB, 4.7 LG, 4.5 LG, Class: Light, Intensity: IV - V) earthquake occurred 50.2 miles away from the city center

On 5/4/2001 at 06:42:12, a magnitude 4.7 (4.2 MB, 4.7 LG, 4.5 LG, Depth: 6.2 mi) earthquake occurred 52.6 miles away from Redfield center

On 6/27/2000 at 01:28:45, a magnitude 3.9 (3.9 LG, 3.7 LG, Depth: 0.1 mi, Class: Light, Intensity: II - III) earthquake occurred 99.1 miles away from the city center

On 3/16/1997 at 19:07:27, a magnitude 3.4 (3.4 LG, Depth: 3.1 mi) earthquake occurred 73.4 miles away from the city center

On 8/11/1996 at 18:17:49, a magnitude 3.5 (3.5 LG, 3.1 MD, Depth: 6.2 mi) earthquake occurred 96.1 miles away from Redfield center

On 4/11/1996 at 21:54:57, a magnitude 3.3 (3.3 LG, Depth: 3.1 mi) earthquake occurred 68.4 miles away from the city center

Magnitude types: regional Lg-wave magnitude (LG), body-wave magnitude (MB), duration magnitude (MD)

Natural disasters:

The number of natural disasters in Jefferson County (13) is near the US average (12).

Major Disasters (Presidential) Declared: 11

Emergencies Declared: 2

Causes of natural disasters: Storms: 9, Floods: 8, Tornadoes: 4, Winter Storms: 2, Heavy Rain: 1, Wind: 1, Flood: 1, Hurricane: 1 (Note: Some incidents may be assigned to more than one category).

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Hospitals/medical centers near Redfield:

- ARKANSAS CHILDREN'S HOSPITAL (Childrens, Voluntary non-profit - Private, provides emergency services, about 22 miles away; LITTLE ROCK, AR)
- JEFFERSON REGIONAL MEDICAL CENTER (Acute Care Hospitals, Voluntary non-profit - Other, provides emergency services, about 22 miles away; PINE BLUFF, AR)
- BAPTIST HEALTH MEDICAL CENTER-LITTLE ROCK (Acute Care Hospitals, Voluntary non-profit - Private, provides emergency services, about 23 miles away; LITTLE ROCK, AR)



Political contributions by individuals in Redfield, AR

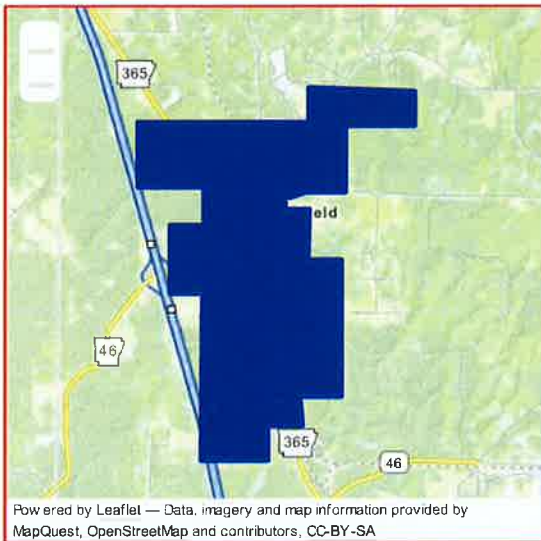
Colleges/universities with over 2000 students nearest to Redfield:

- University of Arkansas at Pine Bluff (about 17 miles; Pine Bluff, AR; Full-time enrollment: 3,368)
- University of Arkansas at Little Rock (about 22 miles; Little Rock, AR; FT enrollment: 6,816)
- University of Arkansas for Medical Sciences (about 23 miles; Little Rock, AR; FT enrollment: 2,068)
- Pulaski Technical College (about 25 miles; North Little Rock, AR; FT enrollment: 4,856)
- Arkansas State University-Beebe (about 47 miles; Beebe, AR; FT enrollment: 2,601)
- University of Central Arkansas (about 47 miles; Conway, AR; FT enrollment: 9,257)
- Henderson State University (about 55 miles; Arkadelphia, AR; FT enrollment: 2,863)

Public elementary/middle schools in Redfield:

- HARDIN ELEMENTARY SCHOOL (Students: 289; Location: 700 SCHOOLWOOD DR; Grades: KG - 06)
- REDFIELD JUNIOR HIGH SCHOOL (Students: 112; Location: 101 SCHOOL ST; Grades: 07 - 09)

[See full list of schools located in Redfield](#)



Notable locations in Redfield: Redfield Police Department (A), Redfield Volunteer Fire Department Station 1 (B), Redfield Volunteer Fire Department Station 2 (C). [Display/hide their locations on the map](#)

Church in Redfield: Redfield First Southern Baptist Church (A). [Display/hide its location on the map](#)

Cemetery: Redfield Cemetery (1). [Display/hide its location on the map](#)

Court: Redfield City - City Court (212 North Brodie Street).

[Click to draw/clear city borders](#)

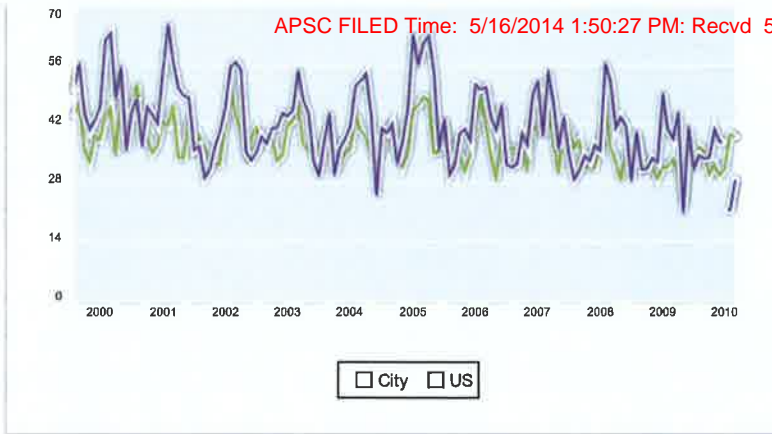
Jefferson County has a predicted average indoor radon screening level less than 2 pCi/L (pico curies per liter) - **Low Potential**

Air pollution and air quality trends
 (lower is better)

AQI
 PM_{2.5}
 CO
 SO₂
 NO₂
 Ozone
 PM₁₀

Air Quality Index (AQI)

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Air Quality Index (AQI) level in 2010 was 36.3. This is about average.

City: 36.3
 U.S.: 32.0

Particulate Matter (PM_{2.5}) [μm^3] level in 2010 was 11.1. This is about average. Closest monitor was 18.2 miles away from the city center.

City: 11.1
 U.S.: 9.6

Carbon Monoxide (CO) [ppm] level in 2010 was 0.422. This is worse than average. Closest monitor was 18.2 miles away from the city center.

City: 0.422
 U.S.: 0.334

Sulfur Dioxide (SO₂) [ppb] level in 2010 was 1.74. This is better than average. Closest monitor was 18.2 miles away from the city center.

City: 1.74
 U.S.: 2.43

Nitrogen Dioxide (NO₂) [ppb] level in 2010 was 9.15. This is about average. Closest monitor was 18.2 miles away from the city center.

City: 9.15
 U.S.: 9.39

Ozone [ppb] level in 2010 was 23.5. This is better than average. Closest monitor was 18.2 miles away from the city center.

City: 23.5
 U.S.: 28.3

Particulate Matter (PM₁₀) [μm^3] level in 2010 was 16.5. This is better than average. Closest monitor was 18.7 miles away from the city center.

City: 16.5
 U.S.: 22.1

Percentage of residents living in poverty in 2009: 11.0%

(11.9% for White Non-Hispanic residents, 0.0% for Black residents, 0.0% for Hispanic or Latino residents, 5.0% for two or more races residents)

Average household size:

This city: 2.5 people
 Arkansas: 2.4 people

Percentage of family households:

This city: 70.3%
 Whole state: 68.2%

Percentage of households with unmarried partners:

This city: 2.9%
 Whole state: 3.9%

Likely homosexual households (counted as self-reported same-sex unmarried-partner households)

- Lesbian couples: 0.4% of all households
- Gay men: 0.0% of all households

Detailed information about poverty and poor residents in Redfield, AR

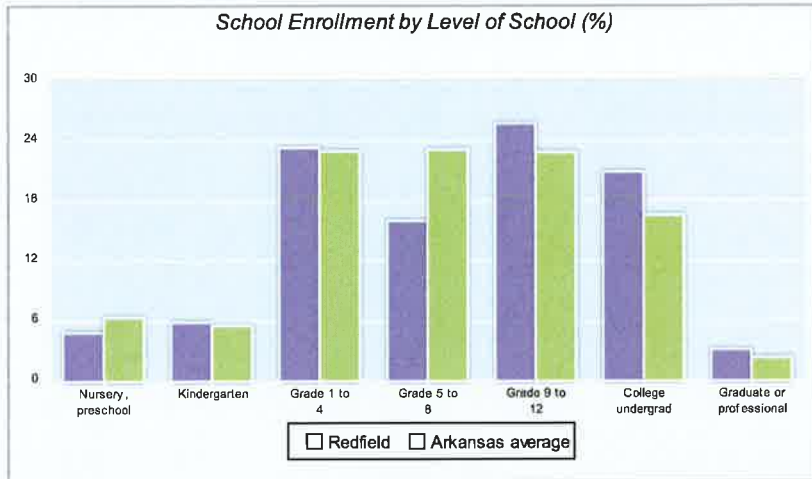
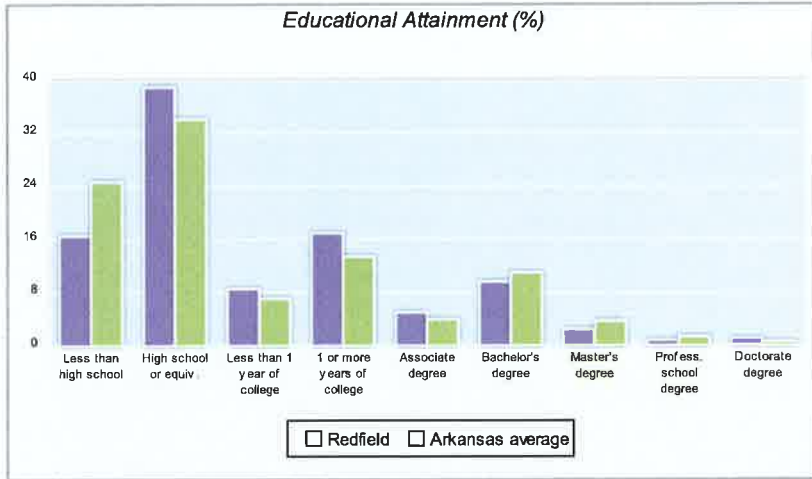
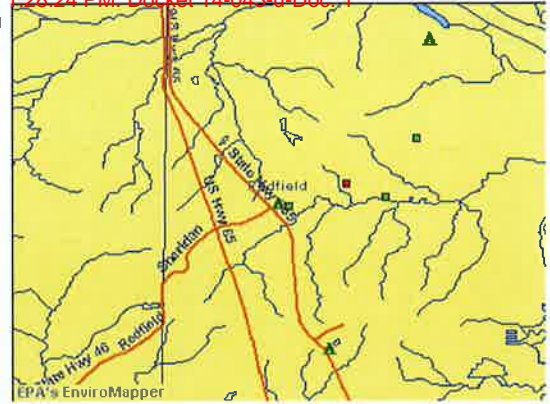
Redfield compared to Arkansas state average:

- Median house value significantly below state average.
- Hispanic race population percentage significantly below state average.
- Foreign-born population percentage significantly below state average.
- Percentage of population with a bachelor's degree or higher significantly below state average.

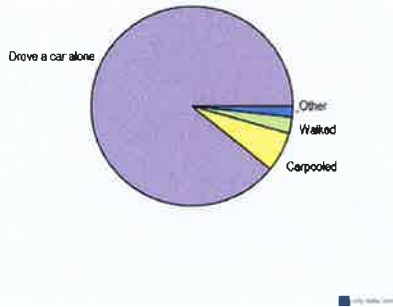
[Back to the top](#)

Banks with branches in Redfield (2011 data):

- Pine Bluff National Bank: Redfield Branch at 201 Sheridan Road, branch established on 1988/09/19. Info updated 2006/11/03: Bank assets: \$386.2 mil, Deposits: \$333.5 mil, headquarters in Pine Bluff, AR, positive income, Agricultural Specialization, 8 total offices, Holding Company: Jefferson Bancshares, Inc.

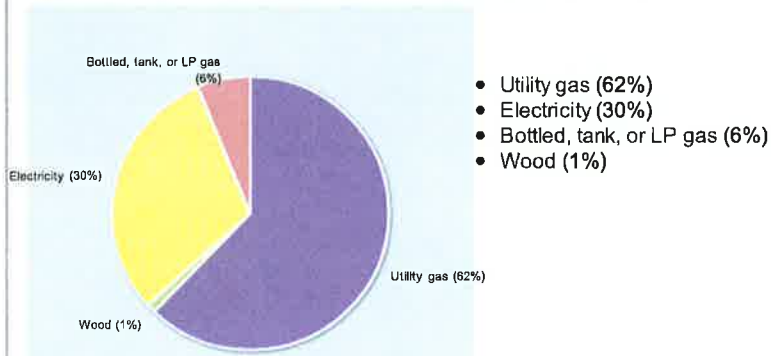


Mode of transportation to work in Redfield, AR

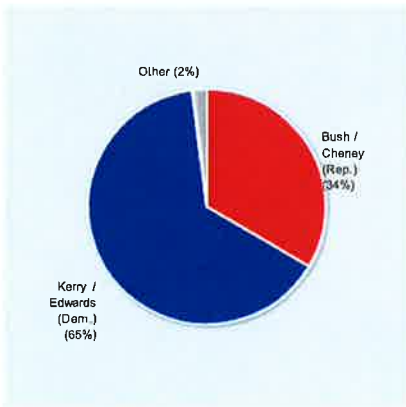


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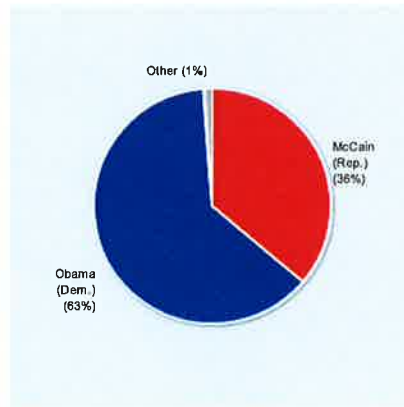
Most commonly used house heating fuel:



2004 Presidential Election results in Jefferson County Arkansas:



2008 Presidential Election results in Jefferson County Arkansas:



Detailed 2008 election results.

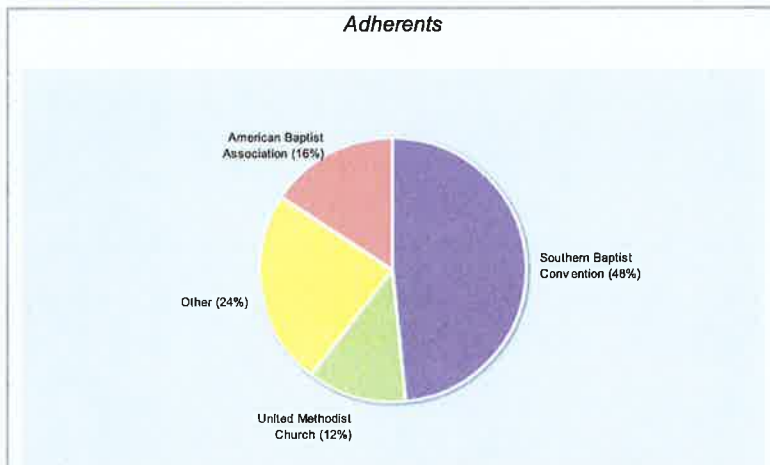
Religion statistics for Redfield (based on Jefferson County data)

Percentage of population affiliated with a religious congregations: 47.81%

Here 47.8%

USA 50.2%

Adherents



Breakdown of population affiliated with a religious congregations

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Name	Southern Baptist Convention	American Baptist Association	United Methodist Church	Catholic Church	Assemblies of God
Adherents	48.4%	15.7%	12.1%	5.0%	3.9%
Congregations	26.7%	12.1%	12.9%	3.4%	5.2%

Name	Presbyterian Church (USA)	Churches of Christ	Baptist Missionary Association of America	Church of God (Cleveland, Tennessee)	Other
Adherents	3.0%	2.7%	2.6%	1.0%	5.7%
Congregations	3.4%	8.6%	6.9%	2.6%	18.1%

Source: Jones, Dale E., et al. 2002. Congregations and Membership in the United States 2000. Nashville, TN: Glenmary Research Center.

Tables represent county-level data.

Food Environment Statistics:

Number of grocery stores: 15

Jefferson County: 1.89 / 10,000 pop.
Arkansas: 2.02 / 10,000 pop.

Number of convenience stores (no gas): 2

Jefferson County: 0.25 / 10,000 pop.
Arkansas: 0.59 / 10,000 pop.

Number of convenience stores (with gas): 32

Jefferson County: 4.04 / 10,000 pop.
State: 4.94 / 10,000 pop.

Number of full-service restaurants: 31

Here: 3.92 / 10,000 pop.

State: 6.66 / 10,000 pop.

Adult diabetes rate:

This county: 11.6%

Arkansas: 9.8%

Adult obesity rate:

Jefferson County: 34.9%

Arkansas: 29.1%

Low-income preschool obesity rate:

This county: 8.3%

State: 13.6%

Local government employment and payroll (March 2007)

Function	Full-time employees	Monthly full-time payroll	Average yearly full-time wage	Part-time employees	Monthly part-time payroll
Other Government Administration	1	\$2,704	\$32,448	7	\$975
Judicial and Legal	1	\$1,500	\$18,000	2	\$1,324
Police Protection - Officers	4	\$9,222	\$27,666	0	\$0
Streets and Highways	1	\$2,672	\$32,064	0	\$0
Water Supply	3	\$5,590	\$22,360	0	\$0
Other and Unallocable	0	\$0		1	\$75
Totals for Government	10	\$21,688	\$26,026	10	\$2,374

Redfield government finances in 2002:

- Charges - Sewerage: \$146,000 (\$112.74)
All Other: \$69,000 (\$53.28)
- Construction - General: \$266,000 (\$205.41)
- Current Operations - Police Protection: \$197,000 (\$152.12)
Regular Highways: \$144,000 (\$111.20)
Sewerage: \$126,000 (\$97.30)
Water Utilities: \$81,000 (\$62.55)
Financial Administration: \$65,000 (\$50.19)
Solid Waste Management: \$58,000 (\$44.79)
Fire Protection: \$34,000 (\$26.25)
General - Other: \$29,000 (\$22.39)
Parks & Recreation: \$5,000 (\$3.86)
- Federal Intergovernmental - All Other: \$69,000 (\$53.28)
- Local Intergovernmental - General Support: \$118,000 (\$91.12)
- Miscellaneous - General Revenue, NEC: \$133,000 (\$102.70)
Interest Earnings: \$9,000 (\$6.95)
- Other Capital Outlay - General - Other: \$4,000 (\$3.09)
- Other Funds - Cash & Deposits: \$617,000 (\$476.45)
- Revenue - Water Utilities: \$227,000 (\$175.29)
- State Intergovernmental - Highways: \$72,000 (\$55.60)
General Support: \$21,000 (\$16.22)
- Tax - Total General Sales: \$294,000 (\$227.03)
Public Utilities: \$77,000 (\$59.46)
Property: \$47,000 (\$36.29)
NEC: \$5,000 (\$3.86)
- Total Salaries & Wages: \$236,000 (\$182.24)

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5.38% of this county's 2006 resident taxpayers lived in other counties in 2005 (\$27,469 average adjusted gross income)

Here: 5.38%

Arkansas average: 7.98%

0.09% of residents moved from foreign countries (\$397 average AGI)

Jefferson County: 0.09%

Arkansas average: 0.10%

Top counties from which taxpayers relocated into this county between 2005 and 2006:

from Pulaski County, AR 0.74% (\$28,853 average AGI)

from Grant County, AR 0.37% (\$26,667)

from Lincoln County, AR 0.31% (\$23,293)

6.52% of this county's 2005 resident taxpayers moved to other counties in 2006 (\$34,817 average adjusted gross income)

Here: 6.52%

Arkansas average: 7.29%

0.04% of residents moved to foreign countries (\$213 average AGI)

Jefferson County: 0.04%

Arkansas average: 0.04%

Top counties to which taxpayers relocated from this county between 2005 and 2006:

to Pulaski County, AR 1.23% (\$36,114 average AGI)

to Grant County, AR 0.36% (\$34,281)

to Cleveland County, AR 0.23% (\$37,361)

Strongest AM radio stations in Redfield:

- KAAV (1090 AM; 50 kW; LITTLE ROCK, AR; Owner: CITADEL BROADCASTING COMPANY)
- KGHT (880 AM; 50 kW; SHERIDAN, AR; Owner: METROPOLITAN RADIO GROUP, INC.)
- KMTL (760 AM; daytime; 10 kW; SHERWOOD, AR; Owner: GEORGE V. DOMERESSE)
- KARN (920 AM; 5 kW; LITTLE ROCK, AR; Owner: CITADEL BROADCASTING COMPANY)
- KITA (1440 AM; 5 kW; LITTLE ROCK, AR; Owner: KITA, INCORPORATED)
- KLRG (1150 AM; 5 kW; NORTH LITTLE ROCK, AR; Owner: ARKANSAS RADIO CORPORATION)
- KPBA (1270 AM; 5 kW; PINE BLUFF, AR; Owner: METRO BIRCH ENTERPRISES, INC)
- KLIH (1250 AM; 2 kW; LITTLE ROCK, AR; Owner: CITADEL BROADCASTING COMPANY)
- KDXE (1380 AM; 5 kW; NORTH LITTLE ROCK, AR; Owner: RADIO DISNEY AM 1380, LLC)
- WCRV (640 AM; 50 kW; COLLIERSVILLE, TN; Owner: BOTT BROADCASTING COMPANY/TENNESSEE)
- KBHS (590 AM; 5 kW; HOT SPRINGS, AR; Owner: J & A, INC.)
- KEEL (710 AM; 50 kW; SHREVEPORT, LA; Owner: CITICASTERS LICENSES, L.P.)
- WGSF (1030 AM; 50 kW; MEMPHIS, TN; Owner: FLINN BROADCASTING CORPORATION)

Strongest FM radio stations in Redfield:

- KMSX (94.9 FM; MAUMELLE, AR; Owner: CLEAR CHANNEL BROADCASTING LICENSES, INC.)
- KIPR (92.3 FM; PINE BLUFF, AR; Owner: CITADEL BROADCASTING COMPANY)
- KHTE-FM (96.5 FM; ENGLAND, AR; Owner: ABG ARKANSAS, LLC)
- KVLO (102.9 FM; SHERIDAN, AR; Owner: CITADEL BROADCASTING COMPANY)
- KSSN (95.7 FM; LITTLE ROCK, AR; Owner: CLEAR CHANNEL BROADCASTING LICENSES, INC.)
- KKPT (94.1 FM; LITTLE ROCK, AR; Owner: SIGNAL MEDIA OF ARKANSAS, INC.)
- KABZ (103.7 FM; LITTLE ROCK, AR; Owner: SIGNAL MEDIA OF ARKANSAS, INC)
- KHKN (106.7 FM; BENTON, AR; Owner: CLEAR CHANNEL BROADCASTING LICENSES, INC.)
- KURB (98.5 FM; LITTLE ROCK, AR; Owner: CITADEL BROADCASTING COMPANY)
- KLAL (107.7 FM; WRIGHTSVILLE, AR; Owner: CITADEL BROADCASTING COMPANY)
- KKZR (93.3 FM; BRYANT, AR; Owner: ABG ARKANSAS, LLC)
- KMJX (105.1 FM; CONWAY, AR; Owner: CLEAR CHANNEL BROADCASTING LICENSES, INC.)
- KDJE (100.3 FM; JACKSONVILLE, AR; Owner: CLEAR CHANNEL BROADCASTING LICENSES, INC.)
- KANX (91.1 FM; SHERIDAN, AR; Owner: AMERICAN FAMILY ASSOCIATION)
- KUAR (89.1 FM; LITTLE ROCK, AR; Owner: BD. OF TRUSTEES OF UNIV. OF ARKANSAS)
- KPBF-FM (101.3 FM; PINE BLUFF, AR; Owner: M.R.S. VENTURES, INC.)
- KABF (88.3 FM; LITTLE ROCK, AR; Owner: ARKANSAS BROADCASTING FOUNDATION INC)
- KTRN (104.5 FM; WHITE HALL, AR; Owner: BAYOU BROADCASTING, INC.)
- KUAP (89.7 FM; PINE BLUFF, AR; Owner: BOARD OF TRUSTEES OF THE UNIV OF AR)
- KLEC-FM (106.3 FM; LONOKE, AR; Owner: ABG ARKANSAS, LLC)

TV broadcast stations around Redfield:

- KATV (Channel 7; LITTLE ROCK, AR; Owner: KATV, LLC)
- KETS (Channel 2; LITTLE ROCK, AR; Owner: ARKANSAS EDUCATIONAL TELEVISION COMMISSION)
- KASN (Channel 38; PINE BLUFF, AR; Owner: CLEAR CHANNEL BROADCASTING LICENSES, INC.)
- KVTN (Channel 25; PINE BLUFF, AR; Owner: AGAPE CHURCH, INC.)
- KTHV (Channel 11; LITTLE ROCK, AR; Owner: ARKANSAS TELEVISION COMPANY)
- KLRT-TV (Channel 16; LITTLE ROCK, AR; Owner: CLEAR CHANNEL BROADCASTING LICENSES, INC.)
- KARK-TV (Channel 4; LITTLE ROCK, AR; Owner: KARK-TV, INC.)
- KWBF (Channel 42; LITTLE ROCK, AR; Owner: RIVER CITY BROADCASTING, INC.)

- KLRA-LP (Channel 58; LITTLE ROCK, AR; Owner: ARKANSAS MEDIA, L.L.C.)
- KKYK-LP (Channel 22; LITTLE ROCK, AR; Owner: ARKANSAS 49, INC.)
- KJLR-LP (Channel 28; LITTLE ROCK, ETC., AR; Owner: COWSERT FAMILY, L.L.C.)
- K55GE (Channel 55; LITTLE ROCK, AR; Owner: THREE ANGELS BROADCASTING NETWORK INC.)
- KWBK-LP (Channel 36; PINE BLUFF, AR; Owner: ARKANSAS 49, INC.)
- KHUG-LP (Channel 14; LITTLE ROCK, AR; Owner: LITTLE ROCK TV-14, L.L.C.)
- KWBF-LP (Channel 5; SHERIDAN, AR; Owner: ARKANSAS MEDIA, L.L.C.)
- KHTE-LP (Channel 44; LITTLE ROCK, AR; Owner: EQUITY BROADCASTING CORPORATION)
- K27FF (Channel 27; EL DORADO, AR; Owner: MS COMMUNICATIONS, LLC)
- K34FH (Channel 34; LITTLE ROCK, AR; Owner: NATIONAL MINORITY T.V., INC.)
- KIPB-LP (Channel 65; PINE BLUFF, AR; Owner: IMMANUEL BROADCASTING CORPORATION)

Redfield fatal accident list:

Apr 30, 2004 09:33 PM, River Rd, Vehicles: 1, Persons: 1, Fatalities: 1, Drunken drivers: 1
 Oct 14, 1994 10:15 AM, 365-14, Vehicles: 1, Persons: 3, Fatalities: 1
 Jun 28, 1976 10:10 PM, Vehicles: 1, Persons: 3, Fatalities: 1

FCC Registered Cell Phone Towers: 1 (See the full list of FCC Registered Cell Phone Towers in Redfield)
 FCC Registered Antenna Towers: 42 (See the full list of FCC Registered Antenna Towers)
 FCC Registered Commercial Land Mobile Towers: 2 (See the full list of FCC Registered Commercial Land Mobile Towers in Redfield, AR)
 FCC Registered Private Land Mobile Towers: 5 (See the full list of FCC Registered Private Land Mobile Towers)
 FCC Registered Broadcast Land Mobile Towers: 2 (See the full list of FCC Registered Broadcast Land Mobile Towers)
 FCC Registered Microwave Towers: 20 (See the full list of FCC Registered Microwave Towers in this town)
 FCC Registered Amateur Radio Licenses: 10 (See the full list of FCC Registered Amateur Radio Licenses in Redfield)

Home Mortgage Disclosure Act Aggregated Statistics For Year 2009
 (Based on 1 partial tract)

	A) FHA, FSA/RHS & VA Home Purchase Loans		B) Conventional Home Purchase Loans		C) Refinancings		G) Loans On Manufactured Home Dwelling (A B C & D)	
	Number	Average Value	Number	Average Value	Number	Average Value	Number	Average Value
LOANS ORIGINATED	1	\$91,350	1	\$60,640	2	\$116,160	1	\$36,090
APPLICATIONS APPROVED, NOT ACCEPTED	0	\$0	0	\$0	0	\$0	0	\$0
APPLICATIONS DENIED	0	\$0	0	\$0	1	\$109,630	1	\$42,150
APPLICATIONS WITHDRAWN	0	\$0	0	\$0	1	\$64,010	0	\$0
FILES CLOSED FOR INCOMPLETENESS	0	\$0	0	\$0	0	\$0	0	\$0

Choose year: **2009** 2008 2007 2006 2005 2004 2003 2002 2001 2000 1999

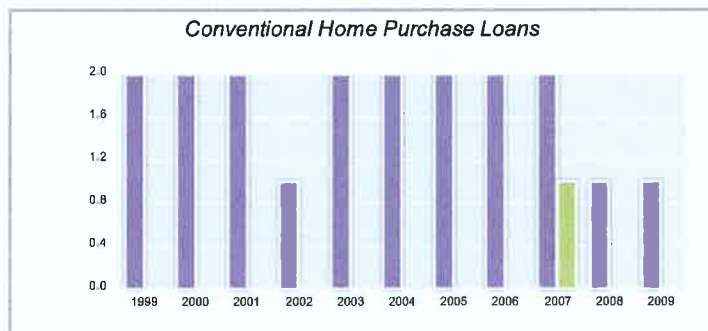
Detailed HMDA statistics for the following Tracts: 0002.00

Private Mortgage Insurance Companies Aggregated Statistics For Year 2007
 (Based on 1 partial tract)

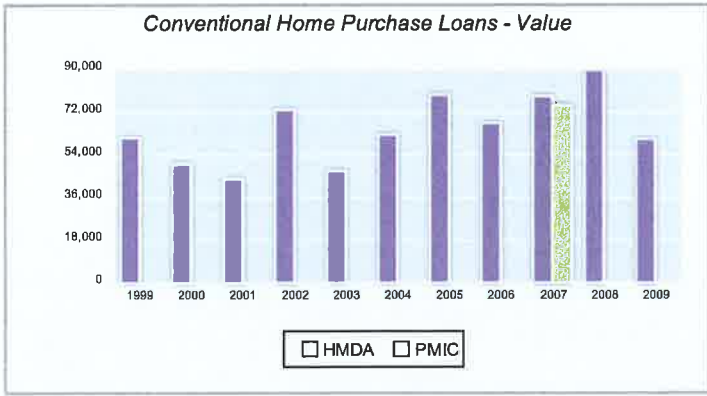
	A) Conventional Home Purchase Loans	
	Number	Average Value
LOANS ORIGINATED	1	\$74,960
APPLICATIONS APPROVED, NOT ACCEPTED	0	\$0
APPLICATIONS DENIED	0	\$0
APPLICATIONS WITHDRAWN	0	\$0
FILES CLOSED FOR INCOMPLETENESS	0	\$0

Choose year: **2007** 2003

Detailed PMIC statistics for the following Tracts: 0002.00



ABS/DAL/ED/PMC: 5/16/2014 1:50:27 PM: Recvd 5/16/2014 1:28:24 PM: Docket 14-043-u-Doc. 1



2006 National Fire Incident Reporting System Incidents:

- Fire: 26

[See full 2006 National Fire Incident Reporting System statistics for Redfield, AR](#)

Most common first names in Redfield, AR among deceased individuals

Name	Count	Lived (average)
James	23	69.6 years
John	22	75.9 years
Robert	11	68.6 years
Mary	11	78.7 years
William	10	77.7 years
Charles	7	66.0 years
Carl	5	66.0 years
Howard	5	70.4 years
Dorothy	4	70.2 years
Willie	4	79.3 years

Most common last names in Redfield, AR among deceased individuals

Last name	Count	Lived (average)
Clark	8	72.4 years
Patterson	7	77.0 years
Bradshaw	7	65.9 years
Croy	7	77.5 years
Smith	6	80.2 years
Sanders	6	74.3 years
Berry	6	78.1 years
Jackson	6	73.0 years
Owens	5	80.8 years
Brown	5	62.6 years

Businesses in Redfield, AR

- Subway: 1

Redfield on our top lists:

- #19 on the list of "Top 101 cities with largest percentage of females in occupations: Education, training, and library occupations:"
- #40 on the list of "Top 101 cities with largest percentage of males in occupations: Drafters, engineering, and mapping technicians"
- #80 on the list of "Top 101 cities with largest percentage of females working in industry: Paper and paper product merchant wholesalers"
- #81 on the list of "Top 101 cities with largest percentage of males in occupations: Physicians and surgeons"
- #87 on the list of "Top 101 cities with the largest city-data.com crime index increase from 2005 to 2006"
- #66 on the list of "Top 101 counties with the largest number of people moving out compared to moving in (pop. 50,000+)"
- #74 on the list of "Top 101 counties with highest percentage of residents voting for 3rd party candidates in the 2004 Presidential Election, pop. 50,000+"
- #84 on the list of "Top 101 counties with highest percentage of residents voting for Kerry (Democrat) in the 2004 Presidential Election"



Top Patent Applicants

Shane Z. Sullivan (1)

Total of 1 patent application in 2008-2013.

[Back to Redfield, AR housing info](#), [Jefferson County, Arkansas, AR smaller cities](#), [AR small cities](#), [All Cities](#).

[Back to the top](#)

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[Add new facts and correct factual errors about Redfield, Arkansas](#)



Recent home sales, price trends, and home value evaluator powered by Onboard Informatics

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White Hall, Arkansas

[Back to White Hall, AR housing info](#), [Jefferson County, Arkansas, AR smaller cities](#), [AR small cities](#), [All Cities](#).

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Live Webinar April 26: **Free Registration**

Water Quality Data Collection Made Easy

YSI a xylem brand

We are giving away **\$1200** in prizes - enter simply by sending us your own city pictures!

[Click here for promotion details and to upload your White Hall, Arkansas photos](#)

73°F
 Wind 1 mph
 Pressure 30.14 in
 Humidity 50%

Current weather forecast for White Hall, AR

Jefferson County

Population in 2011: **5,516**. Population change since 2000: **+16.6%**

Males: 2,600 (47.1%)
 Females: 2,916 (52.9%)

Median resident age: **39.9 years**
 Arkansas median age: **42.2 years**

Zip codes: **71602, 71612**.

White Hall Zip Code Map

Estimated median household income in 2009: **\$52,266** (it was **\$52,045** in 2000)
 White Hall: **\$52,266**
 Arkansas: **\$37,823**
 Estimated per capita income in 2009: **\$23,411**

White Hall city income, earnings, and wages data

Estimated median house or condo value in 2009: **\$140,591** (it was **\$82,900** in 2000)
 White Hall: **\$140,591**
 Arkansas: **\$102,900**
 Mean prices in 2009: All housing units: **\$143,386**; Detached houses: **\$150,745**; Townhouses or other attached units: **\$353,7**
 unit structures: **\$133,640**; Mobile homes: **\$70,217**

Median gross rent in 2009: **\$687**.

White Hall, AR residents, houses, and apartments details

Business Search - 14 Million verified businesses
 Search for: near:

Median household income (\$) Options

City, State, County or Zip Code Get link



AdChoices

All My Sons

Moving

[LittleRock.AllMySons...](#)

Feel Good About Your Next Move From A Quality Company Who Cares.



Celebrate Earth

Day 2013

[EarthDay.Nature.org](#)

Earth Day is April 22nd. Make an Impact & Donate Now!



4BR Rent To Own

Home \$379

[www.FindRentToOwn...](#)

Bad Credit OK w/ Rent To Own Homes Instant Access. No Money Down!



3BR Rent To Own

Home \$359

[www.RentToOwnHub...](#)

No Money Down, Bad Credit OK! Viewing Homes is Quick and Easy.



Senior Citizen

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Housing

[www.OurParentsPlace...](#)
 Get Online info, prices, & options View pictures and floor plans today

Real Estate Listings

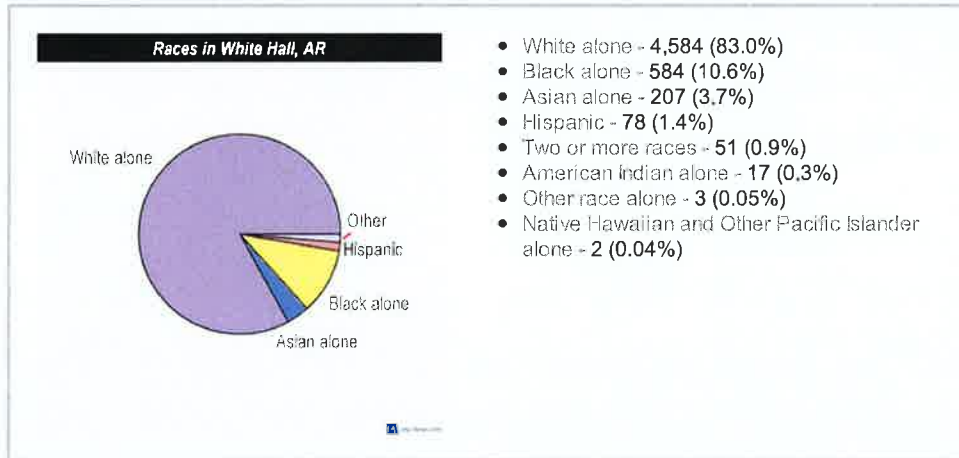
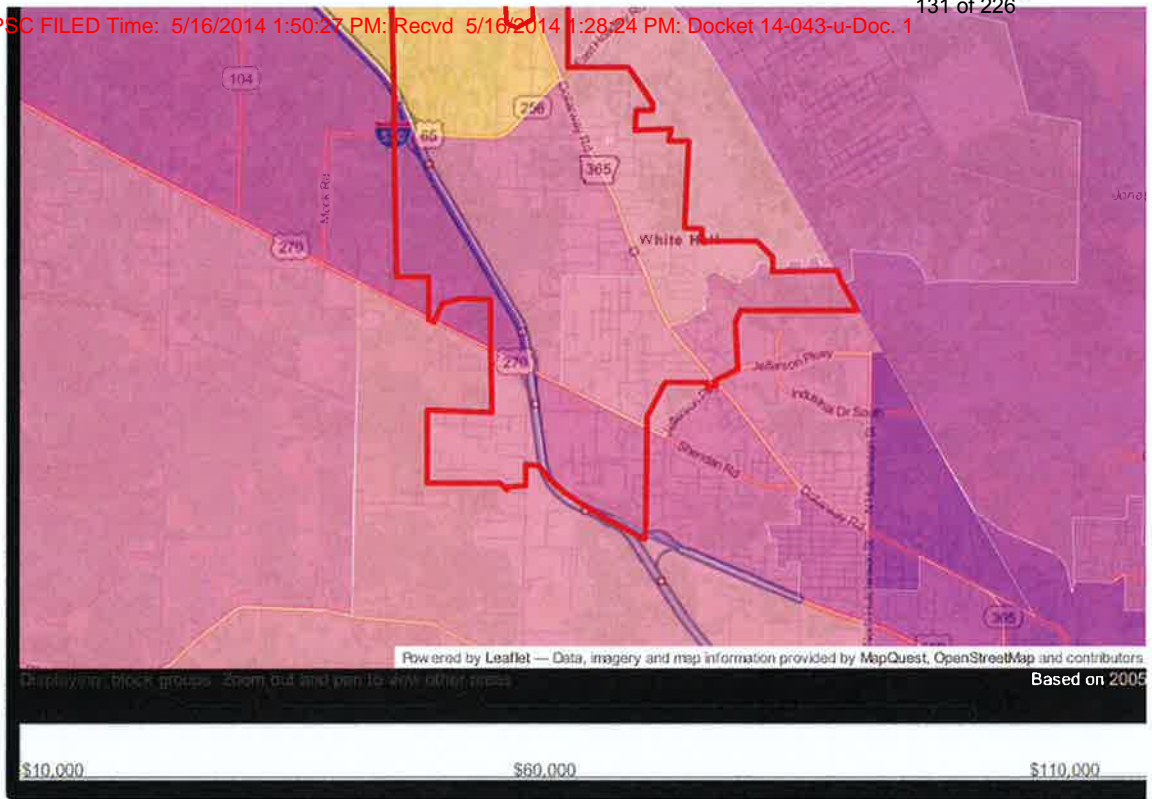
[www.HUDseeker.com](#)
 72207 Real Estate - AR Foreclosures and Residential Homes

Little Rock Real Estate

[www.littlerocklistings....](#)
 Search for Homes in The Greater Little Rock Area.

Jump to a detailed profile or search site with

City, County or Zip Code



Races in White Hall detailed stats: ancestries, foreign born residents, place of birth

Mar, 2012 cost of living index in White Hall: 81.7 (low, U.S. average is 100)



Recent posts about White Hall, Arkansas on our local forum with over 1,500,000 registered users. White Hall is mentioned 8: our forum:

- [Maybe relocating for job in White Hall, but LR native \(21 years ago...\)](#) (2 replies)
- [Arkansas Census Data](#) (63 replies)
- [white hall - local newspaper or classified ads](#) (1 reply)
- [Need realtor in Arkansas \(White Hall, Sheridan, etc area\)](#) (1 reply)
- [Museums - small county](#) (24 replies)
- [Thinking of moving from KY to AR](#) (8 replies)

Ancestries: United States (17.7%), Irish (10.7%), English (9.1%), German (9.0%), French (2.3%), Scotch-Irish (2.3%).

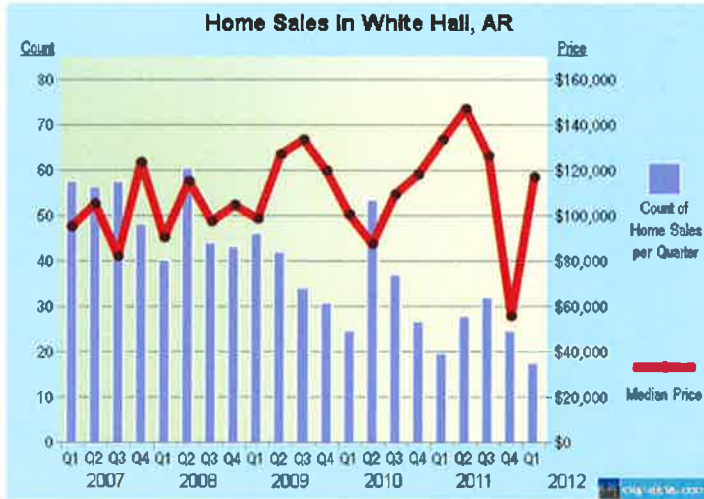
Current Local Time: 8:57:14 AM CST time zone

Incorporated on 06/22/1964

Elevation: 285 feet

Land area: 6.84 square miles.

Population density: 807 people per square mile (low).



Home Value Estimate

Address:

Unit (optional):

City: State: Zip:

Recent Home Sales

Address:

City: State: Zip:

Min Price (optional): Max Price (optional):

Prioritization: Sale Date Distance

For population 25 years and over in White Hall:

- High school or higher: 89.1%
- Bachelor's degree or higher: 23.0%
- Graduate or professional degree: 9.3%
- Unemployed: 4.6%
- Mean travel time to work (commute): 21.4 minutes

For population 15 years and over in White Hall city:

- Never married: 17.2%
- Now married: 65.5%
- Separated: 2.3%
- Widowed: 5.8%
- Divorced: 9.2%

4/16/13 White Hall, Arkansas (AR 71602, 71612) profile: population, maps, real estate, averages, homes, statistics, relocation, travel, jobs, hospitals, schools, crime, ...

174 residents are foreign born (2.8% Asian, 1.1% Africa)
 This city: 3.7%
 Arkansas: 2.8%

Median real estate property taxes paid for housing units with mortgages in 2009: \$757 (0.6%)
 Median real estate property taxes paid for housing units with no mortgage in 2009: \$565 (0.4%)

Nearest city with pop. 50,000+:
Pine Bluff, AR (5.7 miles , pop. 55,085).

Nearest city with pop. 200,000+:
Memphis, TN (134.3 miles , pop. 650,100).

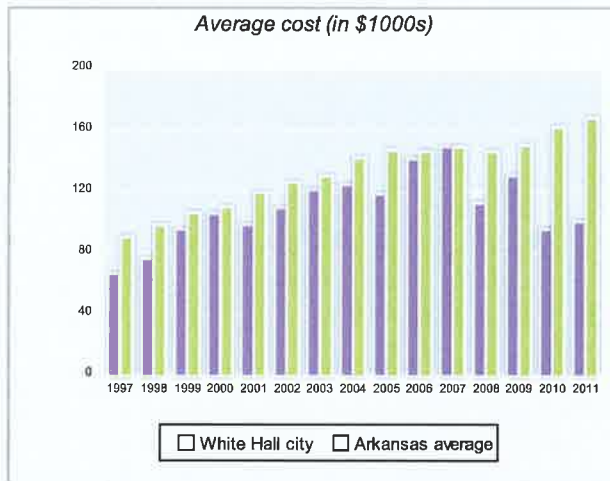
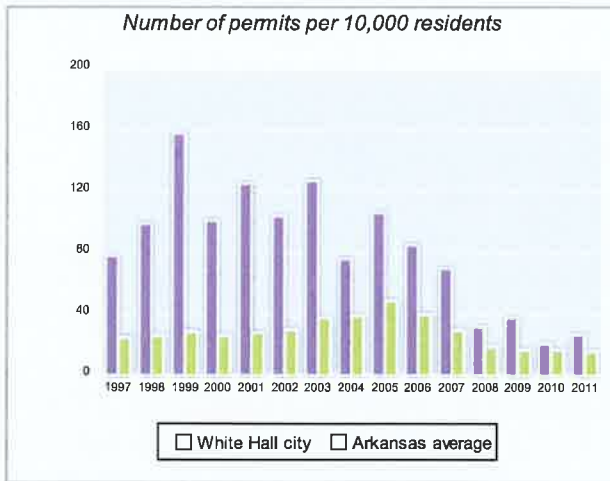
Nearest city with pop. 1,000,000+:
Dallas, TX (288.9 miles , pop. 1,188,580).

Nearest cities: **Pine Bluff, AR** (2.4 miles), **Sherrill, AR** (3.4 miles), **Redfield, AR** (3.6 miles), **Altheimer, AR** (3.8 miles), **Hensley, AR** (4.1 miles), **Sheridan, AR** (4.2 miles), **Wabbaseka, AR** (4.3 miles), **Woodson, AR** (4.4 miles).



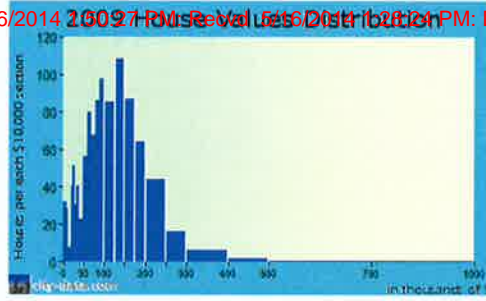
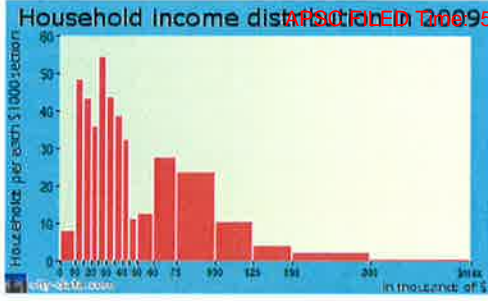
Single-family new house construction building permits:

- 1997: 37 buildings, average cost: \$67,000
- 1998: 47 buildings, average cost: \$77,100
- 1999: 75 buildings, average cost: \$95,800
- 2000: 48 buildings, average cost: \$105,700
- 2001: 59 buildings, average cost: \$99,300
- 2002: 49 buildings, average cost: \$109,800
- 2003: 60 buildings, average cost: \$121,600
- 2004: 36 buildings, average cost: \$125,000
- 2005: 50 buildings, average cost: \$118,600
- 2006: 40 buildings, average cost: \$141,800
- 2007: 33 buildings, average cost: \$150,100
- 2008: 15 buildings, average cost: \$112,800
- 2009: 18 buildings, average cost: \$130,700
- 2010: 10 buildings, average cost: \$96,400
- 2011: 13 buildings, average cost: \$100,800



Latitude: 34.27 N, Longitude: 92.10 W

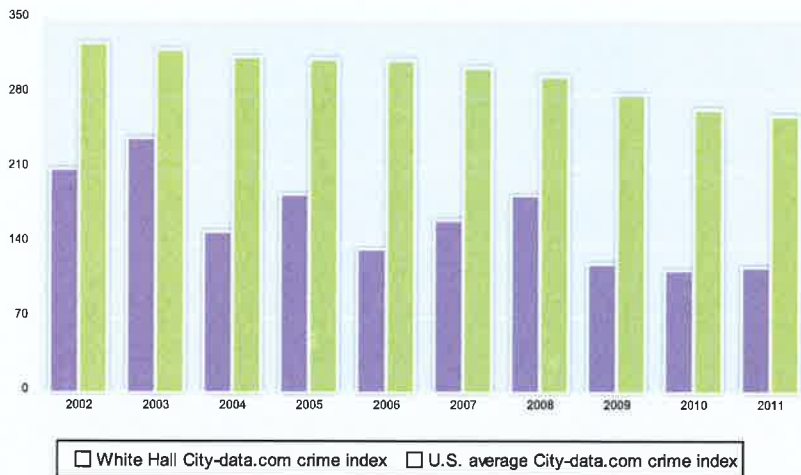
Area code commonly used in this area: 870



Crime in White Hall by Year

Type	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Murders	0	0	0	0	0	0	0	0	0	0
per 100,000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rapes	0	0	0	0	0	0	0	0	1	0
per 100,000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.2	0.0
Robberies	3	1	1	1	1	3	0	0	1	2
per 100,000	62.5	20.3	19.9	19.5	19.3	57.7	0.0	0.0	19.2	35.9
Assaults	7	23	4	2	3	2	15	6	4	1
per 100,000	145.9	466.2	79.6	36.9	58.0	36.5	291.1	116.3	76.7	18.0
Burglaries	28	29	18	33	17	19	13	9	4	27
per 100,000	583.7	587.8	358.0	642.3	328.7	365.7	252.3	174.5	76.7	484.9
Thefts	126	100	105	140	96	106	101	80	80	60
per 100,000	2626.6	2026.6	2088.3	2724.8	1856.1	2040.0	1960.4	1551.0	1533.7	1077.6
Auto thefts	5	5	9	7	10	15	15	12	5	15
per 100,000	104.2	101.3	179.0	136.2	193.3	288.7	291.1	232.6	95.9	269.4
Arson	0	0	0	0	0	0	1	0	0	0
per 100,000	0.0	0.0	0.0	0.0	0.0	0.0	19.4	0.0	0.0	0.0
City-data.com crime index (higher means more crime, U.S. average = 319.1)	210.5	239.0	150.7	185.8	135.4	161.7	184.9	120.9	115.3	117.6

(click on a table row to update graph)



City-data.com crime index counts serious crimes more heavily. It adjusts for the number of visitors and daily workers commuting into cities.

[Crime in White Hall detailed stats: murders, rapes, robberies, assaults, burglaries, thefts, arson](#)

Full-time law enforcement employees in 2011, including police officers: 16 (14 officers).

Officers per 1,000 residents here: 2.51

Arkansas average: 1.97

[This city's Wikipedia profile](#)

[White Hall, Arkansas accommodation, health care - Economy and Business Data](#)

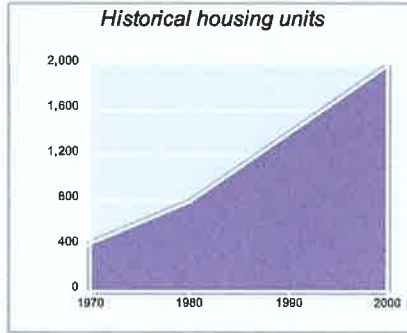
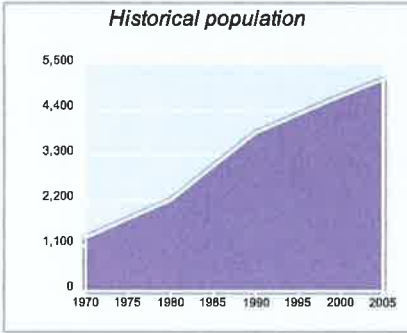
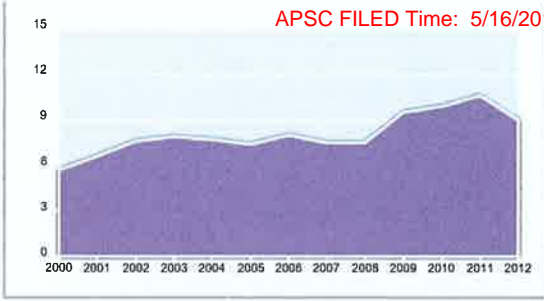
Unemployment in August 2012:

Here: 9.0%

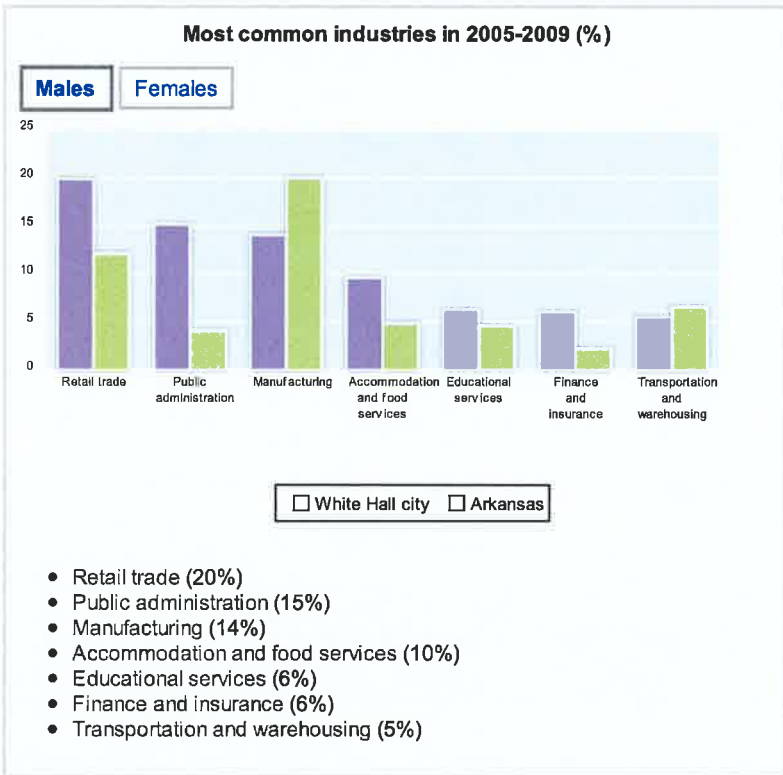
Arkansas: 7.0%

Unemployment by year (%)

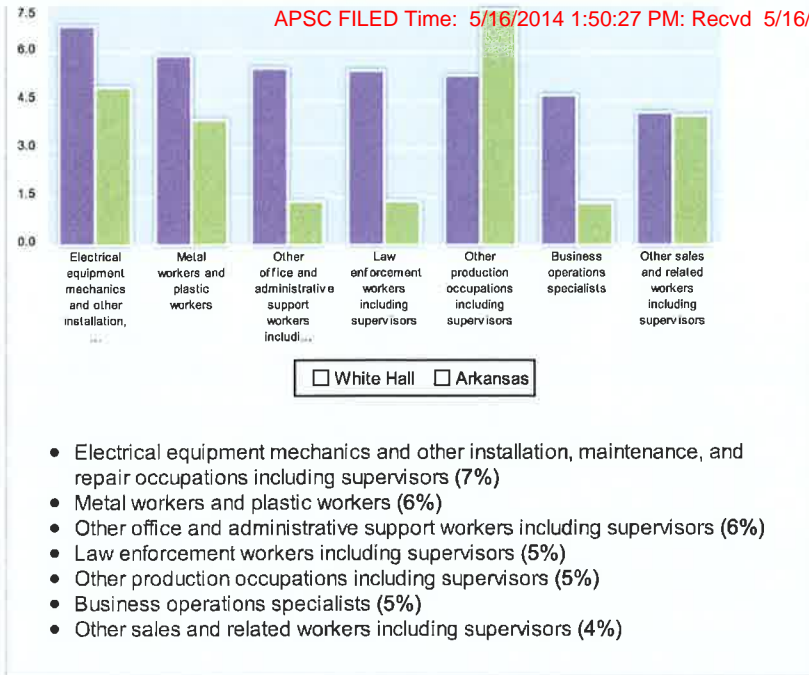
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Population change in the 1990s: +227 (+5.0%).



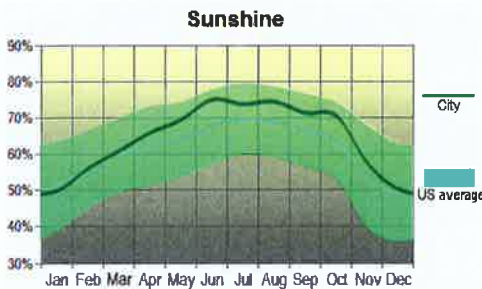
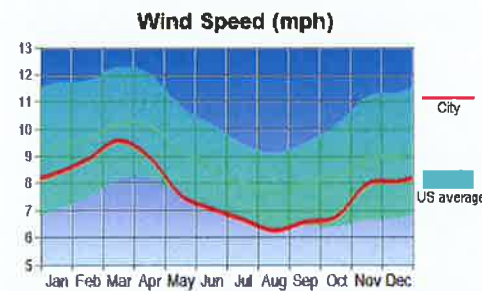
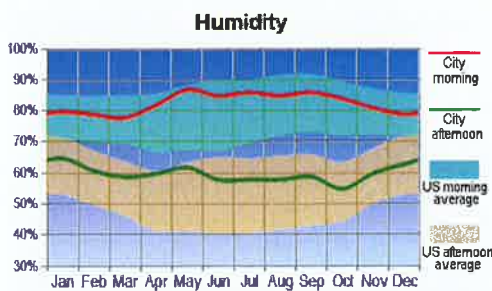
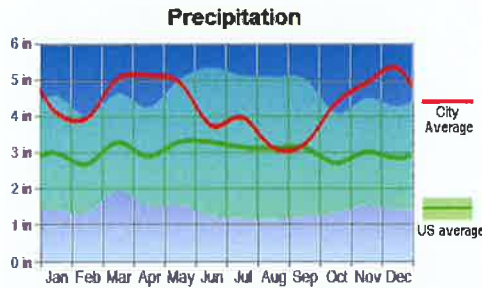
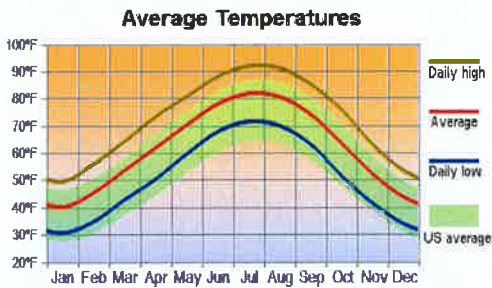
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Work and jobs in White Hall: detailed stats about occupations, industries, unemployment, workers, commute

Average climate in White Hall, Arkansas

Based on data reported by over 4,000 weather stations



Cloudy Days PSC FILED Time: 5/16/2014 1:50:27 PM: Recvd 5/16/2014 1:28:24 PM: Docket 14-043-u-Doc. 1



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Tornado activity:

White Hall-area historical tornado activity is slightly above Arkansas state average. It is 218% greater than the overall U.S. average.

On 3/1/1997, a category F4 (max. wind speeds 207-260 mph) tornado 28.0 miles away from the White Hall city center killed 5 people and injured 180 people.

On 4/3/1968, a category F4 tornado 28.2 miles away from the city center killed 5 people and injured 16 people and caused between \$50,000 and \$500,000 in damages.

Earthquake activity:

White Hall-area historical earthquake activity is significantly below Arkansas state average. It is 90% smaller than the overall U.S. average.

On 1/21/1982 at 00:33:54, a magnitude 4.7 (4.5 MB, 4.7 LG, 4.5 LG, Class: Light, Intensity: IV - V) earthquake occurred 62.4 miles away from the city center

On 5/4/2001 at 06:42:12, a magnitude 4.7 (4.2 MB, 4.7 LG, 4.5 LG, Depth: 6.2 mi) earthquake occurred 64.8 miles away from White Hall center

On 8/11/1996 at 18:17:49, a magnitude 3.5 (3.5 LG, 3.1 MD, Depth: 6.2 mi, Class: Light, Intensity: II - III) earthquake occurred 85.1 miles away from the city center

On 3/16/1997 at 19:07:27, a magnitude 3.4 (3.4 LG, Depth: 3.1 mi) earthquake occurred 76.6 miles away from the city center

On 4/11/1996 at 21:54:57, a magnitude 3.3 (3.3 LG, Depth: 3.1 mi) earthquake occurred 71.8 miles away from White Hall center

On 8/4/2001 at 01:13:25, a magnitude 3.1 (3.1 LG, Depth: 3.1 mi) earthquake occurred 63.7 miles away from the city center

Magnitude types: regional Lg-wave magnitude (LG), body-wave magnitude (MB), duration magnitude (MD)

Natural disasters:

The number of natural disasters in Jefferson County (13) is near the US average (12).

Major Disasters (Presidential) Declared: 11

Emergencies Declared: 2

Causes of natural disasters: Storms: 9, Floods: 8, Tornadoes: 4, Winter Storms: 2, Heavy Rain: 1, Wind: 1, Flood: 1, Hurricane: 1 (Note: Some incidents may be assigned to more than one category).

Hospitals/medical centers near White Hall:

- JEFFERSON REGIONAL MEDICAL CENTER (Acute Care Hospitals, Voluntary non-profit - Other, provides emergency services, about 9 miles away; PINE BLUFF, AR)
- ARKANSAS CHILDREN'S HOSPITAL (Childrens, Voluntary non-profit - Private, provides emergency services, about 34 miles away; LITTLE ROCK, AR)
- SALINE MEMORIAL HOSPITAL (Acute Care Hospitals, Voluntary non-profit - Private, about 35 miles away; BENTON, AR)

Political contributions by individuals in White Hall, AR

Colleges/universities with over 2000 students nearest to White Hall:

- University of Arkansas at Pine Bluff (about 5 miles; Pine Bluff, AR; Full-time enrollment: 3,368)
- University of Arkansas at Little Rock (about 35 miles; Little Rock, AR; FT enrollment: 6,816)
- University of Arkansas for Medical Sciences (about 36 miles; Little Rock, AR; FT enrollment: 2,068)
- Pulaski Technical College (about 38 miles; North Little Rock, AR; FT enrollment: 4,856)
- University of Arkansas at Monticello (about 51 miles; Monticello, AR; FT enrollment: 2,521)
- Henderson State University (about 56 miles; Arkadelphia, AR; FT enrollment: 2,863)
- Arkansas State University-Beebe (about 57 miles; Beebe, AR; FT enrollment: 2,601)

Public high school in White Hall:

- WHITE HALL HIGH SCHOOL (Students: 701; Location: 700 BULLDOG DR; Grades: 10 - 12)

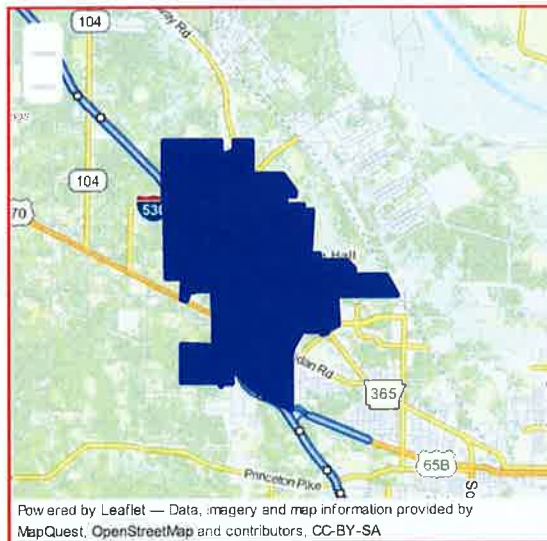
Public elementary/middle schools in White Hall:

- WHITE HALL JUNIOR HIGH SCHOOL (Students: 622; Location: 8106 DOLLARWAY RD; Grades: 07 - 09)
- TAYLOR ELEMENTARY SCHOOL (Students: 434; Location: 805 WEST ST; Grades: KG - 06)
- MOODY ELEMENTARY SCHOOL (Students: 409; Location: 700 MOODY SCHOOL DR; Grades: KG - 06)



- GANDY ELEMENTARY SCHOOL (Students: 108 Location: 100 GANDY AVE, Grades: KG-06): Docket 14-043-u-Doc. 1

[See full list of schools located in White Hall](#)



[Click to draw/clear city borders](#)

Notable locations in White Hall: White Hall Volunteer Fire Department (A), White Hall Police Department (B). [Display/hide their locations on the map](#)

Shopping Center: White Hall Shopping Center (1). [Display/hide its location on the map](#)

Churches in White Hall include: Bethany Church (A), Lemonwood Missionary Baptist Church (B), White Hall United Methodist Church (C), First Baptist Church of White Hall (D). [Display/hide their locations on the map](#)

Park in White Hall: White Hall City Park (1). [Display/hide its location on the map](#)

Tourist attraction: Jefferson County Of (Cultural Attractions- Events- & Facilities; 300 Anderson Avenue).

Hotels: Super 8 Motel (8000 Sheridan Road), American Inn & Suites (8008 Sheridan Road), Subway Sandwich & Salads (8001 Sheridan Road), Days Inn (8006 Sheridan Road), Highway 65 Motel (5709 Dollarway Road).

Courts: Jefferson-County - Court House Offices- Personal Property- White Hall Br (8512 Dollarway Road), White Hall City - Municipal Court Clerk (9009 Dollarway Road).

Jefferson County has a predicted average indoor radon screening level less than 2 pCi/L (pico curies per liter) - **Low Potential**

Percentage of residents living in poverty in 2009: 10.8%
(9.6% for White Non-Hispanic residents, 0.0% for Black residents, 0.0% for two or more races residents)

Average household size:

This city: 2.6 people
Arkansas: 2.4 people

Percentage of family households:

This city: 75.1%
Whole state: 68.2%

Percentage of households with unmarried partners:

This city: 2.5%
Whole state: 3.9%

Likely homosexual households (counted as self-reported same-sex unmarried-partner households)

- Lesbian couples: 0.1% of all households
- Gay men: 0.2% of all households

[Detailed information about poverty and poor residents in White Hall, AR](#)

White Hall compared to Arkansas state average:

- Median house value **below** state average.
- Black race population percentage **above** state average.
- Hispanic race population percentage **significantly below** state average.
- Foreign-born population percentage **significantly below** state average.
- Renting percentage **below** state average.
- House age **below** state average.

[Back to the top](#)

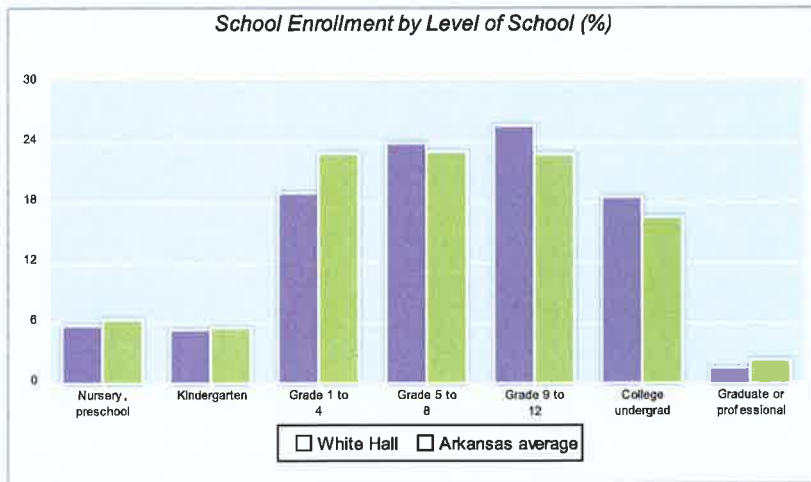
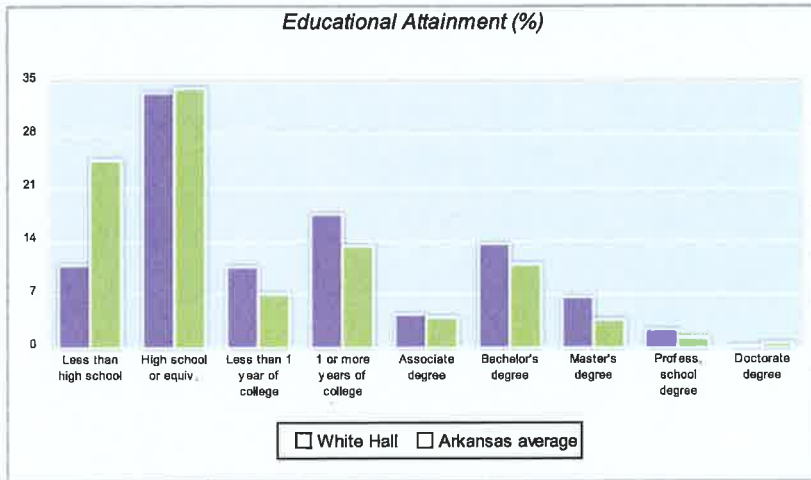
Banks with branches in White Hall (2011 data):

- Fordyce Bank & Trust Co.: White Hall Financial Branch at 7199 Sheridan Road, branch established on 2001/10/15. Info updated 2011/06/20: Bank assets: \$123.2 mil, Deposits: \$93.2 mil, headquarters in Fordyce, AR, positive income, 5 total offices, Holding Company: Fbt Bancshares, Inc.
- Simmons First National Bank: White Hall Branch at 8107 Dollarway Road, branch established on 1986/12/05. Info updated 2010/10/19: Bank assets: \$1,849.8 mil, Deposits: \$1,513.0 mil, headquarters in Pine Bluff, AR, positive income, 45 total offices, Holding Company: Simmons First National Corporation
- Bank of Star City: White Hall Branch at 7101 Dollarway Rd, branch established on 2001/08/14. Info updated 2011/09/12: Bank assets: \$104.4 mil, Deposits: \$83.5 mil, headquarters in Star City, AR, positive income, Commercial Lending Specialization, 5 total offices, Holding Company: Star City Bancshares, Inc.

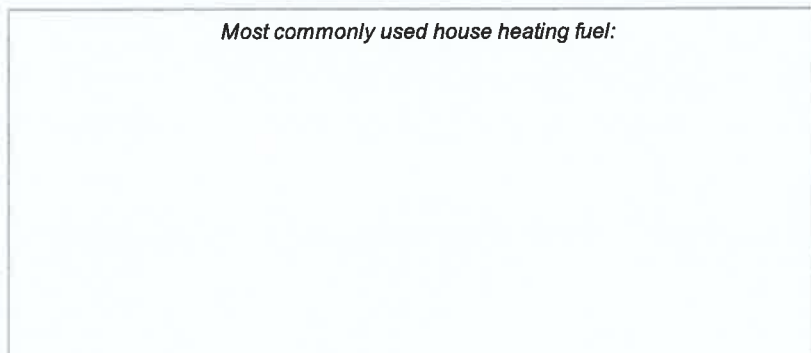
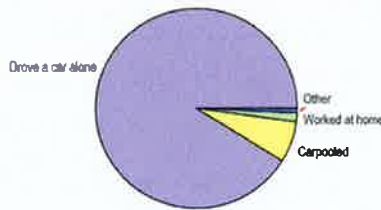
Fire-safe hotels and motels in White Hall, Arkansas: 5/17/2014 1:50:27 PM: Recvd 5/16/2014 1:28:24 PM: Docket 14-043-u-Doc. 1

- White Hall Super 8 Motel, 1 Hospitality Ln, White Hall, AR 71602 ☺, Phone: (800) 800-8000, Fax: (870) 247-8289
- Days Inn, 8006 Sheridan Rd, White Hall, AR 71602 ☺, Phone: (870) 247-1339, Fax: (870) 247-0615

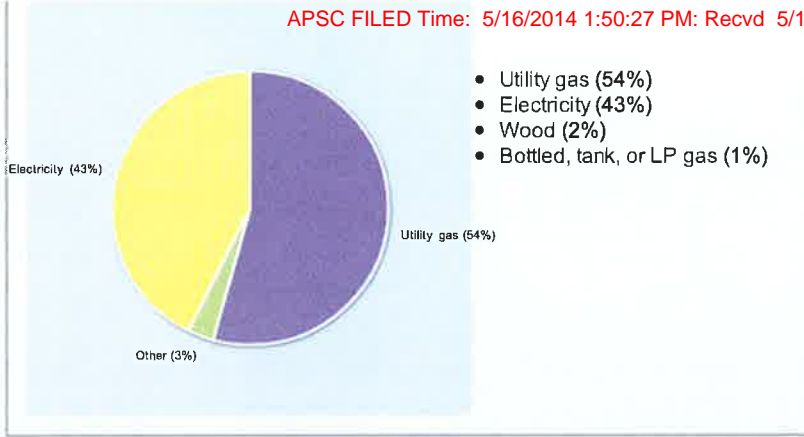
All 2 fire-safe hotels and motels in White Hall, Arkansas



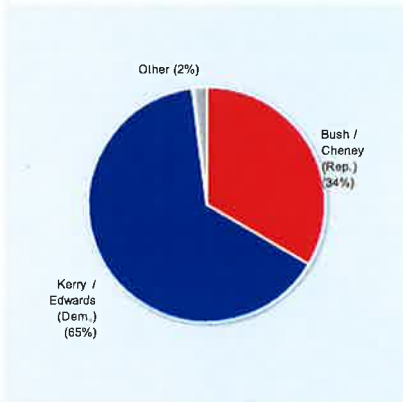
Mode of transportation to work in White Hall, AR



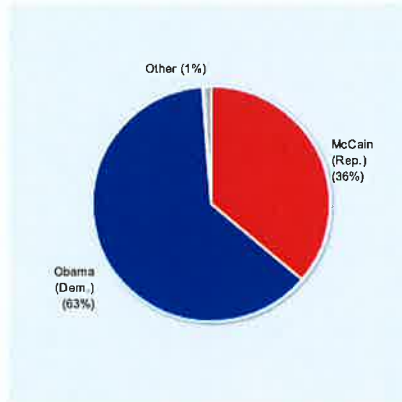
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2004 Presidential Election results in Jefferson County Arkansas:



2008 Presidential Election results in Jefferson County Arkansas:



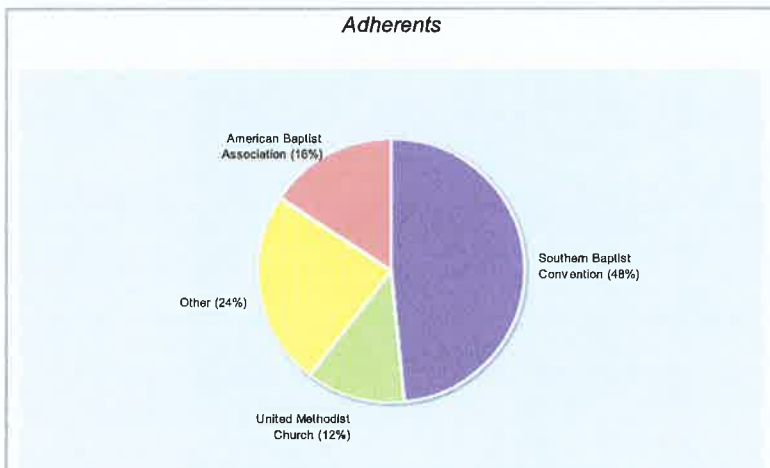
[Detailed 2008 election results.](#)

Religion statistics for White Hall (based on Jefferson County data)

Percentage of population affiliated with a religious congregations: 47.81%

Here 47.8%

USA 50.2%



Breakdown of population affiliated with a religious congregations

Name	Southern Baptist Convention	American Baptist Association	United Methodist Church	Catholic Church	Assemblies of God
Adherents	48.4%	15.7%	12.1%	5.0%	3.9%
Congregations	26.7%	12.1%	12.9%	3.4%	5.2%

APSC FILED Time: 5/16/2014 1:50:37 PM: Received by: Missionary Association of America
 Report No: 14-043-11
 Book: 1096- Doc. 1

Name	Presbyterian Church (USA)	Churches of Christ	Baptist Missionary Association of America	Church of God (Cleveland, Tennessee)	Other
Adherents	3.0%	2.7%	2.6%	1.0%	5.7%
Congregations	3.4%	8.6%	6.9%	2.6%	18.1%

Source: Jones, Dale E., et al. 2002. Congregations and Membership in the United States 2000. Nashville, TN: Glenmary Research Center.

Tables represent county-level data.

Food Environment Statistics:

Number of grocery stores: 15

Jefferson County: 1.89 / 10,000 pop.
 Arkansas: 2.02 / 10,000 pop.

Number of convenience stores (no gas): 2

Jefferson County: 0.25 / 10,000 pop.
 Arkansas: 0.59 / 10,000 pop.

Number of convenience stores (with gas): 32

Jefferson County: 4.04 / 10,000 pop.
 State: 4.94 / 10,000 pop.

Number of full-service restaurants: 31

Here: 3.92 / 10,000 pop.
 State: 6.66 / 10,000 pop.

Adult diabetes rate:

This county: 11.6%
 Arkansas: 9.8%

Adult obesity rate:

Jefferson County: 34.9%
 Arkansas: 29.1%

Low-income preschool obesity rate:

This county: 8.3%
 State: 13.6%

Local government employment and payroll (March 2007)

Function	Full-time employees	Monthly full-time payroll	Average yearly full-time wage	Part-time employees	Monthly part-time payroll
Financial Administration	2	\$6,359	\$38,154	0	\$0
Other Government Administration	1	\$5,108	\$61,296	6	\$2,134
Judicial and Legal	3	\$5,887	\$23,548	0	\$0
Police Protection - Officers	13	\$42,861	\$39,564	0	\$0
Police - Other	2	\$4,260	\$25,560	0	\$0
Streets and Highways	5	\$15,308	\$36,739	0	\$0
Parks and Recreation	0	\$0		1	\$660
Water Supply	8	\$18,865	\$28,298	0	\$0
Other and Unallocable	1	\$1,590	\$19,080	1	\$788
Totals for Government	35	\$100,238	\$34,367	8	\$3,582

5.38% of this county's 2006 resident taxpayers lived in other counties in 2005 (\$27,469 average adjusted gross income)

Here: 5.38%
 Arkansas average: 7.98%

0.09% of residents moved from foreign countries (\$397 average AGI)

Jefferson County: 0.09%
 Arkansas average: 0.10%

Top counties from which taxpayers relocated into this county between 2005 and 2006:

from Pulaski County, AR 0.74% (\$28,853 average AGI)
 from Grant County, AR 0.37% (\$26,667)
 from Lincoln County, AR 0.31% (\$23,293)

6.52% of this county's 2005 resident taxpayers moved to other counties in 2006 (\$34,817 average adjusted gross income)

Here: 6.52%
 Arkansas average: 7.29%

0.04% of residents moved to foreign countries (\$213 average AGI)

Jefferson County: 0.04%
 Arkansas average: 0.04%

Top counties to which taxpayers relocated from this county between 2005 and 2006:

to Pulaski County, AR 1.23% (\$36,114 average AGI)
 to Grant County, AR 0.36% (\$34,281)
 to Cleveland County, AR 0.23% (\$37,361)

Strongest AM radio stations in White Hall:

- KAAZ (1090 AM; 50 kW; LITTLE ROCK, AR; Owner: CITADEL BROADCASTING COMPANY)
- KGHT (880 AM; 50 kW; SHERIDAN, AR; Owner: METROPOLITAN RADIO GROUP, INC.)
- KPBA (1270 AM; 5 kW; PINE BLUFF, AR; Owner: METRO BIRCH ENTERPRISES, INC)
- KCAT (1340 AM; 1 kW; PINE BLUFF, AR; Owner: JAMES J.B. SCANLON)
- KCLA (1400 AM; 1 kW; PINE BLUFF, AR; Owner: M.R.S. VENTURES, INC.)
- KOTN (1490 AM; 1 kW; PINE BLUFF, AR; Owner: M.R.S. VENTURES, INC.)
- KMTL (760 AM; daytime; 10 kW; SHERWOOD, AR; Owner: GEORGE V. DOMERESE)
- KARN (920 AM; 5 kW; LITTLE ROCK, AR; Owner: CITADEL BROADCASTING COMPANY)
- WCRV (640 AM; 50 kW; COLLIERSVILLE, TN; Owner: BOTT BROADCASTING COMPANY/TENNESSEE)
- KLRG (1150 AM; 5 kW; NORTH LITTLE ROCK, AR; Owner: ARKANSAS RADIO CORPORATION)
- KITA (1440 AM; 5 kW; LITTLE ROCK, AR; Owner: KITA, INCORPORATED)
- KEEL (710 AM; 50 kW; SHREVEPORT, LA; Owner: CITICASTERS LICENSES, L.P.)
- KBHS (590 AM; 5 kW; HOT SPRINGS, AR; Owner: J & A, INC.)

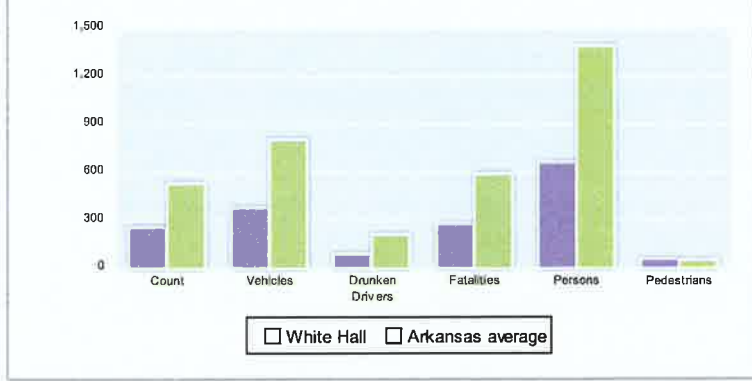
Strongest FM radio stations in White Hall:

- KPBC-FM (101.3 FM; PINE BLUFF, AR; Owner: M.R.S. VENTURES, INC.)
- KIPR (92.3 FM; PINE BLUFF, AR; Owner: CITADEL BROADCASTING COMPANY)
- KMSX (94.9 FM; MAUMELLE, AR; Owner: CLEAR CHANNEL BROADCASTING LICENSES, INC.)
- KTRN (104.5 FM; WHITE HALL, AR; Owner: BAYOU BROADCASTING, INC.)
- KANX (91.1 FM; SHERIDAN, AR; Owner: AMERICAN FAMILY ASSOCIATION)
- KUAP (89.7 FM; PINE BLUFF, AR; Owner: BOARD OF TRUSTEES OF THE UNIV OF AR)
- K226AG (93.1 FM; PINE BLUFF, AR; Owner: CENTRAL ARKANSAS CHRISTIAN BCG INC)
- KZYP (99.3 FM; PINE BLUFF, AR; Owner: M.R.S. VENTURES, INC.)
- KHTE-FM (96.5 FM; ENGLAND, AR; Owner: ABG ARKANSAS, LLC)
- KSSN (95.7 FM; LITTLE ROCK, AR; Owner: CLEAR CHANNEL BROADCASTING LICENSES, INC.)
- KKPT (94.1 FM; LITTLE ROCK, AR; Owner: SIGNAL MEDIA OF ARKANSAS, INC.)
- KABZ (103.7 FM; LITTLE ROCK, AR; Owner: SIGNAL MEDIA OF ARKANSAS, INC)
- KVLO (102.9 FM; SHERIDAN, AR; Owner: CITADEL BROADCASTING COMPANY)
- KHKN (106.7 FM; BENTON, AR; Owner: CLEAR CHANNEL BROADCASTING LICENSES, INC.)
- KURB (98.5 FM; LITTLE ROCK, AR; Owner: CITADEL BROADCASTING COMPANY)
- KKZR (93.3 FM; BRYANT, AR; Owner: ABG ARKANSAS, LLC)
- KMJX (105.1 FM; CONWAY, AR; Owner: CLEAR CHANNEL BROADCASTING LICENSES, INC.)
- KDJE (100.3 FM; JACKSONVILLE, AR; Owner: CLEAR CHANNEL BROADCASTING LICENSES, INC.)
- KLAL (107.7 FM; WRIGHTSVILLE, AR; Owner: CITADEL BROADCASTING COMPANY)
- K265CD (100.9 FM; PINE BLUFF, AR; Owner: J AND J BROADCASTING)

TV broadcast stations around White Hall:

- KATV (Channel 7; LITTLE ROCK, AR; Owner: KATV, LLC)
- KETS (Channel 2; LITTLE ROCK, AR; Owner: ARKANSAS EDUCATIONAL TELEVISION COMMISSION)
- KASN (Channel 38; PINE BLUFF, AR; Owner: CLEAR CHANNEL BROADCASTING LICENSES, INC.)
- KWBK-LP (Channel 36; PINE BLUFF, AR; Owner: ARKANSAS 49, INC.)
- KVTN (Channel 25; PINE BLUFF, AR; Owner: AGAPE CHURCH, INC.)
- KIPB-LP (Channel 65; PINE BLUFF, AR; Owner: IMMANUEL BROADCASTING CORPORATION)
- KTHV (Channel 11; LITTLE ROCK, AR; Owner: ARKANSAS TELEVISION COMPANY)
- KLRT-TV (Channel 16; LITTLE ROCK, AR; Owner: CLEAR CHANNEL BROADCASTING LICENSES, INC.)
- KARK-TV (Channel 4; LITTLE ROCK, AR; Owner: KARK-TV, INC.)
- KWBF (Channel 42; LITTLE ROCK, AR; Owner: RIVER CITY BROADCASTING, INC.)
- KKYK-LP (Channel 22; LITTLE ROCK, AR; Owner: ARKANSAS 49, INC.)
- KWBF-LP (Channel 5; SHERIDAN, AR; Owner: ARKANSAS MEDIA, L.L.C.)
- KLRA-LP (Channel 58; LITTLE ROCK, AR; Owner: ARKANSAS MEDIA, L.L.C.)

Fatal road traffic accident statistics for 1975 - 2009 (per 100,000 population)



White Hall, Arkansas:

- Fatal accident count: 12
- Vehicles involved in fatal accidents: 18
- Fatal accidents caused by drunken drivers: 4
- Fatalities: 13
- Persons involved in fatal accidents: 31
- Pedestrians involved in fatal accidents: 3

Arkansas average:

- Fatal accident count: 74
- Vehicles involved in fatal accidents: 113
- Fatal accidents caused by drunken drivers: 30
- Fatalities: 82
- Persons involved in fatal accidents: 193
- Pedestrians involved in fatal accidents: 8

[See more detailed statistics of White Hall fatal car crashes and road traffic accidents for 1975 - 2009 here](#)

FCC Registered Cell Phone Towers: 1 (See the full list of FCC Registered Cell Phone Towers in White Hall)

FCC Registered Antenna Towers: 38 (See the full list of FCC Registered Antenna Towers)

APSC FILED Time: 5/16/2014 1:50:27 PM: Recvd 5/16/2014 1:28:24 PM: Docket 14-043-u-Doc. 1

FCC Registered Private Land Mobile Towers: 3

- 203 Roberts Rd (Lat: 34.267611 Lon: -92.090139), Call Sign: KIG872
Assigned Frequencies: 154.175 MHz
Grant Date: 12/26/1996, Expiration Date: 03/12/2002, Cancellation Date: 05/12/2002
Registrant: City Of White Hall, 101 Parkway Dr, White Hall, AR 71602, Phone: (501) 247-2399
- 203 Roberts Rd (Lat: 34.267611 Lon: -92.090139), Call Sign: KIU368
Assigned Frequencies: 154.115 MHz
Grant Date: 12/26/1996, Expiration Date: 03/12/2002, Cancellation Date: 05/12/2002
Registrant: City Of White Hall, 101 Parkway Dr, White Hall, AR 71602, Phone: (501) 247-2399
- 8012 Sheridan Road (Lat: 34.259722 Lon: -92.100833), Call Sign: WPTY404
Assigned Frequencies: 469.212 MHz, 469.037 MHz, 469.237 MHz, 469.062 MHz, 469.262 MHz, 469.087 MHz, 469.287 MHz, 469.112 MHz, 469.312 MHz, 469.137 MHz... (+21 more)
Grant Date: 01/11/2002, Expiration Date: 01/11/2012, Certifier: Stephen M Grimm
Registrant: Panasonic Information Systems Company, 1707 N Randall Road, E1-D3, Elgin, IL 60123-7847, Phone: (847) 468-5318, Fax: (847) 468-4555, Email: williamsja@panasonic.com

FCC Registered Microwave Towers: 3

- AR-040P, 1808 E. Holland Drive (Lat: 34.286222 Lon: -92.123028), Type: Tower, Structure height: 76.5 m, Overall height: 78 m, Call Sign: WPQX572
Assigned Frequencies: 6745.00 MHz
Grant Date: 11/08/2000, Expiration Date: 11/08/2010, Cancellation Date: 01/06/2006, Certifier: Gail Defrates
Registrant: Nextel Partners, Inc., 16835 Deer Creek Drive, Spring, TX 77379, Phone: (281) 401-6015, Fax: (281) 374-9322, Email: gail.defrates@nextelpartners.com
- NW JEFF CO, South Of Gravel Pit Road And 0.75 Miles East Of I-530. (Lat: 34.345667 Lon: -92.184111), Type: Tower, Structure height: 60.9 m, Overall height: 65.5 m, Call Sign: WQBS348
Assigned Frequencies: 6600.00 MHz, 6640.00 MHz
Grant Date: 12/03/2004, Expiration Date: 12/03/2014, Certifier: Dale Saffold
Registrant: Department Of Information Systems, #1 Capitol Mall, Little Rock, AR 72203, Phone: (501) 683-1339, Fax: (501) 682-4310, Email: bruce.lantz@arkansas.gov
- Clear Lake AR 3, 13110 Highway 270 (Lat: 34.299500 Lon: -92.195694), Type: Mast, Structure height: 76.8 m, Overall height: 82.3 m, Call Sign: WQJ927
Assigned Frequencies: 10795.0 MHz
Grant Date: 02/29/2008, Expiration Date: 02/28/2018, Certifier: William Chastain
Registrant: Radio Dynamics Corporation, Silver Spring, MD 20914, Phone: (301) 493-5171, Fax: (301) 576-4553, Email: workorder@radyn.com

FCC Registered Paging Towers: 1

- Whitehall Cell Site (Lat: 34.269833 Lon: -92.074056), Type: Tower, Structure height: 100.6 m, Overall height: 109.4 m, Call Sign: KNKD950
Assigned Frequencies: 152.840 MHz
Grant Date: 03/31/2009, Expiration Date: 04/01/2019, Certifier: Glenn S Rabin
Registrant: Verizon Wireless, 1120 Sanctuary Pkwy #150 Gasareg, Alpharetta, GA 30009-7630, Phone: (770) 797-1070, Fax: (770) 797-1036, Email: network.regulatory@verizonwireless.com

FCC Registered Amateur Radio Licenses: 39 (See the full list of FCC Registered Amateur Radio Licenses in White Hall)

FAA Registered Aircraft: 10 (See the full list of FAA Registered Aircraft in White Hall)

Home Mortgage Disclosure Act Aggregated Statistics For Year 2009
(Based on 2 partial tracts)

	A) FHA, FSA/RHS & VA Home Purchase Loans		B) Conventional Home Purchase Loans		C) Refinancings		D) Home Improvement Loans		E) Loans on Dwellings For 5+ Families		F) Non-occupant Loans on < 5 Family Dwellings (A B C & D)		G) Loans On Manufactured Home Dwelling (A B C & D)	
	Number	Average Value	Number	Average Value	Number	Average Value	Number	Average Value	Number	Average Value	Number	Average Value	Number	Average Value
LOANS ORIGINATED	18	\$131,973	13	\$116,355	45	\$136,876	7	\$25,880	1	\$178,490	3	\$92,360	2	\$50,215
APPLICATIONS APPROVED, NOT ACCEPTED	2	\$119,715	2	\$53,835	4	\$118,653	1	\$29,340	0	\$0	0	\$0	2	\$43,240
APPLICATIONS DENIED	3	\$120,010	6	\$50,712	15	\$143,063	3	\$41,093	0	\$0	1	\$43,330	4	\$42,195
APPLICATIONS WITHDRAWN	1	\$96,440	0	\$0	11	\$159,037	1	\$181,750	0	\$0	1	\$86,660	0	\$0
FILES CLOSED FOR INCOMPLETENESS	1	\$66,490	0	\$0	3	\$125,087	0	\$0	0	\$0	0	\$0	0	\$0

Choose year: **2009** 2008 2007 2006 2005 2004 2003 2002 2001 2000 1999

Detailed HMDA statistics for the following Tracts: 0003.02 , 0003.03

Private Mortgage Insurance Companies Aggregated Statistics For Year 2009
(Based on 2 partial tracts)

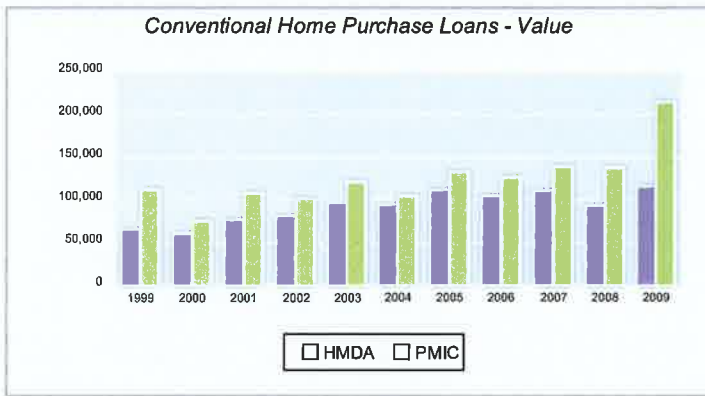
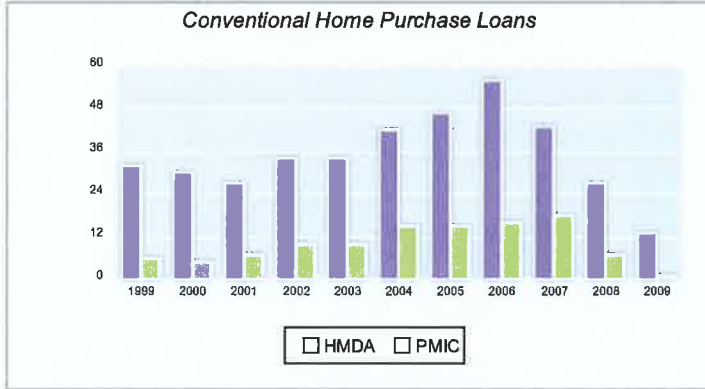
	A) Conventional Home Purchase Loans		B) Refinancings	
	Number	Average Value	Number	Average Value
LOANS ORIGINATED	1	\$215,200	3	\$152,387
APPLICATIONS APPROVED, NOT ACCEPTED	4	\$147,550	2	\$100,550
APPLICATIONS DENIED	1	\$120,010	6	\$50,712
APPLICATIONS WITHDRAWN	1	\$96,440	0	\$0
FILES CLOSED FOR INCOMPLETENESS	1	\$66,490	0	\$0

APSC FILED Time: 5/16/2014 1:50:27 PM: Recvd 5/16/2014 1:28:24 PM: Docket 14-043-u-Doc. 1

APPLICATIONS APPROVED/NOT ACCEPTED	0	\$0	0	\$0
APPLICATIONS DENIED	0	\$0	0	\$0
APPLICATIONS WITHDRAWN	0	\$0	0	\$0
FILES CLOSED FOR INCOMPLETENESS	0	\$0	0	\$0

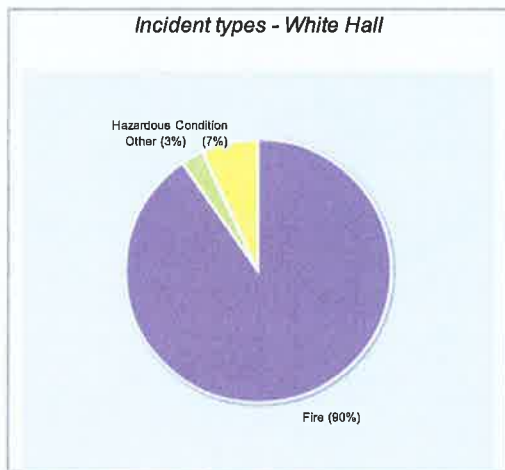
Choose year: **2009** 2008 2007 2006 2005 2004 2003 2002 2001 2000 1999

Detailed PMIC statistics for the following Tracts: 0003.02 , 0003.03



2006 National Fire Incident Reporting System Incidents:

- Fire: 65
- Hazardous Condition: 5
- Service Call: 1
- Good Intent Call: 1



[See full 2006 National Fire Incident Reporting System statistics for White Hall, AR](#)

Most common first names in White Hall, AR among deceased individuals

Name	Count	Lived (average)
------	-------	-----------------

Most common last names in White Hall, AR among deceased individuals

Last name	Count	Lived (average)
-----------	-------	-----------------

4/16/13 White Hall, Arkansas (AR 71602, 71612) profile: population, maps, real estate, averages, homes, statistics, relocation, travel, jobs, hospitals, schools, crime, ...

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James	77	70.1 years	Smith	50	72.7 years
John	62	70.6 years	Brown	34	72.2 years
Mary	56	74.8 years	Johnson	29	70.8 years
William	56	68.4 years	Jones	21	67.0 years
Charles	40	70.2 years	Ashcraft	19	71.1 years
Robert	39	70.2 years	Jackson	18	68.2 years
Willie	37	74.1 years	Williams	18	76.3 years
Betty	22	71.7 years	Taylor	17	73.2 years
Jessie	20	75.2 years	Davis	17	74.7 years
Dorothy	19	73.2 years	Phillips	16	78.4 years

Businesses in White Hall, AR

Name	Count	Name	Count
AT&T	2	Subway	1
Curves	1	Super 8	1
H&R Block	1	Taco Bell	1
McDonald's	1	U-Haul	1
Popeyes	1	UPS	2

White Hall on our top lists:

- #5 on the list of "Top 101 cities with largest percentage of females working in industry: Furniture and home furnishings, and household appliance stores (population 5,000+)"
- #11 on the list of "Top 101 cities with largest percentage of females in occupations: Primary, secondary, and special education school teachers: (population 5,000+)"
- #15 on the list of "Top 101 cities with largest percentage of males in occupations: Cooks and food preparation workers (population 5,000+)"
- #15 on the list of "Top 101 cities with largest percentage of females in occupations: Top executives (population 5,000+)"
- #16 on the list of "Top 101 cities with largest percentage of males in occupations: Personal appearance workers (population 5,000+)"
- #16 on the list of "Top 101 cities with largest percentage of males working in industry: Paper (population 5,000+)"
- #38 on the list of "Top 101 cities with high-earning residents located near cities with low-earning residents (pop 5,000+)"
- #91 (71602) on the list of "Top 101 zip codes with the largest percentage of South African first ancestries (pop 5,000+)"
- #66 on the list of "Top 101 counties with the largest number of people moving out compared to moving in (pop. 50,000+)"
- #74 on the list of "Top 101 counties with highest percentage of residents voting for 3rd party candidates in the 2004 Presidential Election, pop. 50,000+"
- #84 on the list of "Top 101 counties with highest percentage of residents voting for Kerry (Democrat) in the 2004 Presidential Election"

State forum archive:

Arkansas Pages: [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#)
 Fayetteville - Springdale - Rogers Pages: [2](#) [3](#) [4](#) [5](#)
 Little Rock - Conway area Pages: [2](#) [3](#) [4](#)



Top Patent Applicants

Dwight Miller (4)	Rhonda Hayes Coleman (1)
Richard Beger (4)	Dwight W. Miller (1)
Tom Heinze (3)	J. Scott Howard (1)
David B. Wood (1)	
David Brian Wood (1)	

Total of 9 patent applications in 2008-2013.

Back to [White Hall, AR housing info](#), [Jefferson County, Arkansas](#), [AR smaller cities](#), [AR small cities](#), [All Cities](#).

[Back to the top](#)

[Add new facts and correct factual errors about White Hall, Arkansas](#)

Recent home sales, price trends, and home value evaluator powered by Onboard Informatics

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DP04 **SELECTED HOUSING CHARACTERISTICS**
2007-2011 American Community Survey 5-Year Estimates

[BACK TO ADVANCED SEARCH](#)

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the [Data and Documentation](#) section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the [Methodology](#) section.

Subject	Arkansas				White Hall city, Arkansas			
	Estimate	Margin of Error	Percent	Percent Margin of Error	Estimate	Margin of Error	Percent	Percent Margin of Error
HOUSING OCCUPANCY								
Total housing units	1,309,888	+/-337	1,309,888	(X)	2,039	+/-172	2,039	(X)
Occupied housing units	1,121,386	+/-4,189	85.6%	+/-0.3	1,936	+/-136	94.9%	+/-4.2
Vacant housing units	188,502	+/-4,105	14.4%	+/-0.3	103	+/-92	5.1%	+/-4.2
Homeowner vacancy rate	2.5	+/-0.1	(X)	(X)	2.6	+/-4.1	(X)	(X)
Rental vacancy rate	9.7	+/-0.4	(X)	(X)	7.2	+/-10.4	(X)	(X)
UNITS IN STRUCTURE								
Total housing units	1,309,888	+/-337	1,309,888	(X)	2,039	+/-172	2,039	(X)
1-unit, detached	915,389	+/-3,235	69.9%	+/-0.2	1,609	+/-187	78.9%	+/-5.4
1-unit, attached	22,716	+/-1,174	1.7%	+/-0.1	38	+/-45	1.9%	+/-2.2
2 units	40,005	+/-1,386	3.1%	+/-0.1	42	+/-37	2.1%	+/-1.8
3 or 4 units	41,273	+/-1,429	3.2%	+/-0.1	55	+/-68	2.7%	+/-3.3
5 to 9 units	42,720	+/-1,521	3.3%	+/-0.1	63	+/-80	3.1%	+/-3.9
10 to 19 units	43,914	+/-1,438	3.4%	+/-0.1	27	+/-40	1.3%	+/-2.0
20 or more units	31,435	+/-1,205	2.4%	+/-0.1	10	+/-18	0.5%	+/-0.9
Mobile home	170,744	+/-2,585	13.0%	+/-0.2	160	+/-97	7.8%	+/-4.7
Boat, RV, van, etc.	1,692	+/-327	0.1%	+/-0.1	35	+/-52	1.7%	+/-2.6
YEAR STRUCTURE BUILT								
Total housing units	1,309,888	+/-337	1,309,888	(X)	2,039	+/-172	2,039	(X)
Built 2005 or later	80,421	+/-1,896	6.1%	+/-0.1	155	+/-82	7.6%	+/-4.1
Built 2000 to 2004	123,507	+/-2,482	9.4%	+/-0.2	236	+/-111	11.6%	+/-5.3
Built 1990 to 1999	238,156	+/-3,290	18.2%	+/-0.3	485	+/-145	23.8%	+/-7.0
Built 1980 to 1989	213,203	+/-3,174	16.3%	+/-0.2	303	+/-124	14.9%	+/-5.9
Built 1970 to 1979	259,579	+/-2,679	19.8%	+/-0.2	480	+/-153	23.5%	+/-6.8
Built 1960 to 1969	151,888	+/-2,311	11.6%	+/-0.2	194	+/-90	9.5%	+/-4.2
Built 1950 to 1959	106,592	+/-2,033	8.1%	+/-0.2	162	+/-101	7.9%	+/-4.9
Built 1940 to 1949	61,081	+/-1,754	4.7%	+/-0.1	18	+/-27	0.9%	+/-1.3
Built 1939 or earlier	75,461	+/-1,729	5.8%	+/-0.1	6	+/-9	0.3%	+/-0.4
ROOMS								
Total housing units	1,309,888	+/-337	1,309,888	(X)	2,039	+/-172	2,039	(X)
1 room	16,633	+/-966	1.3%	+/-0.1	0	+/-89	0.0%	+/-1.6
2 rooms	23,471	+/-1,018	1.8%	+/-0.1	0	+/-89	0.0%	+/-1.6
3 rooms	87,033	+/-2,315	6.6%	+/-0.2	44	+/-49	2.2%	+/-2.4
4 rooms	241,092	+/-3,100	18.4%	+/-0.2	315	+/-100	15.4%	+/-5.0
5 rooms	353,140	+/-3,563	27.0%	+/-0.3	665	+/-185	32.6%	+/-8.3
6 rooms	270,468	+/-3,234	20.6%	+/-0.2	464	+/-140	22.8%	+/-6.1
7 rooms	152,196	+/-2,510	11.6%	+/-0.2	247	+/-83	12.1%	+/-4.1
8 rooms	83,489	+/-1,761	6.4%	+/-0.1	144	+/-83	7.1%	+/-4.0
9 rooms or more	82,366	+/-2,067	6.3%	+/-0.2	160	+/-82	7.8%	+/-4.0
Median rooms	5.3	+/-0.1	(X)	(X)	5.5	+/-0.3	(X)	(X)
BEDROOMS								
Total housing units	1,309,888	+/-337	1,309,888	(X)	2,039	+/-172	2,039	(X)
No bedroom	18,136	+/-939	1.4%	+/-0.1	0	+/-89	0.0%	+/-1.6
1 bedroom	97,421	+/-2,133	7.4%	+/-0.2	0	+/-89	0.0%	+/-1.6
2 bedrooms	374,248	+/-3,181	28.6%	+/-0.2	576	+/-147	28.2%	+/-6.5
3 bedrooms	646,864	+/-4,025	49.4%	+/-0.3	1,202	+/-187	59.0%	+/-7.7
4 bedrooms	148,325	+/-2,664	11.3%	+/-0.2	188	+/-100	9.2%	+/-4.9
5 or more bedrooms	24,894	+/-970	1.9%	+/-0.1	73	+/-44	3.6%	+/-2.2
HOUSING TENURE								
Occupied housing units	1,121,386	+/-4,189	1,121,386	(X)	1,936	+/-136	1,936	(X)

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Owner-occupied	756,915	+/-5,051	756,915	(X)	1,430	+/-164	1,430	73.9%	+/-6.9
Renter-occupied	364,471	+/-3,302	32.5%	+/-0.3	506	+/-140	26.1%	+/-6.9	
Average household size of owner-occupied unit	2.55	+/-0.01	(X)	(X)	2.92	+/-0.25	(X)	(X)	
Average household size of renter-occupied unit	2.43	+/-0.02	(X)	(X)	2.39	+/-0.40	(X)	(X)	
YEAR HOUSEHOLDER MOVED INTO UNIT									
Occupied housing units	1,121,386	+/-4,189	1,121,386	(X)	1,936	+/-136	1,936	(X)	
Moved in 2005 or later	477,992	+/-3,344	42.6%	+/-0.3	812	+/-160	41.9%	+/-7.8	
Moved in 2000 to 2004	213,150	+/-2,944	19.0%	+/-0.2	364	+/-127	19.8%	+/-6.5	
Moved in 1990 to 1999	218,681	+/-2,615	19.5%	+/-0.2	350	+/-108	18.1%	+/-5.6	
Moved in 1980 to 1989	96,995	+/-1,777	8.6%	+/-0.2	183	+/-67	9.5%	+/-3.3	
Moved in 1970 to 1979	66,687	+/-1,530	5.9%	+/-0.1	162	+/-85	8.4%	+/-4.2	
Moved in 1969 or earlier	47,881	+/-1,242	4.3%	+/-0.1	45	+/-39	2.3%	+/-2.0	
VEHICLES AVAILABLE									
Occupied housing units	1,121,386	+/-4,189	1,121,386	(X)	1,936	+/-136	1,936	(X)	
No vehicles available	73,137	+/-1,546	6.5%	+/-0.1	12	+/-19	0.6%	+/-1.0	
1 vehicle available	379,585	+/-3,639	33.8%	+/-0.3	603	+/-144	31.1%	+/-7.2	
2 vehicles available	442,004	+/-3,763	39.4%	+/-0.3	747	+/-166	38.6%	+/-8.1	
3 or more vehicles available	226,660	+/-2,644	20.2%	+/-0.2	574	+/-129	29.6%	+/-6.3	
HOUSE HEATING FUEL									
Occupied housing units	1,121,386	+/-4,189	1,121,386	(X)	1,936	+/-136	1,936	(X)	
Utility gas	472,951	+/-4,715	42.2%	+/-0.4	1,052	+/-184	54.3%	+/-8.5	
Bottled, tank, or LP gas	98,475	+/-1,568	8.8%	+/-0.1	17	+/-22	0.9%	+/-1.1	
Electricity	491,701	+/-4,372	43.8%	+/-0.4	832	+/-175	43.0%	+/-8.5	
Fuel oil, kerosene, etc.	1,826	+/-284	0.2%	+/-0.1	0	+/-89	0.0%	+/-1.7	
Coal or coke	77	+/-69	0.0%	+/-0.1	0	+/-89	0.0%	+/-1.7	
Wood	51,139	+/-1,291	4.6%	+/-0.1	0	+/-89	0.0%	+/-1.7	
Solar energy	178	+/-72	0.0%	+/-0.1	0	+/-89	0.0%	+/-1.7	
Other fuel	3,036	+/-412	0.3%	+/-0.1	35	+/-52	1.8%	+/-2.7	
No fuel used	2,003	+/-312	0.2%	+/-0.1	0	+/-89	0.0%	+/-1.7	
SELECTED CHARACTERISTICS									
Occupied housing units	1,121,386	+/-4,189	1,121,386	(X)	1,936	+/-136	1,936	(X)	
Lacking complete plumbing facilities	7,585	+/-612	0.7%	+/-0.1	0	+/-89	0.0%	+/-1.7	
Lacking complete kitchen facilities	10,898	+/-791	1.0%	+/-0.1	0	+/-89	0.0%	+/-1.7	
No telephone service available	47,053	+/-1,584	4.2%	+/-0.1	18	+/-29	0.9%	+/-1.5	
OCCUPANTS PER ROOM									
Occupied housing units	1,121,386	+/-4,189	1,121,386	(X)	1,936	+/-136	1,936	(X)	
1.00 or less	1,094,089	+/-4,317	97.6%	+/-0.1	1,876	+/-162	96.9%	+/-3.1	
1.01 to 1.50	19,680	+/-986	1.8%	+/-0.1	60	+/-59	3.1%	+/-3.1	
1.51 or more	7,617	+/-653	0.7%	+/-0.1	0	+/-89	0.0%	+/-1.7	
VALUE									
Owner-occupied units	756,915	+/-5,051	756,915	(X)	1,430	+/-164	1,430	(X)	
Less than \$50,000	144,509	+/-2,266	19.1%	+/-0.3	141	+/-80	9.9%	+/-5.2	
\$50,000 to \$99,999	216,793	+/-3,245	28.6%	+/-0.4	342	+/-118	23.9%	+/-7.6	
\$100,000 to \$149,999	151,852	+/-2,679	20.1%	+/-0.3	418	+/-143	29.2%	+/-9.6	
\$150,000 to \$199,999	105,613	+/-1,887	14.0%	+/-0.2	310	+/-97	21.7%	+/-6.2	
\$200,000 to \$299,999	81,237	+/-2,156	10.7%	+/-0.3	148	+/-74	10.3%	+/-5.3	
\$300,000 to \$499,999	39,847	+/-1,291	5.3%	+/-0.2	37	+/-36	2.6%	+/-2.5	
\$500,000 to \$999,999	13,408	+/-674	1.8%	+/-0.1	34	+/-41	2.4%	+/-2.9	
\$1,000,000 or more	3,656	+/-454	0.5%	+/-0.1	0	+/-89	0.0%	+/-2.2	
Median (dollars)	105,100	+/-760	(X)	(X)	125,500	+/-12,759	(X)	(X)	
MORTGAGE STATUS									
Owner-occupied units	756,915	+/-5,051	756,915	(X)	1,430	+/-164	1,430	(X)	
Housing units with a mortgage	443,708	+/-4,071	58.6%	+/-0.3	882	+/-131	61.7%	+/-8.0	
Housing units without a mortgage	313,207	+/-3,136	41.4%	+/-0.3	548	+/-144	38.3%	+/-8.0	
SELECTED MONTHLY OWNER COSTS (SMOC)									
Housing units with a mortgage	443,708	+/-4,071	443,708	(X)	882	+/-131	882	(X)	
Less than \$300	1,591	+/-274	0.4%	+/-0.1	0	+/-89	0.0%	+/-3.6	
\$300 to \$499	18,880	+/-828	4.3%	+/-0.2	0	+/-89	0.0%	+/-3.6	
\$500 to \$699	67,001	+/-1,740	15.1%	+/-0.3	88	+/-60	10.0%	+/-6.3	
\$700 to \$999	132,929	+/-1,959	30.0%	+/-0.4	238	+/-89	27.0%	+/-9.1	
\$1,000 to \$1,499	131,949	+/-2,324	29.7%	+/-0.5	297	+/-102	33.7%	+/-10.7	
\$1,500 to \$1,999	52,360	+/-1,478	11.8%	+/-0.3	154	+/-73	17.5%	+/-8.1	
\$2,000 or more	38,998	+/-1,318	8.8%	+/-0.3	105	+/-73	11.9%	+/-7.8	
Median (dollars)	1,004	+/-7	(X)	(X)	1,167	+/-131	(X)	(X)	
Housing units without a mortgage	313,207	+/-3,136	313,207	(X)	548	+/-144	548	(X)	
Less than \$100	5,705	+/-421	1.8%	+/-0.1	0	+/-89	0.0%	+/-5.8	
\$100 to \$199	44,305	+/-1,256	14.1%	+/-0.4	44	+/-54	8.0%	+/-9.9	
\$200 to \$299	91,287	+/-1,776	29.1%	+/-0.5	176	+/-96	32.1%	+/-14.1	
\$300 to \$399	79,476	+/-1,831	25.4%	+/-0.5	165	+/-71	30.1%	+/-11.9	

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	92,434 317	+/-1,606 +/-2	29.5% (X)	+/-0.5 (X)	163 331	+/-87 +/-44	29.7% (X)	+/-13.8 (X)
\$400 or more								
Median (dollars)								
SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME (SMOCAPI)								
Housing units with a mortgage (excluding units where SMOCAPI cannot be computed)	441,752	+/-4,078	441,752	(X)	882	+/-131	882	(X)
Less than 20.0 percent	206,886	+/-3,126	46.8%	+/-0.5	431	+/-129	48.9%	+/-13.6
20.0 to 24.9 percent	68,010	+/-1,704	15.4%	+/-0.3	221	+/-109	25.1%	+/-11.4
25.0 to 29.9 percent	46,267	+/-1,607	10.5%	+/-0.3	75	+/-61	8.5%	+/-6.6
30.0 to 34.9 percent	30,127	+/-1,236	6.8%	+/-0.3	23	+/-27	2.6%	+/-3.0
35.0 percent or more	90,462	+/-1,839	20.5%	+/-0.4	132	+/-65	15.0%	+/-7.0
Not computed	1,956	+/-328	(X)	(X)	0	+/-89	(X)	(X)
Housing unit without a mortgage (excluding units where SMOCAPI cannot be computed)	309,772	+/-3,125	309,772	(X)	548	+/-144	548	(X)
Less than 10.0 percent	142,733	+/-2,202	46.1%	+/-0.5	250	+/-96	45.6%	+/-14.5
10.0 to 14.9 percent	61,772	+/-1,494	19.9%	+/-0.5	131	+/-75	23.9%	+/-12.8
15.0 to 19.9 percent	35,655	+/-1,333	11.5%	+/-0.4	60	+/-40	10.9%	+/-7.7
20.0 to 24.9 percent	21,676	+/-832	7.0%	+/-0.3	55	+/-74	10.0%	+/-12.9
25.0 to 29.9 percent	13,625	+/-657	4.4%	+/-0.2	31	+/-48	5.7%	+/-8.3
30.0 to 34.9 percent	8,454	+/-589	2.7%	+/-0.2	14	+/-21	2.6%	+/-3.8
35.0 percent or more	25,857	+/-1,092	8.3%	+/-0.4	7	+/-13	1.3%	+/-2.4
Not computed	3,435	+/-372	(X)	(X)	0	+/-89	(X)	(X)
GROSS RENT								
Occupied units paying rent	325,121	+/-3,027	325,121	(X)	449	+/-149	449	(X)
Less than \$200	8,988	+/-569	2.8%	+/-0.2	0	+/-89	0.0%	+/-7.0
\$200 to \$299	17,144	+/-945	5.3%	+/-0.3	0	+/-89	0.0%	+/-7.0
\$300 to \$499	60,230	+/-1,717	18.5%	+/-0.5	21	+/-37	4.7%	+/-8.4
\$500 to \$749	132,009	+/-2,531	40.6%	+/-0.7	158	+/-104	35.2%	+/-20.2
\$750 to \$999	70,723	+/-2,153	21.8%	+/-0.6	196	+/-128	43.7%	+/-22.0
\$1,000 to \$1,499	30,171	+/-1,246	9.3%	+/-0.4	74	+/-71	16.5%	+/-16.0
\$1,500 or more	5,866	+/-561	1.8%	+/-0.2	0	+/-89	0.0%	+/-7.0
Median (dollars)	637	+/-4	(X)	(X)	798	+/-88	(X)	(X)
No rent paid	39,350	+/-1,316	(X)	(X)	57	+/-51	(X)	(X)
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI)								
Occupied units paying rent (excluding units where GRAPI cannot be computed)	318,402	+/-3,127	318,402	(X)	428	+/-151	428	(X)
Less than 15.0 percent	44,440	+/-1,658	14.0%	+/-0.5	237	+/-146	55.4%	+/-21.0
15.0 to 19.9 percent	41,561	+/-1,608	13.1%	+/-0.5	7	+/-12	1.6%	+/-2.9
20.0 to 24.9 percent	39,508	+/-1,398	12.4%	+/-0.4	11	+/-18	2.6%	+/-4.4
25.0 to 29.9 percent	36,437	+/-1,347	11.4%	+/-0.4	0	+/-89	0.0%	+/-7.3
30.0 to 34.9 percent	28,351	+/-1,309	8.9%	+/-0.4	12	+/-20	2.8%	+/-4.8
35.0 percent or more	128,105	+/-2,748	40.2%	+/-0.8	161	+/-77	37.6%	+/-20.2
Not computed	46,069	+/-1,451	(X)	(X)	78	+/-65	(X)	(X)

Source: U.S. Census Bureau, 2007-2011 American Community Survey

Explanation of Symbols:

- An "N" entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
- An "-" entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
- An "-" following a median estimate means the median falls in the lowest interval of an open-ended distribution.
- An "+" following a median estimate means the median falls in the upper interval of an open-ended distribution.
- An "N" entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
- An "*****" entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
- An "N" entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
- An "(X)" means that the estimate is not applicable or not available.

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

The median gross rent excludes no cash renters.

In prior years, the universe included all owner-occupied units with a mortgage. It is now restricted to include only those units where SMOCAPI is computed, that is, SMOCAPI and household income are valid values.

In prior years, the universe included all owner-occupied units without a mortgage. It is now restricted to include only those units where SMOCAPI is computed, that is, SMOCAPI and household income are valid values.

In prior years, the universe included all renter-occupied units. It is now restricted to include only those units where GRAPI is computed, that is, gross rent and household income are valid values.

APSC FILED Time: 5/16/2014 1:50:27 PM: Recvd 5/16/2014 1:28:24 PM: Docket 14-043-u-Doc. 1



Pine Bluff, Arkansas

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Search for Homes in The Greater Little Rock Area.
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Search the U.S. census collection 1790-1940. Find millions of names.
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Request Your Free Vacation Kit. Plan a Fun Arkansas Getaway!
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List of Rent To Own Homes

3BR Home Only \$469/Month Bad Credit OK, No Down Payment.
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Back to [Pine Bluff, AR housing info](#), [Jefferson County, Arkansas, AR smaller cities](#), [AR small cities](#), [All Cities](#).



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Apartments for Rent - View 1000's of Apartments for Rent Detailed Listings w Pics/Floorplans - www.MyNewPlace.com

Demographic Estimates - Get 2012 / 2017 U.S. demographic estimates down to the Block Level - GeoLytics.com/DemographicEstimates



Submit your own pictures of this city and show them to the World

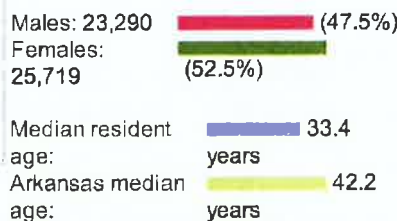
[Click here for promotion details and to upload your Pine Bluff, Arkansas photos](#)

36°F

Current weather forecast for Pine Bluff, AR

Jefferson County

Population in 2011: 49,009. Population change since 2000: -11.0%



Zip codes: 71601, 71603, 71611, 71613.

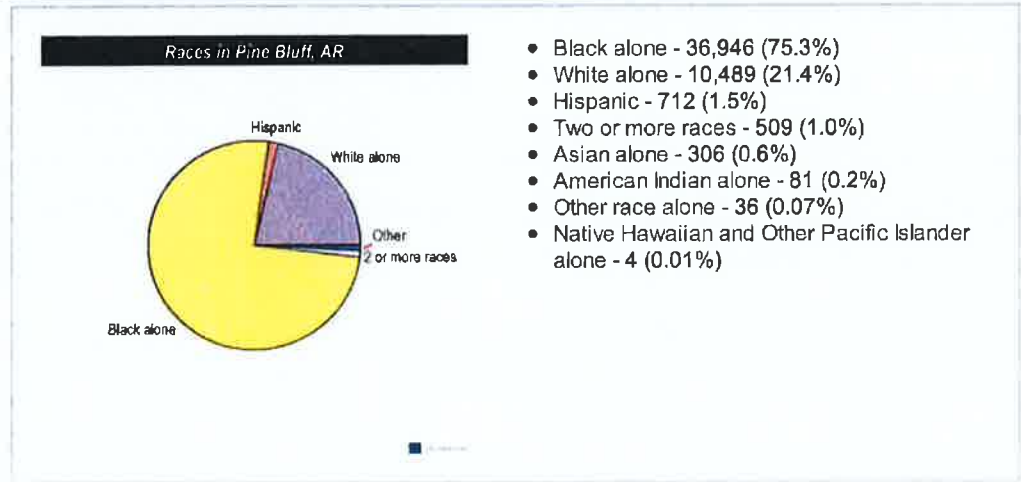


Jump to a detailed profile or search site with

City, County or Zip Code

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 Displaying: block groups. Series data available down to the block group level. Based on 2005-2010 data

\$5,000 min \$55,000 \$105,000 max \$125,000



Races in Pine Bluff detailed stats: ancestries, foreign born residents, place of birth

Mar. 2012 cost of living index in Pine Bluff: 81.3 (low, U.S. average is 100)



Recent posts about [Pine Bluff, Arkansas](#) on our local forum with over 1,500,000 registered users. Pine Bluff is mentioned 535 times on our forum:

- [Thinking of visiting Pine Bluff, some questions on safety](#) (7 replies)
- [Birthplace in Pine Bluff](#) (2 replies)
- [Pine Bluff Safety, Specific Area](#) (1 reply)
- [Is it safe to work in Pine Bluff?](#) (18 replies)
- [New Job in Pine Bluff - Recommended Area to Live](#) (13 replies)
- [visiting pine bluff](#) (36 replies)

Ancestries: United States (7.1%), English (3.4%), Irish (2.9%), German (2.8%).

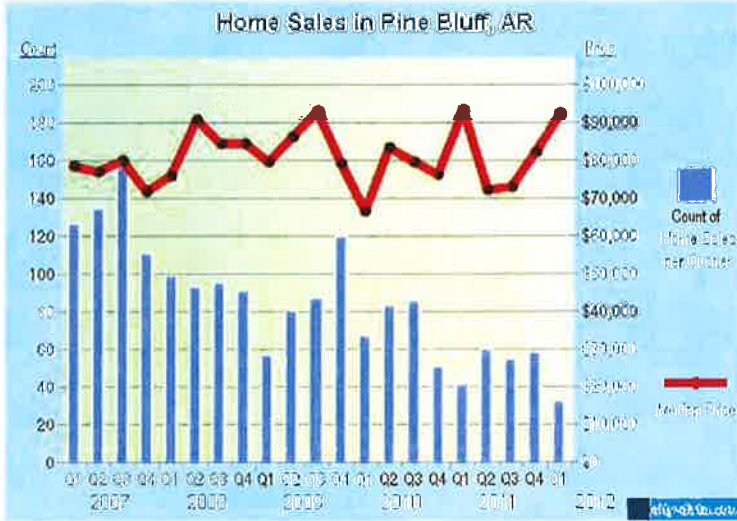
Current Local Time: 11:38:20 AM CST time zone

Incorporated on 01/10/1839

Elevation: 220 feet

Land area: 45.6 square miles.

Population density: 1074 people per square mile (low).



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Legal Representation - The Lazenby Law Firm, PLLC practices a wide range of law - www.thelazenbylawfirm.com

Census Records Online - Super Search: Your 1-stop shop for finding census records online - www.myheritage.com/Census_Records

Real Estate Listings - Real estate sale or rent listings. Search at Local.com today. - RealEstate.Local.com

Home Value Estimate

Address:

Unit (optional):

City: State:

Zip:

Recent Home Sales

Address:

City: State:

Zip:

Min Price (optional): Max Price (optional):

Prioritization: Sale Date Distance

For population 25 years and over in Pine Bluff:

- High school or higher: 73.3%
- Bachelor's degree or higher: 17.6%
- Graduate or professional degree: 5.4%
- Unemployed: 10.1%
- Mean travel time to work (commute): 18.9 minutes

For population 15 years and over in Pine Bluff city:

- Never married: 30.6%
- Now married: 41.8%
- Separated: 3.9%
- Widowed: 10.8%

NPSO FILED TIME: 5/16/2014 1:30:27 PM RECEIVED DATE: 5/16/2014 1:28:24 PM DOCID: 14043-000

- Divorced: 12.9%

623 residents are foreign born

This city: 1.1%

Arkansas: 2.8%

According to our research of Arkansas and other state lists there **were 4 registered sex offenders living in Pine Bluff, Arkansas** as of February 20, 2013.

The ratio of number of residents in Pine Bluff to the number of sex offenders is 12,597 to 1.

Median real estate property taxes paid for housing units with mortgages in 2009: \$394 (0.6%)

Median real estate property taxes paid for housing units with no mortgage in 2009: \$342 (0.6%)

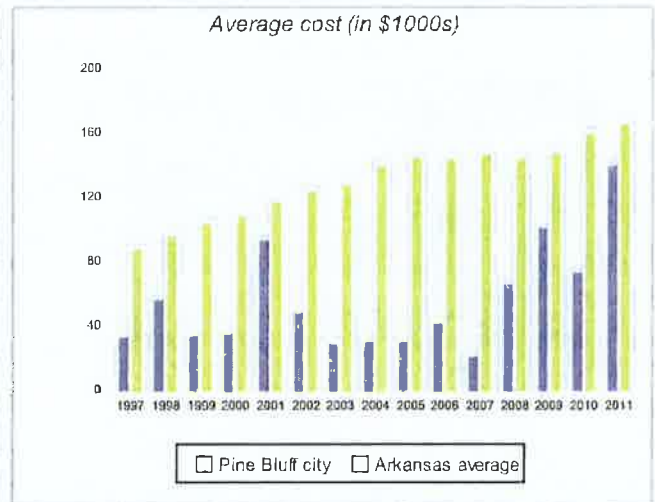
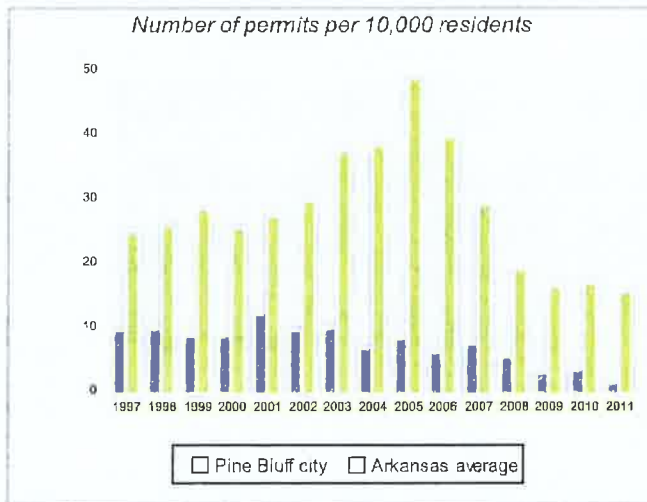
Nearest city with pop. 200,000+: **Memphis, TN** (132.3 miles, pop. 650,100).

Nearest city with pop. 1,000,000+: **Dallas, TX** (291.7 miles, pop. 1,188,580).

Nearest cities: **White Hall, AR** (2.4 miles), **Sherrill, AR** (3.5 miles), **Altheimer, AR** (3.5 miles), **Wabbaseka, AR** (4.1 miles), **Redfield, AR** (4.3 miles), **Rison, AR** (4.5 miles), **Grady, AR** (4.6 miles), **Star City, AR** (4.7 miles).

Single-family new house construction building permits:

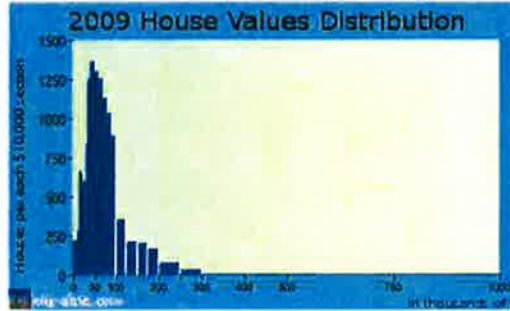
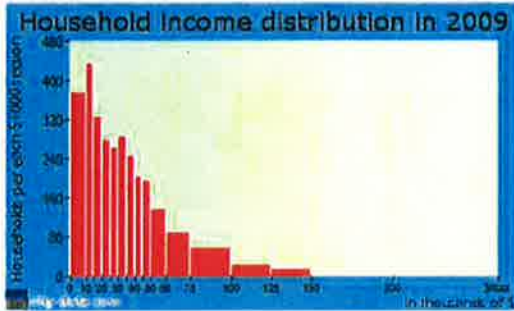
- 1997: 55 buildings, average cost: \$35,700
- 1998: 56 buildings, average cost: \$59,300
- 1999: 50 buildings, average cost: \$37,400
- 2000: 50 buildings, average cost: \$38,100
- 2001: 69 buildings, average cost: \$96,100
- 2002: 55 buildings, average cost: \$50,600
- 2003: 57 buildings, average cost: \$32,400
- 2004: 40 buildings, average cost: \$33,400
- 2005: 48 buildings, average cost: \$33,100
- 2006: 36 buildings, average cost: \$44,500
- 2007: 43 buildings, average cost: \$24,300
- 2008: 32 buildings, average cost: \$69,000
- 2009: 19 buildings, average cost: \$104,200
- 2010: 21 buildings, average cost: \$76,300
- 2011: 10 buildings, average cost: \$141,500



Latitude: 34.22 N, Longitude: 92.02 W

Daytime population change due to commuting: +6,789 (+12.3%)
Workers who live and work in this city: 14,997 (75.7%)

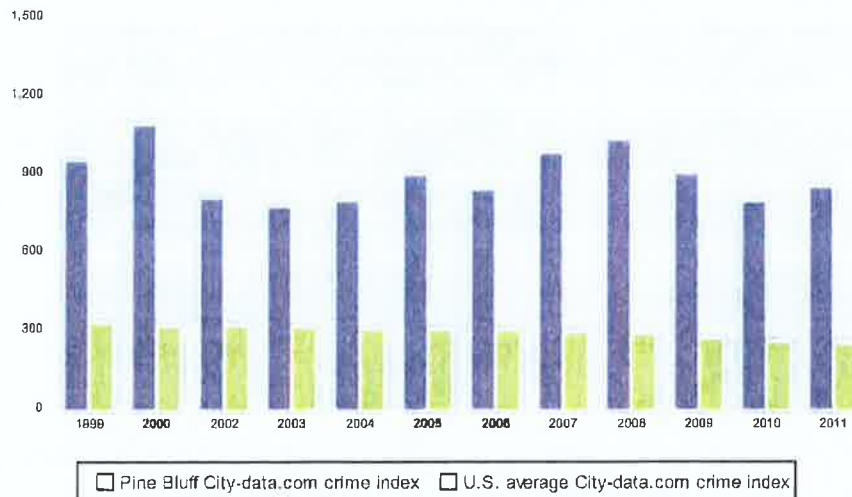
Area code: 870



Crime in Pine Bluff by Year

Type	1999	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Murders	8	14	10	16	9	16	12	15	16	12	7	12
per 100,000	15.0	25.6	17.9	29.4	16.5	29.7	22.5	29.2	31.9	24.0	14.0	24.3
Rapes	50	64	47	44	41	41	36	42	71	50	40	41
per 100,000	93.9	116.9	84.2	80.8	75.3	76.0	67.5	81.9	141.6	100.2	80.0	82.9
Robberies	232	263	230	150	163	209	203	265	248	207	165	152
per 100,000	435.8	480.4	411.9	275.3	299.4	387.5	380.9	516.5	494.6	414.7	330.2	307.4
Assaults	834	821	463	368	381	459	547	567	484	452	475	478
per 100,000	1566.6	1499.6	829.1	675.5	699.9	851.0	1026.4	1105.2	965.2	905.5	950.6	966.6
Burglaries	1,322	1,636	1,012	1,198	1,515	1,681	1,512	1,598	1,596	1,606	1,371	1,565
per 100,000	2483.0	2988.2	1812.3	2198.9	2763.0	3116.8	2837.1	3114.8	3182.8	3217.5	2743.6	3164.6
Thefts	2,047	3,170	3,116	2,930	2,908	2,727	2,053	2,389	2,648	2,185	2,074	2,168
per 100,000	3844.8	5790.2	5580.1	5377.9	5342.0	5056.2	3852.2	4656.6	5280.8	4377.4	4150.4	4383.9
Auto thefts	436	333	408	402	404	412	415	435	430	368	303	275
per 100,000	818.9	608.2	730.6	737.9	742.1	763.9	778.7	847.9	857.5	737.3	606.4	556.1
Arson	52	86	51	59	73	76	77	80	27	29	38	49
per 100,000	97.7	120.8	91.3	108.3	134.1	140.9	144.5	155.9	53.8	58.1	76.0	99.1
City-data.com crime index (higher means more crime, U.S. average = 319.1)	959.1	1097.3	815.3	792.8	805.1	904.0	848.5	989.4	1039.3	908.9	801.8	856.7

(click on a table row to update graph)



2/20/13 Pine Bluff, Arkansas (AR) profile: population, maps, real estate, averages, homes, statistics, relocation, travel, jobs, hospitals, schools, crime, moving, house...
 APSO Filed time: 5/16/2014 3:50:27 PM. Recvd: 5/16/2014 1:28:24 PM. Docket 14-043-U-DOC. 1

City-data.com crime index counts serious crimes more heavily. It adjusts for the number of visitors and daily workers commuting into cities.

Crime in Pine Bluff detailed stats: murders, rapes, robberies, assaults, burglaries, thefts, arson

Full-time law enforcement employees in 2011, including police officers: 173 (149 officers).
 Officers per 1,000 residents here: 3.01
 Arkansas average: 1.97

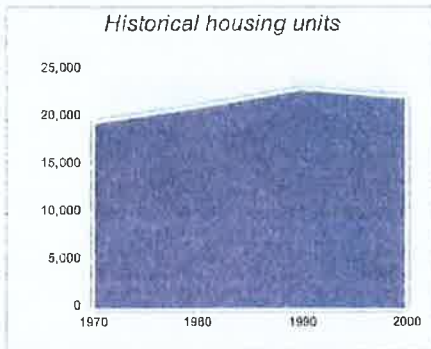
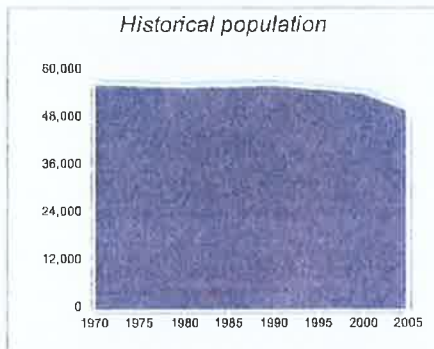
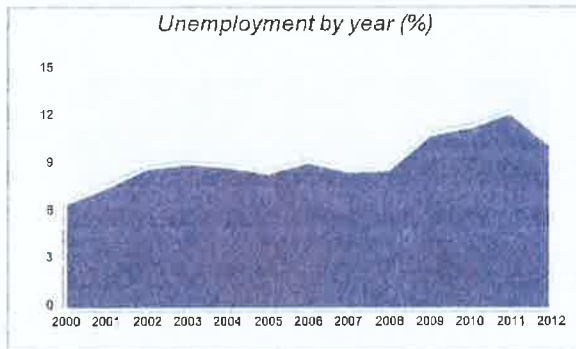
This city's Wikipedia profile

Pine Bluff tourist attractions:

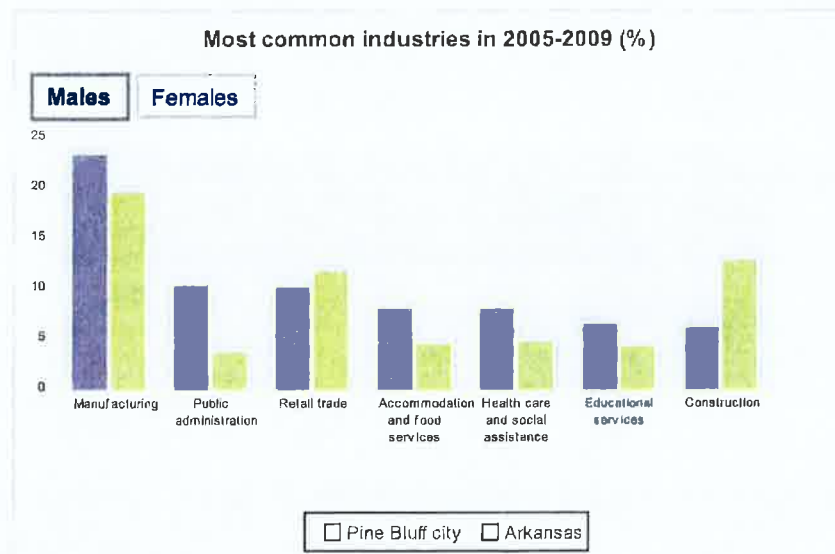
- **Delta Rivers Nature Center - Pine Bluff AR - Delta Rivers Nature Center hike wildlife**

Pine Bluff, Arkansas accommodation, waste management, arts - Economy and Business Data

Unemployment in August 2012:
 Here: 10.3%
 Arkansas: 7.0%



Population change in the 1990s: -1,915 (-3.4%).



**DP03 SELECTED ECONOMIC CHARACTERISTICS
2007-2011 American Community Survey 5-Year Estimates**

[BACK TO ADVANCED SEARCH](#)

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the [Data and Documentation](#) section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the [Methodology](#) section.

		Pine Bluff city, Arkansas			
Subject		Estimate	Margin of Error	Percent	Percent Margin of Error
1 137 of 137	EMPLOYMENT STATUS				
	Population 18 years and over	38,157	+/-332	38,157	(X)
	In labor force	22,088	+/-800	57.9%	+/-2.1
	Civilian labor force	22,040	+/-797	57.8%	+/-2.1
	Employed	18,088	+/-732	47.4%	+/-1.9
	Unemployed	3,972	+/-408	10.4%	+/-1.1
	Armed Forces	48	+/-33	0.1%	+/-0.1
	Not in labor force	16,069	+/-819	42.1%	+/-2.1
	Civilian labor force	22,040	+/-797	22,040	(X)
	Percent Unemployed	(X)	(X)	18.0%	+/-1.7
	Females 18 years and over	20,273	+/-287	20,273	(X)
	In labor force	11,897	+/-455	58.7%	+/-2.3
	Civilian labor force	11,886	+/-456	58.6%	+/-2.3
Employed	10,130	+/-439	50.0%	+/-2.2	
Own children under 6 years	3,969	+/-243	3,969	(X)	
All parents in family in labor force	2,963	+/-328	74.7%	+/-8.0	
Own children 6 to 17 years	7,481	+/-384	7,481	(X)	
All parents in family in labor force	5,472	+/-462	73.1%	+/-5.5	
COMMUTING TO WORK					
Workers 16 years and over	17,479	+/-727	17,479	(X)	
Car, truck, or van -- drove alone	14,577	+/-702	83.4%	+/-2.2	
Car, truck, or van -- carpooled	1,847	+/-319	9.4%	+/-1.8	
Public transportation (excluding taxicab)	84	+/-73	0.5%	+/-0.4	
Walked	391	+/-194	2.2%	+/-1.1	
Other means	592	+/-226	3.4%	+/-1.3	
Worked at home	188	+/-82	1.1%	+/-0.5	
Mean travel time to work (minutes)	18.6	+/-1.2	(X)	(X)	
OCCUPATION					
Civilian employed population 16 years and over	18,068	+/-732	18,068	(X)	
Management, business, science, and arts occupations	4,758	+/-422	26.3%	+/-2.2	
Service occupations	4,308	+/-424	23.6%	+/-2.2	
Sales and office occupations	4,556	+/-434	25.2%	+/-2.1	
Natural resources, construction, and maintenance occupations	1,154	+/-283	6.4%	+/-1.4	
Production, transportation, and material moving occupations	3,292	+/-391	18.2%	+/-2.0	
INDUSTRY					
Civilian employed population 16 years and over	18,068	+/-732	18,068	(X)	
Agriculture, forestry, fishing and hunting, and mining	94	+/-63	0.5%	+/-0.3	
Construction	600	+/-165	3.3%	+/-0.8	
Manufacturing	2,940	+/-398	15.7%	+/-2.0	
Wholesale trade	304	+/-132	1.7%	+/-0.7	
Retail trade	2,185	+/-340	12.1%	+/-1.8	
Transportation and warehousing, and utilities	629	+/-161	3.5%	+/-0.9	
Information	249	+/-94	1.4%	+/-0.5	
Finance and insurance, and real estate and rental and leasing	576	+/-159	3.2%	+/-0.9	
Professional, scientific, and management, and administrative and waste management services	1,041	+/-223	5.8%	+/-1.3	
Educational services, and health care and social assistance	5,629	+/-516	31.2%	+/-2.8	
Arts, entertainment, and recreation, and accommodation and food services	1,392	+/-288	7.7%	+/-1.8	
Other services, except public administration	620	+/-127	3.4%	+/-0.7	

2/20/13

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American FactFinder - Results

Public administration	1,909	+/-322	10.6%	+/-1.7
CLASS OF WORKER				
Civilian employed population 18 years and over	18,068	+/-732	18,068	(X)
Private wage and salary workers	12,271	+/-676	67.8%	+/-2.9
Government workers	5,202	+/-555	28.8%	+/-2.7
Self-employed in own not incorporated business workers	595	+/-155	3.3%	+/-0.8
Unpaid family workers	0	+/-89	0.0%	+/-0.2
INCOME AND BENEFITS (IN 2011 INFLATION-ADJUSTED DOLLARS)				
Total households	17,587	+/-467	17,587	(X)
Less than \$10,000	2,735	+/-275	15.6%	+/-1.5
\$10,000 to \$14,999	1,903	+/-277	10.8%	+/-1.6
\$15,000 to \$24,999	2,634	+/-314	15.0%	+/-1.8
\$25,000 to \$34,999	2,206	+/-302	12.5%	+/-1.6
\$35,000 to \$49,999	2,759	+/-368	15.7%	+/-2.0
\$50,000 to \$74,999	2,741	+/-321	15.6%	+/-1.8
\$75,000 to \$99,999	1,300	+/-194	7.4%	+/-1.1
\$100,000 to \$149,999	878	+/-155	5.0%	+/-0.9
\$150,000 to \$199,999	282	+/-96	1.5%	+/-0.5
\$200,000 or more	169	+/-70	1.0%	+/-0.4
Median household income (dollars)	31,600	+/-1,619	(X)	(X)
Mean household income (dollars)	43,366	+/-2,124	(X)	(X)
With earnings	12,613	+/-490	71.7%	+/-2.1
Mean earnings (dollars)	45,114	+/-2,670	(X)	(X)
With Social Security	6,048	+/-349	34.4%	+/-1.6
Mean Social Security income (dollars)	13,747	+/-605	(X)	(X)
With retirement income	2,832	+/-315	16.1%	+/-1.7
Mean retirement income (dollars)	17,535	+/-1,619	(X)	(X)
With Supplemental Security Income	1,802	+/-239	9.1%	+/-1.4
Mean Supplemental Security Income (dollars)	7,392	+/-754	(X)	(X)
With cash public assistance income	689	+/-154	3.9%	+/-0.9
Mean cash public assistance income (dollars)	3,632	+/-1,397	(X)	(X)
With Food Stamp/SNAP benefits in the past 12 months	4,545	+/-419	25.8%	+/-2.2
Families	10,803	+/-376	10,803	(X)
Less than \$10,000	996	+/-224	9.2%	+/-2.0
\$10,000 to \$14,999	786	+/-192	7.1%	+/-1.7
\$15,000 to \$24,999	1,473	+/-261	13.6%	+/-2.4
\$25,000 to \$34,999	1,452	+/-230	13.4%	+/-2.1
\$35,000 to \$49,999	1,877	+/-258	17.4%	+/-2.4
\$50,000 to \$74,999	2,082	+/-287	19.3%	+/-2.6
\$75,000 to \$99,999	1,008	+/-177	9.3%	+/-1.6
\$100,000 to \$149,999	770	+/-153	7.1%	+/-1.4
\$150,000 to \$199,999	218	+/-98	2.0%	+/-0.9
\$200,000 or more	161	+/-72	1.5%	+/-0.7
Median family income (dollars)	39,722	+/-2,810	(X)	(X)
Mean family income (dollars)	52,838	+/-3,577	(X)	(X)
Per capita income (dollars)	16,656	+/-848	(X)	(X)
Nonfamily households	6,784	+/-406	6,784	(X)
Median nonfamily income (dollars)	17,923	+/-2,049	(X)	(X)
Mean nonfamily income (dollars)	25,921	+/-2,000	(X)	(X)
Median earnings for workers (dollars)	21,376	+/-1,171	(X)	(X)
Median earnings for male full-time, year-round workers (dollars)	36,360	+/-2,459	(X)	(X)
Median earnings for female full-time, year-round workers (dollars)	28,390	+/-1,162	(X)	(X)
HEALTH INSURANCE COVERAGE				
Civilian noninstitutionalized population	(X)	(X)	(X)	(X)
With health insurance coverage	(X)	(X)	(X)	(X)
With private health insurance	(X)	(X)	(X)	(X)
With public coverage	(X)	(X)	(X)	(X)
No health insurance coverage	(X)	(X)	(X)	(X)
Civilian noninstitutionalized population under 18 years	(X)	(X)	(X)	(X)
No health insurance coverage	(X)	(X)	(X)	(X)
Civilian noninstitutionalized population 18 to 64 years	(X)	(X)	(X)	(X)
In labor force:	(X)	(X)	(X)	(X)
Employed:	(X)	(X)	(X)	(X)
With health insurance coverage	(X)	(X)	(X)	(X)
With private health insurance	(X)	(X)	(X)	(X)
With public coverage	(X)	(X)	(X)	(X)
No health insurance coverage	(X)	(X)	(X)	(X)
Unemployed:	(X)	(X)	(X)	(X)
With health insurance coverage	(X)	(X)	(X)	(X)

With private health insurance	(X)	(X)	(X)	(X)
With public coverage	(X)	(X)	(X)	(X)
No health insurance coverage	(X)	(X)	(X)	(X)
Not in labor force:	(X)	(X)	(X)	(X)
With health insurance coverage	(X)	(X)	(X)	(X)
With private health insurance	(X)	(X)	(X)	(X)
With public coverage	(X)	(X)	(X)	(X)
No health insurance coverage	(X)	(X)	(X)	(X)
PERCENTAGE OF FAMILIES AND PEOPLE WHOSE INCOME IN THE PAST 12 MONTHS IS BELOW THE POVERTY LEVEL				
All families	(X)	(X)	23.2%	+/-2.6
With related children under 18 years	(X)	(X)	35.5%	+/-4.0
With related children under 5 years only	(X)	(X)	53.1%	+/-11.1
Married couple families	(X)	(X)	9.1%	+/-2.5
With related children under 18 years	(X)	(X)	15.9%	+/-5.8
With related children under 5 years only	(X)	(X)	30.4%	+/-22.1
Families with female householder, no husband present	(X)	(X)	38.1%	+/-4.9
With related children under 18 years	(X)	(X)	45.3%	+/-5.8
With related children under 5 years only	(X)	(X)	58.6%	+/-15.2
All people	(X)	(X)	29.0%	+/-2.5
Under 18 years	(X)	(X)	40.6%	+/-5.1
Related children under 18 years	(X)	(X)	40.6%	+/-5.1
Related children under 5 years	(X)	(X)	50.5%	+/-8.8
Related children 5 to 17 years	(X)	(X)	36.6%	+/-5.5
18 years and over	(X)	(X)	24.7%	+/-2.1
18 to 64 years	(X)	(X)	26.4%	+/-2.4
65 years and over	(X)	(X)	16.7%	+/-3.0
People in families	(X)	(X)	26.4%	+/-3.2
Unrelated individuals 15 years and over	(X)	(X)	39.6%	+/-4.3

Source: U.S. Census Bureau, 2007-2011 American Community Survey

Explanation of Symbols:

An "N" entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
 An "N" entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
 An "L" following a median estimate means the median falls in the lowest interval of an open-ended distribution.
 An "U" following a median estimate means the median falls in the upper interval of an open-ended distribution.
 An "N" entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
 An "N" entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
 An "N" entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
 An "(X)" means that the estimate is not applicable or not available.

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

There were changes in the edit between 2009 and 2010 regarding Supplemental Security Income (SSI) and Social Security. The changes in the edit loosened restrictions on disability requirements for receipt of SSI resulting in an increase in the total number of SSI recipients in the American Community Survey. The changes also loosened restrictions on possible reported monthly amounts in Social Security income resulting in higher Social Security aggregate amounts. These results more closely match administrative counts compiled by the Social Security Administration.

Workers include members of the Armed Forces and civilians who were at work last week.

Industry codes are 4-digit codes and are based on the North American Industry Classification System 2007. The industry categories adhere to the guidelines issued in Clarification Memorandum No. 2, "NAICS Alternate Aggregation Structure for Use By U.S. Statistical Agencies," issued by the Office of Management and Budget.

Census occupation codes are 4-digit codes and are based on the Standard Occupational Classification (SOC). The Census occupation codes for 2010 and later years are based on the 2010 revision of the SOC. To allow for the creation of 2007-2011 and 2009-2011 tables, occupation data in the multiyear files (2007-2011 and 2009-2011) were recoded to 2011 Census occupation codes. We recommend using caution when comparing data coded using 2011 Census occupation codes with data coded using Census occupation codes prior to 2010. For more information on the Census occupation code changes, please visit our website at <http://www.census.gov/hhes/www/loindex/>.

While the 2007-2011 American Community Survey (ACS) data generally reflect the December 2009 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2000 data. Boundaries for urban areas have not been updated since Census 2000. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Appendix C

Panamerican Cultural Resources Report

PCI REPORT NO. 32235



PANAMERICAN CONSULTANTS, INC.

**CULTURAL RESOURCES
LITERATURE AND RECORDS SEARCH FOR THE PROPOSED
NEW 16.5-MILE, 230-KV TRANSMISSION LINE
FROM WOODWARD TO WHITE BLUFF,
JEFFERSON COUNTY, ARKANSAS
(ENTERGY RFP 32321)**

PREPARED FOR:

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NOVEMBER 2012

**THIS REPORT CONTAINS SITE-SENSITIVE INFORMATION AND IS NOT
INTENDED FOR PUBLIC DISTRIBUTION**

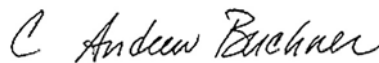
**CULTURAL RESOURCES
LITERATURE AND RECORDS SEARCH FOR THE PROPOSED
NEW 16.5-MILE, 230-KV TRANSMISSION LINE
FROM WOODWARD TO WHITE BLUFF,
JEFFERSON COUNTY, ARKANSAS

(ENTERGY RFP 32321)**

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Principal Investigator**

NOVEMBER 2012

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INTRODUCTION

At the request of GBM^c & Associates, Panamerican Consultants, Inc. (Panamerican) conducted a cultural resources literature and records search (a.k.a., a “desktop” study) for the proposed Entergy transmission line options located northwest of Pine Bluff, Arkansas. The goal of a “desktop” study is to identify all known cultural resources within the study area and develop a sense of what unknown/unrecorded cultural resources can be expected to exist within the study area.

A desktop study includes conducting standard Phase I cultural resources background research and the preparation of a context statement. No fieldwork was conducted. The information provided in the context statement is intended to assist project managers in planning the proposed undertaking. In the event that a standard Phase I cultural resources field survey becomes necessary, then the information from the desktop study can be re-cycled (assuming there is not a lengthy time duration between the two studies).

STUDY AREA

The project area is located in central Jefferson County near Pine Bluff. Jefferson County is in central Arkansas, and is bounded by Pulaski and Prairie counties to the north, Arkansas and Lincoln Counties to the east, Lincoln and Cleveland counties to the south, and Grant County to the west. Pine Bluff is located in the central section of the county west of the Arkansas River. It has a population of over 50,000 people. In terms of physiography, the project area is on the Pleistocene Fluvial Terraces portion of the South Central Plains.

The desktop review area is a rough rectangle oriented north to south. It is bounded on the east by the Arkansas River, on the south by the Township 6/7 North line, on the west by the Range 11/12 West line, and on the north by multiple Section lines. This area can be found on the Pine Bluff, Pine Bluff NW, Redfield, and Whitehall, ARK 7.5-minute quadrangles.

The proposed new transmission line will be 16.5 mi. long and located somewhere in the large rectangle shown in Figure 1.

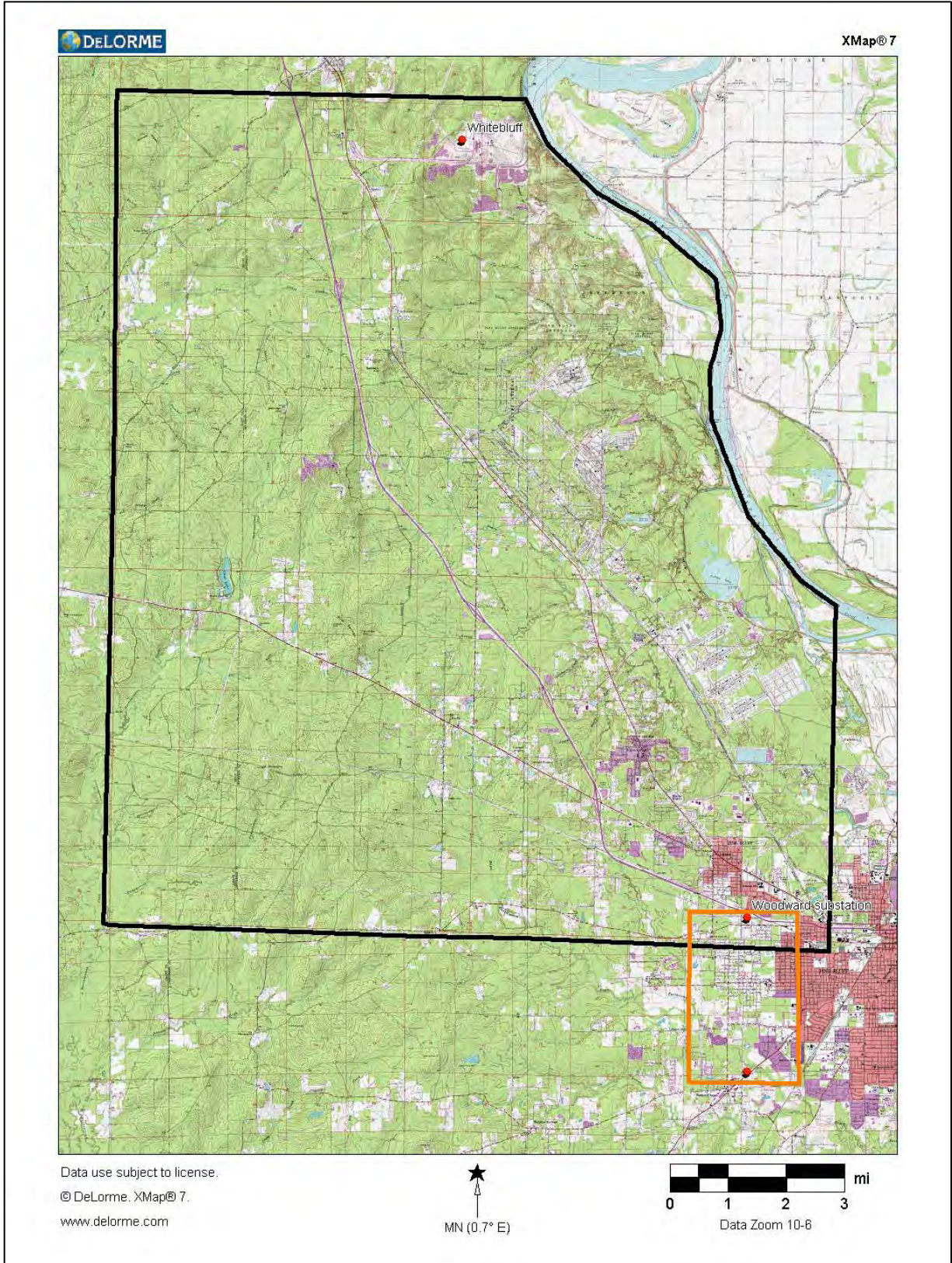


Figure 1. Quad map locator for the proposed project area (inside black outline; map provided by GBMc, Inc., includes portions of the Pine Bluff, Pine Bluff NW, Redfield, and White Bluff, ARK 7.5-min. quads; note: orange rectangle is for a different project).

ARKANSAS ARCHEOLOGICAL SURVEY SITE FILES

Ms. Leslie Walker conducted a review of the records and files at the Arkansas Archeological Survey (AAS) office in Fayetteville for this project on 9 October 2012. A standard site files check was performed, and prior archaeological work in the proposed study area was researched. The search area was limited to the area shown in Figure 1.

The site files research revealed that there are 65 previously recorded sites located within the proposed project area (Table 1). Thirty-two of these sites are recommended as not eligible for listing in the National Register of Historic Places (NRHP) and require no further archaeological management action. Thirty-two of the sites have an undetermined NRHP status, or none was given on the site form, and should be avoided until a NRHP status can be made. One site, 3JE443 (Fort Pleasant/Fort Weightman), is considered eligible for listing in the NRHP and should be avoided.

Table 1. Previously Recorded Archaeological Sites Within the Study Area.

Site	Description	[REDACTED]	Northing	Recorder/Date	NRHP Status
3GR2	Spillyard Site; Dalton period site	[REDACTED]		Robinson 19?1	not stated
3GR164	Morris Cemetery and School; mid to late Archaic, historic cemetery	[REDACTED]	3800930	Shaw, Farmer and White 2002	undetermined
3JE007	Archaic	[REDACTED]		Webb 1961	not stated
3JE008	Dalton period site	[REDACTED]		Robinson 1961	not stated
3JE025	Dalton period site	[REDACTED]		Robinson 1961	not stated
3JE039	unknown prehistoric	[REDACTED]		Robinson 1961	not stated
3JE118	unknown prehistoric	[REDACTED]		Watts 1972	not stated
3JE132	historic	[REDACTED]	3803320	Leslie 1978	not stated
3JE133	Doylestown (early 20 th century lumber village)	[REDACTED]		Farmer 1978	not stated
3JE134	unknown prehistoric	[REDACTED]		Watts 1978	not stated
3JE144	Archaic; Poverty Point	[REDACTED]		House 1978	undetermined
3JE167	historic (Euroamerican?)	[REDACTED]		1979	undetermined
3JE168	unknown prehistoric	[REDACTED]		1979	not eligible
3JE215	unknown prehistoric	[REDACTED]	3791040	Bennett 1984	not eligible
3JE216	unknown prehistoric (Archaic?)	[REDACTED]	3788000	House 1984	not eligible
3JE218	Dalton, Historic 1880-1920	[REDACTED]	3798460	House and Farmer 1983	undetermined

Site	Description		Northing	Recorder/Date	NRHP Status
3JE260	Archaic		3794880	Farmer 1988	undetermined
3JE261	Archaic		3794940	Farmer 1988	undetermined
3JE262	unknown historic		3810160	Northrip 1987	not stated
3JE264	Archaic?		3807000	Guendling and Kerr 1988	undetermined
3JE265	prehistoric isolated find		3803820	Guendling and Kerr 1988	not eligible
3JE272	prehistoric isolated find		3792240	Farmer 1988	not stated
3JE283	20 th century historic		3797290	AAI 1990	not eligible
3JE284	unknown historic		3976490	AAI 1990	not eligible
3JE285	Woodland		3803840	AAI 1990	undetermined
3JE286	unknown prehistoric and historic		3803350	AAI 1990	not eligible
3JE287	historic		3801480	AAI 1990	not eligible
3JE288	unknown prehistoric		3799910	AAI 1990	not eligible
3JE289	unknown historic		3799840	AAI 1990	not eligible
3JE290	Woodland		3800520	AAI 1990	undetermined
3JE291	unknown historic		3800320	AAI 1990	not eligible
3JE292	unknown historic		3799360	AAI 1990	not eligible
3JE293	unknown historic		3799310	AAI 1990	not eligible
3JE294	20 th century historic		3799360	AAI 1990	not eligible
3JE295	20 th century historic		3799320	AAI 1990	not eligible
3JE296	unknown prehistoric		3798700	AAI 1990	not eligible
3JE297	unknown prehistoric		3798140	AAI 1990	not eligible
3JE298	unknown prehistoric		3800470	AAI 1990	not eligible
3JE299	historic		3800910	AAI 1990	not eligible
3JE300	historic		3798270	AAI 1990	not eligible
3JE301	historic		3799830	AAI 1990	not eligible
3JE302	historic		3795970	AAI 1990	not eligible
3JE303	historic		3793150	AAI 1990	not eligible
3JE304	historic		3793070	AAI 1990	not eligible
3JE305	historic		3793120	AAI 1990	not eligible
3JE306	historic		3793310	AAI 1990	not eligible
3JE307	historic		3793110	AAI 1990; House et al. 2000	undetermined
3JE308	historic		3793180	AAI 1990	not eligible
3JE309	historic		3792720	AAI 1990	not eligible
3JE310	historic		3793030	AAI 1990; House et al. 2000	undetermined
3JE311	historic		3793110	AAI 1990	not eligible

Site	Description		Northing	Recorder/Date	NRHP Status
3JE341	historic		3793540	Hoffman and Wick 1992	not eligible
3JE365	Haywood College (early African-American college)		3791380	Farmer 1994	not stated
3JE381	unknown prehistoric		3804560	Spears 2000	not eligible
3JE443	Fort Pleasant/Fort Weightman (Civil War defensive fortification)		3795944	Early 2002	eligible
3JE444	Hardin Cemetery (early 20 th century)		3791320	Early 2003	undetermined
3JE447	Pharisee Wesley Cemetery (mid 20 th century)		3791660	House 2004	undetermined
3JE461	Early Archaic		3791455	Shaw 2006	undetermined
3JE462	White Bluff fortification (Civil War era)		3809120	Imhoff 2006	undetermined
3JE463	White Bluff Camp site (Civil War era)		3808080	Imhoff 2006	undetermined
3JE464	White Bluff Infantry Camp site (Civil War era)		3808120	Imhoff 2006	undetermined
3JE465	White Bluff Camp site dump (Civil War era)		3807920	Imhoff 2006	undetermined
3JE466	Heutt Cemetery (late 19 th /late 20 th century)		3788800	Farmer 2007	not stated
3JE467	Lovell Cemetery (early 20 th century)		3798680	Farmer 2007	not stated
3JE479	Plainview Housing Complex (WWII era)		3796284	DeMaris 2009	not eligible

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

Review of Automated Management of Archeological Site Data in Arkansas (AMASDA) files resulted in the identification of five prior studies in the project area. These studies are summarized below (Table 2). These reports can be found in the *References Cited* section at the end of this report.

Table 2. AMASDA Projects Within the Study Area.

AMASDA #	Author(s) and Publication Date	Findings
141	Dinnel and Trubowitz 1979	Three historic sites recommended for further work; one prehistoric isolated find recommended not eligible
829	Bennett and Stewart-Abernathy 1982	No cultural resources identified
946	Price 1983	Six previously recorded sites revisited, five new sites recorded;
985	Bennett n.d.	One new site identified and recorded; recommended not eligible
1102	Miller 1985	14 previously recorded sites revisited, 18 new sites recorded, 12 probability areas investigated

AMASDA #	Author(s) and Publication Date	Findings
1167	Zahn 1986	Three sites identified and recorded, all recommended not eligible
1237	Miller 1987	26 sites were identified and recorded, eight within the impact zone; seven recommended as not eligible, one recommended for additional work
1281	Hinkle 1987	No new sites identified; one previously recorded site recommended not eligible.
1313	Bennett et al. 1989	Predictive model for the area, no sites recorded
1702	Bennett et al. 1993	46 sites identified; seven recommended for additional work, 39 recommended not eligible
2090	Hoffman and Waddell 1992	One previously recorded site revisited and two newly identified sites recorded; two were determined to be outside project area, third not eligible
2616	Barnes 1993	No cultural resources identified
2759	Hoffman and Waddell 1993	No cultural resources identified
2794	Dunn 1988b	No cultural resources identified
2795	Dunn 1988a	No cultural resources identified
3925	McAlexander 1994c	No cultural resources identified
3929	McAlexander 1994b	No cultural resources identified
3931	McAlexander 1994a	No cultural resources identified
4262	Spears and Johnson 2000	Nine previously recorded sites revisited, and five newly identified sites recorded; two sites recommended potentially eligible
4263	House et al. 2001	Phase II testing of seven sites: three recommended eligible, three recommended not eligible, one undetermined
4931	Klinger 2003	Literature and records search; no sites recorded in project area
5634	Klinger et al. 2001	No sites identified
5839	Klinger 2008	No sites identified
5858	Sharpe 2009	One historic (1940s) site identified, not eligible

ARKANSAS HISTORIC PRESERVATION PROGRAM STRUCTURE FILES

F. Preston Buchner, Esq. conducted a review of the records and files at the Arkansas Historic Preservation Program (AHPP) office in Little Rock for this project on 9 October 2012. This research revealed that there are 13 previously recorded properties within the project boundaries (Table 3). Many of these are related to railroads and are former rail cars. Six of the properties are listed in the NRHP (shown in italics).

Table 3. AHPP Listed Properties Within the Study Area.

AHPP #	Date Listed	Property Name
<i>JE0189</i>	<i>8/5/2005</i>	<i>Railway Coach #661</i>
JE0219	10/30/2008	Arkansas Lime Company Car
<i>JE0283</i>	<i>11/19/1987</i>	<i>Dollarway Road</i>
JE0347	8/5/2005	Locomotive #303
JE0349	4/24/2006	Caboose #2214
JE0360	4/24/2006	Locomotive #513
JE0374	8/26/2004	Iron Mountain Depot
<i>JE0549</i>	<i>7/8/1994</i>	<i>Bellingrath House</i>
JE0562	5/10/2000	Mammoth Orange Café
JE0573	6/6/2002	Fort Pleasant

AHPP #	Date Listed	Property Name
JE0574	1/9/2003	St Louis Southwestern #819
JE0575	1/9/2003	St Louis Southwestern Engine #336
JE0673	6/7/2005	Lone Star Baptist Church
JE0676	7/13/2005	Caboose #2325
JE0677	7/13/2005	Milwaukee Railroad Locomotive #985
JE0686	4/24/2006	Wabash Alloys Locomotive
JE0690	4/24/2006	Us Army Snow Plow #Sn-87
JE0908	8/8/2007	#2 Complex
JE0912	7/23/2009	Taylor Field
JE0927	4/29/1992	Bridge #M2572

NATIONAL REGISTER OF HISTORIC PLACES LISTINGS

As of this writing, there are 70 NRHP-listed properties in Jefferson County (National Register of Historic Places 2012; Table 4). By property type, they include 49 buildings or structures, two historic districts, two cemeteries, nine railroad related properties, three roads, two monuments, one field, and one sign. There are no listed archaeological sites within the county.

Table 4. NRHP Listed Properties in Jefferson County, Arkansas.

NRHP Reference No.	Property Name	Location
78000596	Elms, The	Altheimer
75000394	Lake Dick	Altheimer
78000597	Roselawn	Altheimer
82000846	Gracie House	New Gascony
01000480	Arkansas Louisiana Gas Company Building	Pine Bluff
79000442	Boone-Murphy House	Pine Bluff
04001493	Brown, Floyd B., House	Pine Bluff
82000843	Caldwell Hall	Pine Bluff
07000442	Central Texas Gravel Locomotive #210	Pine Bluff
04000507	Community Theatre	Pine Bluff
77000258	Dilley House	Pine Bluff
07000441	DODX Guard Car #G-56	Pine Bluff
74000478	Du Bocage	Pine Bluff
78000598	Ferguson House	Pine Bluff
82000845	Fox House	Pine Bluff
91000694	Gibson--Burnham House	Pine Bluff
79000443	Hotel Pines	Pine Bluff
82000847	Howson House	Pine Bluff
82000848	Hudson House	Pine Bluff
71000126	Hudson-Grace-Borreson House	Pine Bluff
82000849	Johnson House	Pine Bluff
82000850	Katzenstein House	Pine Bluff
75000395	Knox, R. M., House	Pine Bluff
82002118	Lee, R. E., House	Pine Bluff
76000422	MacMillan-Dilley House	Pine Bluff
78000599	Masonic Temple	Pine Bluff
06000411	McDonald's Store #433 Sign	Pine Bluff
78000600	Merchants and Planters Bank Building	Pine Bluff
98000584	Mills House	Pine Bluff
01000112	National Guard Armory--Pine Bluff	Pine Bluff

NRHP Reference No.	Property Name	Location
93001201	Nichol House	Pine Bluff
98000622	O'Bryant, W.E., Bell Tower	Pine Bluff
03000947	Parker Sr., Dr. John Walter, House	Pine Bluff
89000335	Parkview Apartments	Pine Bluff
05000496	Pine Bluff Civic Center	Pine Bluff
08000438	Pine Bluff Commercial Historic District	Pine Bluff
96000464	Pine Bluff Confederate Monument	Pine Bluff
80000777	Pine Bluff Fifth Avenue Historic District	Pine Bluff
86000720	Prigmore House	Pine Bluff
82000851	Puddephatt House	Pine Bluff
76000423	Roth-Rosenzweig House	Pine Bluff
95000348	Saenger Theater	Pine Bluff
86002276	Sorrells, Walter B., Cottage	Pine Bluff
06000413	St. Louis San Francisco (Frisco) Railway Coach #661	Pine Bluff
06000074	St. Louis Southwestern Railway (Cotton Belt Route) Caboose #2325	Pine Bluff
07000471	St. Louis Southwestern Railway (Cotton Belt Route) Relief Train	Pine Bluff
06001276	St. Louis Southwestern Railway (Cotton Belt Route) Steam Locomotive #336	Pine Bluff
03000401	St. Louis Southwestern Railway Steam Locomotive #819	Pine Bluff
00001265	Strengthen the Arm of Liberty Monument--Pine Bluff	Pine Bluff
09001250	Taylor Field	Pine Bluff
82000840	Temple House	Pine Bluff
74000479	Trinity Episcopal Church	Pine Bluff
79000444	Trulock-Cook House	Pine Bluff
78003199	Trulock-Gould-Mullis House	Pine Bluff
78000601	Union Station	Pine Bluff
06001273	United States Army Snow Plow #SN-87	Pine Bluff
07000444	Wabash Alloys Locomotive	Pine Bluff
05001073	Watson, John Brown, Memorial Library Building	Pine Bluff
78000602	Yauch-Ragar House	Pine Bluff
75000396	Plum Bayou Homesteads	Pine Bluff
98000617	St. Peter's Cemetery	Pine Bluff
05001076	Lone Star Baptist Church	Redfield
74000480	Dollarway Road	Redfield
99000822	Dollarway Road (Boundary Increase)	Redfield
95000609	West James Street Overpass	Redfield
02000487	Sherrill Methodist Episcopal Church, South	Sherrill
04001512	Camp White Sulphur Springs Confederate Cemetery	Sulphur Springs
05000538	Tucker School	Tucker
02001073	Wabaseka Methodist Episcopal Church, South	Wabaseka
94001410	Bellingrath House	White Hall

NATIONAL ARCHAEOLOGICAL DATABASE

The National Archeological Database (NADB) is a bibliographic inventory of over 350,000 reports on archeological investigation and planning, mostly of limited circulation (i.e., “gray literature;” National Archeological Database 2012). NADB was last updated in August 2004. We searched NADB for Jefferson County, Arkansas literature. The Jefferson County query resulted in 39 “hits” and several of these have to do with earlier transmission line projects (Table 5).

Table 5. NADB Reports for Jefferson County, Arkansas.

Author(s)	Date	Title
Bennett, W. J., Jr.	1993	<i>Humanly Altered Landscape: the Archeological Records at the Pine Bluff Arsenal, Jefferson County, Arkansas.</i> AAI Report (142). Archeological Assessments, Inc., Nashville, AR 71852.
Campbell, L. Janice	1981	<i>Archeological Investigations at Flat Bayou Watershed, Jefferson County, Arkansas.</i> New World Research, Inc., Pollock, LA. Submitted to National Park Service, Southeast Region, Atlanta.
Chowning, Robert	1982	Some Memories of Collecting Indian Relics With Frank E. Chowning. <i>Arkansas Archeological Society Field Notes</i> 185:36.
Dieste, Tony and Lorraine Heartfield	1985	<i>Archeological Overview and Management Plan for the Pine Bluff Arsenal, Jefferson County, Arkansas.</i> Woodward Clyde Consultants & Heartfield, Price & Greene, Inc. Submitted to U.S. Army Materiel Development and Readiness Command.
Dinnel, Katherine and Neal L. Trubowitz	1979	<i>Archeological Reconnaissance On a Proposed 500 Kilovolt Transmission Line from the White Bluff Power Station To the West Bank of the Arkansas River, Jefferson County, Arkansas (White Bluff To Keo, Phase III, Part I).</i> Arkansas Archeological Survey, Fayetteville. Submitted to Arkansas Power and Light Co., Little Rock.
Floyd, Dale E. and David W. Lowe	1993	<i>Civil War Sites Advisory Commission Report on the Nation's Civil War Battlefields Technical Volume II: Battle Summaries.</i> Civil War Sites Advisory Commission, National Park Service. Submitted to U.S. Senate, U.S. House of Representatives, Sec'y Interior.
Ford, James A.	1961	<i>Menard Site: the Quapaw Village of Osotouy On the Arkansas River.</i> American Museum of Natural History, Anthropological Papers 2(48). unknown, New York.
Gill, Hiram V., Fred C. Larance, and Thomas W. Fortner	1980	<i>Soil Survey of Jefferson and Lincoln Counties, Arkansas.</i> United States Department of Agriculture, Washington, DC.
Heartfield, Lorraine and Tony Dieste	1985	<i>Archeological Overview and Management Plan for the Pine Bluff Arsenal, Jefferson County, Arkansas.</i> Woodward Clyde Consultants, Walnut Creek, CA. Submitted to National Park Service, Southeast Region.
Heartfield, Price & Greene, Inc. and Others	1982	<i>Cultural Resources Survey of the Regional Wastewater Transmission and Treatment Facility for the City of Pine Bluff, Arkansas.</i> Heartfield, Price and Greene, Inc., Monroe, LA. Submitted to City of Pine Bluff.
House, John H.	1983	<i>Noble Lake: Quapaw Phase Occupation in the Arkansas River Lowland, Eastern Arkansas.</i> Paper presented at Southeastern Archeological Conference, Columbia, SC, 1983.
House, John H.	1985	<i>Noble Lake: a Quapaw Phase Archeological Site in Jefferson County, Arkansas.</i> Paper presented at The Quapaw: A Living Tradition Conference, Pine Bluff, 1985.
Hrdlicka, Ales	1908	Report On a Collection of Crania from Arkansas. <i>Journal of The Academy of Natural Sciences of Philadelphia</i> 13:558-563.

Author(s)	Date	Title
Hrdlicka, Ales	1909	Report On an Additional Collection of Skeletal Remains from Arkansas and Louisiana. <i>Journal of The Academy of Natural Sciences of Philadelphia</i> 14:173-249.
Jeter, Marvin D., Jerome C. Rose, G. Ishmael Williams, Jr., and Anna M. Harmon	1989	<i>Archeology and Bioarcheology of the Lower Mississippi Valley and Trans-Mississippi South in Arkansas and Louisiana</i> . Research Series (37). Arkansas Archeological Survey, Fayetteville, AR.
Jones, Robert D. and Frank Rackerby	1981	<i>Report On a Cultural Resources Survey of the Pine Bluff Harbor Extension, Jefferson County, Arkansas</i> . Arkansas Archeological Survey, Fayetteville. Submitted to U.S. Army Corps of Engineers, Vicksburg District.
Jones, V. Stephen	1997	<i>Mechanical Stripping of Jane Oliver Cemetery, University of Arkansas at Pine Bluff, Jefferson County, Arkansas</i> . Office of Archaeological Services, Univ of Alabama Museums. Submitted to Nelson Architectural Group, Pine Bluff, AR.
Jones, V. Stephen and James C. Wilkins	1997	<i>Ground Penetrating Radar Survey of Jane Oliver Cemetery, University of Arkansas at Pine Bluff, Jefferson County, Arkansas, A</i> . Office of Archaeological Services, Univ of Alabama Museums. Submitted to Nelson Architectural Group, Pine Bluff, AR.
Journey, David H.	1977.	<i>Archeological Site Potential Along Proposed Corridors of the Pine Bluff Railroad Relocation Project, Pine Bluff, Arkansas</i> . Arkansas Archeological Survey, Fayetteville. Submitted to Harland Bartholomew and Associates
Journey, David H.	1979	<i>Archeological Survey of the Proposed Pine Bluff Railroad Relocation Transect</i> . Arkansas Archeological Survey, Fayetteville. Submitted to Harland Bartholomew and Associates, Memphis.
Lafferty, Robert H. III	1980	<i>Archeological Survey of the Proposed Wastewater Treatment Facilities and Collection Lines for the City of Wabaseka, Jefferson County, Arkansas</i> . Arkansas Archeological Survey, Fayetteville. Submitted to City of Wabaseka.
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SUMMARY

At the request of GBM^c & Associates, Panamerican conducted a cultural resources literature and records search (a.k.a., a “desktop” study) for the proposed transmission line options located in Jefferson County northwest of Pine Bluff, Arkansas.

The site files research revealed that there are 65 previously recorded sites located within the proposed project area (see Table 1). Thirty-two of these sites are recommended as not eligible for listing in the NRHP and require no further archaeological management action. Thirty-two of the sites have an undetermined status, or none was given on the site form, and should be avoided until a NRHP status can be made. One site, 3JE443 (Fort Pleasant/Fort Weightman), is considered eligible for listing in the NRHP and should be avoided.

There are 11 historic properties listed in the AHPP files within the project boundaries, six of which are listed in the NRHP.

RECOMMENDATION

Due to the presence of an eligible site and unassessed sites within the project vicinity, the transmission corridor should be subjected to an intensive cultural resources survey that conforms to the Arkansas State Historic Preservation Officer’s guidelines for survey level investigations found in Appendix B of the *Arkansas State Plan*, “Guidelines for Cultural Resources Fieldwork and Report Writing in Arkansas” (Arkansas Archeological Survey 2010).

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Appendix D

Agency Correspondence



July 23, 2013

Casey Cox
Arkansas Field Office
110 South Amity Road
Suite 300
Conway, AR 72032

Re: Endangered Species Clearance – Pine Bluff Voltage Support Phase 2
Transmission Line Right of Way
GBM^c No. 2044-12-311

Dear Mr. Cox:

In order to comply with Section 7 of the Endangered Species Act (ESA), we are requesting Endangered Species Clearance from your office on behalf of Entergy, Arkansas Incorporated. This project is for the construction of the proposed Pine Bluff Voltage Support Phase 2 transmission line in Pine Bluff, Jefferson County, Arkansas. Attached to this letter is a topographic map and aerial photograph of the site with the two proposed transmission line corridors identified (Corridors A and B) and the project boundary is noted with a yellow line. The transmission line will run north to south in the White Hall Quadrangle. Land clearing is anticipated to create a right-of-way to a width of 120 feet wide.

The geographical coordinates for the north terminus (Whitebluff Substation) of both Corridors A and B are N34.42585° Latitude, and W92.14431° Longitude. The geographical coordinates for the south terminus (Woodward Substation) of both Corridors A and B are N34.23255° Latitude, and W92.05750° Longitude.

The USFWS lists the bald eagle (*Haliaeetus leucocephalus*), the interior least tern (*Sterna antillarum athalassos*), the Florida panther (*Felis concolor coryi*), the Pink Mucket (*Lampsilis abrupt*), the Rabbitsfoot (*Quadrula cylindrica cylindrica*), and the Winged Mapleleaf (*Quadrula fragosa*) as endangered species located in Jefferson County, Arkansas. The urban and suburban location of the transmission line is not generally considered favorable habitat for these species. The bald eagle prefers forested areas with large canopy trees near open water. While the Arkansas River and Lake Saracen (Lake Pine Bluff) are nearby, the project area has mostly stands of pines that are frequently logged by timber companies. Likewise, the Florida panther prefers forested areas away from populated areas. The interior least tern prefers sparsely vegetated sandy areas near or adjacent to open waters, and the project area is located greater than a mile from the Arkansas River and Lake Saracen. The pink mucket prefers gravel and sandy substrates of large rivers and the rabbitsfoot prefers sand and gravel substrates of medium to large rivers or in gravel bottomed small to medium, swift flowing streams. Lastly, the winged mapleleaf prefers riffles with clean gravel, sand or rubble bottoms and in clear, high quality water. None of these preferred aquatic habitats occur in the project area.

The line has the potential to cross Eastwood Bayou, Caney Bayou, Bayou Bartholomew, along with numerous other perennial, intermittent and ephemeral streams that provide adequate habitat for mussel species. However the projects construction activities will not be within the

Casey Cox APSC FILED Time: 5/16/2014 1:50:27 PM: Recvd 5/16/2014 1:28:24 PM: Docket 14-043-u-Doc. 1
June 23, 2013
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waters crossed and will likely have no impact on these species. During the construction process, sediment and erosion control practices will be implemented to prevent/minimize sediment transport off site or to any waters.

In addition to the location maps, we have attached the Endangered and Threatened Species Evaluation Form. The form has been filled out and to the best of our knowledge it is accurate.

If you have questions or need additional information please contact me or Greg Phillips at (501) 847-7077. Thank you for your assistance in this matter.

Sincerely,
GBM^c & ASSOCIATES



Kevin Butzlaff
Environmental Scientist

Enclosures



Endangered and Threatened Species Evaluation Form

Note: This form is not to be used for any Oil and/or Gas extraction or pipeline projects

The enclosed endangered and threatened species evaluation form may be used to obtain clearance, in most instances, from the U.S. Fish and Wildlife Service when applying for a NPDES or SWPPP permit from the Arkansas Department of Environmental Quality (ADEQ). Incomplete packages may delay evaluation of the proposed project and ultimately the issuance of your ADEQ permit.

Return the completed form and following information to:

U. S. Fish and Wildlife Service
Arkansas Field Office
110 South Amity Road, Suite 300
Conway, Arkansas 72032

Forms will not be accepted unless they include the following information:

1. A letter detailing the proposed project, a project name, the county in which the project occurs, the estimated disturbance area, geographic coordinates of the project location.
2. High quality detailed maps (preferably a USGS quadrangle map and aerial photo) that contain an outline/polygon of the proposed project area.
3. Contact information. Please include name, mailing address, e-mail and phone number.

If there is a question that you cannot answer on this evaluation form or a concurrence letter is required from the U.S. Fish and Wildlife Service, send the above information to the U.S. Fish and Wildlife Service's Arkansas Field Office, via Fax, mail, e-mail, or phone call. (Fax number (501) 513-4480, e-mail address FW4ESConway@fws.gov, phone number (501) 513-4470).

Include the completed form in your request for an ADEQ storm water or NPDES permit.

Endangered and threatened species consultation requests are processed in the order they are received. Response to endangered species consultation requests that require more detailed biologist evaluation may take as long as 30 days after they were received by this

office. If you have any questions or concerns please call (501) 513-4470.

U. S. Fish and Wildlife Service comments and recommendations are provided in accordance with the Endangered Species Act (87 Stat. 84, as amended: 16 U.S.C. 1531 et seq.), Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712), and Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d).

INSTRUCTIONS

Evaluate individual project sites for federally listed threatened or endangered species using the step process presented below.

STEP 1

Does your project occur within 660 feet of a bald eagle nest?

- Yes See instructions below.
No All other projects proceed to Step 2, unless your project occurs in the following counties then proceed to Step 9.

- | | |
|-----------|--------------------------|
| Cleveland | <input type="checkbox"/> |
| Greene | <input type="checkbox"/> |
| Lincoln | <input type="checkbox"/> |
| Lonoke | <input type="checkbox"/> |
| Nevada | <input type="checkbox"/> |

Projects occurring within 660 feet of a bald eagle nest, including alternate nests, are likely to disturb nesting bald eagles (a potential violation of the Bald and Golden Eagle Protection Act). Proceed to the U. S. Fish and Wildlife Service website (<http://www.fws.gov/southeast/es/baldeagle>) to determine if the new or intermittent activity is likely to disturb nesting bald eagles and measures that you can take to avoid that disturbance. **Print three copies of the bald eagle signature (Determination) page and submit one with your ADEQ permit application package, submit one copy to the U.S. Fish and Wildlife Service at 110 South Amity Road Suite 300, Conway, AR, and keep one copy for your records.**

Once the above is completed, projects occurring in Cleveland, Greene, Lincoln, Lonoke, or Nevada counties proceed directly to Step 10, all others proceed to Step 2.

STEP 2

Does your project occur within one of the following counties AND contain pine stands 40 years or older?

Yes **See instructions below.**

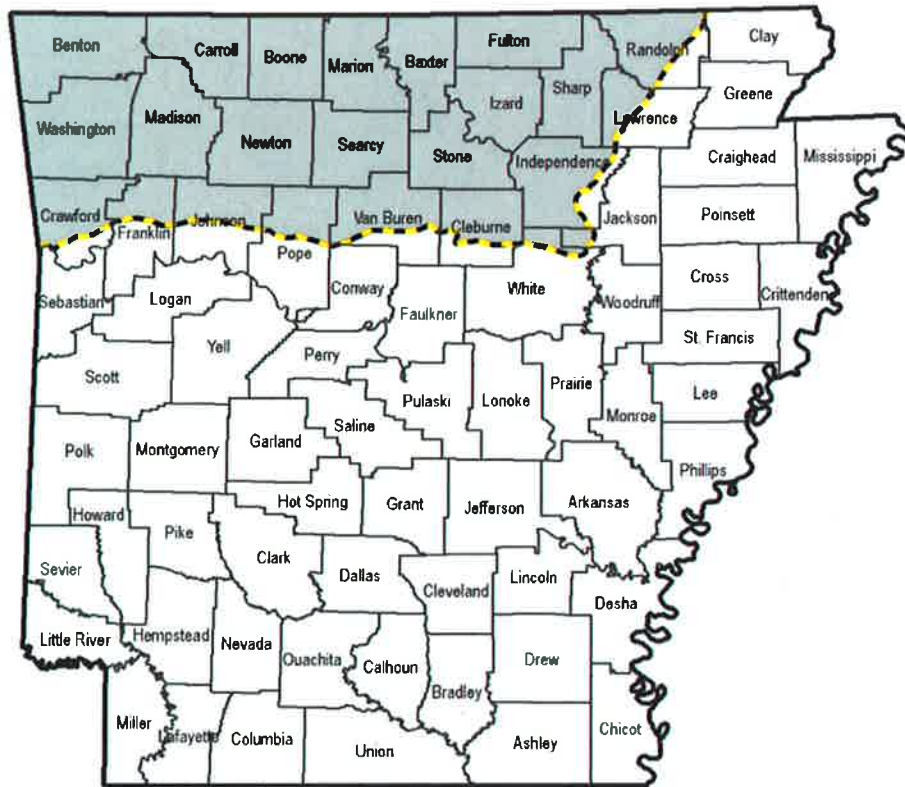
No **Proceed to Step 3.**

- | | | | |
|----------|--------------------------|-----------|--------------------------|
| Ashley | <input type="checkbox"/> | Grant | <input type="checkbox"/> |
| Bradley | <input type="checkbox"/> | Lafayette | <input type="checkbox"/> |
| Calhoun | <input type="checkbox"/> | Monroe | <input type="checkbox"/> |
| Clark | <input type="checkbox"/> | Polk | <input type="checkbox"/> |
| Columbia | <input type="checkbox"/> | Scott | <input type="checkbox"/> |
| Dallas | <input type="checkbox"/> | Union | <input type="checkbox"/> |
| Drew | <input type="checkbox"/> | | |

If you answered "Yes" to Step 3, refer to the U. S. Fish and Wildlife Service Private Lands Guidelines (http://www.fws.gov/rcwrecovery/private_lands_guidelines.pdf) for potentially harmful activities that may harass and/or harm red-cockaded woodpeckers (a violation of the Endangered Species Act). **Checking "Yes" to Step 2 requires a concurrence letter from the U. S. Fish and Wildlife Service that should accompany your ADEQ permit application package and possibly a permit from the U. S. Fish and Wildlife Service (501-513-4481).** Any and all other endangered species issues will be evaluated when your information is submitted to the U.S. Fish and Wildlife Service. Please contact the Arkansas ES Field Office, as soon as possible, to start the evaluation for endangered species that may be affected by the project.

STEP 3

Does your project occur within the delineated karst conservation zone (see map below)?



- Yes See instructions below and then proceed to Step 4.
No Proceed to Step 4.

If you answered “Yes” to Step 3, contact the US Fish and Wildlife Service (Service) Arkansas Field Office (501-513-4470) in advance of permit application as a concurrence letter from the Service may be necessary as a part of your NPDES/SWPPP application package. It may also require a Service section 10 endangered species permit. While the Service is interested in the proposed project due to its location, many areas within the karst conservation zone only require the standard recommendations below. Early contact with this office allows time to develop site specific recommendations which streamlines the permit issuance process. Any and all other endangered species issues will be evaluated when your information is submitted to the U.S. Fish and Wildlife Service.

The karst region in Arkansas is as an area with a relatively shallow soil profile where climatic events or storm water runoff quickly infiltrates and is transported through

underground passages contributing to the groundwater basin. The karst region in Arkansas supports 6 endangered species including the Ozark cavefish (*Amblyopsis rosae*), the Benton cave crayfish (*Cambarus aculabrum*), the Hell creek crayfish (*Cambarus zophonastes*), the gray bat (*Myotis grisescens*), the Indiana bat (*Myotis sodalis*), the Ozark big-eared bat (*Corynorhinus townsendii ingens*), and 19 globally imperiled karst dependent species.

If your project occurs inside the delineated karst conservation zone (map above) the Service recommends, at a minimum, the following conservation measures.

- 1) Survey for karst features including caves, springs, and sinkholes prior to initiating project activities. If such a feature is found, establish a 300 foot conservation zone around its location and contact the Service for an onsite karst evaluation.
- 2) If caves are excavated during construction activities, the Service requests that work efforts cease within 300 feet of the opening. The opening should be adequately marked, fill material should not be placed in the cave, personnel shouldn't enter the cave, and the Service should be contacted immediately for an onsite evaluation.
- 3) While sediment mobilization is the primary concern during construction; storm water runoff following project completion may contain oil/grease, sealants, tar, brake dust, herbicides, pesticides, and additional sediment. To reduce threats to surface and groundwater from these contaminants, the Service recommends the use of post construction storm water management techniques including detention basins or separation systems with a 100 foot bioswale. However, other post construction storm water management methods are available; these would be considered if documentation of successful use is provided to the Service prior to installation.
- 4) Apply and maintain construction BMP's that were developed specific for the project site.

Proceed to Step 4.

STEP 4

Does your project occur in the watershed of one the following streams (defined herein as any location within the catchment area of the following streams, including their tributaries)?

- Alum Fork Saline River
- Archey Fork Little Red River
- Bayou Dorcheat
- Beech Fork Little Red River
- Big Creek (south flowing tributary to Little Red River)
- Black River
- Buffalo Creek (Polk County)
- Buffalo River
- Caddo River
- Clabber Creek
- Cossatot River
- Current River
- Devils Fork Little Red River
- Ditches, sloughs, and bayous in the St. Francis River basin
- Eleven Point River
- Fiddler's Creek (Montgomery County)
- Fourche LaFave River (Scott County)
- Frog Bayou
- Gailey Hollow (Benton County)
- Healing Spring (Washington County)
- Illinois River
- Irons Fork Ouachita River (Montgomery and Yell counties)
- L'Anguille River
- Left Hand Chute Little River
- Little Missouri River
- Little River
- Middle Fork Little Red River
- Middle Fork Saline River
- Mississippi River (only instream activities apply)
- Mountain Fork Little River
- Muddy Creek (Montgomery County)
- Mulberry River
- Myatt Creek (Fulton County)
- North Fork Ouachita River
- North Fork Saline River

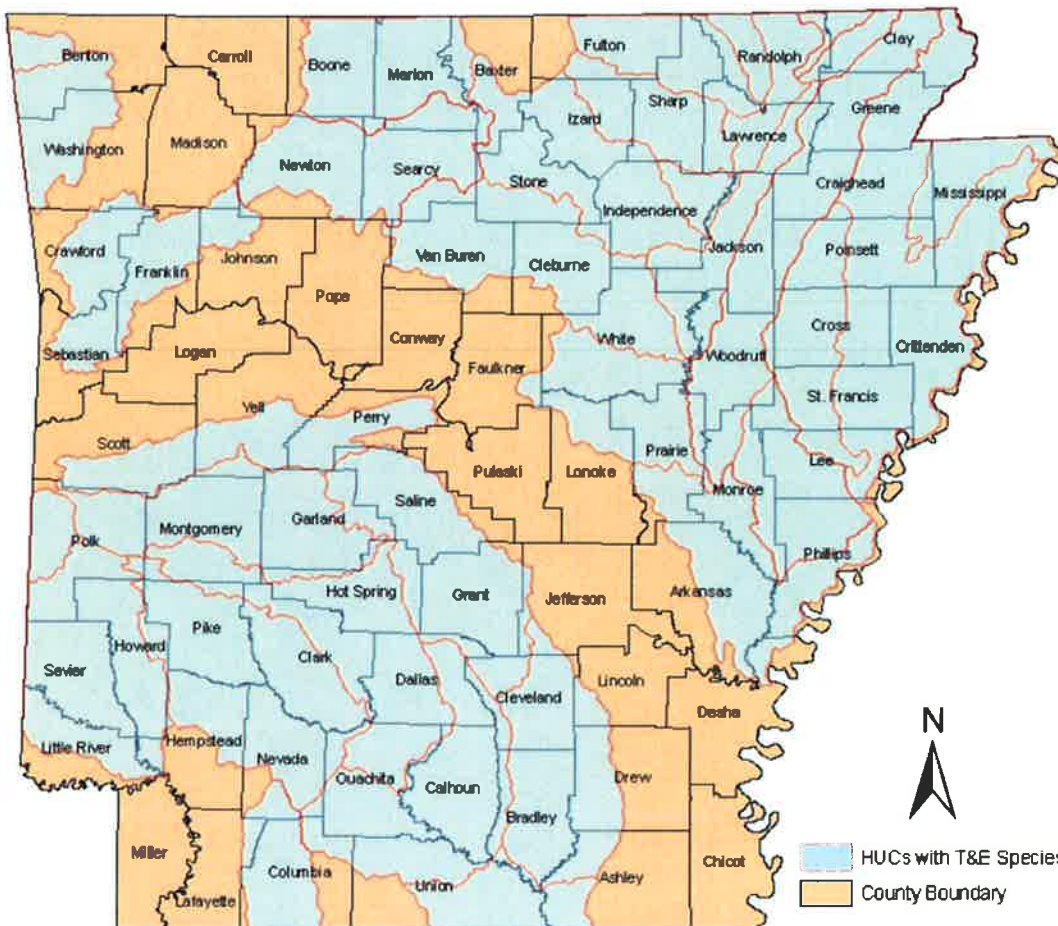
- Osage Creek and spring fed tributaries
- Ouachita River
- Palmer Hollow (Benton County)
- Poteau River
- Right Hand Chute Little River
- Robinson Creek
- Saline River (both Saline Rivers)
- Spring River
- South Fork Little Red River
- South Fork Ouachita River
- South Fork Saline River
- South Fork Spring River
- St. Francis River
- Strawberry River
- Turkey Creek (Little Red River)
- Tyronza River
- White River (downstream of Batesville)
- Wildcat Creek (Washington County)
- Wilson Spring (Washington County)

Yes See instructions below.
No Proceed to Step 5.

If you answered “Yes” to Step 4, a concurrence letter from the U. S. Fish and Wildlife Service must accompany your ADEQ permit application package. **MUSSEL SURVEYS MAY BE REQUIRED BY THE U. S. FISH AND WILDLIFE SERVICE PRIOR TO THEIR CONCURRENCE ON THE PROJECT. AT MINIMUM, YOU MUST PROPERLY INSTALL AND MAINTAIN EROSION CONTROLS MEASURES AT THE ONSET OF GROUND DISTURBING ACTIVITIES UNTIL 95% OF BARE ERODIBLE SOILS ARE REVEGETATED OR OTHERWISE DEVELOPED (i.e., impervious surfaces).** Planning ahead is strongly advised in this situation. Any and all other endangered species issues will be evaluated when your information is submitted to the U.S. Fish and Wildlife Service.

The following map shows watershed boundaries and counties for the above referenced stream.

Arkansas Watersheds with Federally Listed or Candidate Species



U.S. FISH AND WILDLIFE SERVICE
110 South Amity Road, Suite 300
Conway, Arkansas 72032
Tel: 501/513-4470 Fax: 501/513-4480

Rev. 11-20-2009

STEP 5

Does your project occur within 0.5 mile of the Arkansas River, White River, Mississippi River, or Red River?

Yes **Follow instructions below.**

No **Proceed to Step 6.**

If you answered “Yes” and are willing to implement the recommendations below, a concurrence letter from the U. S. Fish and Wildlife Service is not necessary and you can proceed to Step 6. If you are unable to implement the guidelines below, a concurrence letter from the U. S. Fish and Wildlife Service should accompany your ADEQ permit application package. Implementing the following U. S. Fish and Wildlife Service guidelines will prevent harassment and/or harm of Interior Least Tern populations.

1. The critical nesting period for the Interior Least Tern is between 15 May and 1 August. Nesting may extend beyond these dates depending on river stage elevations. If surveys reveal Interior Least Tern breeding activities within 0.5 mile of a proposed activity during this time period, no activity should proceed unless otherwise approved by the U. S. Fish and Wildlife Service (501-513-4470).
2. No activities should take place closer than 1,000 feet of the shoreline of a nesting colony location. The U. S. Fish and Wildlife Service should be contacted for further consultation if activities are to proceed within 1,000 feet of the shoreline of a nesting colony location. Limited construction outside of the active nesting season may not affect Interior Least Tern. Detailed project description, designs, and construction date information is necessary for U. S. Fish and Wildlife Service concurrence.
3. Employees and/or contractors should be instructed that under no circumstances (other than emergencies) are they permitted on a nesting island during the aforementioned time period and until after the young have fledged.
4. If, in the process of conducting work, an Interior Least Tern colony is discovered at another location in the vicinity, the above restrictions apply to that colony as well. The U. S. Fish and Wildlife Service should be contacted for consultation and to determine if further action would have any affect.
5. Further consultation with the U. S. Fish and Wildlife Service may be necessary and should be requested if any of these criteria can not be met.

Proceed to Step 6.

STEP 6

Does your project occur within Arkansas, Desha, Monroe, Phillips, Prairie, or Woodruff counties **AND** occur in one or more of the following locations?

1. The mostly contiguous forest primarily in the lower White River floodplain encompassing the U. S. Fish and Wildlife Service's Cache River and White River National Wildlife Refuges, the Arkansas Game and Fish Commission's Dagmar and Wattensaw Wildlife Management Areas, and adjacent forested private lands. The Ivory-billed Woodpecker potential range generally follows the edge of the large, contiguous forest but also includes:
 - a. Forested corridors containing potentially suitable habitat extending outward from the edge of the core contiguous forest until the width decreases to less than 0.25 mile for a distance of more than 0.25 mile, and
 - b. Forested corridors containing potentially suitable habitat along Bayou DeView and Bayou LaGrue extending upstream about ten miles from the forest core.
2. The batture lands of the Mississippi River extending from the vicinity of the mouth of the White River to about 8 – 10 miles south of the mouth of the Arkansas River in Desha County, AR.
3. The forest encompassing the AGFC Black Swamp WMA and Cache River NWR, and adjacent forested private lands.
4. The portions of the lower Arkansas River floodplain inside the levees in Desha, Lincoln, and Jefferson counties from the confluence of the Arkansas and Mississippi rivers to about 12 miles upstream of Dam 2.

Yes See instructions below.
No Proceed to Step 7.

If you check "Yes" to Step 6, a concurrence letter from the U. S. Fish and Wildlife Service should accompany your permit application package. Planning ahead is strongly advised in this situation. **The U. S. Fish and Wildlife Service may require surveys and more detailed consultation.** Any and all other endangered species issues will be evaluated when your information is submitted to the U.S. Fish and Wildlife Service.

STEP 7

Does your project occur within the area defined below in Crawford, Franklin, Johnson, Logan, Sebastian, Scott, or Yell counties and include three or more acres of ground disturbance?

- Yes See instructions below.
No Proceed to Step 8.

Projects resulting in a ground disturbance of three acres or more in areas shaded in light gray in the figure below or private in-holdings within publicly-owned properties (dark gray shaded areas) and not meeting one of the habitat characteristics listed below must complete an American Burying Beetle survey, and possibly trap and relocation if presence is detected, prior to permit issuance. The following is a description of the boundary for the ABB survey area:

Crawford County: Beginning where Interstate 40 crosses the Arkansas/Oklahoma state line, follow the state line north to the Ozark National Forest boundary west of Uniontown, Arkansas. At this point, follow the Ozark National Forest boundary east to Old 88 Road and then south Arkansas Highway 60 South to its junction with Arkansas Highway 348. Follow Arkansas Highway 348 west of Rudy, Arkansas, east to Arkansas Highway 282. Follow Arkansas Highway 282 east to U.S. Highway 71 and then north along U.S. Highway 71 to Mountainburg, Arkansas. At this point, follow the Ozark National Forest boundary south and then east to the Crawford County line. Follow the Crawford County line south and then west to Arkansas Highway 59 south of Van Buren, Arkansas. Follow Arkansas Highway 59 north to Interstate 540; follow Interstate 540 to Interstate 40. Follow Interstate 40 west to the beginning point at the Arkansas/Oklahoma state line.

Franklin County: Beginning at the Crawford and Franklin County line and the southern boundary of the Ozark National Forest west of Piney, Arkansas, follow the Ozark National Forest boundary east to the Franklin County line. All of Franklin County south of these two points is included in the ABB survey area.

Johnson County: Beginning at the Franklin and Johnson County line and southern boundary of the Ozark National Forest southwest of Oak Grove, Arkansas, follow the Ozark National Forest boundary east to the Johnson and Pope County line. All of Johnson County south of these two points is included in the ABB survey area.

Logan County: Beginning at Arkansas Highway 22, the area extends north of Arkansas Highway 22 to the Arkansas River (county line). All areas in Logan County west of Arkansas Highway 309, extending south from Paris, Arkansas to the Logan and Yell county line is included in the area.

Sebastian County: Beginning at the Arkansas/Oklahoma state line near Enterprise, Arkansas (south of Fort Smith), the area extends northeast along Arkansas Highway 45 from Enterprise to Interstate 540 North. From this point follow Interstate 540 north to Phoenix Avenue. Follow Phoenix Avenue east to Arkansas Highway 22 and then follow Arkansas Highway 22 eastward to Arkansas Highway 59 near Barling, Arkansas. Continue north along Arkansas Highway 59 to the Arkansas River. The boundary follows the Sebastian County line from this point to Arkansas Highway 96 at Mansfield,

Arkansas. Follow Arkansas Highway 96 west to the Arkansas/Oklahoma state line (west of Hartford) and then north to the beginning point near Enterprise, Arkansas.

Scott County: Beginning at the Yell and Scott County line in Scott County, follow Arkansas Highway 80 to U.S. Highway 71 Business (in Waldron, Arkansas). From this point, follow U.S. Highway 71 Business to U.S. Highway 71 north to Elm Park, Arkansas. From Elm Park, Arkansas follow Arkansas Highway 378 to the Scott and Sebastian County line. All areas north and east of these highways are included in the area.

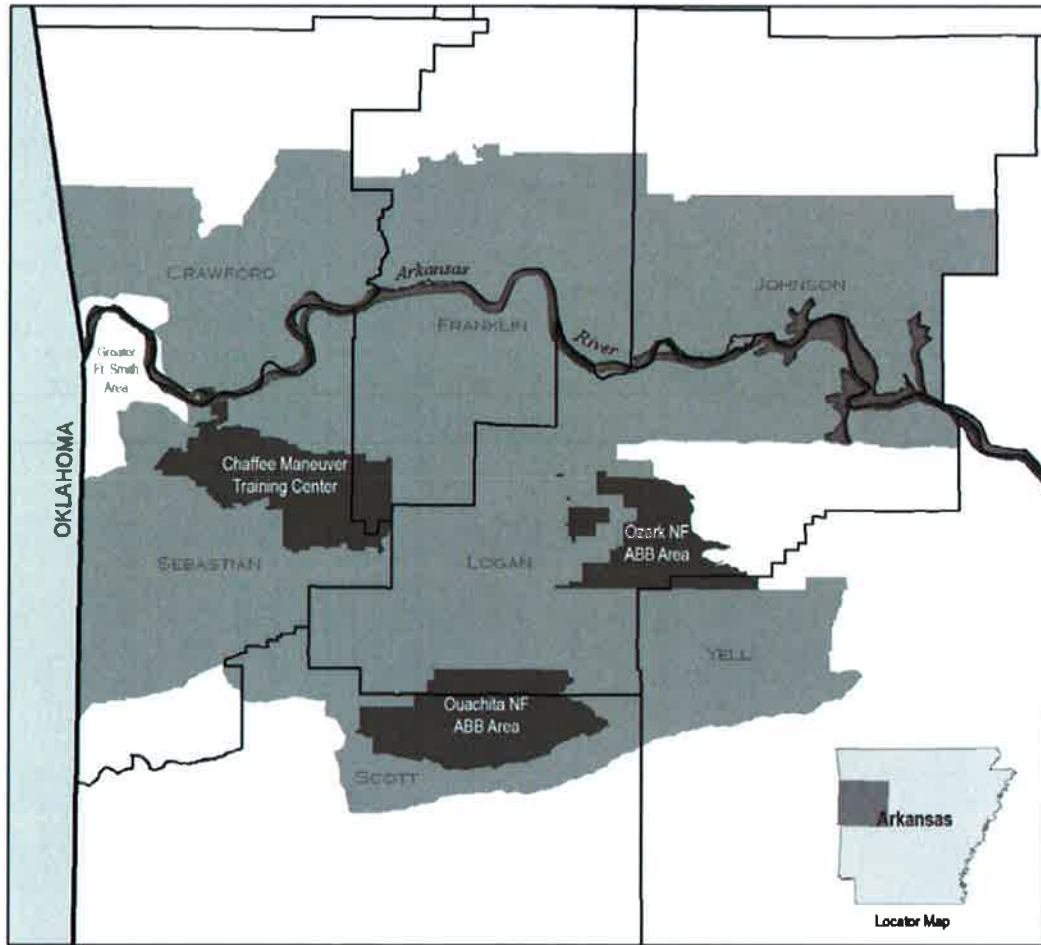
Yell County: Beginning at the Logan and Yell County line in Yell County, the area extends east from Blue Mountain, Arkansas, along the southern boundary of the Ozark National Forest to Arkansas Highway 307. The eastern boundary follows Arkansas Highway 307 south from the Ozark National Forest boundary to Bellville, Arkansas and then Yell County Road 17 to Shark, Arkansas. Arkansas Highway 80 from Shark, Arkansas to the Yell and Scott County line forms the southern boundary of the area.

Please include site photographs or other supporting information to help the Service further evaluate whether these characteristics are present. In general, but not limited to, any one of the following project characteristics exclude the need to conduct an American Burying Beetle survey:

1. Projects with less than three acres of soil disturbance.
2. Soil that is greater than 70 percent sand.
3. Soil that is greater than 70 percent clay.
4. Land where greater than 80 percent of the soil surface is comprised of rock.
5. Land where greater than 80 percent of the subsurface soil structure within the top four inches is comprised of rock.
6. Land that has already been developed and no longer exhibits topsoil or leaf litter.
7. Land that is tilled on at least an annual basis.
8. Land that meets the U.S. Army Corps of Engineers definition of wetland.
9. Pine plantations planned for mechanical treatment where stocking density is 750 or more trees per acre (little sunlight to forest floor).
10. Shortleaf pine or mixed pine-hardwood forest stands with 110 square feet per acre or greater overstory basal area and more than 700 stems per acre occupying midstory and understory positions.
11. Land that is bordered by dense urban development (when in doubt request Service concurrence).
12. Dense cedar thickets.

The Service evaluates numerous other project characteristics such as type, duration, permanency, land use, location, time/season, and habitat to determine if a survey is required. If you have questions regarding the need for a survey, please contact the U. S. Fish and Wildlife Service at 501-513-4470. **American Burying Beetle surveys can only be conducted between May 20 and September 20 and are valid for one year. Please plan ahead.** If you answered "Yes" to Step 7, a concurrence letter from the U. S.

Fish and Wildlife Service should accompany your permit application package. Any and all other endangered species issues will be evaluated when your information is submitted to the U.S. Fish and Wildlife Service.



STEP 8

Does your project occur in Ashley, Bradley, Clay, Drew, Izard, Jackson, Lawrence, Washington, or Woodruff counties **AND** are one or more of the following federally listed plants present (Virginia Sneezeweed, Missouri Bladderpod, Pondberry, Running Buffalo Clover, and/or *Geocarpon minimum*). Should one of these plants be discovered on the property during project implementation, see instructions below and contact U. S. Fish and Wildlife Service for additional technical assistance to avoid violating the prohibitions of section 9 of the Endangered Species Act.

- Yes See instructions below.
No Proceed to the Certification section.

1. Avoid use of pre-emergent herbicides in areas with federally listed species and state species of concern.
2. Avoid herbicide use at any known site inhabited by federally listed plants during the following time periods:
 - a. Virginia Sneezeweed (*Helenium virginicum*): Spring “green up” until first frost.
 - b. *Geocarpon minimum*: February through June.
 - c. Missouri Bladderpod (*Physaria (Lesquerella) filiformis*): July through September
 - d. Pondberry (*Lindera melissifolia*): Bud inhibitor agents could damage plants during December through February. Plants flower in early spring before leaves are active, avoid herbicide applications from flowering through February.
 - e. Running Buffalo Clover (*Trifolium stoloniferum*): August through February.
 - f. Harparella (*Ptilimnium nodosum*): May through October. Since this species occurs in stream channels and is typically underwater during this time, we assume it is dormant. It begins growing as stream waters recede in the spring and flowers and fruits in the summer when water in the stream channel is low.
3. Maintain native glade and sinkhole pond vegetation by minimizing or avoiding activities in this habitat type.
4. Pondberry is a wetland plant that is often found in sand pond habitats in eastern Arkansas, low sandy ridges in hardwood bottoms in the St. Francis Sunken Lands, and in the Ouachita River bottoms. BMPs directed toward minimizing runoff and erosion or introduction of contaminants into these areas should be employed.

If you answered “Yes” to Step 8 AND cannot implement the four recommendations listed above OR the project will have direct impacts on federally listed plants, contact the U. S. Fish and Wildlife Service for conservation recommendations prior to project implementation. Any and all other endangered species issues will be evaluated when your information is submitted to the U.S. Fish and Wildlife Service.

STEP 9

There are currently no federally listed threatened or endangered species present in the area of your project.

CERTIFICATION

If you are able to implement the recommendations in this checklist, disturbance of federally listed endangered and threatened species is unlikely. If you can not adopt these recommendations, we suggest that you contact the U. S. Fish and Wildlife Service's Arkansas Field Office for further assistance in determining whether your activity may disturb federally listed species.

KIS (initial) "I certify that, to the best of my knowledge and belief, all of the information on and attached to this evaluation form is correct, complete, and made in good faith."

KR (initial) "I understand that false or fraudulent information on or attached to this evaluation form may subject me to criminal or civil prosecution should the provisions of the Endangered Species Act or Bald and Golden Eagle Protection Act be violated."

KF (initial) "I understand that any information given may be verified."

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Kevin Butzlaff / Environmental Scientist
Print Name and Title

[Handwritten Signature]
Signature

7-15-13
Date

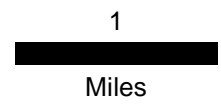
We recommend printing this evaluation, signing and dating it, submitting copies to the U.S. Fish and Wildlife Service (address listed on page 1) and the Arkansas Department of Environmental Quality, and keeping a copy for your records.

**Proposed White Bluff to Woodward
230 kV Transmission Line**
Jefferson County, Arkansas
White Hall Quadrangle

- Corridor A
- Corridor B



Topographic map showing Corridor A & B of the proposed White Bluff to Woodward 230 kV transmission line site.



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**Proposed White Bluff to Woodward
230 kV Transmission Line**
Jefferson County, Arkansas
White Hall Quadrangle

— Corridor A
— Corridor B



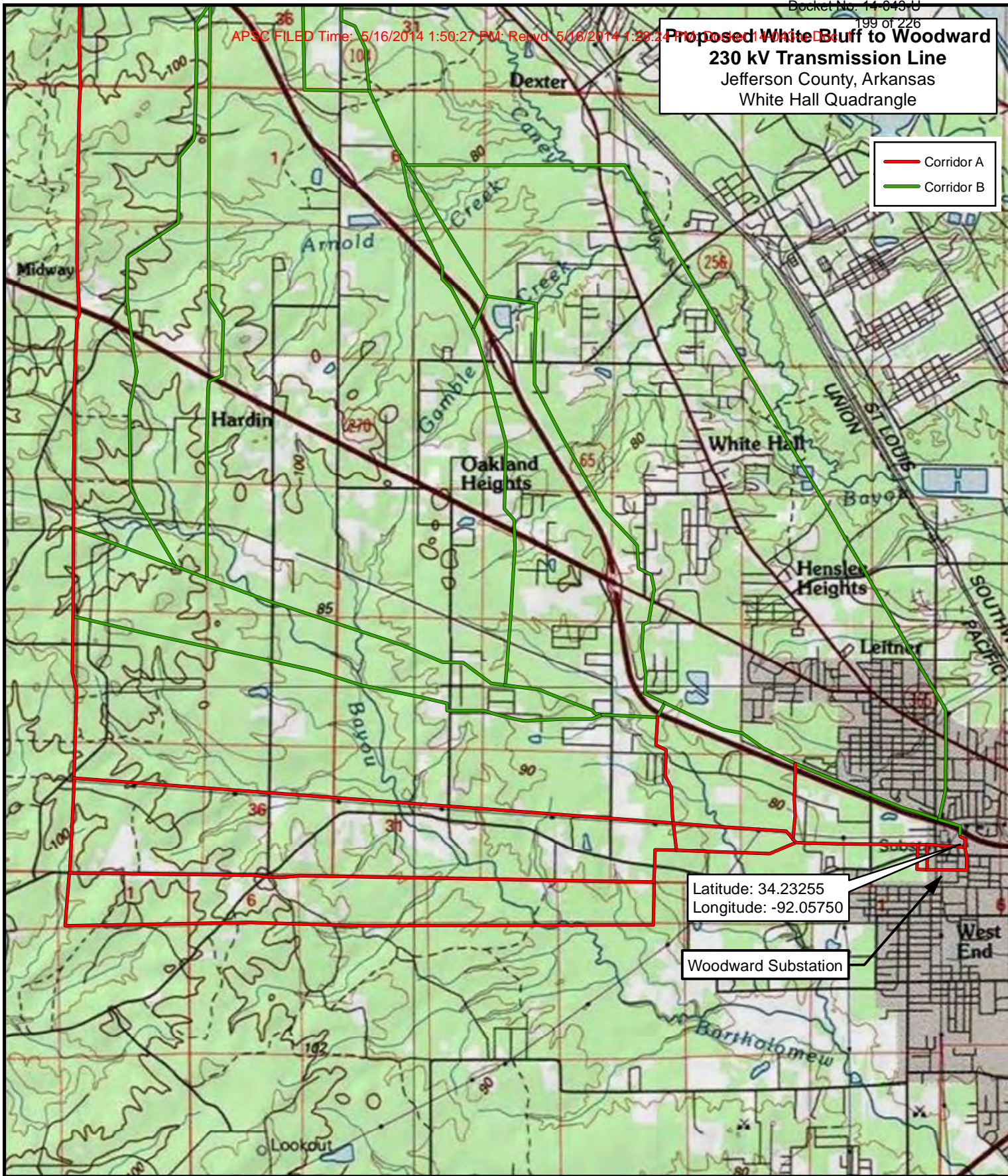
Topographic map showing Corridor A & B of the proposed White Bluff to Woodward 230 kV transmission line site.



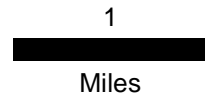
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Proposed White Bluff to Woodward 230 kV Transmission Line Jefferson County, Arkansas White Hall Quadrangle

- Corridor A
- Corridor B



Topographic map showing Corridor A & B of the proposed White Bluff to Woodward 230 kV transmission line site.



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**Proposed White Bluff to Woodward
230 kV Transmission Line**
Jefferson County, Arkansas
White Hall Quadrangle

White Bluff

Latitude: 34.42585
Longitude: -92.14431

— Corridor A
— Corridor B

Latitude: 34.23255
Longitude: -92.05750

Woodward Substation



Aerial photographic map showing Corridor A & B of the proposed White Bluff to Woodward 230 kV transmission line site.

2
Miles



IN REPLY REFER TO:



FISH AND WILDLIFE SERVICE
110 S. Amity Road, Suite 300
Conway, Arkansas 72032
Tel.: 501/513-4470 Fax: 501/513-4480

August 1, 2013

Reference: TA0715

Kevin Butzlaff
GBM^c
219 Brown Lane
Bryant, AR 72022

Dear Mr. Butzlaff:

The U.S. Fish and Wildlife Service (Service) has reviewed the information supplied in your letter dated July 23, 2013, regarding the proposed construction of an electrical transmission line near the City of Pine Bluff, Jefferson County, Arkansas. Our comments are submitted in accordance with the Endangered Species Act (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.).

The following federally listed threatened and endangered species are known to occur in this region: Florida Panther (*Felis concolor coryi*), Interior Least Tern (*Sterna Antillarum athalassos*), Pink Mucket (*Lampsilis abrupta*), Piping Plover (*Charadrius melodus*), and Winged Mapleleaf (*Quadrula fragosa*). In addition, the federally protected Bald Eagle (*Haliaeetus leucocephalus*) and proposed threatened Rabbitsfoot (*Quadrula cylindrica cylindrica*) are also known to occur in this region. The Saline River provides proposed critical habitat to the Rabbitsfoot.

The proposed designation of critical habitat for the Rabbitsfoot by the Service considers physical or biological features essential to the conservation of these species. These include, but are not limited to:

1. Space for individual and population growth and for normal behavior;
2. Food, water, air, light, minerals, or other nutritional or physiological requirements; and
3. Sites for breeding, reproduction, or rearing; and

Primary constituent elements are those specific elements of the physical or biological features that provide for a species' life history processes and are essential to the conservation of these species. Based on our current knowledge of the physical or biological features and habitat characteristics required to sustain life history processes for the Rabbitsfoot, the primary constituent elements specific to these species are:

1. Primary Constituent Element 1— Geomorphically stable river channels and banks (channels that maintain lateral dimensions, longitudinal profiles, and sinuosity patterns over time without an aggrading or degrading bed elevation) with habitats that support a

diversity of freshwater mussel and native fish (such as, stable riffles, sometimes with runs, and mid-channel island habitats that provide flow refuges consisting of gravel and sand substrates with low to moderate amounts of fine sediment and attached filamentous algae).

2. Primary Constituent Element 2— A hydrologic flow regime (the severity, frequency, duration, and seasonality of discharge over time) necessary to maintain benthic habitats where the species are found and to maintain connectivity of rivers with the floodplain, allowing the exchange of nutrients and sediment for maintenance of the mussel's and fish host's habitat, food availability, spawning habitat for native fishes, and the ability for newly transformed juveniles to settle and become established in their habitats.
3. Primary Constituent Element 3— Water and sediment quality (including, but not limited to, conductivity, hardness, turbidity, temperature, pH, ammonia, heavy metals, and chemical constituents) necessary to sustain natural physiological processes for normal behavior, growth, and viability of all life stages.
4. Primary Constituent Element 4— The presence and abundance (currently unknown) of fish hosts necessary for recruitment of the Rabbitsfoot. The occurrence of natural fish assemblages, reflected by fish species richness, relative abundance, and community composition, for each inhabited river or creek will serve as an indication of appropriate presence and abundance of fish hosts until appropriate host fish can be identified.
5. Primary Constituent Element 5— Either no competitive or predaceous invasive (nonnative) species, or such species in quantities low enough to have minimal effect on survival of freshwater mussels.

Sediment and/or nutrient transport from the proposed project location may have direct, indirect, and/or cumulative effects to mussels, host fish(es), and/or their habitat(s). The effects of sedimentation and nutrients (e.g., ammonia, etc.) on mussels, fish, and their habitats are well documented in the scientific literature. Adverse effects associated with sedimentation and nitrification from all phases of construction activities may be minimized and/or alleviated through proper implementation and maintenance of erosion control best management practices and maintaining vegetative buffers. Buffer width is dependent upon slope, vegetation type, and soil types. The Service can provide additional technical assistance on appropriate vegetative buffer widths upon request.

From the information provided, we see this project occurs in close proximity to the Arkansas River. This stream and any associated wetlands may be considered Waters of the United States and may have adjacent wetlands that would require a Clean Water Act Section 404 permits prior to being altered. Therefore, we recommend that you contact the U.S. Army Corps of Engineers Little Rock District office for additional information. They can be contacted at (501) 324-5295.

The comments herein are for the sole purpose of providing technical assistance to the action agency or for individual pre-project planning assistance. These comments and opinions should not be misconstrued as an "effect determination" or considered as concurrence with any

proceeding determination(s) by the action agency in accordance with Section 7 of the ESA. These comments do not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, a finding concurrence letter, etc.) from the Service, both lethal and nonlethal “take” of protected species are in violation of the ESA.

We appreciate your interest in the conservation of endangered species. If you have any questions, please contact the Arkansas Ecological Services Staff at (501) 513-4487.

Sincerely,


Jim Boggs
Project Leader



July 24, 2013

Martha Miller
State Historic Preservation Officer
1500 Tower Building
323 Center Street
Little Rock, Arkansas 72201

Re: SHPO Clearance request – Pine Bluff Voltage Support Phase 2
Transmission Line Right-of-Way
GBM^c No. 2044-12-311

Dear Ms. Miller:

On behalf of Entergy Arkansas Inc., GBM^c & Associates requests your review of the proposed Pine Bluff Voltage Support Phase 2 transmission line (Corridor A and B) being considered for construction. Before proceeding with the proposal, your certification of each corridor is required to ensure no archeological impacts are suffered during implementation of the project on one of the corridors.

Attached to this letter is a aerial and topographic map of the site with the proposed transmission line identified, as well as the project boundary noted with a yellow line. The transmission line will run north to south through the middle of the project area boundary. Land clearing is anticipated to create a right of way to a width of 120 feet wide.

This project is for the construction of a transmission line in Pine Bluff, Jefferson County, Arkansas. The geographical coordinates for the north terminus (Whitebluff Substation) of both Corridors A and B are N34.42585 Latitude, and W92.14431 Longitude. The geographical coordinates for the south terminus (Woodward Substation) of both Corridors A and B are N34.23255 Latitude, and W92.05750 Longitude. Please evaluate each corridor independently.

If you have questions or need additional information please contact me or Greg Phillips at (501) 847-7077. Thank you for your assistance in this matter.

Sincerely,
GBM^c & ASSOCIATES

A handwritten signature in black ink, appearing to read 'Kevin Butzlaff'. The signature is written in a cursive, somewhat stylized script.

Kevin Butzlaff
Environmental Scientist



The Department of
**Arkansas
Heritage**

Mike Beebe
Governor

Martha Miller
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: (501) 324-9811

e-mail:

info@arkansaspreservation.org

website:

www.arkansaspreservation.org

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August 26, 2013

Mr. Kevin Butzlaff
Environmental Scientist
GBM^c & Associates
219 Brown Lane
Bryant, Arkansas 72201

Re: Jefferson County – General
Section 106 Review – USDA-RUS
Proposed Pine Bluff Voltage Support Phase 2 Transmission Line
GBM^c Project Number 2044-12-311
AHPP Tracking Number 85270

Dear Mr. Butzlaff:

This letter is in regards to your inquiry regarding properties of archeological, architectural, or historic significance in the area of the above-referenced proposed undertaking. The staff of the Arkansas Historic Preservation Program has reviewed records pertaining to the area in question. They report that there are two previously recorded archeological sites (3JE135 and 3JE198) within or adjacent to the proposed Corridor A and two previously recorded archeological sites (3JE118 and 3JE283) within or adjacent to the proposed Corridor B. In addition, property JE283, Dollarway Road, is adjacent to, or perhaps even within, proposed corridor B. We are very concerned that placing an electric transmission line adjacent to this property could adversely affect the view shed of this historic property. Therefore, we recommend that Corridor A be selected.

However, both proposed corridors cross numerous areas that have a very high potential for containing both prehistoric and historic archeological sites and architectural properties. Therefore, it is highly likely that any final route chosen will require a cultural resources survey to determine the presence of historic properties within the proposed corridor. When a final route is selected, it should be submitted to this office for review and comment.

Thank you for the opportunity to review this undertaking, and look forward to reviewing a final proposed route in the future. Please refer to the AHPP Tracking Number listed above in all correspondence. If you have any questions, please call Eric Gilliland of my staff at 501-324-9270.

Sincerely,

Frances McSwain
Deputy State Historic Preservation Officer

cc: Dr. Richard Allen, Cherokee Nation of Oklahoma
Mr. Earl J. Barbry, Jr., Tunica-Biloxi Tribe of Louisiana, Inc.
Mr. Robert Cast, Caddo Nation
Mr. Larry Duncan, USDA
Dr. Ann Early, Arkansas Archeological Survey
Ms. Jean Ann Lambert, Quapaw Tribe of Oklahoma
Ms. Lisa LaRue-Baker, United Keetoowah Band of Cherokee Indians



August 28, 2013

Martha Miller
State Historic Preservation Officer
1500 Tower Building
323 Center Street
Little Rock, Arkansas 72201

Re: SHPO Clearance request – Pine Bluff Voltage Support Phase 2, Route A
Transmission Line Right-of-Way
GBM^c No. 2044-12-311
AHPP Tracking No. 85270

Dear Ms. Miller:

On behalf of Entergy Arkansas Inc., GBMc & Associates requests your review of the proposed Pine Bluff Voltage Support Phase 2 transmission line being considered for construction. We have previously submitted Corridor A and B for your review (AHPP Tracking Number 85270) and a route within Corridor A has been selected, labeled Route A. Before proceeding with the proposal, your certification of Route A is required to ensure no archeological impacts are suffered during implementation of the project.

Attached to this letter is a aerial and topographic map of the site with the proposed Route A identified. The transmission line will run north to south through the middle of the project area. Land clearing is anticipated to create a right of way to a width of 120 feet wide.

This project is for the construction of a transmission line in Pine Bluff, Jefferson County, Arkansas. The geographical coordinates for the north terminus (Whitebluff Substation) are N34.42585 Latitude, and W92.14431 Longitude. The geographical coordinates for the south terminus (Woodward Substation) are N34.23255 Latitude, and W92.05750 Longitude.

If you have questions or need additional information please contact me or Greg Phillips at (501) 847-7077. Thank you for your assistance in this matter.

Sincerely,
GBM^c & ASSOCIATES

A handwritten signature in black ink, appearing to read 'Kevin Butzlaff'.

Kevin Butzlaff
Environmental Scientist

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Proposed White Bluff to Woodward 230 kV Transmission Line Jefferson County, Arkansas White Hall Quadrangle

Route A

White Bluff

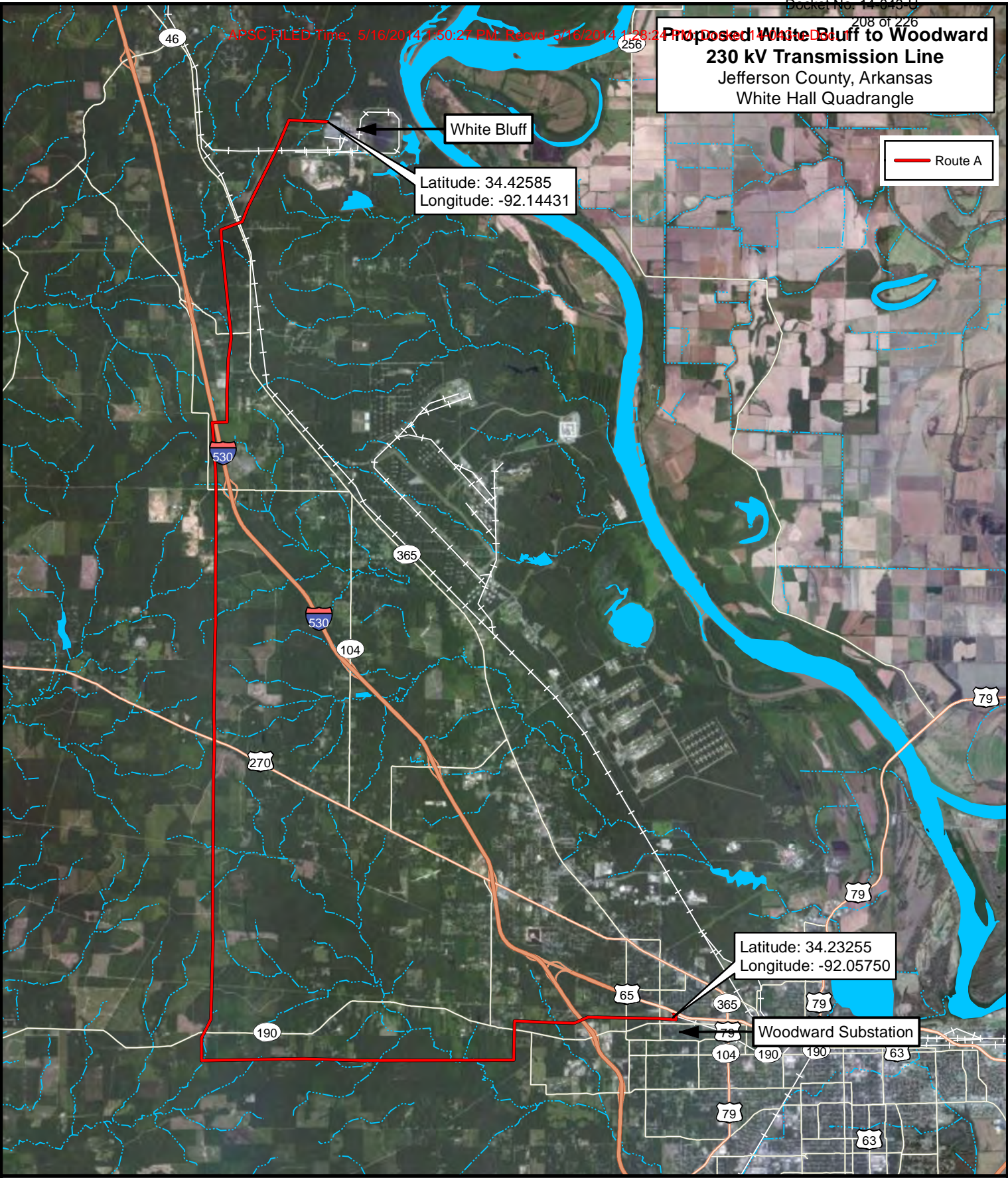
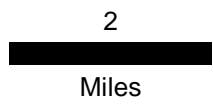
Latitude: 34.42585
Longitude: -92.14431

Latitude: 34.23255
Longitude: -92.05750

Woodward Substation



Aerial photography showing Route A of the proposed White Bluff to Woodward 230 kV transmission line site.



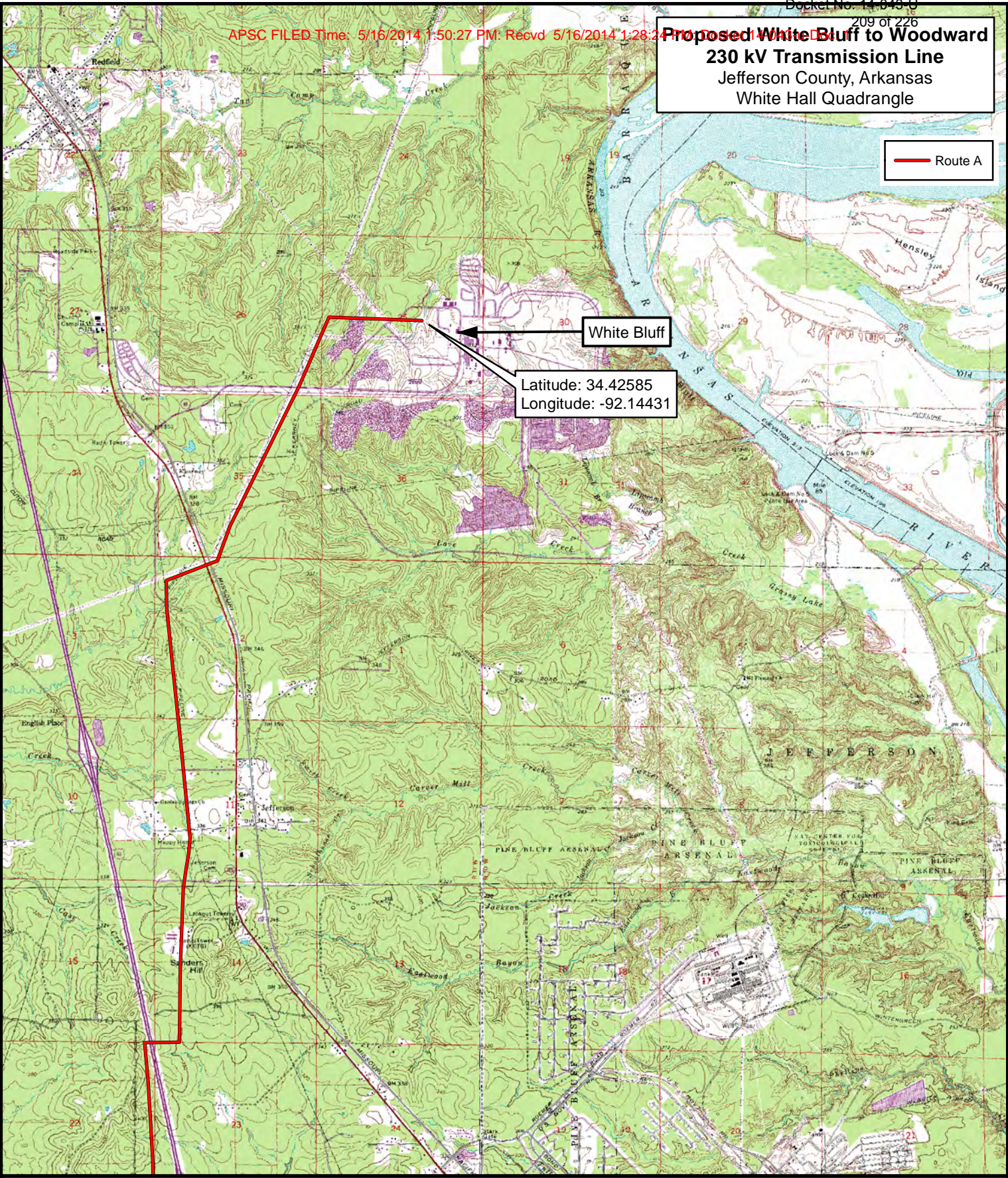
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**Proposed White Bluff to Woodward
230 kV Transmission Line**
Jefferson County, Arkansas
White Hall Quadrangle

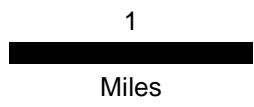
— Route A

White Bluff

Latitude: 34.42585
Longitude: -92.14431



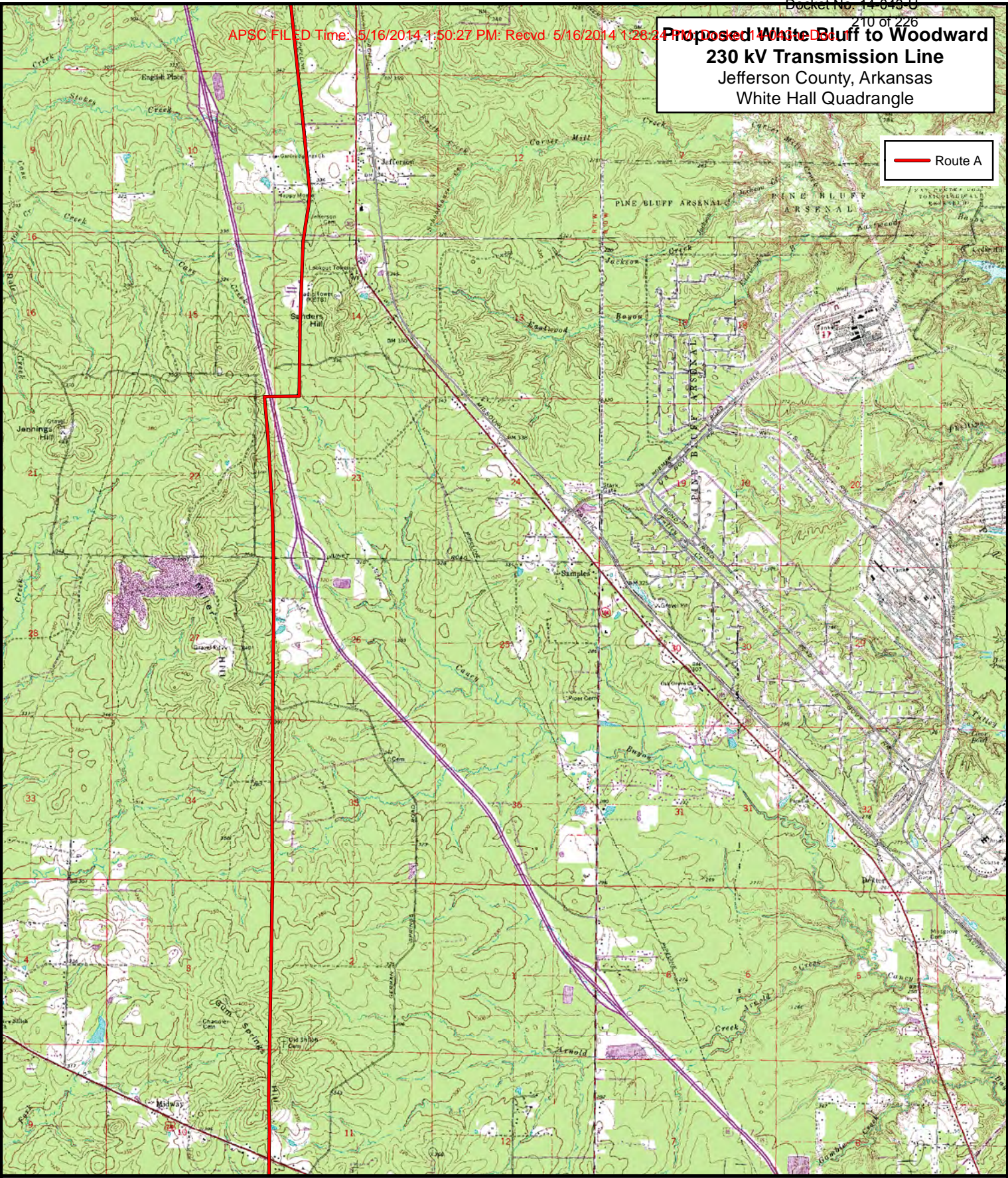
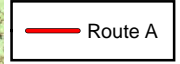
Topographic map showing Route A of the proposed White Bluff to Woodward 230 kV transmission line site.



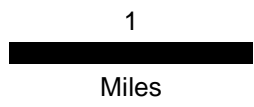
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**Proposed White Bluff to Woodward
230 kV Transmission Line**
Jefferson County, Arkansas
White Hall Quadrangle



Topographic map showing Route A of the proposed White Bluff to Woodward 230 kV transmission line site.

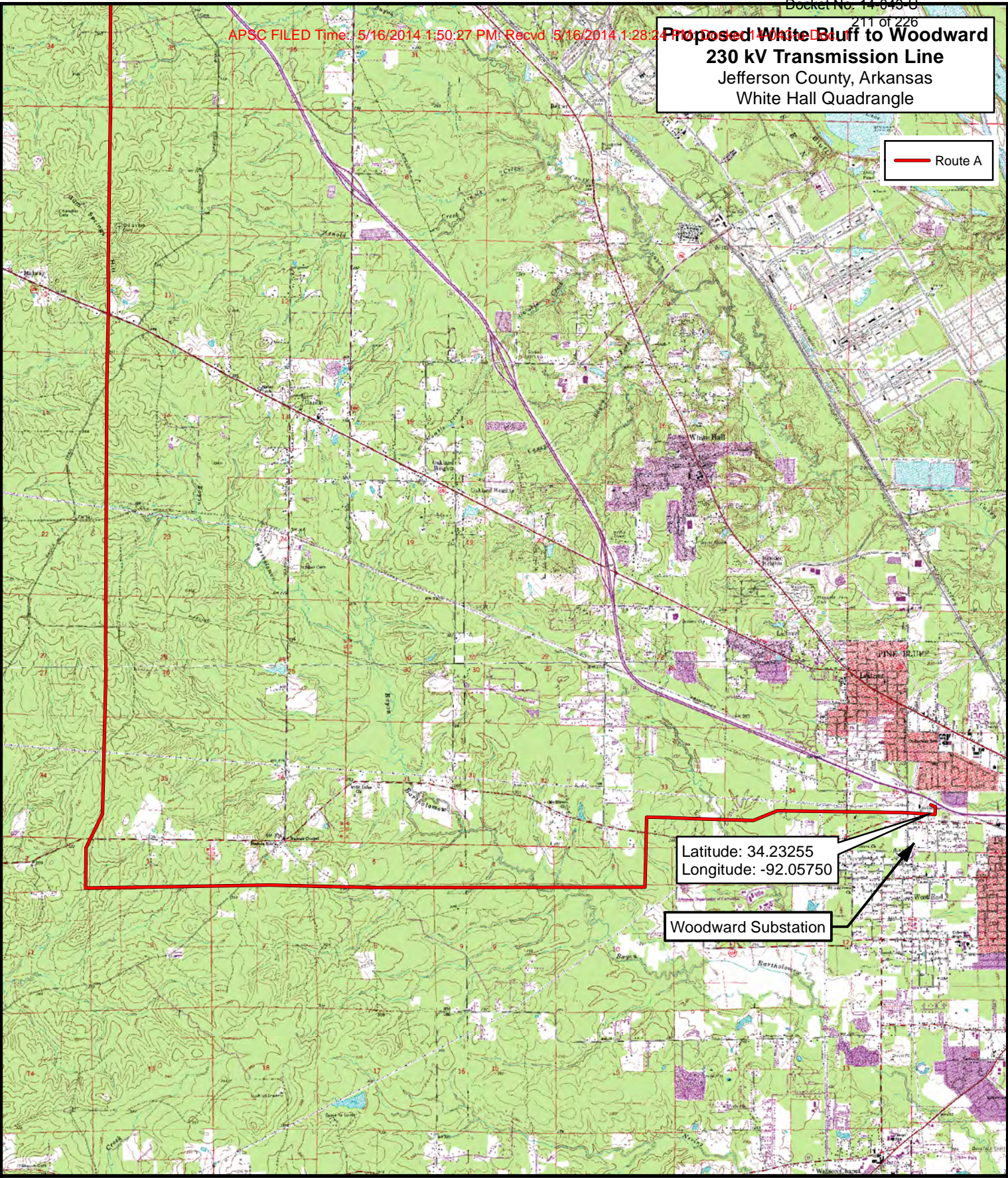


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**Proposed White Bluff to Woodward
230 kV Transmission Line**
Jefferson County, Arkansas
White Hall Quadrangle

Route A

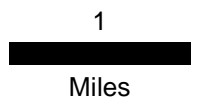


Latitude: 34.23255
Longitude: -92.05750

Woodward Substation



Topographic map showing Route A of the proposed White Bluff to Woodward 230 kV transmission line site.



Miles



The Department of Arkansas Heritage

Mike Beebe
Governor

Martha Miller
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: (501) 324-9811

e-mail:

info@arkansaspreservation.org

website:

www.arkansaspreservation.org

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April 22, 2014

Mr. Kevin Butzlaff
Environmental Scientist
GBM^c & Associates
219 Brown Lane
Bryant, Arkansas 72022

Re: Jefferson County – General
Section 106 Review – FERC
Response for *Cultural Resources Survey of the Proposed Entergy 230-
kV Transmission Line From Woodward to White Bluff, Jefferson
County, Arkansas*
AHPP Tracking Number 85270

Dear Mr. Butzlaff:

The staff of the Arkansas Historic Preservation Program (AHPP) has reviewed the above referenced report for the proposed undertaking. We offer the following comments and recommendations.

- The **Project Background** section should cite the AHPP initial review letter at the first mention of high- and low-probability areas. The phrase ‘desktop study’ requires an explanation.
- The second paragraph in the **Project Location** section contains several errors.
- **Figures 1-05–1-06** do not label the two alternatives.
- Some of the project information is supplied from south to north and some north to south. Every section of the report needs to follow one protocol.
- Most of the topographic maps are upside down and need to be turned so that north is up or toward the binding (left) side of the pages. Be sure to change Appendix D also.
- The use of mathematic symbols in text does not follow American Antiquity’s *Style Guide* as they are not part of formulae.
- For the **Literature and Records Search** section, we commend you on restricting most of the review to a reasonable buffer. We strongly recommend that in future reports you do not include superfluous information such as presented in **Table 4-03**. While the References Cited section is carefully edited, 10 of the Author entries in this Table contain punctuation errors. There needs to be an entry for the AHPP historic structures search. In the **Summary and Recommendations** section of the report it is stated that a review of the AHPP files failed to locate any historic structures along the project corridor. This is incorrect. Provide citations for the source of the General Land Office maps.

- Use the AHPP Resource Number when discussing recorded historic structures. The AHPP database lists the Dollarway Road as JE283, with the segment under discussion along Reynolds Road also known as JE561.
- The recommendation for spanning the National Register of Historic Places listed Dollarway Road, (JE283 and JE561) is insufficient. The placement of the line over the site may constitute an adverse effect. Thus, the poles should be placed as far as possible from the site. When the engineering of the line is further along and there is a plan for pole placements, this office will require additional consultation concerning this crossing.
- Edit the Comments column in **Appendix C** for consistency and do not use abbreviations without explanations.

Table 4-03 can be left as is. However, we recommend that the errors and other comments be addressed and that the report be resubmitted. We concur that Locus #1, Locus #2 and Structure #1 are ineligible for the NRHP and no further work is required at them. Formal site numbers are required for the final report. No additional archeological fieldwork is required. Please refer to the AHPP Tracking Number listed above in all correspondence. If you have any questions, please contact Wm. Lane Shields of my staff at (501) 324-9784.

Sincerely,



Frances McSwain
Deputy State Historic Preservation Officer

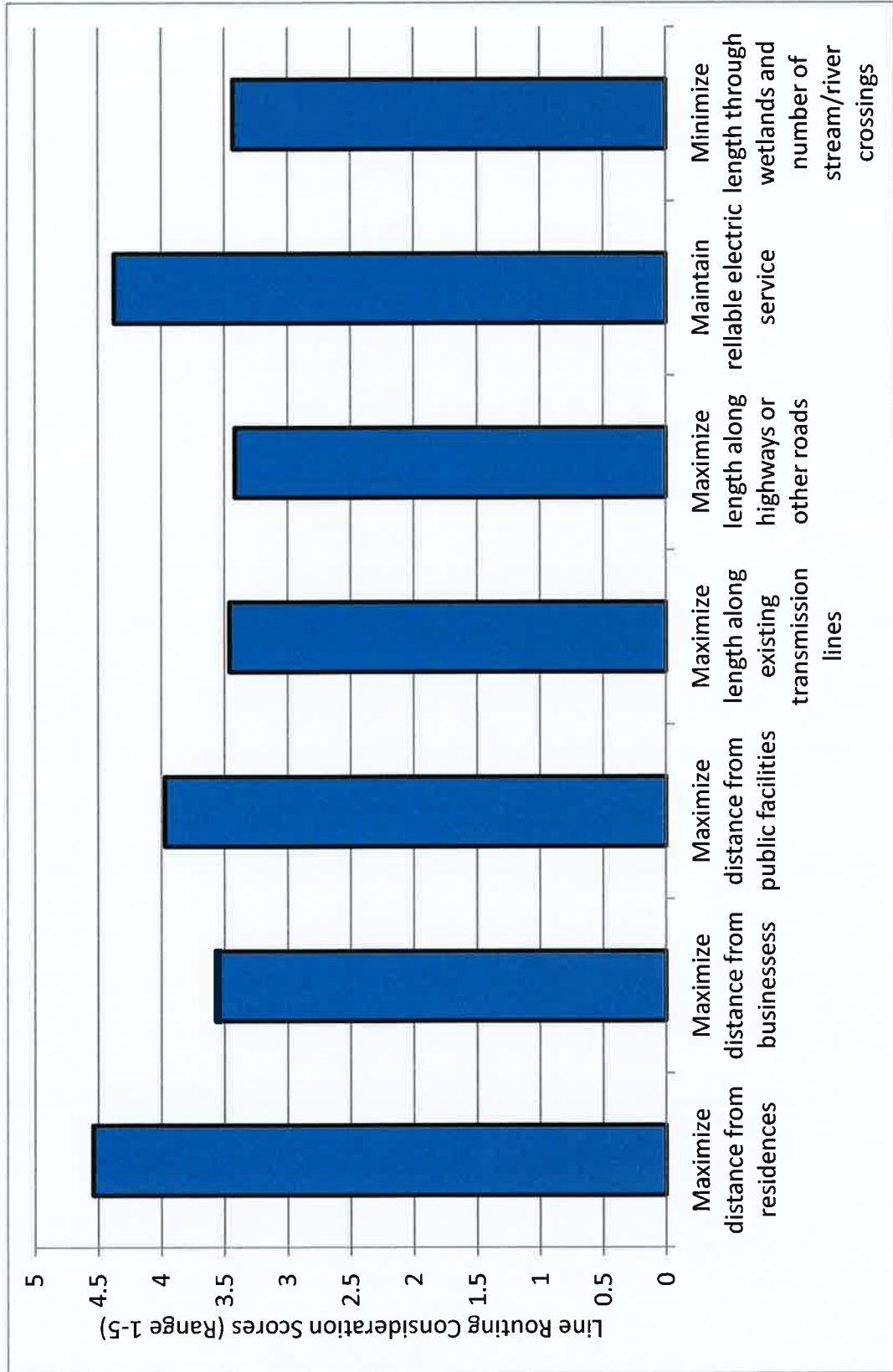
cc: Mr. Everett Bandy, Quapaw Tribe of Oklahoma
Mr. C. Andrew Buchner, Panamerican Consultants, Inc.
Mr. Robert Cast, Caddo Nation
Dr. Ann Early, Arkansas Archeological Survey

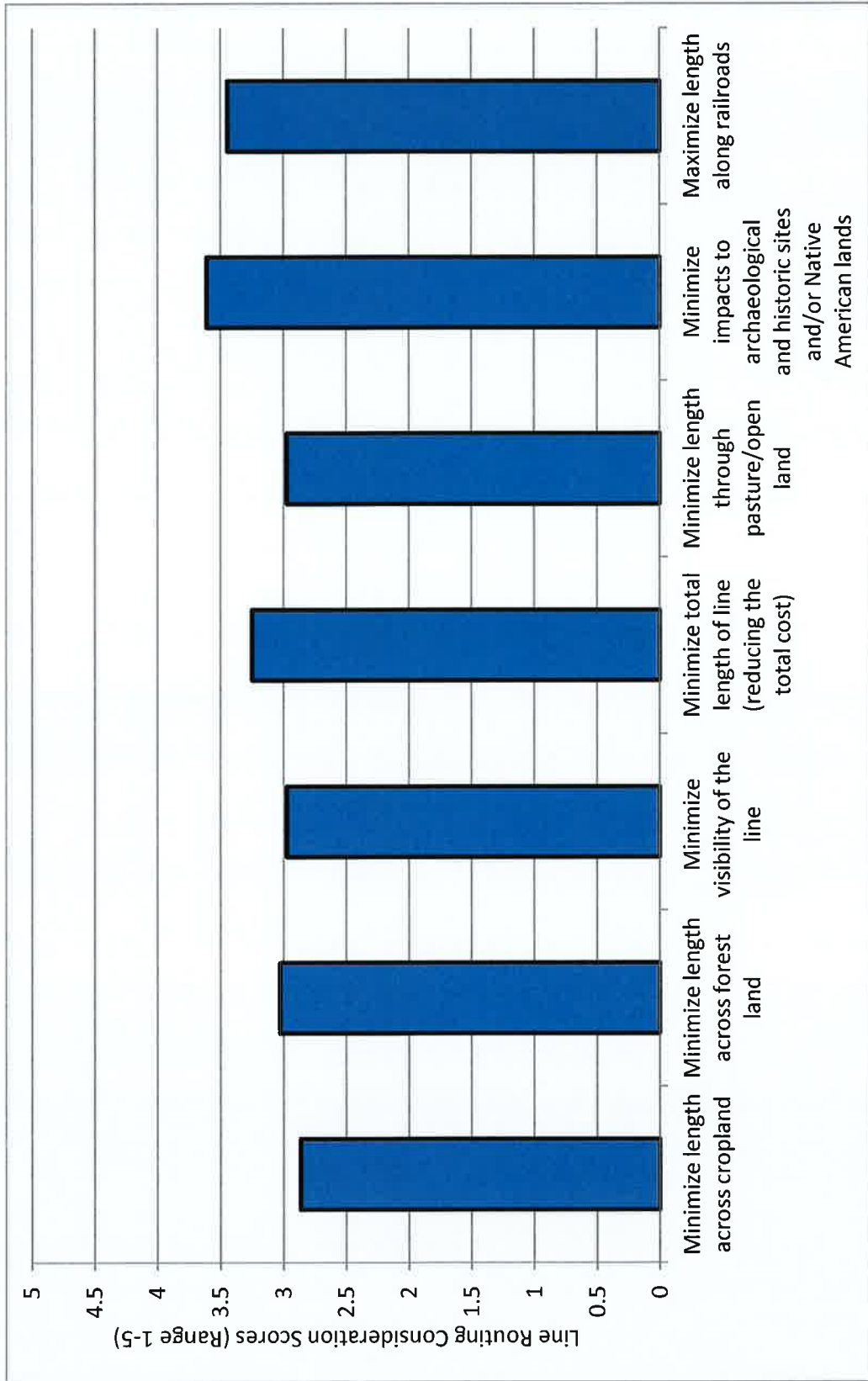
Appendix E

Public Comments/Survey Results

Summary of White bluff to Woodward Open House Survey Results

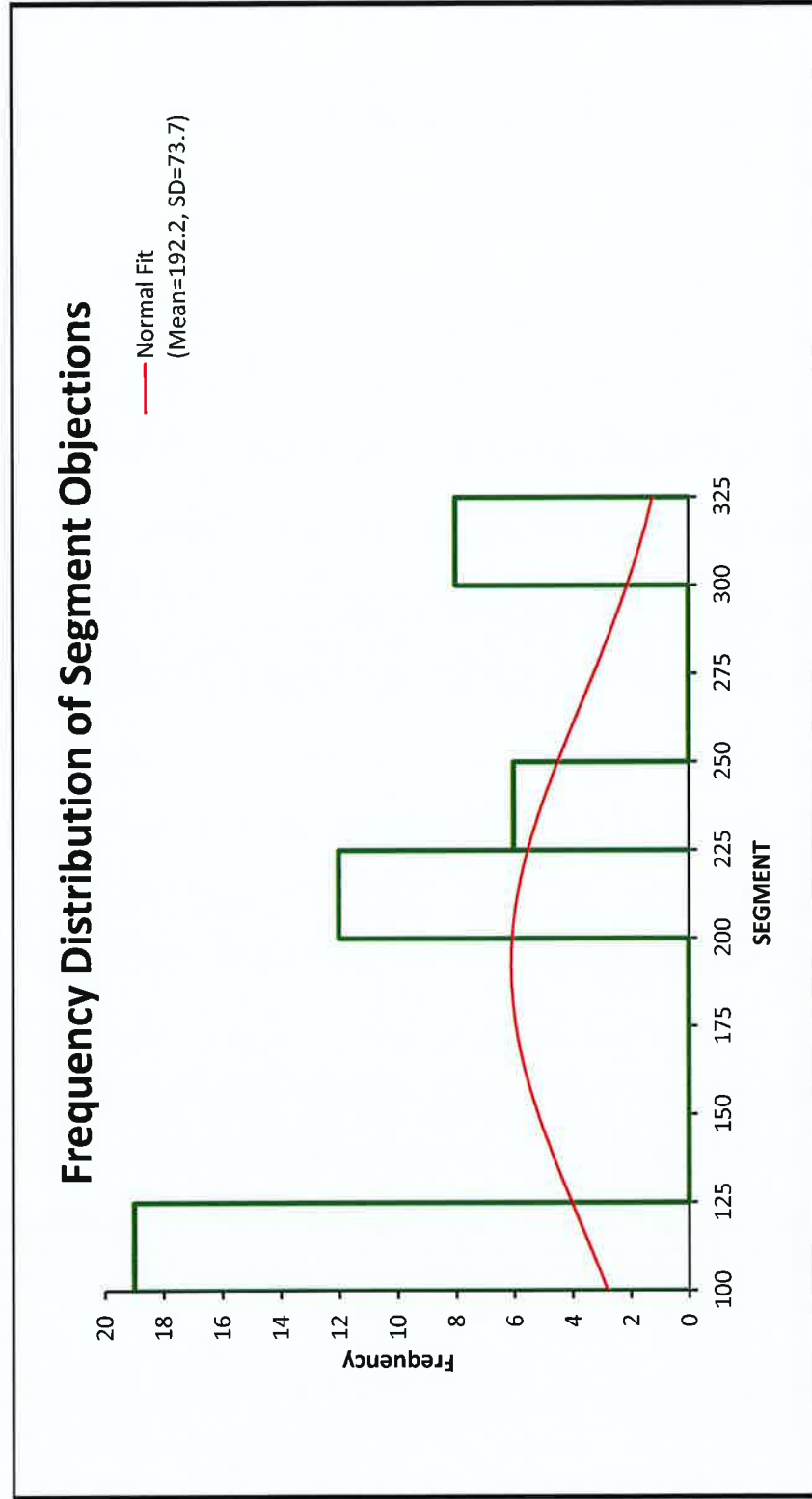
The two charts that follow summarize the survey question scores.

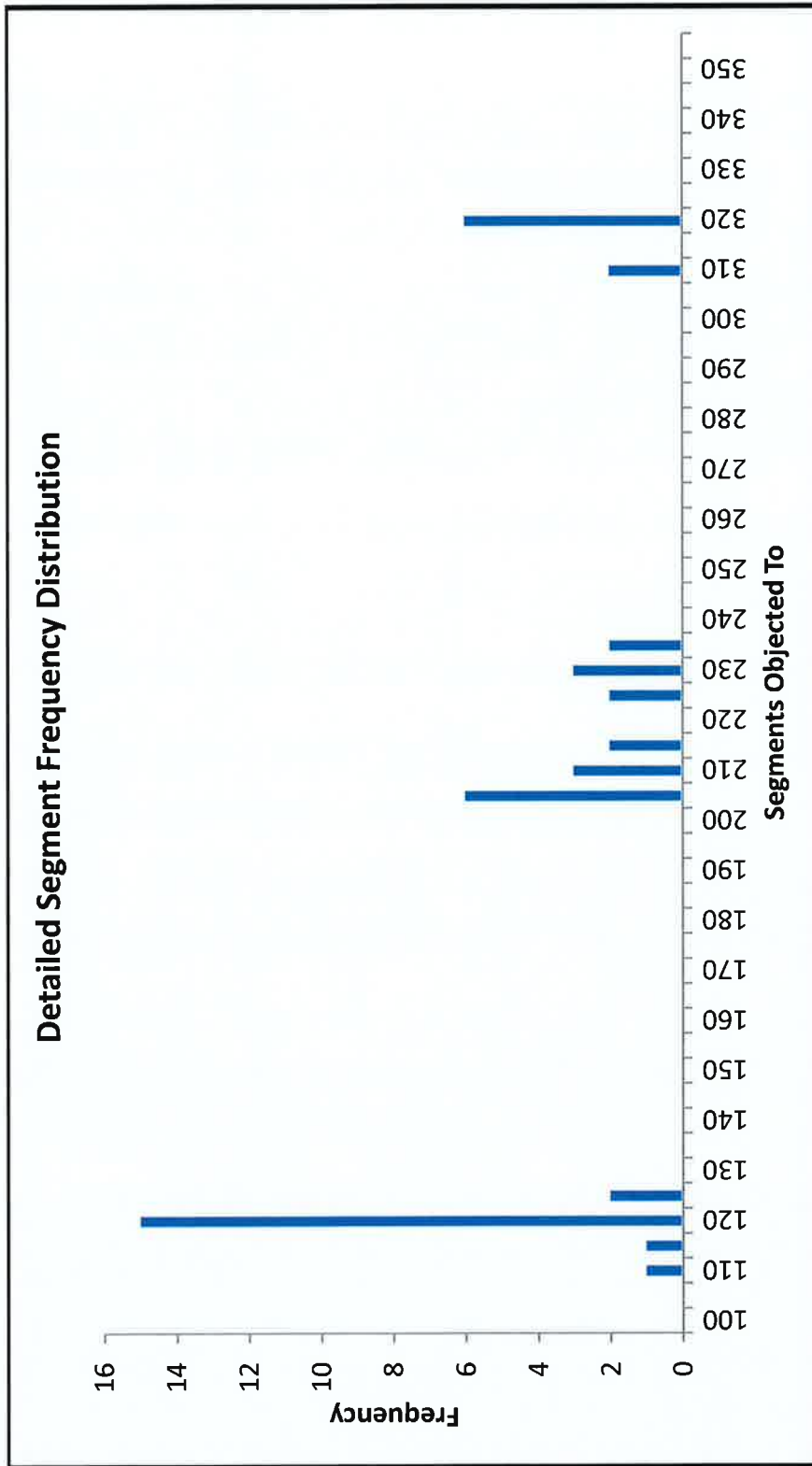




- There were 37 total surveys received as of February 22, 2013
- 14 of the 37 respondents suggested use of Corridor C
- 2 out of 37 respondents suggested use of Corridor A
- The majority of negative comments were received on Corridor A & B (segments numbered in the 100's and 200's)

The following two charts depict the number of objections (negative comments) received on specific segments.

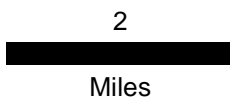
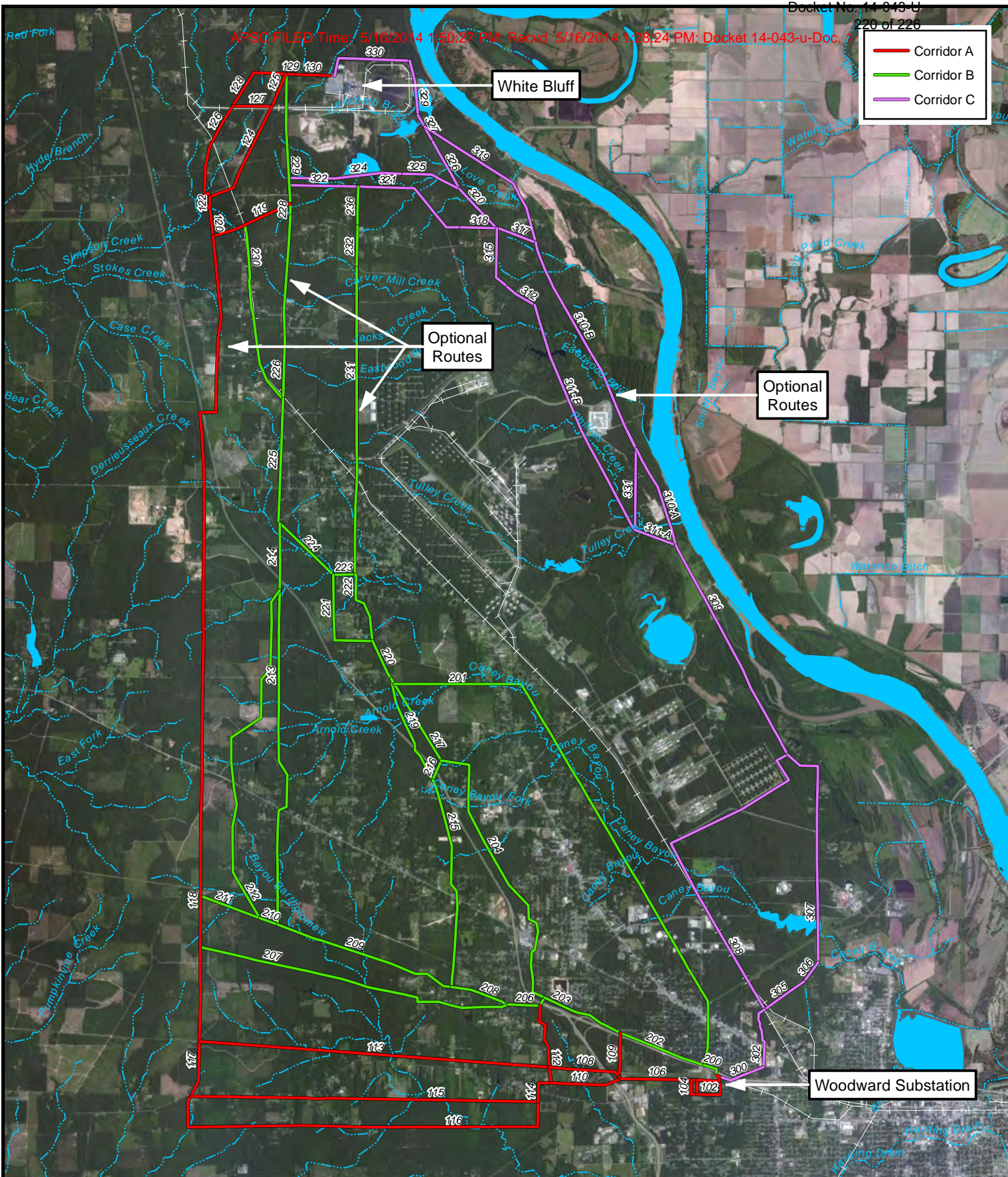




Appendix F

Maps, Routes and Decision Support Matrix

APSC FILED Time: 5/16/2014 1:50:27 PM; Reacd: 5/16/2014 1:28:24 PM; Docket 14-043-u-Doc. 1



APSC FILED Time: 5/16/2014 1:50:27 PM: Recvd 5/16/2014 1:28:24 PM: Docket 14-043-u-Doc. 1

Segment	Engineering											Socio-Economic							Environmental and Land Use													Notes					
	Total Length	Number of major angles	New cleared ROW	Adjacent to Existing ROW	Major T-Line Crossing	Adjacent to Road	Road Crossing	Highway Crossing	Total Road Crossing	Trail/Driveway Crossing	Railroad Crossing	Number of Residences within 50 ft	Number of Residences within 51-200 ft	Number of Residences within 300 ft	Distance in Residentially Developed Area	Distance in Non-Residentially Developed Area	Number of Commercial / Industrial Structures within 100 ft	Airport / Airfield within 1,350 ft	Distance in Agricultural field	Distance across agricultural field	Distance to Well	Wells within 200 ft	Estimated Distance in Known Forested Wetlands	Estimated Distance in Known Non-Forested Wetlands	Total Estimated Distance in Known Wetlands	Wetlands in ROW	Distance in Department of Defense Land	Historical Site within 500 ft	Archaeological Sites within ROW	Navigable River Crossing	Perennial Stream Crossing		Intermittent / Ephemeral Stream Crossing	Ditch Crossing	Total number of river / stream / ditch crossings	Distance across Floodplain	
100	556	1	0	0	0	0	0	0	0	2	0	0	0	1	0	556	1	0	0	0	6621	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	0	255
101	1544	0	222	0	0	0	2	0	2	1	0	0	0	0	0	1544	3	0	0	0	3242	0	0	0	0	TBD	0	0	0	TBD	0	0	1	0	1	1137	
102	2552	1	1473	0	0	606	3	0	3	1	0	1	11	7	1862	690	3	0	0	0	3966	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	0	
103	1015	0	699	0	0	0	1	0	1	0	0	0	2	0	0	1015	1	0	0	0	3234	0	0	0	0	TBD	0	0	0	TBD	0	0	1	0	1	606	
104	1432	1	708	0	0	0	1	0	1	0	0	0	2	2	0	1432	0	0	0	0	2948	0	0	0	0	TBD	0	0	0	TBD	0	0	1	0	1	594	
105	391	0	391	0	0	0	0	0	0	1	0	0	0	0	0	391	0	0	0	0	2946	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	391	
106	4976	0	3635	3059	1	0	2	0	2	1	0	0	3	1	0	4976	0	0	0	0	1311	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	1426	
107	188	0	188	0	0	0	0	0	0	0	0	0	0	0	0	188	0	0	0	0	1250	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	0	
108	5044	1	3516	4600	1	207	1	1	2	4	0	0	0	1	0	5044	0	1	0	0	999	0	0	279	279	TBD	0	0	0	TBD	0	1	0	0	1	1089	
109	3081	0	1698	0	1	0	2	1	3	0	0	0	4	4	686	2395	3	0	0	0	1253	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	0	
110	4956	1	4632	0	0	0	1	1	2	1	0	0	2	0	0	4956	0	0	0	0	32	1	0	0	0	TBD	0	0	0	TBD	0	1	0	0	1	998	
111	1108	0	1009	0	1	0	0	0	0	1	0	0	4	0	0	1108	0	1	0	0	2221	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	0	
112	4667	4	2410	0	0	1137	1	0	1	1	0	0	2	2	0	4667	0	1	610	0	2985	0	0	60	60	TBD	0	0	0	TBD	0	0	2	0	2	2780	
113	24541	0	18735	24541	0	0	9	0	9	11	0	5	13	15	1329	23212	5	1	0	0	2720	0	293	0	293	TBD	0	0	0	TBD	0	1	6	0	7	4245	
114	2198	1	2149	0	0	0	1	0	1	0	0	0	1	1	0	2198	1	1	0	0	650	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	0	
115	23884	0	16329	0	0	7555	6	0	6	8	0	4	22	4	0	23884	1	1	0	267	235	0	318	0	318	TBD	0	0	0	TBD	0	1	6	0	7	1853	
116	27906	2	26201	0	0	0	2	0	2	8	0	0	4	2	0	27906	4	0	0	0	617	0	556	0	556	TBD	0	0	0	TBD	0	5	8	0	13	3946	
117	3889	0	3789	0	1	0	2	0	2	1	0	0	0	1	0	3889	0	0	0	0	14115	0	0	0	0	TBD	0	0	0	TBD	0	0	1	0	1	0	
118	58058	2	54558	0	0	3363	16	2	18	16	0	2	13	8	0	58058	6	0	0	0	133	1	841	0	841	TBD	0	0	0	TBD	0	0	8	0	8	0	
119	5889	0	5776	0	0	0	1	1	2	0	0	0	4	2	0	5889	0	0	0	0	5514	0	0	0	0	TBD	0	0	0	TBD	0	0	1	0	1	0	
120	1836	0	1836	0	0	0	0	0	0	0	0	0	0	0	0	1836	0	0	0	0	5489	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	96	
121	1221	1	695	0	1	1221	0	0	0	0	0	0	0	0	0	1221	0	0	0	0	6908	0	0	0	0	TBD	0	0	0	TBD	0	0	1	0	1	310	
122	1198	0	0	1198	1	0	1	0	1	0	0	0	0	0	0	1198	0	0	0	0	6613	0	0	0	0	TBD	0	0	0	TBD	0	0	1	0	1	285	
123	288	0	220	288	0	0	1	0	1	0	0	0	0	0	0	288	0	0	0	0	6581	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	0	
124	7844	1	1148	7844	0	0	2	1	3	1	2	0	2	1	0	7844	1	0	0	0	1068	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	0	
125	2430	0	621	1809	0	0	1	0	1	1	0	0	0	0	0	2430	0	0	0	0	1503	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	0	
126	6703	2	4736	0	0	1967	7	1	8	1	2	0	6	2	0	6703	0	0	0	0	3498	0	56	0	56	TBD	0	0	0	TBD	0	0	1	0	1	568	
127	2517	0	126	0	0	2517	3	0	3	1	0	0	0	0	0	2517	0	0	0	0	1502	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	0	
128	4746	1	4746	0	0	0	1	0	1	2	0	0	0	0	0	4746	0	0	0	0	3217	0	120	0	120	TBD	0	0	0	TBD	0	0	1	0	1	0	
129	835	0	835	0	0	0	0	0	0	0	0	0	0	0	0	835	0	0	0	0	3728	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	0	
130	2615	1	2058	0	2	0	1	0	1	1	0	0	0	0	0	2615	0	0	0	0	3935	0	0	0	0	TBD	0	0	0	TBD	0	0	1	0	1	0	

600 ft from radio tower

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	Total Length	Number of major angles	New cleared ROW	Adjacent to Existing ROW	Major T-Line Crossing	Adjacent to Road	Road Crossing	Highway Crossing	Total Road Crossing	Trail/Driveway Crossing	Railroad Crossing	Number of Residences within 50 ft	Number of Residences within 51-200 ft	Number of Residences within 300 ft	Distance in Residentially Developed Area	Distance in Non-Residentially Developed Area	Number of Commercial / Industrial Structures within 100 ft	Airport / Airfield within 1,350 ft	Distance in Agricultural field	Distance across agricultural field	Distance to Well	Wells within 200 ft	Estimated Distance in Known Forested Wetlands	Estimated Distance in Known Non-Forested Wetlands	Total Estimated Distance in Known Wetlands	Wetlands in ROW	Distance in Department of Defense Land	Historical Site within 500 ft	Archaeological Sites within ROW	Navigable River Crossing	Perennial Stream Crossing	Intermittent / Ephemeral Stream Crossing	Ditch Crossing		Total number of river / stream / ditch crossings
200	1268	1	786	0	1	905	0	1	1	0	0	1	6	6	1268	0	0	0	0	0	3151	0	0	0	0	TBD	0	0	TBD	0	0	1	0	1	211
201	39211	2	22626	30345	0	565	15	2	17	5	1	5	43	29	12730	26481	11	1	635	0	659	0	8372	0	8372	TBD	0	1	TBD	0	3	6	0	9	18732
202	6307	0	0	6307	1	6307	2	0	2	1	0	2	43	39	6307	0	2	0	0	0	35	3	0	0	0	TBD	0	0	TBD	0	0	0	0	0	358
203	5913	1	2490	3423	1	5913	0	0	0	3	0	0	5	10	1137	4776	1	1	0	0	3088	0	0	0	0	TBD	0	0	TBD	0	0	1	0	1	444
204	20633	8	17385	0	1	913	7	1	8	3	0	2	40	20	108103	9830	4	1	0	0	8315	0	1017	0	1017	TBD	0	0	TBD	0	1	3	0	4	2156
205	655	0	415	0	1	0	1	1	2	0	0	0	0	0	655	0	1	0	0	7583	0	0	0	0	TBD	0	0	TBD	0	0	0	0	0	159	
206	2250	0	1823	0	1	309	2	0	2	1	0	0	5	6	734	1516	0	1	0	0	7170	0	0	0	0	TBD	0	0	TBD	0	0	1	0	1	2250
207	22408	2	19756	0	0	2117	7	0	7	5	0	1	16	14	5385	17023	4	1	0	0	4768	0	905	0	905	TBD	0	0	TBD	0	1	0	0	1	2495
208	4201	0	3706	0	0	455	2	0	2	2	0	0	10	11	1820	2381	1	1	0	0	7194	0	0	0	0	TBD	0	0	TBD	0	0	0	0	0	132
209	13057	1	11992	0	0	0	2	0	2	1	0	0	5	2	3076	9981	1	1	0	0	2667	0	2993	0	2993	TBD	0	2	TBD	0	2	4	0	6	3881
210	1335	0	1335	0	0	0	0	0	0	0	0	0	0	0	1335	0	1	0	0	5335	0	0	0	0	TBD	0	0	TBD	0	0	0	0	0	0	0
211	4477	0	4444	0	0	0	2	0	2	1	0	0	0	0	4477	0	1	0	0	6482	0	268	0	268	TBD	0	0	TBD	0	1	0	0	1	0	
212	25056	6	19978	0	1	18614	0	1	1	7	0	0	0	0	25056	0	1	0	0	4303	0	427	0	427	TBD	0	0	TBD	0	2	6	0	8	804	
213	23960	4	22259	0	1	2186	0	1	1	7	0	1	9	4	2471	21489	0	1	0	0	4786	0	1513	0	1513	TBD	0	0	TBD	0	2	6	0	8	1610
214	4719	0	4464	0	0	0	0	1	1	0	0	0	0	0	4719	0	0	0	0	3352	0	215	0	215	TBD	0	0	TBD	0	2	0	0	2	579	
215	14880	2	11636	0	1	0	3	1	4	1	0	3	9	8	5468	9412	2	1	0	0	7376	0	1428	0	1428	TBD	0	0	TBD	0	0	6	0	6	1656
216	1476	0	1245	0	0	0	0	1	1	0	0	0	0	0	1476	0	1	0	0	9251	0	0	0	0	TBD	0	0	TBD	0	0	0	0	0	0	
217	6291	0	6291	0	0	0	0	0	0	0	0	0	0	0	6291	0	1	0	0	3336	0	1655	0	1655	TBD	0	0	TBD	0	0	3	0	3	2600	
218	452	0	0	0	0	452	0	0	0	0	0	0	0	0	452	0	0	0	0	2932	0	0	0	0	TBD	0	0	TBD	0	0	0	0	0	0	
219	7797	2	7125	0	0	7797	0	1	1	1	0	0	0	0	7797	0	1	0	0	2932	0	630	0	630	TBD	0	0	TBD	0	0	3	0	3	3102	
220	2952	0	2338	0	0	624	0	0	0	1	0	0	2	2	500	2452	0	0	0	0	1719	0	0	0	0	TBD	0	0	TBD	0	0	1	0	1	0
221	7264	1	5218	0	0	0	0	1	1	2	0	1	1	4	0	7264	1	0	0	0	1719	0	308	0	308	TBD	0	0	TBD	0	0	1	0	1	45
222	5213	3	5145	0	0	1776	2	1	3	1	0	0	7	7	1461	3752	1	0	0	0	1711	0	0	0	0	TBD	0	0	TBD	0	1	2	0	3	1250
223	1523	0	1260	0	0	0	0	0	0	0	0	0	0	0	1523	0	0	0	0	5273	0	413	0	413	TBD	0	0	TBD	0	1	0	0	1	1523	
224	5239	0	5239	0	0	0	1	0	1	3	0	0	0	0	5239	0	0	0	0	3416	0	797	0	797	TBD	0	0	TBD	0	2	1	0	3	3103	
225	8747	1	7600	0	0	0	3	1	4	1	1	1	3	3	0	8747	1	0	0	0	2660	0	108	0	108	TBD	0	0	TBD	0	0	0	0	0	0
226	12839	0	11140	0	0	3528	7	0	7	1	0	2	6	6	0	12839	3	0	0	0	2632	0	251	0	251	TBD	0	0	TBD	0	1	3	0	4	0
228	866	0	866	0	0	0	0	0	0	0	0	0	1	2	0	866	0	0	0	0	5558	0	0	0	0	TBD	0	0	TBD	0	0	1	0	1	0
229	9125	0	6858	0	1	0	2	1	3	4	1	1	1	1	0	9125	2	0	0	0	825	0	0	0	0	TBD	0	0	TBD	0	0	4	0	4	0
230	12797	0	10975	0	0	0	2	0	2	0	2	0	9	12	2778	10019	1	0	0	0	828	0	106	0	106	TBD	0	0	TBD	0	0	1	0	1	0
231	21458	0	17910	0	0	19802	8	1	9	6	1	2	17	7	7552	13906	4	0	0	0	260	0	1059	0	1059	TBD	10934	1	TBD	0	1	5	0	6	900
232	2917	0	2456	0	0	0	2	0	2	1	0	0	2	0	0	2917	0	0	0	0	2716	0	0	0	0	TBD	0	0	TBD	0	0	0	0	0	0
236	2773	0	2773	0	1	0	0	0	0	0	0	0	0	0	2773	0	0	0	0	4605	0	0	0	0	0	TBD	0	0	TBD	0	0	0	0	0	0

40 ft from water tower

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	Total Length	Number of major angles	New cleared ROW	Adjacent to Existing ROW	Major T-Line Crossing	Adjacent to Road	Road Crossing	Highway Crossing	Total Road Crossing	Trail/Driveway Crossing	Railroad Crossing	Number of Residences within 50 ft	Number of Residences within 51-200 ft	Number of Residences within 300 ft	Distance in Residentially Developed Area	Distance in Non-Residentially Developed Area	Number of Commercial / Industrial Structures within 100 ft	Airport / Airfield within 1,350 ft	Distance in Agricultural field	Distance across agricultural field	Distance to Well	Wells within 200 ft	Estimated Distance in Known Forested Wetlands	Estimated Distance in Known Non-Forested Wetlands	Total Estimated Distance in Known Wetlands	Wetlands in ROW	Distance in Department of Defense Land	Historical Site within 500 ft	Archaeological Sites within ROW	Navigable River Crossing	Perennial Stream Crossing		Intermittent / Ephemeral Stream Crossing	Ditch Crossing	Total number of river / stream / ditch crossings	Distance across Floodplain	
300	3304	1	1594	0	0	0	1	1	2	0	0	0	5	9	3304	0	1	0	0	0	4445	0	0	0	0	TBD	0	0	0	TBD	0	0	1	0	1	2412	
301	2304	1	555	0	0	0	2	1	3	1	0	0	0	0	1954	350	0	0	0	0	7153	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	1812	
302	4393	3	2598	0	0	1876	2	1	3	1	1	0	0	1	1959	2544	3	0	0	0	6573	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	1674	
303	4503	0	3543	0	0	0	0	0	0	1	1	0	0	0	0	4503	0	0	0	0	3957	0	450	0	450	TBD	0	0	0	TBD	0	0	0	0	0	470	
304	7063	1	5485	0	0	2366	1	0	1	5	1	0	2	0	0	7063	0	0	0	144	2396	0	0	0	0	TBD	0	0	0	TBD	0	2	0	0	2	671	
305	3391	0	3391	0	0	0	0	0	0	0	0	0	0	0	0	3391	0	0	0	0	3999	0	466	0	466	TBD	0	0	0	TBD	0	0	1	0	1	490	
306	1682	0	1508	0	0	0	1	0	1	0	0	0	0	0	0	1682	0	0	0	155	2359	0	201	0	201	TBD	0	0	0	TBD	0	2	0	0	2	1145	
307	16172	1	13944	0	1	8033	4	0	4	1	1	0	6	1	1620	14552	0	0	0	435	1632	0	3651	0	3651	TBD	10253	1	TBD	0	1	1	0	2	3304		
308	25267	3	23635	0	1	24333	8	0	8	1	1	1	1	0	0	25267	0	0	0	0	3839	0	3514	0	3514	TBD	14555	0	TBD	0	1	6	0	7	3556	near water tower	
309	16643	0	10939	0	0	1327	5	0	5	3	0	0	0	3	0	16643	0	0	0	0	1546	0	373	0	373	TBD	15422	1	TBD	0	1	1	0	2	13433		
310-A	7376	0	6694	0	0	560	1	0	1	1	0	0	0	0	0	7376	0	0	0	0	719	0	0	0	0	TBD	7376	0	TBD	1	0	0	0	1	1853		
310-B	17413	0	14717	0	0	0	4	0	4	2	0	0	0	0	0	17413	0	0	0	0	719	0	281	0	281	TBD	4995	0	TBD	0	1	3	0	4	4478		
311-A	3065	0	2699	0	0	0	0	0	0	1	0	0	0	0	0	3065	0	0	0	0	293	0	142	0	142	TBD	3065	2	TBD	0	1	0	0	1	2683		
311-B	17309	0	16647	0	0	0	4	0	4	1	0	0	0	0	0	17309	0	0	0	0	364	0	1689	0	1689	TBD	10461	4	TBD	0	4	2	0	6	3813		
312	2314	0	791	0	0	0	2	0	2	0	0	0	0	0	0	2314	0	0	0	0	7013	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	0	
315	4485	1	4260	0	0	0	1	0	1	0	0	0	0	0	0	4485	0	0	0	0	5977	0	0	0	0	TBD	0	0	0	TBD	0	0	1	0	1	0	
317	2891	0	2318	0	0	0	1	0	1	2	0	0	0	0	0	2996	1	0	0	0	6549	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	0	
318	2542	0	2542	0	0	0	0	0	0	1	0	0	0	0	0	2542	0	0	0	0	4350	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	0	
319	11821	1	8547	0	0	1618	2	0	2	8	0	1	5	0	0	11821	1	0	735	1334	8856	0	126	0	126	TBD	0	2	TBD	0	0	2	0	2	2715		
320	3800	0	3704	0	0	0	0	0	0	2	0	0	0	0	0	3800	0	0	0	0	6072	0	160	0	160	TBD	0	0	0	TBD	0	0	1	0	1	637	
321	8493	2	8493	7502	0	0	0	0	0	3	0	0	0	0	0	8493	0	0	0	0	3558	0	1012	0	1012	TBD	0	1	TBD	0	0	4	0	4	1413		
322	4824	0	4659	3774	1	0	0	0	0	1	0	0	0	0	0	4824	0	0	0	0	4200	0	779	0	779	TBD	0	0	0	TBD	0	0	3	0	3	140	
324	7846	0	7731	0	1	0	0	0	0	4	0	0	0	0	0	7846	0	0	0	0	3751	0	531	0	531	TBD	0	0	0	TBD	0	0	6	0	6	1222	
325	4367	1	4367	0	0	0	0	0	0	2	0	0	0	0	0	4367	0	0	0	0	6247	0	309	0	309	TBD	0	0	0	TBD	0	0	1	0	1	429	
326	3820	0	3820	0	0	0	0	0	0	1	0	0	0	0	0	3820	0	0	0	0	6317	0	650	0	650	TBD	0	1	TBD	0	0	2	0	2	1655		
327	2141	0	1519	0	0	0	0	0	0	2	0	0	0	0	0	2141	0	0	0	0	10078	0	0	0	0	TBD	0	0	0	TBD	0	1	0	0	1	0	
329	3794	1	2443	0	0	0	1	0	1	0	0	0	0	0	0	3794	0	0	0	0	9906	0	0	0	0	TBD	0	0	0	TBD	0	0	0	0	0	0	
330	7979	2	7771	0	0	646	3	0	3	3	0	0	0	0	0	7979	1	0	0	0	5466	0	673	0	0	TBD	0	0	0	TBD	0	0	3	0	3	0	
331	5711	0	5426	0	0	549	2	0	2	0	0	0	0	0	0	5711	0	0	0	0	284	0	213	0	213	TBD	5711	2	TBD	0	1	0	0	1	543		