

BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION  
**CenterPoint Energy Gas Transmission Company, LLC**  
a wholly owned indirect subsidiary of  
CenterPoint Energy, Incorporated

DOCKET NO. PF13-10-000

Volume I of II

**PUBLIC**



Gas Transmission Company, LLC  
P. O. Box 21734  
Shreveport, LA 71151-1734  
318 429-2700

June 14, 2013

Ms. Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N. E.  
Washington, D.C. 20426

Re: CenterPoint Energy Gas Transmission Company, LLC  
Docket No. PF13-10-000  
Central Arkansas Pipeline Enhancement Project

Dear Ms. Bose:

On March 18, 2013, CenterPoint Energy Gas Transmission Company, LLC (CEGT) submitted a request to use the Federal Energy Regulatory Commission's (Commission) pre-filing review process for its planned Central Arkansas Pipeline Enhancement Project (Project). The Commission subsequently approved CEGT's request on March 28, 2013.

Pursuant to the pre-filing procedures and review process established in section 157.21 of the Natural Gas Act, 18 CFR §157.205, CEGT hereby submits drafts of Resource Reports 4-7 & 11.

The items being filed herein are organized as follows:

**Volume I: Public**

Draft Resource Report 4 – Cultural Resources  
Draft Resource Report 5 – Socioeconomics  
Draft Resource Report 6 – Geological Resources  
Draft Resource Report 7 – Soils  
Draft Resource Report 11 – Reliability and Safety

**Volume IIA&B: Privileged and Confidential**

Draft Resource Report 4, Appendix 4.A – Cultural Survey Report

CEGT respectfully requests that the information herein submitted in Volume IIA&B be accorded privileged and confidential treatment pursuant to 18 C. F. R. §388.112.

If you have any questions or need further information, please contact me at 318-429-3708.

Respectfully submitted,

CenterPoint Energy Gas Transmission Company, LLC

A handwritten signature in black ink, reading "B. Michelle Willis". The signature is written in a cursive, flowing style.

---

B. Michelle Willis  
Manager-Regulatory & Compliance

cc: Mr. Kareem Monib  
Enclosures

**CENTERPOINT ENERGY GAS TRANSMISSION COMPANY, LLC**

**CENTRAL ARKANSAS PIPELINE ENHANCEMENT PROJECT  
FERC DOCKET NO. PF13-10-000**

**DRAFT RESOURCE REPORT NO. 4  
CULTURAL RESOURCES**

PUBLIC

Prepared for:  
CenterPoint Energy Gas Transmission Company, LLC  
P.O. Box 21734  
Shreveport, LA  
71151

Prepared by:  
AK Environmental, LLC  
850 Bear Tavern Road, Suite 106  
West Trenton, NJ  
08628

June 2013







**CENTRAL ARKANSAS PIPELINE ENHANCEMENT PROJECT  
FERC DOCKET NO. PF13-10-000**

<b>RESOURCE REPORT NO. 4 – CULTURAL RESOURCES</b>	
<b>SUMMARY OF COMMISSION FILING INFORMATION</b>	
<b>INFORMATION</b>	<b>FOUND IN</b>
1. Initial cultural resources consultation and documentation, and documentation of consultation with Native Americans. (§ 380.12(f)(1)(i) & (2))	Section 4.4; Appendix 4.B, and Appendix 4.D in Volume I
2. Overview/Survey Report(s). (§ 380.12(f)(1)(ii) & (2))	Sections 4.2 and 4.3; Appendix 4.A in Volume II (Privileged and Confidential)

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**ACRONYMS AND ABBREVIATIONS**

AHPP	Arkansas Historic Preservation Program
AK	AK Environmental, LLC
APE	Area of potential effects
CEGT	CenterPoint Energy Gas Transmission Company, LLC
CFR	Code of Federal Regulations
Commission	Federal Energy Regulatory Commission
FERC	Federal Energy Regulatory Commission
FR	Federal Regulations
MP	Milepost
NGA	Natural Gas Act
NHPA	National Historic Preservation Act of 1966
NRHP	National Register of Historic Places
Project	Line BT-14 Replacement Project
RCG&A	R. Christopher Goodwin & Associates, Inc.
ROW	Right-of-way
SHPO	State Historic Preservation Office
TBS	Town Border Station

## 4.0 INTRODUCTION

CenterPoint Energy Gas Transmission Company, LLC (“CEGT”), in cooperation with its affiliated natural gas distribution business, CenterPoint Energy Resources Corporation d/b/a Arkansas Gas (“CERC”), is filing an application for a certificate of public convenience and necessity with the Federal Energy Regulatory Commission (“FERC” or “Commission”) for the Central Arkansas Pipeline Enhancement Project (“Project”). The Project will provide for the continued safe, reliable, and efficient transportation of natural gas to the central Arkansas cities and towns of Conway, Mayflower, Maumelle, North Little Rock, and Little Rock. As part of the Project, CEGT is proposing the installation of approximately 28.5 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment, and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, as well as two 4-inch-diameter laterals (Lines BT-40 and BT-41) to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 12.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT’s distribution affiliate, and an approximately 21.7-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service. Other minor ancillary facilities and small diameter pipelines (Line BM-1, Line BT-19, and a portion of Line BM-21) within the City of Conway would also be retired in association with the proposed Project. Refer to the Project location maps (Resource Report 1 - Figure 1.1-1) for a depiction of existing, proposed, and retirement pipeline facilities associated with the Project.

Section 106 of the National Historic Preservation Act of 1966 (“NHPA”), as amended, requires federal agencies to examine the effects of their activities (including issuing permits) on properties that are included or eligible for inclusion in the National Register of Historic Places (“NRHP”). CEGT is assisting the Commission in meeting this obligation by providing a complete cultural resource inventory of the proposed construction areas under Section 106 and pursuant to review by the Advisory Council on Historic Preservation’s (“ACHP”) regulations found in 36 Code of Federal Regulations (“CFR”) Part 800. This Resource Report describes the cultural resources identified in the area of potential effects (“APE”) for the proposed Project based on the results of Phase I cultural resource investigations conducted along the proposed pipeline route and other Project work areas.

It should be noted that a portion of the Project was surveyed as part of an earlier CEGT proposed project. In 2011, R. Christopher Goodwin and Associates, Inc. (“RCGA”) conducted cultural resources surveys for the Line BT-14 Replacement Project, the scope of which was subsequently modified and incorporated into the currently proposed Project. The results of RCGA’s survey are summarized below along with the results of the cultural surveys conducted for the Project by AK Environmental, LLC (“AK”).

### 4.1 AREA OF POTENTIAL EFFECT

The APE is the “geographic area or areas within which an undertaking may directly or indirectly cause changes in the character of or use of historic properties, if any such properties exist” (36 CFR 800.16(d)). The APE for archeological resources includes all areas where the ground may be disturbed. The APEs for historic architectural properties include areas where direct and indirect impacts have the potential to alter character-defining features of a property’s significance.

#### 4.1.1 Area of Potential Effect for Archeological Resources

The APE for direct impacts to archeological resources from the Project includes the workspace needed for construction of the pipeline and aboveground facilities, access roads, pipe storage/contractor yards, and abandonment work areas. The APE consists of a 40-foot-wide permanent easement, a 35-foot-wide temporary construction right-of-way (“ROW”) and extra temporary workspaces (“ETWS”) at streams, road crossings, slopes

and other areas where construction crews require additional space during construction. Cultural survey coverage for the pipeline and aboveground facilities generally was encompassed within 150- to 200-foot-wide cultural survey corridors for the approximately 28.5 miles of proposed pipeline. The cultural resources survey corridor encompassed all Project facilities and ETWS's. Where workspaces extended beyond the typical cultural survey corridor additional testing was conducted. Retirement or removal of pipeline and aboveground facilities on Lines BT-14, BT-19, and BM-21 will involve little or no ground disturbance and such activities will be limited to existing and previously disturbed rights-of-way or facility sites. Therefore, a 50-foot cultural survey corridor (e.g., approximate width of the existing pipeline rights-of-way) was established for retirement work areas. A 50-foot-wide cultural survey corridor was established for access roads.

#### **4.1.2 Area of Potential Effect for Historic Architectural Properties**

The APE for direct impacts on historic architectural properties from the Project was identical to that discussed above for archeological resources. The APE for indirect impacts generally is defined as the area in which a project could affect the qualities for which a historic property is eligible or listed in the NRHP. The potential indirect impacts associated with construction of the Project were determined to be visual in nature and adjacent to the survey corridor. The APE for indirect impacts was defined as the same survey corridors discussed above.

## **4.2 AREAS SURVEYED**

Prior to the initiation of field surveys, AK on behalf of CEGT, completed a review of the site files to identify previously recorded cultural resources that lie within the APE and could be adversely affected by construction of the proposed Project. This research examined records maintained by the Arkansas Archeological Survey ("AAS") in Fayetteville, Arkansas, and at the Arkansas Historic Preservation Program ("AHPP") in Little Rock, Arkansas. Additionally, the General Land Office Records database available through the Bureau of Land Management was consulted. The literature review focused on a 1-mile-wide corridor centered on the proposed pipeline route and workspaces. AK identified 108 previously recorded archaeological sites and 8 previously recorded historic properties within 1 mile of the Project. Four archaeological sites (3FA0099, 3FA0100, 3PU0691, and 3PU0777) were identified as being located within the cultural survey corridor. None of these sites were determined as eligible for inclusion in the NRHP. One historic property (FA1041) was identified as being located within the cultural survey corridor. This historic property was determined as eligible for inclusion in the NRHP.

Approximately 8.11 miles of the Line BT-39 pipeline corridor was surveyed by RCGA in 2011. RCGA surveyed a 200-foot-wide corridor along a 17-mile-long proposed pipeline route, 17 proposed access roads, a proposed pipe storage/contractor yard (surveyed in two sections) measuring a total of 18.6 acres, and multiple extra temporary workspaces. Portions of the RCGA survey corridor are not included in the current Project design. The area surveyed by RCGA was not resurveyed during the AK survey. AK surveyed approximately 22.07 miles of 150-foot-wide corridor for the new Line BT-39 construction workspace. The survey corridor was expanded to 200 foot wide at stream and road crossings for 150 feet on each side of the resource. In addition, AK surveyed 102 access roads, 1.5 miles of reroutes, three contractor/storage yards totaling 9.64 acres, and multiple extra temporary workspaces that extended outside of the 150-foot-wide cultural survey corridor. AK also surveyed approximately 7.27 miles for the Line BT-14 corridor, 230 feet for the new Line BT-40 corridor, and 1,400 feet for the new Line BT-41 corridor.

All field work was performed by qualified archaeologists and consisted of shovel probes and visual inspection of surface terrain for cultural resources. The cultural resource survey was conducted prior to finalizing the Project design; therefore, the cultural resource survey included certain areas that are not currently part of the proposed Project. Survey methods included a combination of surface inspection and shovel testing. A surface inspection was conducted during the entire pedestrian survey. Areas that were relatively level (less than 15 percent slope) and were not saturated or inundated with water were shovel tested systematically at 66-foot intervals. Areas with sufficient surface visibility were subjected to pedestrian survey.

RCGA shovel tested the proposed pipeline corridor with three transects, one transect on the centerline, bordered by transects 66 feet on either side of the centerline. AK surveyed the proposed new BT-39 corridor with two transects spaced at 66-foot intervals and three transects at stream and road crossings as defined above. Additional shovel tests were conducted in some instances in areas within the survey corridor that were steeply sloping or poorly drained in order to be certain that there was adequate coverage. Workspaces that extended beyond or lay outside of the cultural survey corridors were shovel tested at 66-foot intervals along transects spaced 66 feet apart. Access roads were walked their entire length. Paved, graveled, and/or graded roads were photographed but not shovel tested. Shovel tests were placed along access road segments that passed through cultivated fields, pasture, forest, and other areas that have not been severely altered. A single transect of shovel tests spaced 66 feet apart was oriented along the center of each proposed access road in those areas. The pipe storage/contractor yards were shovel tested systematically at 66-foot intervals along transects spaced 66 feet apart. The Line BT-14 retirement (abandonment) survey corridor measured 50 foot wide for the areas identified for potential removal. Removal activities will be limited to the existing pipeline corridor. Shovel tests were placed at 66-foot intervals in areas not visibly disturbed by previous residential, commercial, and recreational construction activities.

All shovel tests were a minimum of 11.8 inches in diameter and excavated until culturally sterile subsoil was reached. The soil was screened through ¼-inch mesh hardware cloth. No shovel tests were conducted outside of the Project area. When artifacts were discovered, the site was delineated by excavating shovel tests at 16.5 and 33-foot intervals past the last positive 66-foot interval shovel test located in both directions along the centerline. Additional shovel tests were placed at 16.5 and 33-foot intervals throughout the site and within the survey corridor. When cultural resources were identified through pedestrian survey, additional time was spent inspecting the surface at close intervals to define site boundaries. Judgmental shovel tests were excavated at the sites to inspect for subsurface cultural material and record soil stratigraphy.

An architectural reconnaissance survey was conducted within the cultural survey corridors. No visual assessments for built resources were conducted for underground portions of the Project. The survey was limited to visual assessments of buildings from public ROWs and/or the cultural survey corridor.

Cultural resource surveys have been completed for the entire Project, including the proposed permanent easement, temporary construction ROW, ETWS, access roads, and pipe storage/contractor yard. Any cultural remains identified were assessed in terms of their potential for inclusion on the NRHP, based on nationally established criteria. The results of the surveys are summarized below.

### 4.3 RESULTS OF SURVEYS

**RCGA SURVEY** - RCGA identified three new archaeological sites (3FA0266, 3FA0267, 3FA0268) during cultural resource surveys of the proposed Project (Table 4.3-1). Another three archeological sites (3FA0265, 3FA0269, 3FA0270) were identified on route variations examined prior to identification of the final route. An abandoned house (103 Old Military Road) that may be older than 50 years was identified within the cultural survey corridor but was situated outside of the proposed permanent easement and temporary construction workspace; the structure will not be affected by the Project. Two previously recorded archeological sites were mapped near, but did not extend into the Project APE. The site of the early nineteenth century Cadron Settlement is mapped near the survey corridor, which also twice crosses one of the routes used in the Trail of Tears. In both cases, no cultural materials or features associated with these properties were identified. Site locations and detailed descriptions of the finds are available in the Cultural Resource Report (Appendix 4.A, Volume II). That volume is labeled "CONTAINS PRIVILEGED INFORMATION – DO NOT RELEASE."

**AK SURVEY** – AK identified 14 new archaeological sites, revisited four previously recorded sites registered with the AAS, recorded eight isolated finds, and one historic resource (FA1041) recorded with the AHPP within the Project APE (Table 4.3-2). The proposed Line BT-39 corridor is adjacent to the Cadron Settlement and crosses the approximate location of the Little Rock to Cantonment Gibson Military Road four times, which also served as an overland route of the Trail of Tears. No cultural features associated with these properties were defined during the cultural survey. Site locations and detailed descriptions of the finds are available in the Cultural Resource

Report (Appendix 4.A, Volume II). That volume is labeled “CONTAINS PRIVILEGED INFORMATION – DO NOT RELEASE.”

Tables 4.3-1 and 4.3-2 list the cultural resources identified as a result of background research and field survey, including the resource type and the recommended NRHP status and actions provided in the Cultural Resource Reports. The AHPP’s comments on the RCGA report were received on March 12, 2012. The AK Cultural Resource Report will be submitted to the AHPP in June 2013. Comments have not been received from the AHPP to date. Consultation with the AHPP to date is summarized in Section 4.4.2 (in Arkansas, the State Historic Preservation Office is part of the AHPP).

TABLE 4.3-1					
Summary of Identified Cultural Resources (RCGA)					
Site/Isolated Find/Structure Number	Facility/ Segment	County	Resource Type	Recommended NRHP Status	Recommended Action
3FA0266	Proposed Pipeline Route	Faulkner	Prehistoric artifact scatter	Not eligible	No additional work
3FA0267	Proposed Pipeline Route	Faulkner	Historic artifact scatter	Not eligible	No additional work
3FA0268	Proposed Pipeline Route (now offline)	Faulkner	Prehistoric isolated projectile point	Not eligible	No additional work
3FA0269	Route variation (now offline)	Faulkner	Late 20 <sup>th</sup> Century farmstead	Not eligible	No additional work
3FA0265	Route variation (now offline)	Faulkner	Historic artifact scatter	Not eligible	No additional work
3FA0270	Route variation (now offline)	Faulkner	Isolated prehistoric artifact	Not eligible	No additional work

TABLE 4.3-2					
Summary of Identified Cultural Resources (AK)					
Site/Isolated Find/Structure Number	Facility/ Segment	County	Resource Type	Recommended NRHP Status	Recommended Action
3FA0099	Proposed Contractor/Storage Yard	Faulkner	Multi-component prehistoric and historic artifact scatter	Not eligible	No additional work
3FA0100	Proposed Pipeline Route	Faulkner	Prehistoric artifact scatter	Not eligible	No additional work
3FA0274	Proposed Pipeline Route	Faulkner	Prehistoric artifact scatter	Not eligible	No additional work
3FA0275	Proposed Pipeline Route ( <b>avoided</b> )	Faulkner	Prehistoric artifact scatter	Undetermined	Avoidance or additional work
3FA0276	Proposed Pipeline Route ( <b>avoided</b> )	Faulkner	Prehistoric artifact scatter	Undetermined	Avoidance or additional work
3FA0277	Proposed Pipeline Route	Faulkner	Multi-component prehistoric and historic artifact scatter	Not eligible	No additional work



TABLE 4.3-2

**Summary of Identified Cultural Resources (AK)**

<b>Site/Isolated Find/Structure Number</b>	<b>Facility/ Segment</b>	<b>County</b>	<b>Resource Type</b>	<b>Recommended NRHP Status</b>	<b>Recommended Action</b>
3FA0278	Proposed Pipeline Route ( <b>avoided</b> )	Faulkner	Historic artifact scatter	Undetermined	Avoidance or additional work
3FA0279	Proposed Pipeline Route	Faulkner	Multi-component prehistoric artifact scatter and historic domestic site	Not eligible	No additional work
3PU0691	Proposed Pipeline Route	Pulaski	Multi-component prehistoric artifact scatter and historic domestic site	Not eligible	No additional work
3PU0777	Proposed Pipeline Route	Pulaski	Historic domestic site	Not eligible	No additional work
3PU0844	Proposed Pipeline Route ( <b>avoided</b> )	Pulaski	Multi-component prehistoric camp site and historic domestic site	Undetermined	Avoidance or additional work
3PU0845	Proposed Pipeline Route	Pulaski	Prehistoric artifact scatter	Not eligible	No additional work
3PU0846	Proposed Pipeline Route	Pulaski	Prehistoric artifact scatter	Not eligible	No additional work
3PU0847	Proposed Pipeline Route	Pulaski	Multi-component prehistoric artifact scatter and historic domestic site	Not eligible	No additional work
3PU0848	Proposed Pipeline Route	Pulaski	Prehistoric artifact scatter	Not eligible	No additional work
3PU0849	Proposed Pipeline Route	Pulaski	Historic domestic site	Not eligible	No additional work
3PU0850	Proposed Pipeline Route ( <b>avoided</b> )	Pulaski	Prehistoric artifact scatter	Undetermined	Avoidance or additional work
3PU0851	Proposed Pipeline Route	Pulaski	Prehistoric isolated projectile point	Not eligible	No additional work
Isolated Find #1	Proposed Pipeline Route	Pulaski	Isolated prehistoric artifact	Not eligible	No additional work
Isolated Find #2	Proposed Pipeline Route	Faulkner	Isolated prehistoric artifact	Not eligible	No additional work
Isolated Find #3	Proposed Pipeline Route	Faulkner	Isolated prehistoric artifact	Not eligible	No additional work
Isolated Find #4	Proposed Pipeline Route	Pulaski	Isolated prehistoric artifact	Not eligible	No additional work
Isolated Find #5	Proposed Pipeline Route	Pulaski	Isolated prehistoric artifact	Not eligible	No additional work
Isolated Find #6	Proposed Pipeline Route	Faulkner	Isolated prehistoric artifact	Not eligible	No additional work
Isolated Find #7	Proposed Pipeline Route	Faulkner	Isolated prehistoric artifact	Not eligible	No additional work
Isolated Find #8	Proposed Pipeline Route	Pulaski	Isolated prehistoric artifact	Not eligible	No additional work
FA1041	Proposed Pipeline Route ( <b>avoided</b> )	Faulkner	Historic road	Eligible	Avoidance



#### 4.3.1 Archeological Sites

**RCGA Sites** - Site 3FA0266 is a prehistoric lithic scatter of unknown age that was recommended ineligible for the NRHP. Site 3FA0267 is a historic artifact scatter dating from the late nineteenth to mid-twentieth century, possibly associated with structures depicted on maps dating from 1936 and 1961 in the general area. The low density artifact scatter lacks integrity and was recommended ineligible for the NRHP. Site 3FA0268 also was recommended ineligible for the NRHP; it is represented by an isolated projectile point that probably was produced during the Late Archaic period. No further work was recommended at any of the three sites located within the Project area.

The three sites located on route variations also were recommended ineligible for the NRHP. Site 3FA0265 is a late nineteenth to early twentieth century historic and limited prehistoric artifact scatter near a brick-lined well situated approximately 197 feet south of the survey corridor. The low density artifact scatter was recovered almost entirely from the plowzone and was recommended ineligible for the NRHP. Site 3FA0269 is a mid to late twentieth century farm complex, including a concrete house foundation, carport, and possible pump house. The site was recommended ineligible for the NRHP due to the very limited number of artifacts and modern age of the site. Site 3FA0270 is an isolated prehistoric find consisting of a single piece of debitage.

**AK Sites** - Eight of the identified sites are isolated finds based on the definition of an archaeological site provided in the Arkansas Guidelines. These isolated finds include fewer than three cultural artifacts and no diagnostic artifacts or unusual finds. No official AAS numbers are assigned to isolated finds and are reported here as Isolated Finds #1-8. These isolated finds are not eligible for inclusion in the NRHP.

Thirteen of the newly recorded and revisited sites were determined to be not eligible for inclusion in the NRHP. These sites consist of four multi-component sites (3FA0099, 3FA0277, 3PU0691, and 3PU0847), six are prehistoric lithic scatters (3FA0100, 3FA0274, 3PU0845, 3PU0846, 3PU0848, and 3PU0851), and the remaining three are historic sites (3FA0278, 3PU0777, and 3PU0849). No further work was recommended for these sites.

Site 3FA0276 is a moderate to high density prehistoric lithic scatter located on an abandoned channel of the Arkansas River. Recovered artifacts could not be associated with a specific temporal period. AK recommended avoidance or additional work to determine the NRHP eligibility of Site 3FA0276 based on the density of artifacts and the diverse raw material. CEGT developed and adopted Route Variation RV-5 to avoid Site 3FA0276. Therefore, construction of Line BT-39 will not affect Site 3FA0276.

Site 3FA0279 is a historic domestic site and a light prehistoric lithic scatter. The site consists of a remnant of a stone chimney, a depression that may be a root cellar or collapsed well, and cultural materials that date to the mid nineteenth to mid-twentieth century. The site may represent an early frontier era domestic site. Based on the density of artifacts and the presence of historic features, AK recommended avoidance or additional work to determine the NRHP eligibility of Site 3FA0279. CEGT developed and adopted Route Variation RV-2 to avoid Site 3FA0279. Therefore, construction of Line BT-39 will not affect Site 3FA0279.

Sites 3FA0275 and 3PU0850 are both moderate to high density prehistoric lithic scatters. Site 3FA0275 likely dates to the Woodland period and Site 3PU0850 likely dates to the Archaic period based on recovered projectile points. AK recommended avoidance or additional work to determine the NRHP eligibility of Sites 3FA0275 and 3PU0850 based on the density of artifacts and the diverse raw material. CEGT is extending the length of the Palarm Creek horizontal directional drill (HDD) to avoid Sites 3FA0275 and 3PU0850. Therefore, construction of Line BT-39 will not affect Sites 3FA0275 or 3PU0850.

Site 3PU0844 is a moderate density prehistoric lithic scatter and a historic period domestic site. The site consists of prehistoric artifacts indicating that the site may have functioned as a camp site. Historic artifacts and the remnants of a structural outbuilding indicate a late nineteenth to mid-twentieth century domestic site. Based on the density of artifacts and the diversity of raw material, AK recommended avoidance or additional work to determine the NRHP eligibility of the prehistoric component of Site 3PU0844. CEGT is extending the HDD of Interstate 40 to avoid Site 3PU0844. Therefore, construction of Line BT-39 will not affect Site 3PU0844.

### 4.3.2 Historic Resources

RCGA identified one dwelling older than 50 years located within the 200-foot-wide cultural survey corridor. Located at 103 Old Military Road, the architectural materials used in construction of this now-abandoned structure suggest that it dates from the mid- to late-twentieth century. The structure does not appear on historic maps or in current tax records. The structure is situated approximately 10 feet north of the construction workspace and will not be directly affected by construction of the proposed Project. AK identified two historic structures associated with archaeological sites 3PU0847 and 3PU0849. The architectural remains and cultural material indicate a late nineteenth or early twentieth century construction date. Both structures are located outside of the construction workspace and will not be directly affected by construction of Line BT-39.

Historic Resource FA1041 was identified as being located within or immediately adjacent to the cultural survey corridor during background research for the Project. This resource is a segment of the Little Rock to Cantonment Gibson Military Road previously determined eligible for inclusion in the NRHP. Field surveys determined that the southern end of the resource was within the cultural survey corridor but not within the proposed construction workspace. AK recommended avoidance for FA1041. To ensure the resource would be avoided, CEGT developed and adopted route variation RV-3 for the Project. Therefore, FA1041 will not be affected by construction of Line BT-39.

### 4.3.3 Cemeteries

No cemeteries were identified within the proposed Project APE. One cemetery (Site 3FA113) that was mapped near the proposed pipeline route was relocated during the survey and found to be located approximately 394 ft west of the Project centerline, over 300 ft outside of the APE.

## 4.4 CONSULTATIONS

### 4.4.1 Native American Tribal Consultation

In accordance with the FERC's guidelines, CEGT has contacted Native Americans and other interested parties who may have knowledge of or interest in cultural resources that may be affected by the proposed Project. On behalf of CEGT, AK sent letters describing the Project to twenty Native American Tribes listed on a contact list maintained by the AHPP. These tribes included the Absentee Shawnee Tribe, the Alabama-Quassarte Tribal Town, the Caddo Nation, the Cherokee Nation of Oklahoma, the Chickasaw Nation, the Choctaw Nation of Oklahoma, the Delaware Nation, the Eastern Shawnee Tribe of Oklahoma, the Jenna Band of Choctaw Indians, the Kialegee Tribal Town, the Mississippi Band of Choctaw Indians, the Muscogee (Creek) Nation of Oklahoma, the Osage Nation, the Quapaw Tribe of Oklahoma, the Seminole Nation of Oklahoma, the Thlopthlocco Tribal Town, the Tunica-Biloxi Tribe of Louisiana, Inc., the United Keetoowah Band of Cherokee Indians, the Wichita & Affiliated Tribes, and the Shawnee Tribe of Oklahoma. The contact list was deliberately broad due to the proximity of the Project to known routes of the Trail of Tears. Table 4.4-1 summarizes Native American consultations conducted for the proposed Project.

Responses were received from seven of the tribes: the Chickasaw Nation, the United Keetoowah Band of Cherokee Indians, The Delaware Nation, the Kialegee Tribal Town, The Choctaw Nation of Oklahoma, the Eastern Shawnee Tribe of Oklahoma, and the Osage Nation. Two tribes indicated that they had no interest or objection to the Project. Two other tribes asked to be contacted should cultural materials be identified. The other three requested copies of the cultural reports and/or to be consulting parties during the Project. Copies of tribal correspondence are provided in Appendix 4.B.

TABLE 4.4.-1

**Summary of Native American Tribal Consultation**

<b>Native American Tribe Name</b>	<b>Contact Date</b>	<b>Tribal Response and date</b>
Absentee Shawnee Tribe	Letter 12/22/2012	No response
Alabama-Quassarte Tribal Town, Creek Nations of Indians, Oklahoma	Letter 12/22/2012	No response
Caddo Nation	Letter 12/22/2012	No response
Cherokee Nation of Oklahoma	Letter 12/22/2012	No response
The Chickasaw Nation	Letter 12/22/2012	A letter dated 2/5/2013 indicated the Chickasaw Nation environmental services had no comment to provide for the Project at that time. The letter did request that if activities generate any environmentally detrimental effects or any culturally significant material or remains are unearthed to immediately notify the Chickasaw Nation.
Choctaw Nation of Oklahoma	Letter 12/22/2012	In an email dated 1/15/2013, Johnnie Jacobs indicated that the Choctaw nation of Oklahoma would like to participate as a consulting party for the Project and requested a copy of the Phase I report.
Delaware Nation	Letter 12/22/2012	In an email dated 1/2/2013 Corey Smith stated that the Delaware Nation will not be a consulting party to the Project.
Eastern Shawnee Tribe of Oklahoma	Letter 12/22/2012	In a follow-up phone conversation Chief Glenna Wallace indicated that the Eastern Shawnee Tribe of Oklahoma would not participate in the Pre-Filing Process.
Jena Band of the Choctaw Indians	Letter 12/22/2012	No response
Kialegee Tribal Town	Letter 12/22/2012	In a phone conversation on 1/15/2013 Town King Tiger Hobai indicated that the tribe would like to be included in the pre-filing process.
Mississippi Band of Choctaw Indians	Letter 12/22/2012	No response
Muscogee (Creek) Nation of Oklahoma	Letter 12/22/2012	No response
The Osage Nation	Letter 12/22/2012	In a letter dated 4/3/2013, James Munkres indicated that the Osage Nation requested a reconnaissance survey to be conducted and requested a copy of the Phase I Survey report for review.
Quapaw Tribe of Oklahoma	Letter 12/22/2012	No response
Seminole Nation of Oklahoma	Letter 12/22/2012	No response
Thlopthlocco Tribal Town	Letter 12/22/2012	No response
Tunica-Biloxi Tribe of Louisiana, Inc.	Letter 12/22/2012	No response
United Keetoowah Band of Cherokee Indians	Letter 12/22/2012	In an email dated 1/14/2013 Lisa Larue-Baker stated that the United Keetoowah Band of Cherokee Indians of Oklahoma had no comments or objections to the Project but would like to be notified if human remains are inadvertently discovered.
Wichita & Affiliated Tribes	Letter 12/22/2012	No response
Shawnee Tribe of Oklahoma	Letter 12/22/2012	No response

#### 4.4.2 AHPP Consultation

CEGT submitted the RCGA Cultural Resource Report for the Project to AHPP in February 2012. The AHPP provided comments on the report on March 12, 2012 and concurred with the recommendation that the archeological sites affected by the Project are not eligible for the National Register of Historic Places and that the Project will have no effect on historic resources.

AK, on behalf of CEGT, initiated consultation with the AHPP for the Project on February 2, 2013. In a letter dated February 14, 2013 the AHPP requested additional maps for their review. These maps were submitted on March 6, 2013. The AHPP requested a cultural resources survey in a letter dated March 21, 2013. A clarification regarding the cultural resources survey was recorded on April 11, 2013.

Copies of relevant correspondence with the AHPP are provided as Appendix 4.D.

#### 4.5 UNANTICIPATED DISCOVERY

CEGT has developed an Unanticipated Discovery of Cultural Resources and Human Remains Plan (Appendix 4.C) that outlines the procedures that would be followed in the event that unanticipated cultural resources or human remains are encountered during construction of the proposed Project. The plan calls for the protection of cultural remains until appropriate examination and consultation occur. If cultural remains are deemed eligible for NRHP inclusion, then a mitigation plan will be developed in consultation with the appropriate parties. The Unanticipated Discovery of Cultural Resources and Human Remains Plan addresses:

- Actions to be taken upon observation of cultural materials, including:
  - stopping work;
  - minimizing equipment use/movement;
  - making proper notifications;
  - conducting an archaeological examination/evaluation;
  - analyzing options and developing a plan for avoidance, mitigation, etc.; and
  - treatment.
- Actions to be taken upon observation of human remains, including:
  - stopping work and securing the area;
  - making proper notifications, including local law enforcement, the medical examiner, and Native American representatives;
  - minimizing equipment use/movement;
  - conducting an appropriate examination/evaluation;
  - preparing a memorandum of agreement to develop and implement an appropriate treatment plan; and
  - treating human remains with dignity and respect.

## **APPENDIX 4.A**

### **CULTURAL SURVEY REPORT**

**(Filed In Volume II – Privileged and Confidential)**

## **APPENDIX 4.B**

### **NATIVE AMERICAN TRIBAL CONSULTATIONS**



December 22, 2012

Mr. Leonard M. Harjo, Principal Chief  
Seminole Nation of Oklahoma  
PO Box 1498  
Wewoka, OK 74884

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Harjo,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

CEGT, in cooperation with its affiliated natural gas distribution business, is proposing the Central Arkansas Pipeline Enhancement Project. The Project will provide for the continued safe, reliable, and efficient transportation of natural gas to the central Arkansas cities and towns of Conway, Mayflower, Maumelle, North Little Rock, and Little Rock. CEGT currently owns and operates multiple, existing pipelines in this region, but the region has experienced substantial residential and commercial development since the original pipeline facilities were constructed. The pipeline enhancement project provides CEGT with the opportunity to install new pipeline facilities to better serve its current customers, while also laying the groundwork for additional pipeline capacity to meet future growth, as needed. As part of the Project, CEGT will also retire from service (abandon) some existing pipeline assets, while also realigning ownership of some other existing pipeline infrastructure to its distribution affiliate. Such realignment and repurposing of existing pipeline infrastructure will provide for cost savings and more efficient delivery of natural gas in the Project area, all of which should benefit end use customers.

---

AK Environmental, LLC | [www.ak-env.com](http://www.ak-env.com)

222 Rolling Meadow Drive, Holliston, MA 01746 t. 339.203.7045 f. 781.394.8377

West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA

As part of the Project, CEGT is proposing the installation of approximately 28 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 9.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT's distribution affiliate, and an approximately 21-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service (abandoned). Other minor ancillary facilities and small diameter pipelines within the City of Conway (*i.e.*, Lines BM-1 and BT-19) would also be abandoned in association with the proposed Project. Refer to the attached Project overview map for a depiction of the existing and proposed pipeline facilities associated with the Project.

CEGT would like to invite you to participate in the NEPA Pre-Filing Process, as your participation will allow CEGT to prepare a more comprehensive and responsive FERC application. If you are interested and available to participate in the FERC's NEPA Pre-Filing process, please complete the enclosed Agency Participation Response Form. You also may send a formal response letter to me at the address on this letter or by email to [rweissman@ak-env.com](mailto:rweissman@ak-env.com). On behalf of CEGT, AK will provide documentation of the participating agencies to CEGT and the FERC Staff. Should you have any questions regarding the Project, please do not hesitate to contact me by email or phone. Thank you for your consideration.

Sincerely,

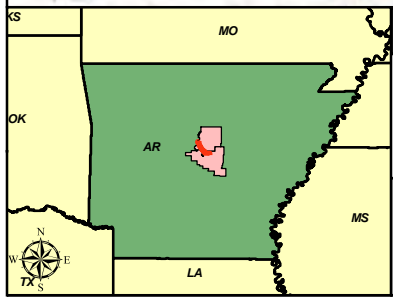
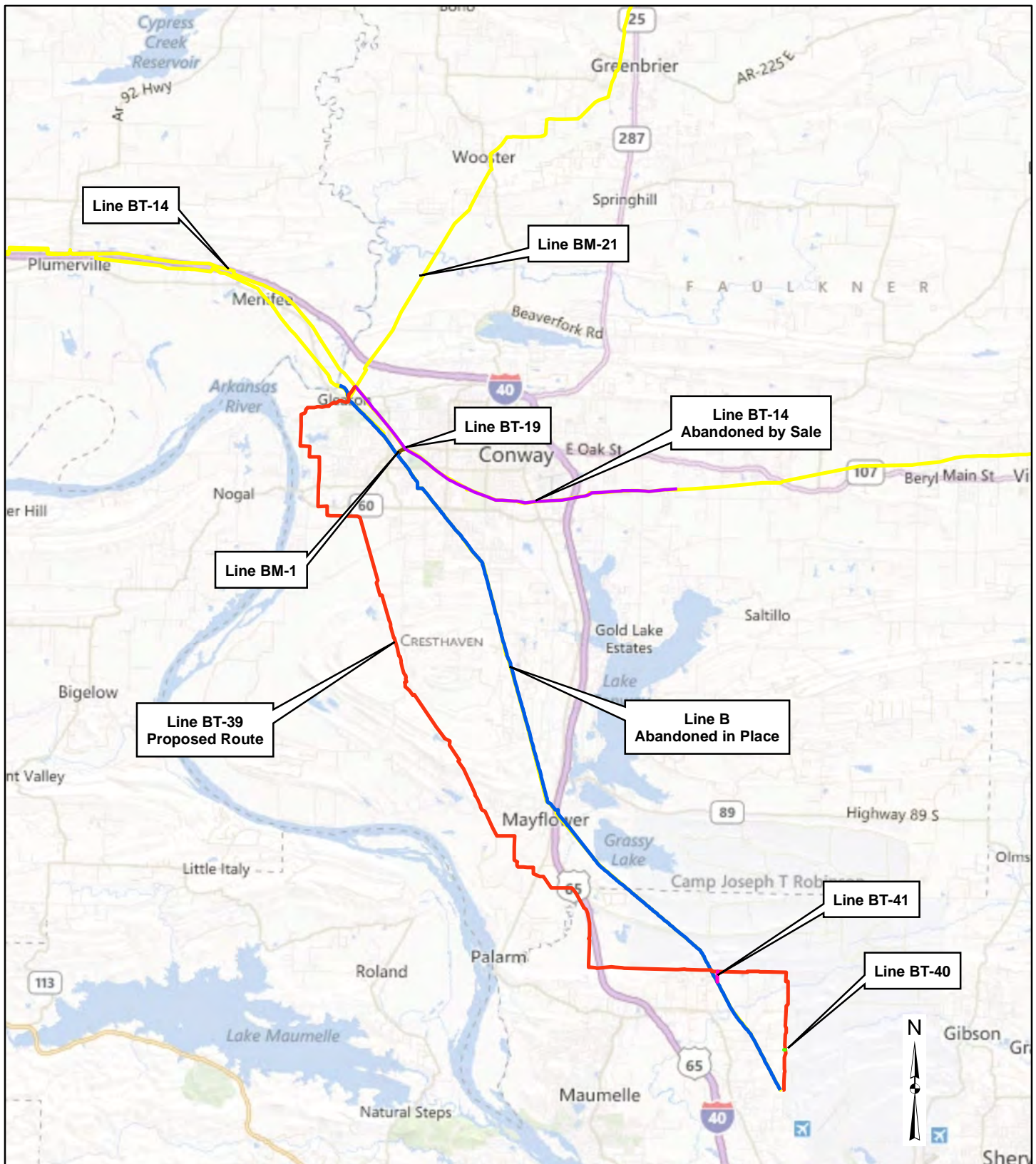


Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT





Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

0 2.5 5 10 Miles

Legend	
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**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

This signed form serves as confirmation that we have received a letter dated December 21, 2012 regarding participation in the FERC Pre-Filing Process for the Central Arkansas Pipeline Enhancement Project. At this time, we:

- ☐ Will participate in the FERC Pre-Filing Process
- ☐ Will not participate in the FERC Pre-Filing Process

**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Mr. Gregory E. Pyle, Chief  
Choctaw Nation of Oklahoma  
PO Box 1210  
Duran, OK 74702

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Pyle,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

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As part of the Project, CEGT is proposing the installation of approximately 28 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 9.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT's distribution affiliate, and an approximately 21-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service (abandoned). Other minor ancillary facilities and small diameter pipelines within the City of Conway (*i.e.*, Lines BM-1 and BT-19) would also be abandoned in association with the proposed Project. Refer to the attached Project overview map for a depiction of the existing and proposed pipeline facilities associated with the Project.

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Sincerely,

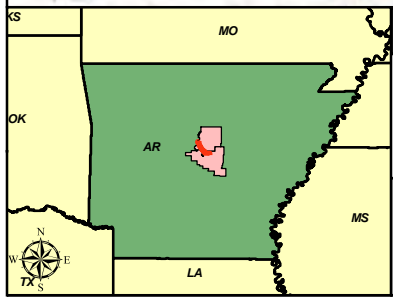
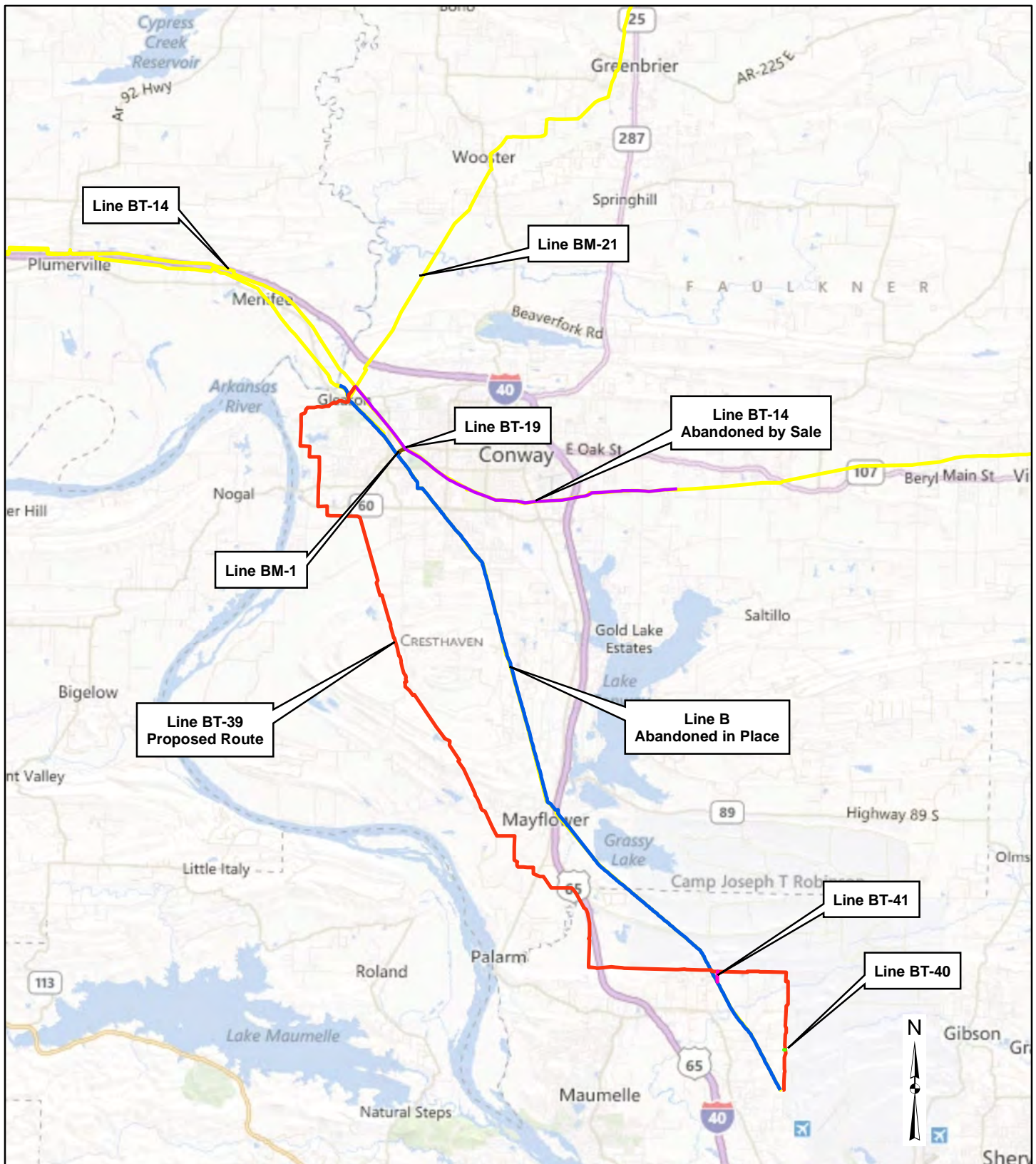


Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT





Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

0 2.5 5 10 Miles

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**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

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- ☐ Will participate in the FERC Pre-Filing Process
- ☐ Will not participate in the FERC Pre-Filing Process

**Name:**

---

**Department:**

---

**Position Title:**

---

**Signature**

**Date:**

---

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Ms. Brenda Shemayne Edwards, Chairperson  
Caddo Nation  
PO Box 487  
Binger, OK 73009

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Ms. Edwards,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

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As part of the Project, CEGT is proposing the installation of approximately 28 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 9.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT's distribution affiliate, and an approximately 21-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service (abandoned). Other minor ancillary facilities and small diameter pipelines within the City of Conway (*i.e.*, Lines BM-1 and BT-19) would also be abandoned in association with the proposed Project. Refer to the attached Project overview map for a depiction of the existing and proposed pipeline facilities associated with the Project.

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Sincerely,

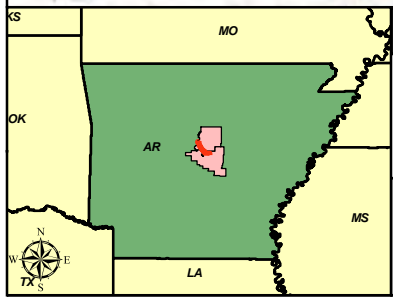
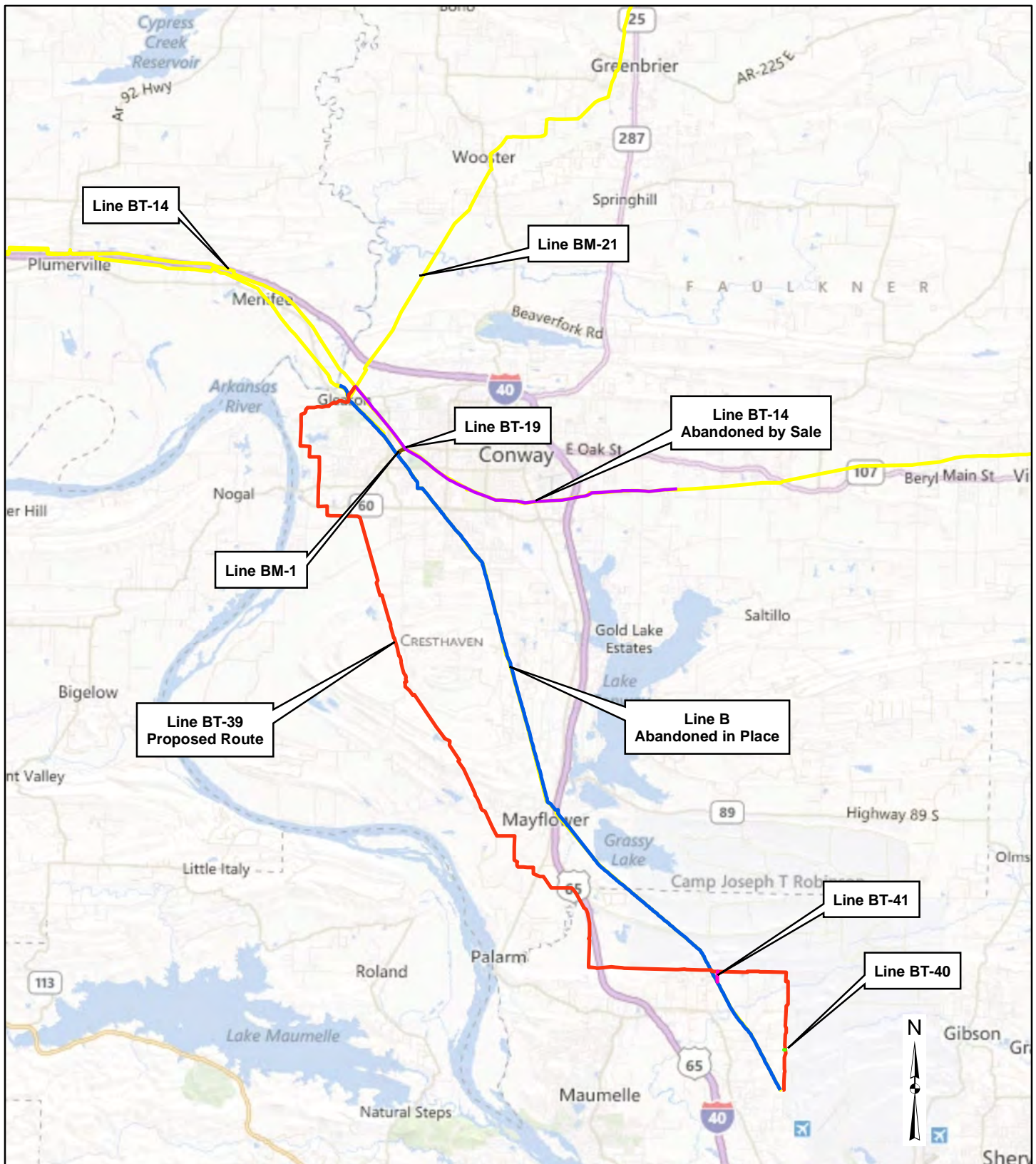


Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT





<p>Drawn On: December 21, 2012</p>	<p><b>Overall Project Location Map</b></p> <p><b>Line B Replacement - Conway to Little Rock</b></p> <p>Faulkner and Pulaski Counties, Arkansas</p>	<p>Page 1 of 1</p>
<p>0 2.5 5 10 Miles</p>		
<p>Prepared For:</p>	<p>AK Environmental, LLC 5020 Ritter Road Suite 206 Mechanicsburg, PA 17055</p>	

Legend	
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**Agency/Tribe/Stakeholder Participation Response Form**

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- ☐ Will participate in the FERC Pre-Filing Process
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**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Mr. George Blanchard, Governor  
Absentee Shawnee Tribe  
2025 S. Gordon Cooper  
Shawnee, OK 74801

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Blanchard,

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West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA

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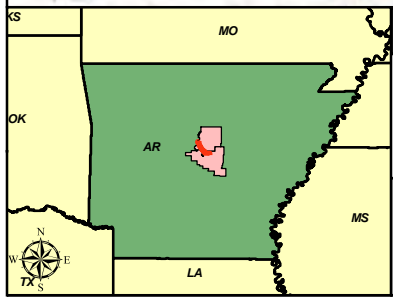
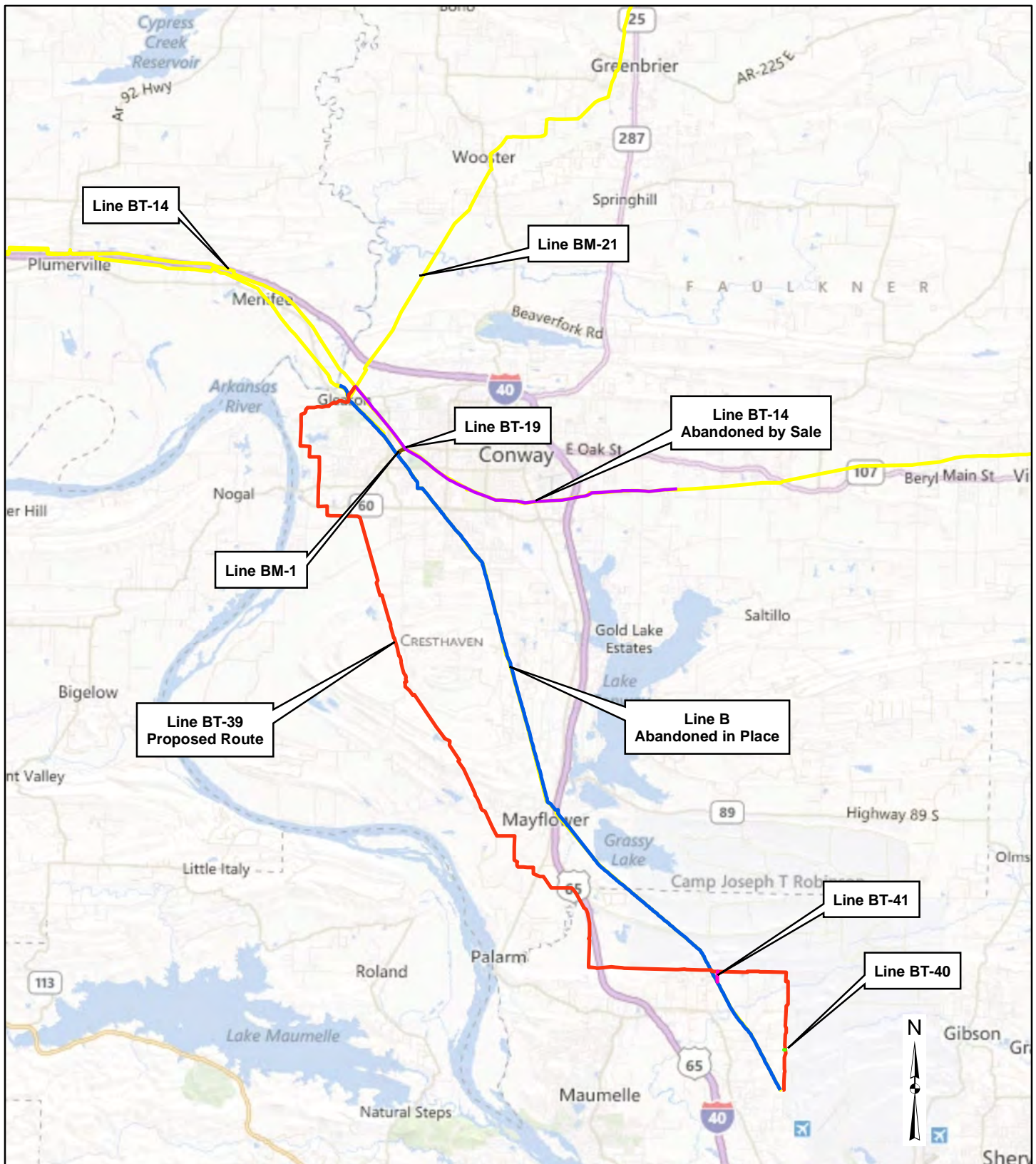


Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT





Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

0 2.5 5 10 Miles

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**CEGT Central Arkansas Pipeline Enhancement Project**  
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**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Mr. Tarpie Yargee, Chief  
Alabama-Quassarte Tribal Town Creek Nations of Indians, Oklahoma  
PO Box 187  
Wetumka, OK 74883

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Yargie,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

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AK Environmental, LLC | [www.ak-env.com](http://www.ak-env.com)

222 Rolling Meadow Drive, Holliston, MA 01746 t. 339.203.7045 f. 781.394.8377

West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA

As part of the Project, CEGT is proposing the installation of approximately 28 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 9.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT's distribution affiliate, and an approximately 21-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service (abandoned). Other minor ancillary facilities and small diameter pipelines within the City of Conway (*i.e.*, Lines BM-1 and BT-19) would also be abandoned in association with the proposed Project. Refer to the attached Project overview map for a depiction of the existing and proposed pipeline facilities associated with the Project.

CEGT would like to invite you to participate in the NEPA Pre-Filing Process, as your participation will allow CEGT to prepare a more comprehensive and responsive FERC application. If you are interested and available to participate in the FERC's NEPA Pre-Filing process, please complete the enclosed Agency Participation Response Form. You also may send a formal response letter to me at the address on this letter or by email to [rweissman@ak-env.com](mailto:rweissman@ak-env.com). On behalf of CEGT, AK will provide documentation of the participating agencies to CEGT and the FERC Staff. Should you have any questions regarding the Project, please do not hesitate to contact me by email or phone. Thank you for your consideration.

Sincerely,

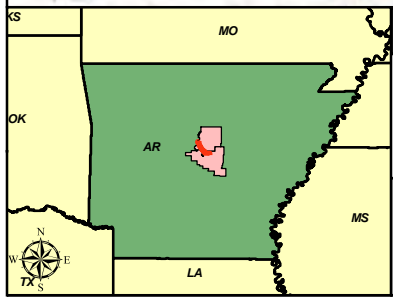
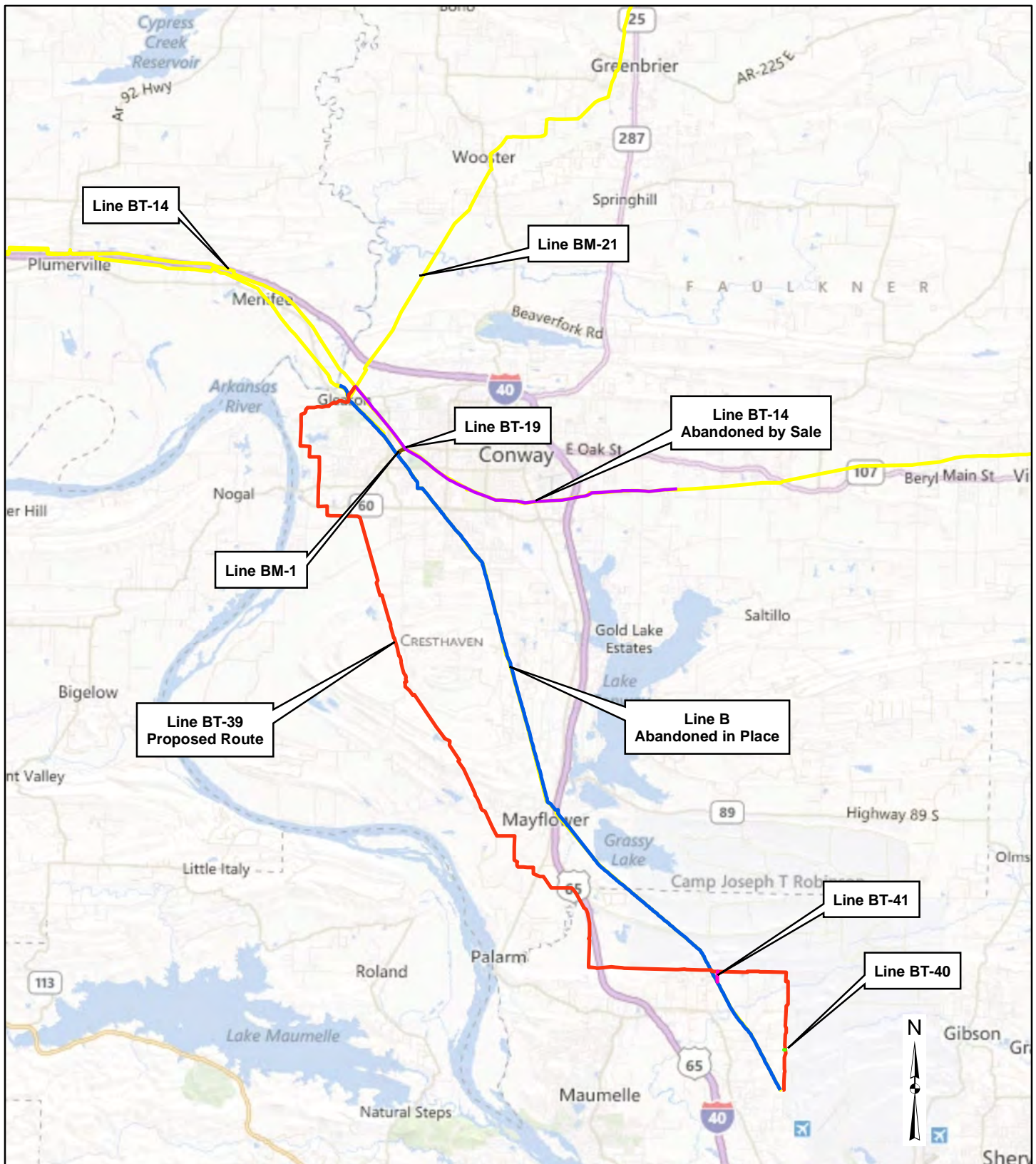


Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT





Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

Legend	
<span style="color: red;">—</span>	Line BT-39
<span style="color: green;">—</span>	Line BT-40
<span style="color: blue;">—</span>	Line BT-41
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**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

This signed form serves as confirmation that we have received a letter dated December 21, 2012 regarding participation in the FERC Pre-Filing Process for the Central Arkansas Pipeline Enhancement Project. At this time, we:

- ☐ Will participate in the FERC Pre-Filing Process
- ☐ Will not participate in the FERC Pre-Filing Process

**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Mr. Chad Smith, Principal Chief  
Cherokee Nation of Oklahoma  
PO Box 948  
Tahlequah, OK 74465

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Smith,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

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West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA

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Sincerely,



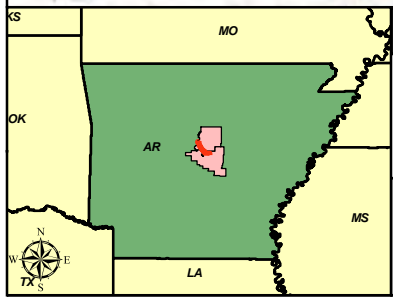
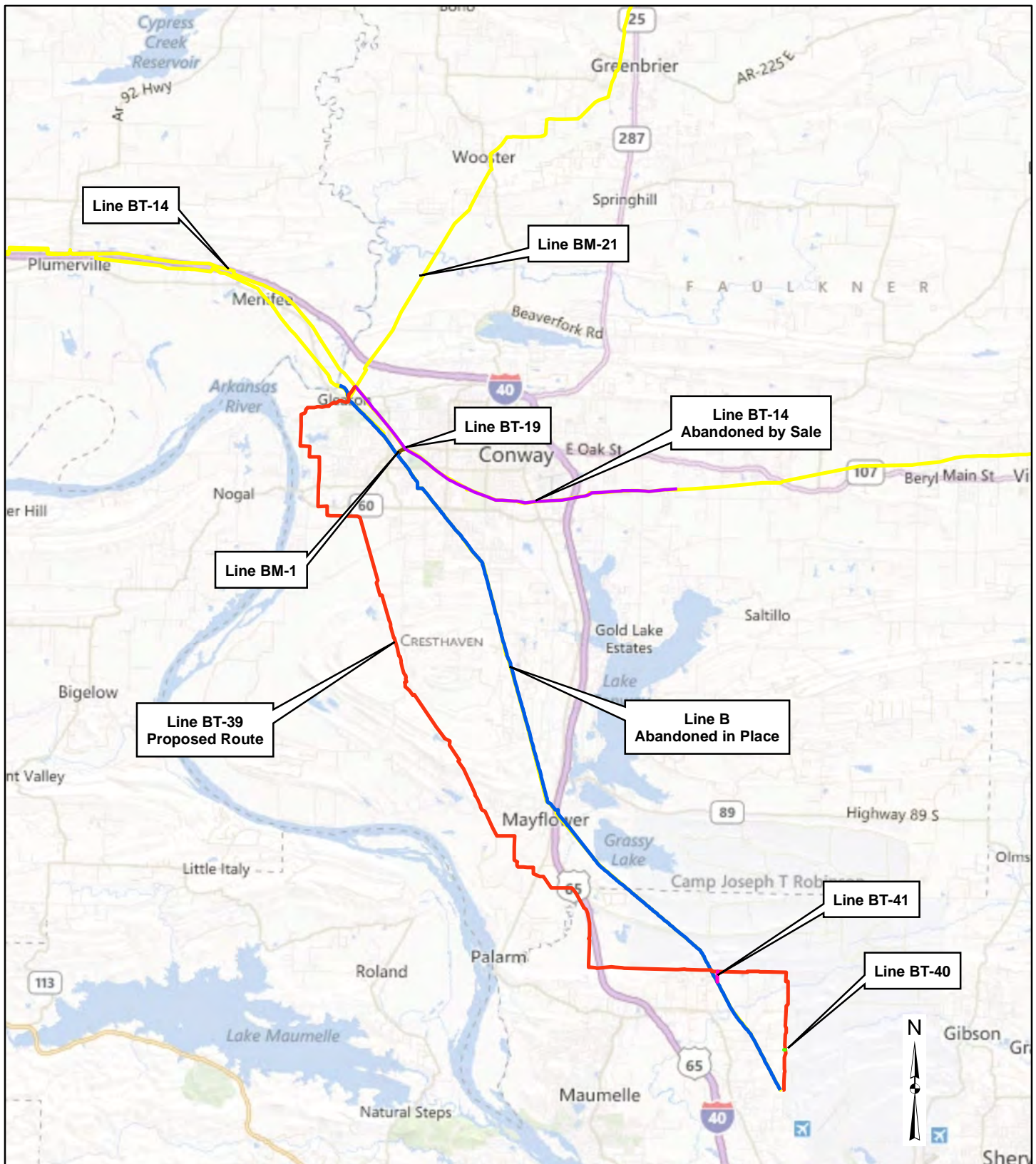
Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT







Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

0 2.5 5 10 Miles

Legend	
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**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

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- ☐ Will participate in the FERC Pre-Filing Process
- ☐ Will not participate in the FERC Pre-Filing Process

**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Mr. Bill Anoatubby, Governor  
The Chickasaw Nation  
2020 Arlington, Suite 4  
PO Box 1548  
Ada, OK 74821-1548

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Anoatubby,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

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West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA



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As part of the Project, CEGT is proposing the installation of approximately 28 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 9.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT's distribution affiliate, and an approximately 21-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service (abandoned). Other minor ancillary facilities and small diameter pipelines within the City of Conway (*i.e.*, Lines BM-1 and BT-19) would also be abandoned in association with the proposed Project. Refer to the attached Project overview map for a depiction of the existing and proposed pipeline facilities associated with the Project.

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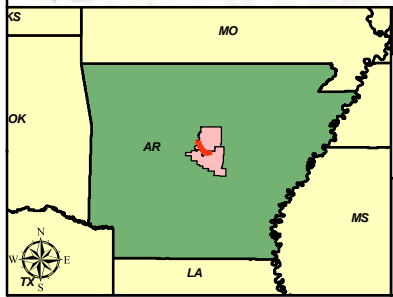
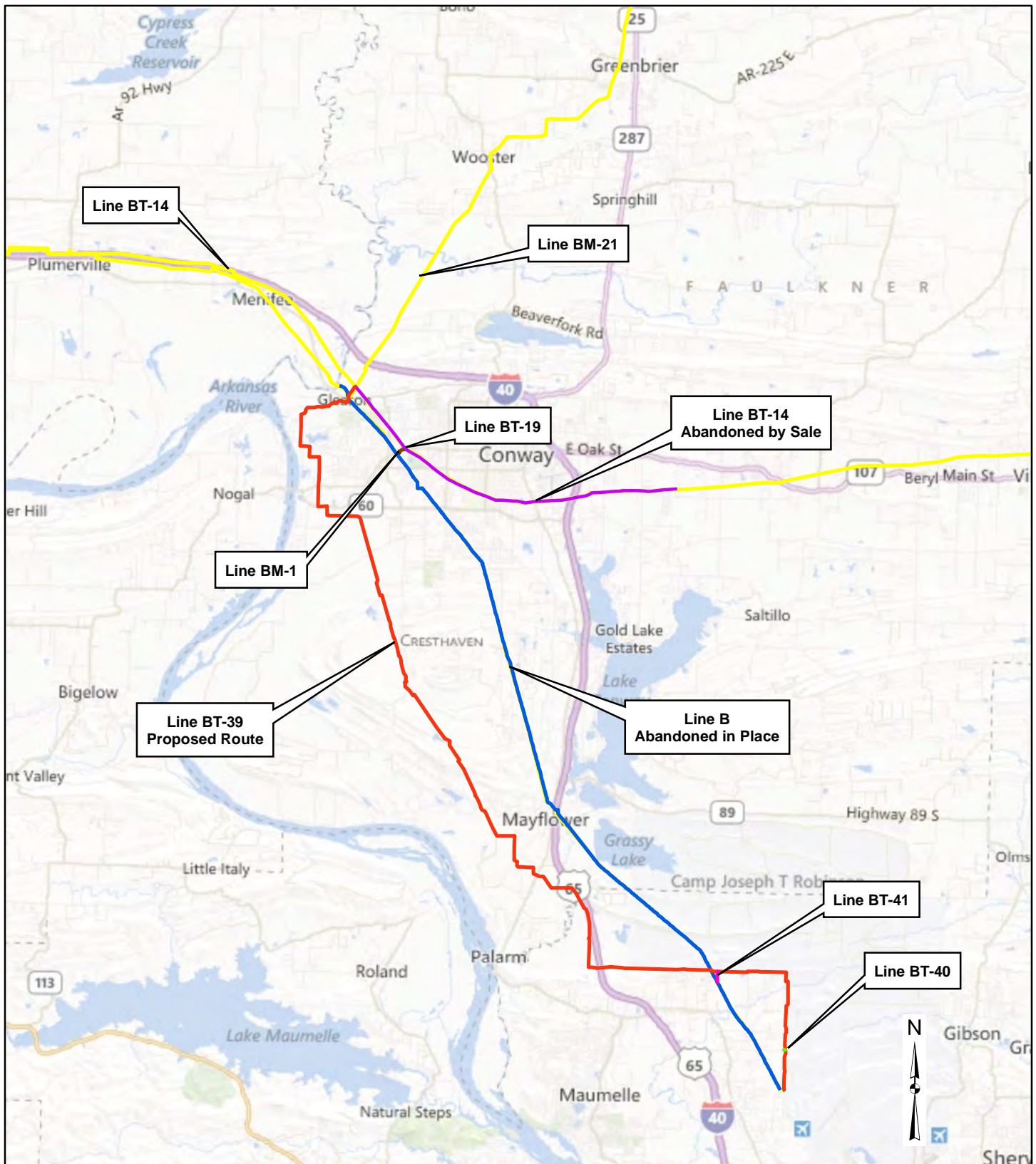


Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT





Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

0 2.5 5 10 Miles

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

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**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

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**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Mr. Kerry Holton, President  
The Delaware Nation  
PO Box 825  
Anadarko, OK 73005

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Holton,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

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West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA

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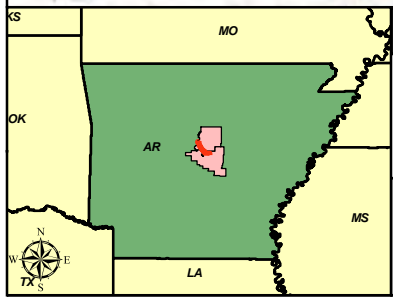
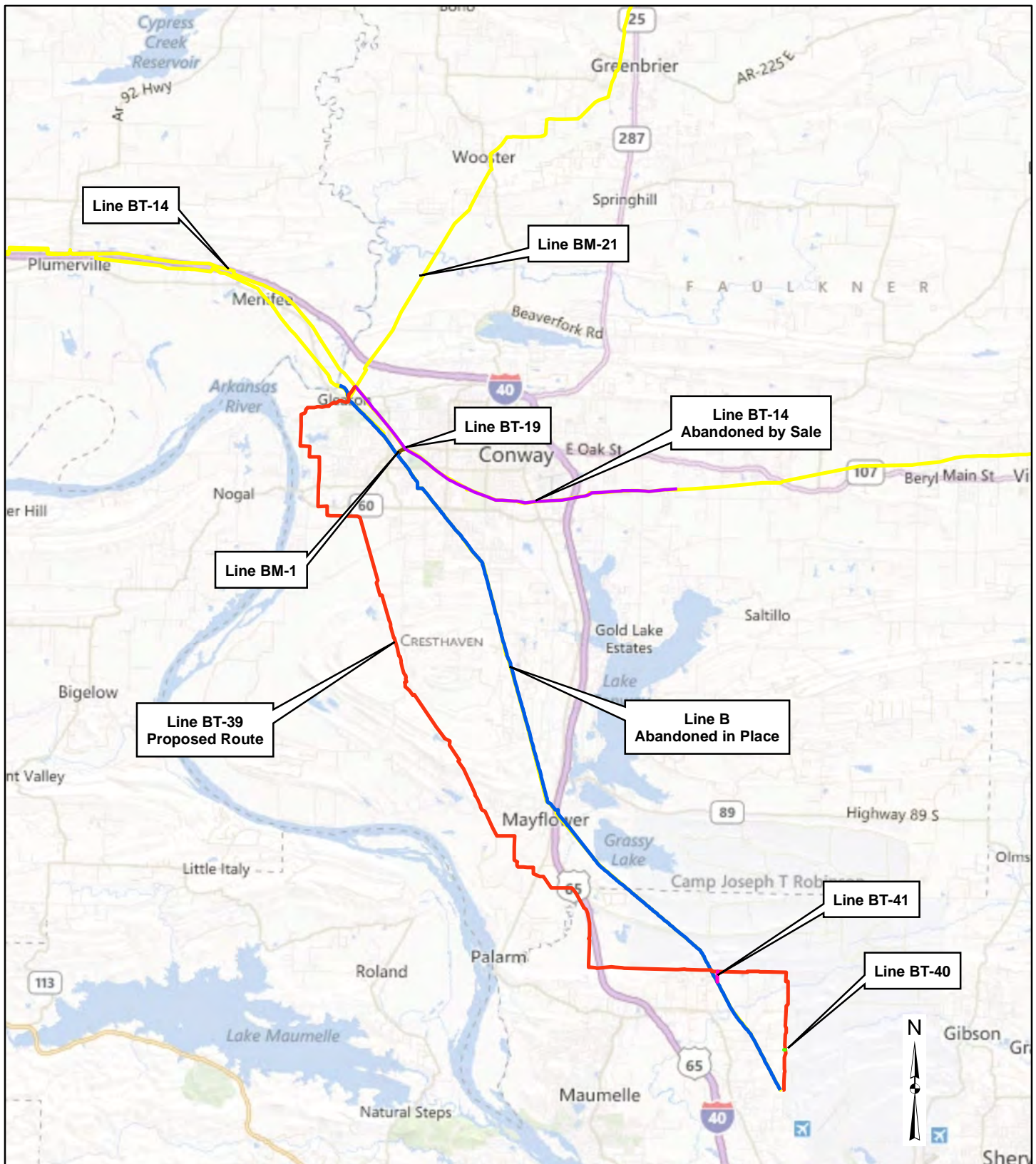


Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT





Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
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**Name:**

**Department:**

**Position Title:**

**Signature**

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**Comments (optional):**

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Rebecca Weissman  
Deputy Project Manager  
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222 Rolling Meadow Drive  
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Phone: (339) 203-7045  
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Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)





December 22, 2012

Ms. Glenna J. Wallace, Chief  
Eastern Shawnee Tribe of Oklahoma  
PO Box 350  
Seneca, MO 64865

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Ms. Wallace,

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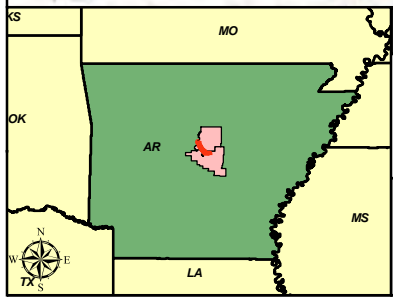
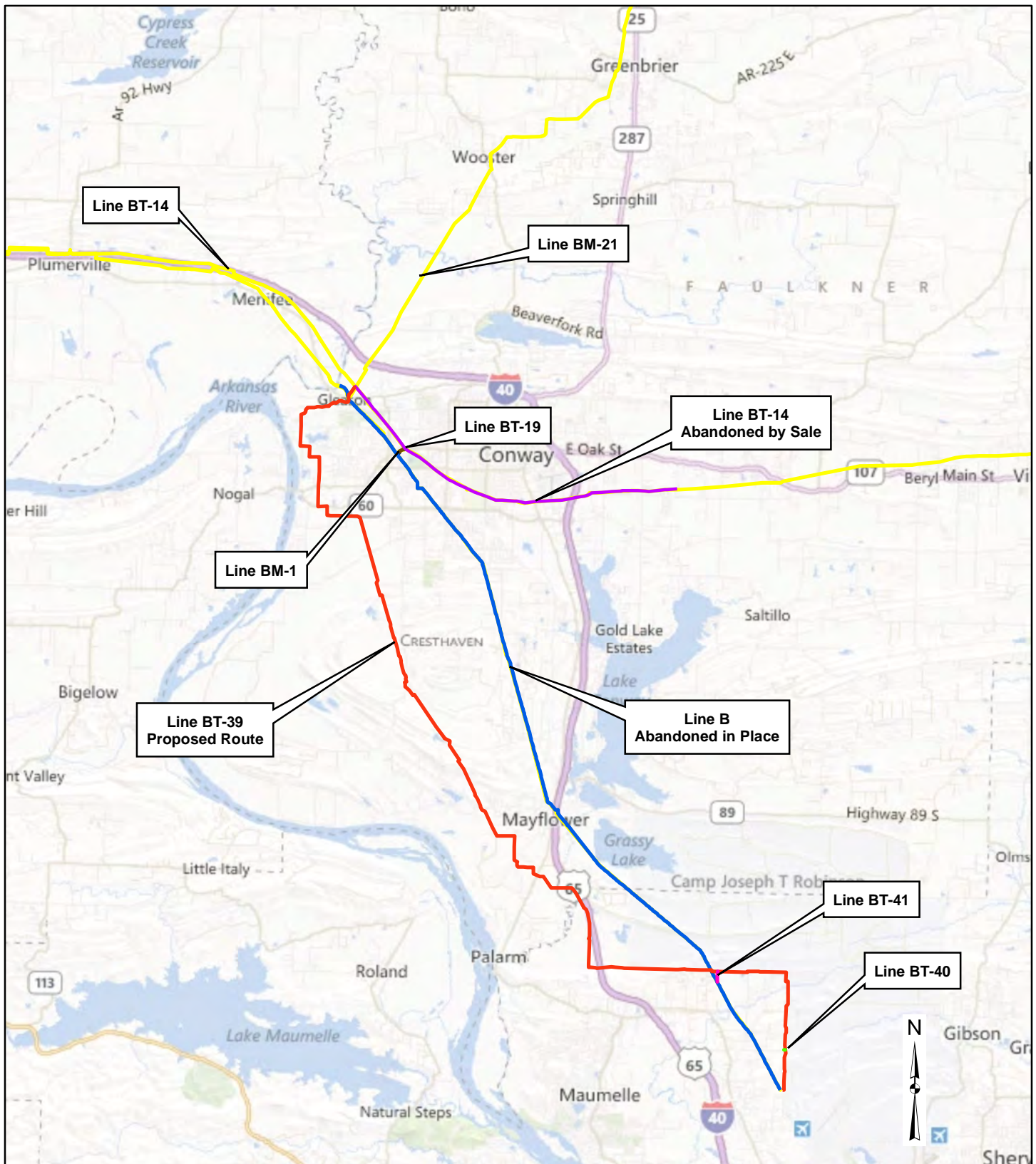
Sincerely,



Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT



Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

0 2.5 5 10 Miles

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

Legend	
<span style="color: red;">—</span>	Line BT-39
<span style="color: green;">—</span>	Line BT-40
<span style="color: blue;">—</span>	Line BT-41
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**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

This signed form serves as confirmation that we have received a letter dated December 21, 2012 regarding participation in the FERC Pre-Filing Process for the Central Arkansas Pipeline Enhancement Project. At this time, we:

- ☐ Will participate in the FERC Pre-Filing Process
- ☐ Will not participate in the FERC Pre-Filing Process

**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Ms. Beverly Smith, Principal Chief  
PO Box 14  
Jena, LA 71432

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Ms. Smith,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

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AK Environmental, LLC | [www.ak-env.com](http://www.ak-env.com)

222 Rolling Meadow Drive, Holliston, MA 01746 t. 339.203.7045 f. 781.394.8377

West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA



As part of the Project, CEGT is proposing the installation of approximately 28 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 9.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT's distribution affiliate, and an approximately 21-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service (abandoned). Other minor ancillary facilities and small diameter pipelines within the City of Conway (*i.e.*, Lines BM-1 and BT-19) would also be abandoned in association with the proposed Project. Refer to the attached Project overview map for a depiction of the existing and proposed pipeline facilities associated with the Project.

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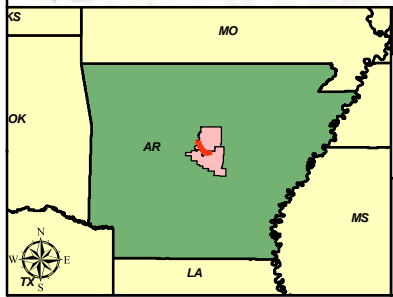
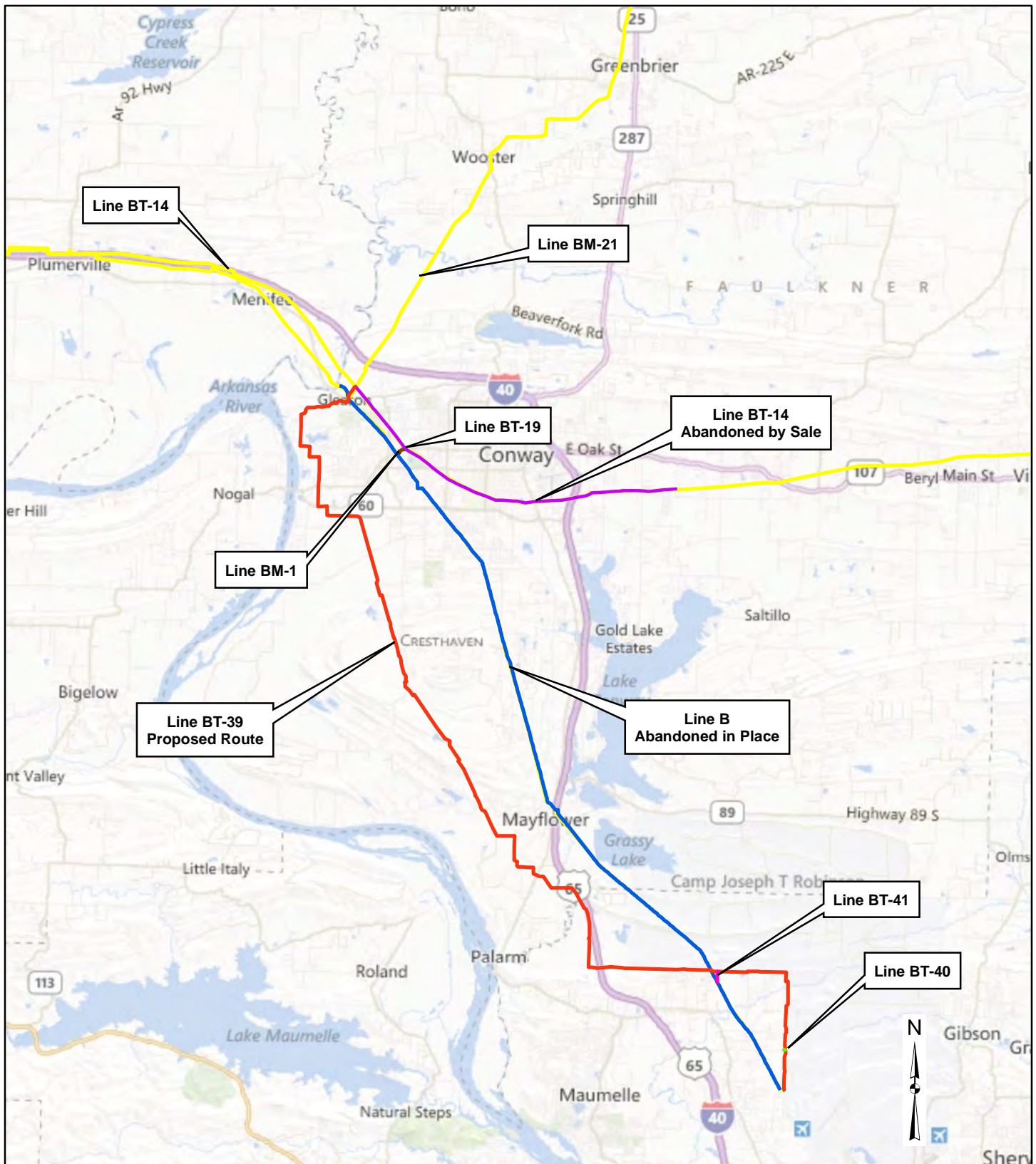
Sincerely,



Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT



Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

0 2.5 5 10 Miles

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**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

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- ☐ Will participate in the FERC Pre-Filing Process
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**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Mr. Tiger Hobai, Town King  
Kialegee Tribal Town  
PO Box 332  
Wetumka, OK 74883

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Hobai,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

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As part of the Project, CEGT is proposing the installation of approximately 28 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 9.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT's distribution affiliate, and an approximately 21-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service (abandoned). Other minor ancillary facilities and small diameter pipelines within the City of Conway (*i.e.*, Lines BM-1 and BT-19) would also be abandoned in association with the proposed Project. Refer to the attached Project overview map for a depiction of the existing and proposed pipeline facilities associated with the Project.

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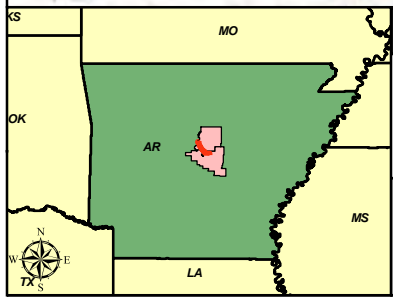
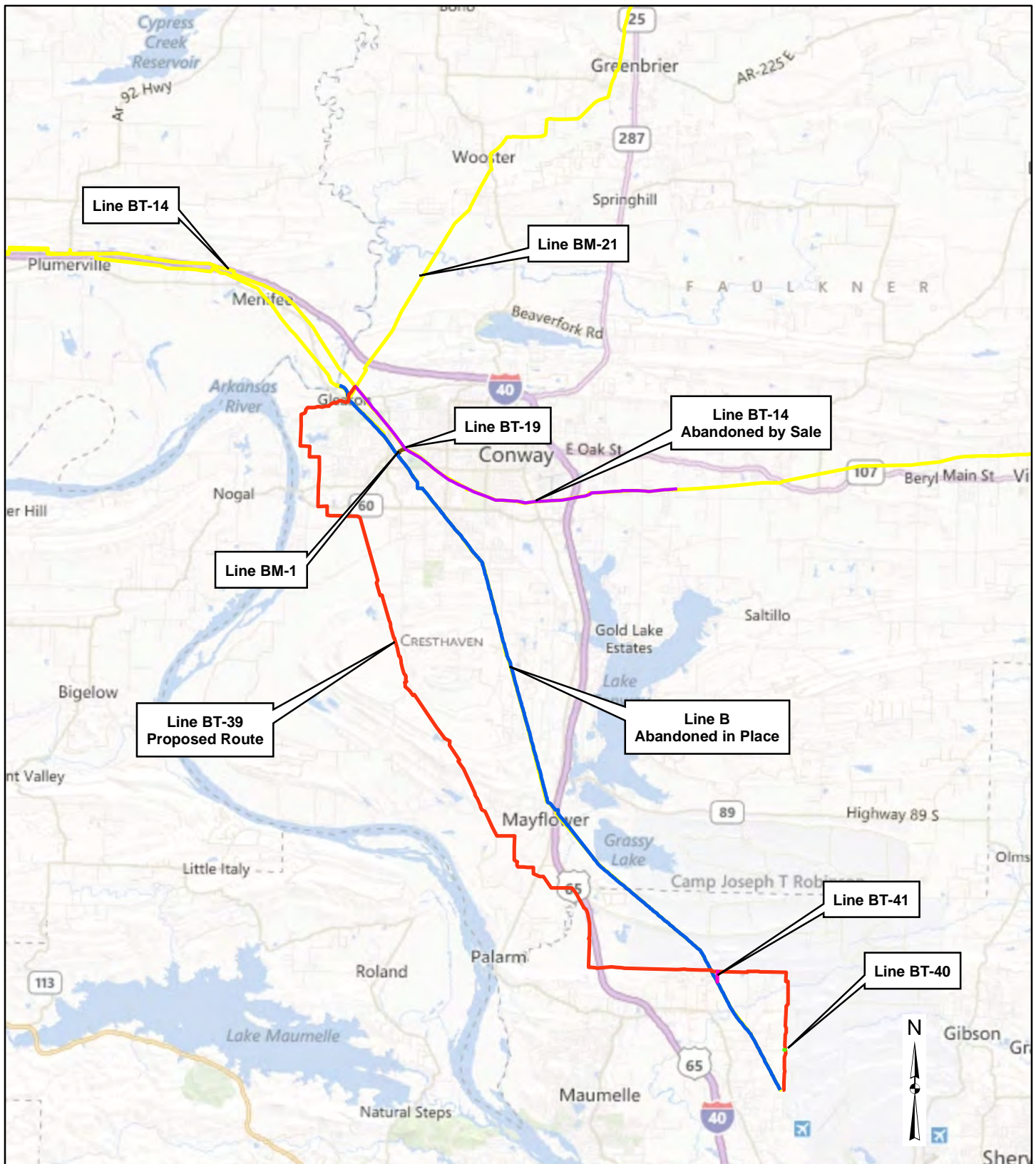


Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT





Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

0 2.5 5 10 Miles

Legend	
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**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

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**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
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Phone: (339) 203-7045  
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December 22, 2012

Mr. Miko Beasley Denson, Chief  
Mississippi Band of Choctaw Indians  
PO Box 6010  
Choctaw, MS 39350

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Denson,

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222 Rolling Meadow Drive, Holliston, MA 01746 t. 339.203.7045 f. 781.394.8377

West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA



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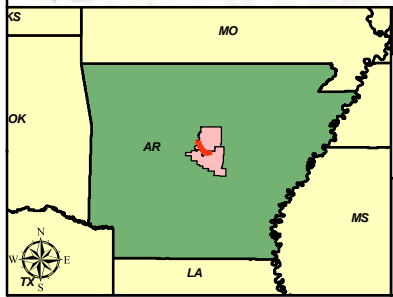
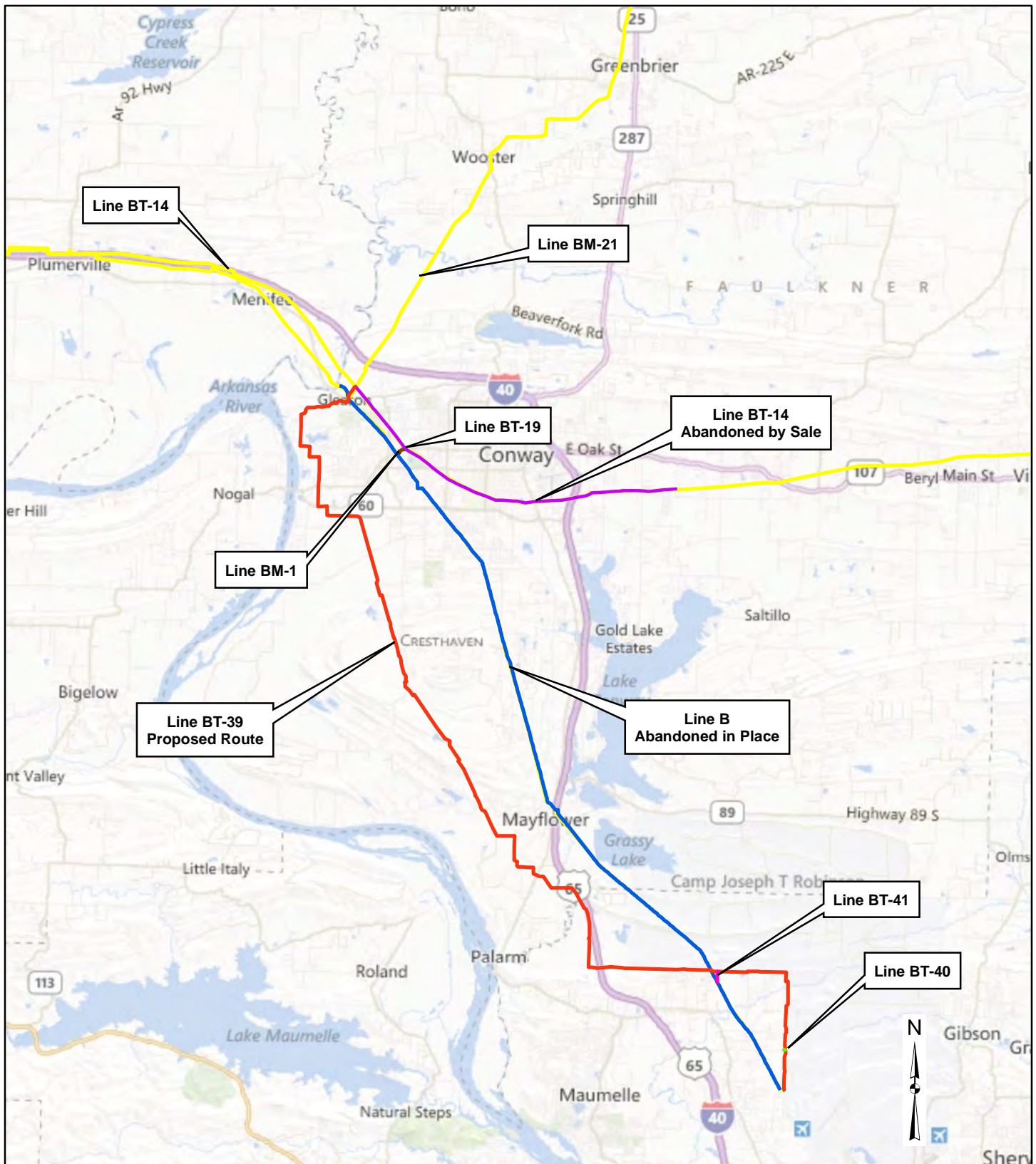


Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT





Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

0 2.5 5 10 Miles

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**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

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**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
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222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Mr. A.D. Ellis, Principal Chief  
Muscogee (Creek) Nation of Oklahoma  
PO Box 580  
Okmulgee, OK 74447

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Ellis,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

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West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA

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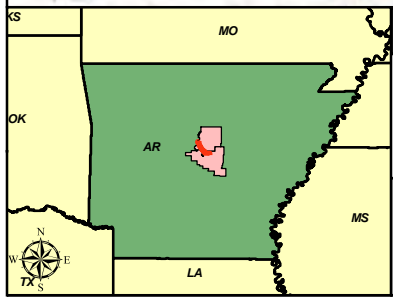
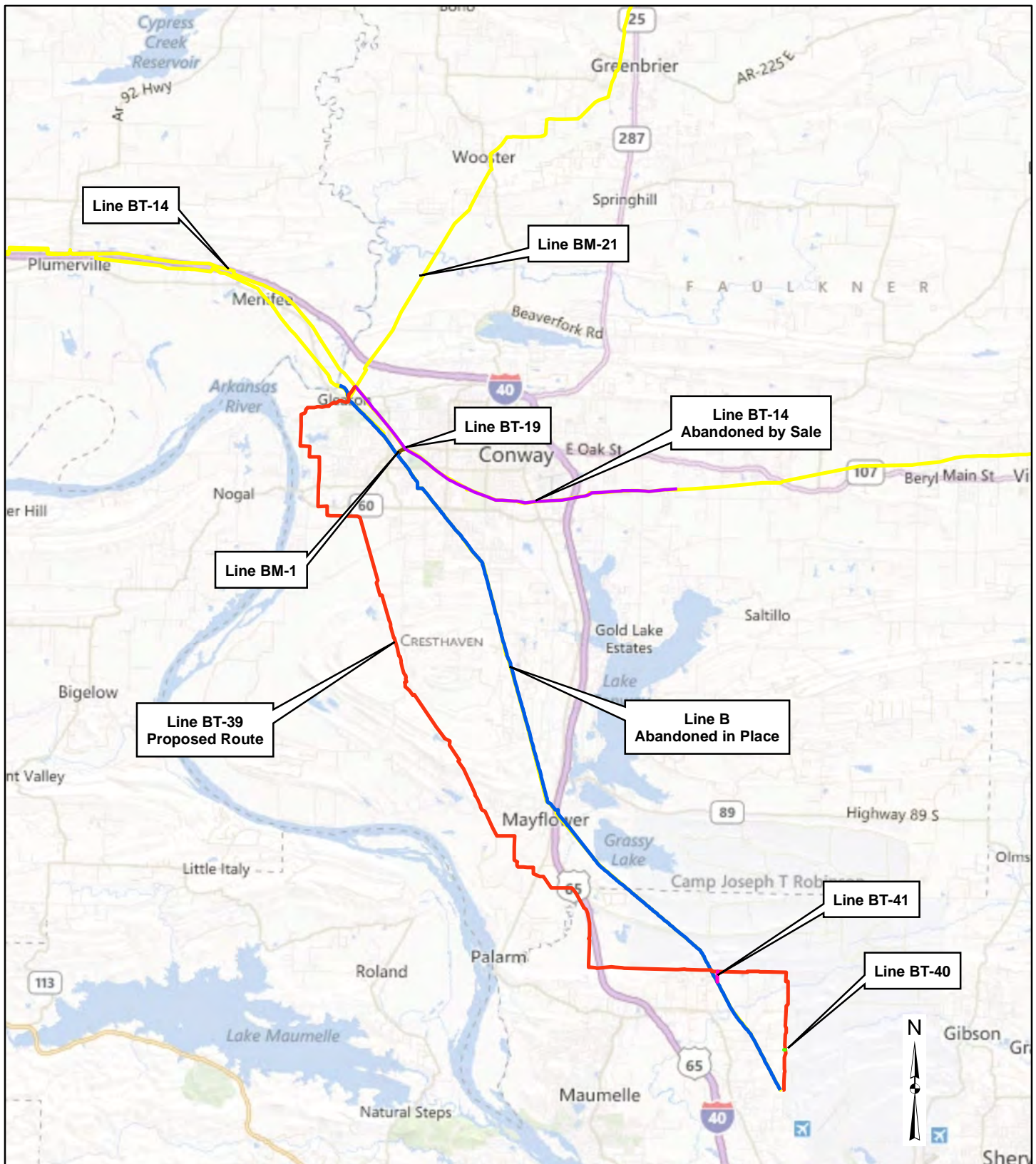


Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT





Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

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Prepared For:

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5020 Ritter Road  
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**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
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Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Mr. John D. Red Eagle, Principal Chief  
The Osage Nation  
PO Box 779  
Pawhuska, OK 74056

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Red Eagle,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

CEGT, in cooperation with its affiliated natural gas distribution business, is proposing the Central Arkansas Pipeline Enhancement Project. The Project will provide for the continued safe, reliable, and efficient transportation of natural gas to the central Arkansas cities and towns of Conway, Mayflower, Maumelle, North Little Rock, and Little Rock. CEGT currently owns and operates multiple, existing pipelines in this region, but the region has experienced substantial residential and commercial development since the original pipeline facilities were constructed. The pipeline enhancement project provides CEGT with the opportunity to install new pipeline facilities to better serve its current customers, while also laying the groundwork for additional pipeline capacity to meet future growth, as needed. As part of the Project, CEGT will also retire from service (abandon) some existing pipeline assets, while also realigning ownership of some other existing pipeline infrastructure to its distribution affiliate. Such realignment and repurposing of existing pipeline infrastructure will provide for cost savings and more efficient delivery of natural gas in the Project area, all of which should benefit end use customers.

---

AK Environmental, LLC | [www.ak-env.com](http://www.ak-env.com)

222 Rolling Meadow Drive, Holliston, MA 01746 t. 339.203.7045 f. 781.394.8377

West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA

As part of the Project, CEGT is proposing the installation of approximately 28 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 9.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT's distribution affiliate, and an approximately 21-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service (abandoned). Other minor ancillary facilities and small diameter pipelines within the City of Conway (*i.e.*, Lines BM-1 and BT-19) would also be abandoned in association with the proposed Project. Refer to the attached Project overview map for a depiction of the existing and proposed pipeline facilities associated with the Project.

CEGT would like to invite you to participate in the NEPA Pre-Filing Process, as your participation will allow CEGT to prepare a more comprehensive and responsive FERC application. If you are interested and available to participate in the FERC's NEPA Pre-Filing process, please complete the enclosed Agency Participation Response Form. You also may send a formal response letter to me at the address on this letter or by email to [rweissman@ak-env.com](mailto:rweissman@ak-env.com). On behalf of CEGT, AK will provide documentation of the participating agencies to CEGT and the FERC Staff. Should you have any questions regarding the Project, please do not hesitate to contact me by email or phone. Thank you for your consideration.

Sincerely,



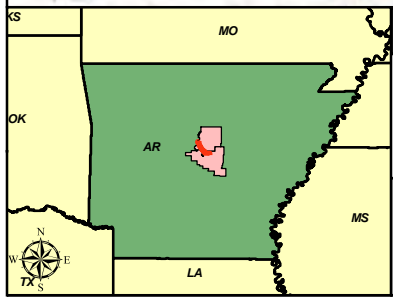
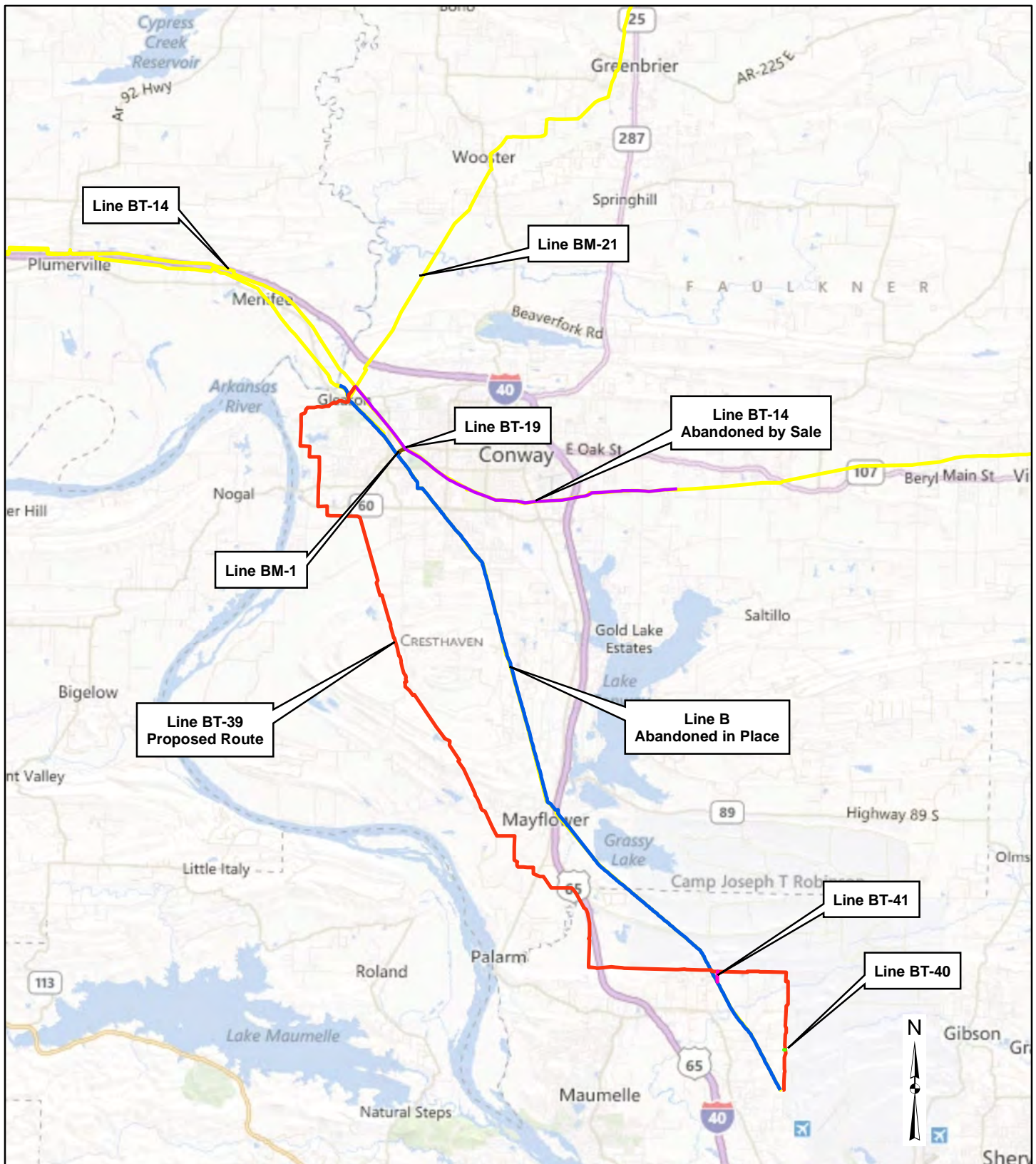
Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT







Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

0 2.5 5 10 Miles

Legend	
<span style="color: red;">—</span>	Line BT-39
<span style="color: blue;">—</span>	Line BT-40
<span style="color: yellow;">—</span>	Line BT-41
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**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

This signed form serves as confirmation that we have received a letter dated December 21, 2012 regarding participation in the FERC Pre-Filing Process for the Central Arkansas Pipeline Enhancement Project. At this time, we:

- ☐ Will participate in the FERC Pre-Filing Process
- ☐ Will not participate in the FERC Pre-Filing Process

**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Mr. John Berrey, Tribal Chairperson  
Quapaw Tribe of Oklahoma  
PO Box 765  
Quapaw, OK 74363

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Berrey,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

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Sincerely,

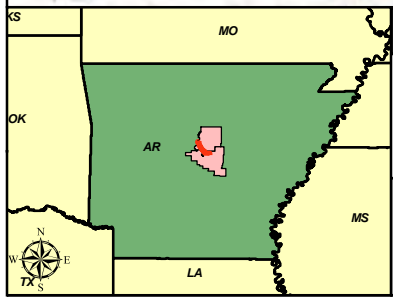
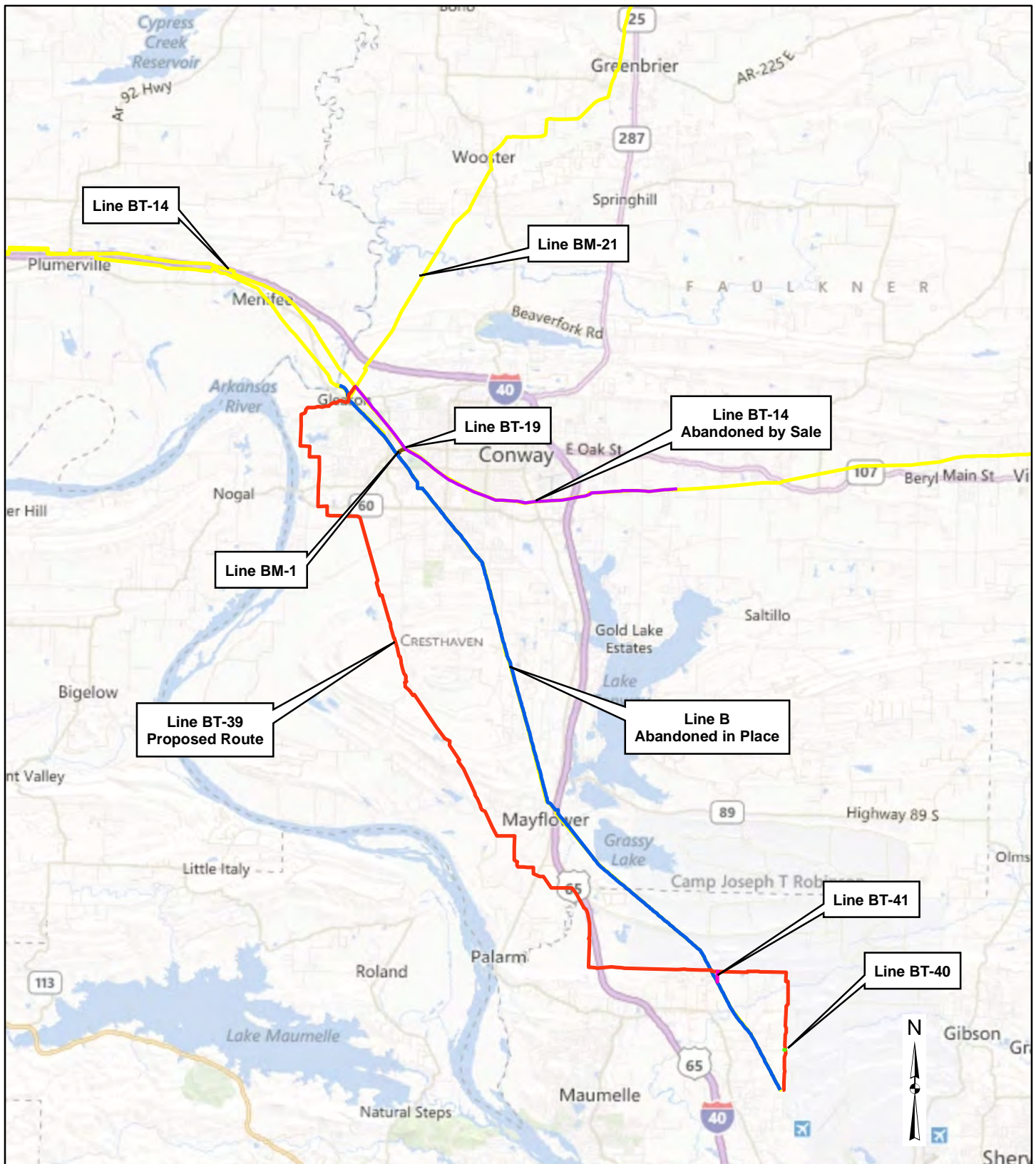


Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT





Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

0 2.5 5 10 Miles

Legend	
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**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

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- ☐ Will participate in the FERC Pre-Filing Process
- ☐ Will not participate in the FERC Pre-Filing Process

**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)





December 22, 2012

Mr. George Scott, Acting Town King  
Thlopthlocco Tribal Town  
PO Box 188  
Okemah, OK 74859

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Scott,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

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West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA

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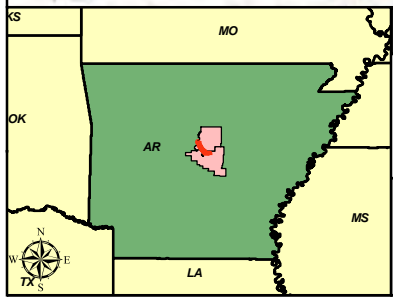
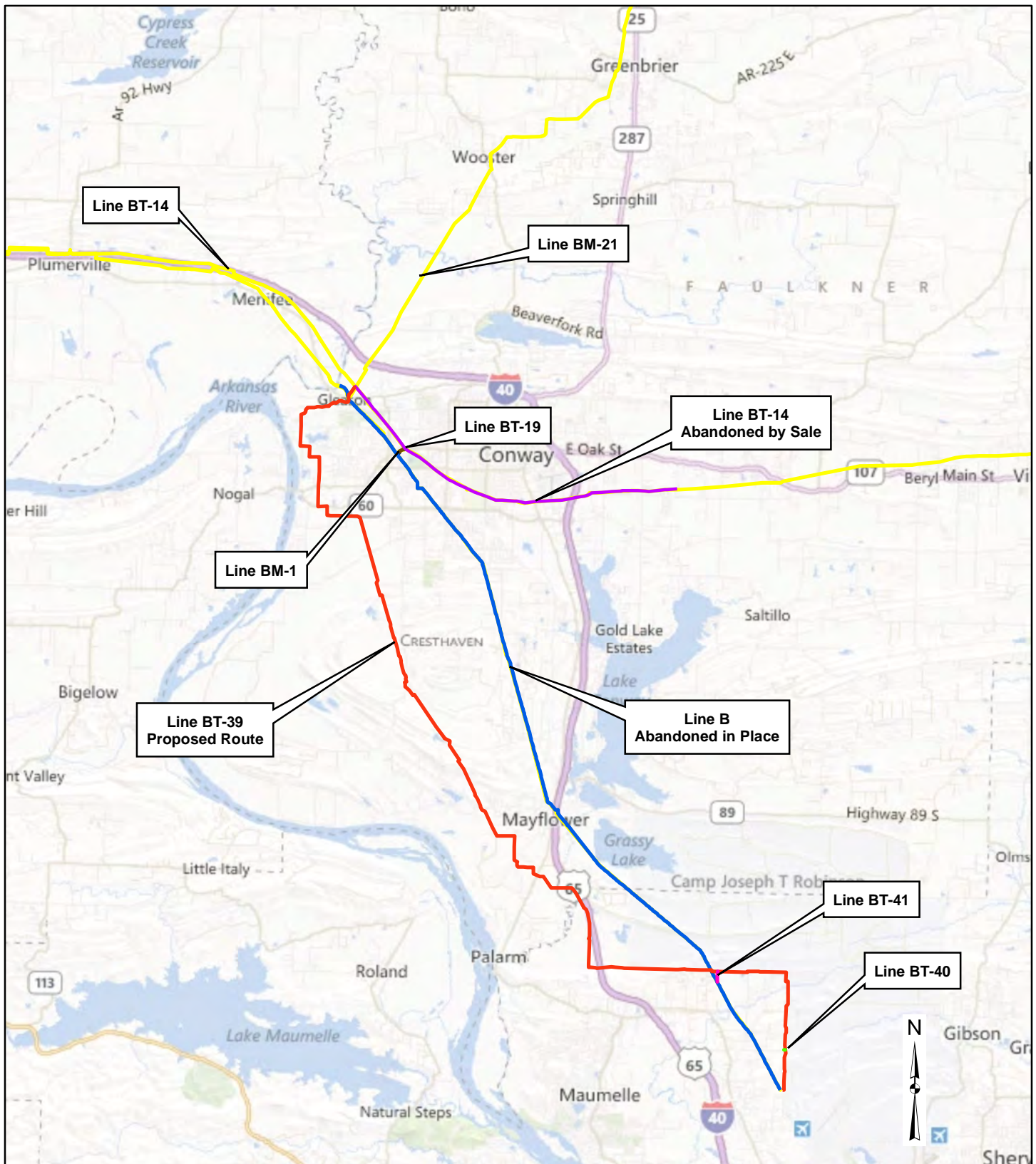
Sincerely,



Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT



Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

0 2.5 5 10 Miles

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

Legend	
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**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

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- ☐ Will participate in the FERC Pre-Filing Process
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**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Mr. Earl Barbry, Sr., Tribal Chairman  
Tunica-Biloxi Tribe of Louisiana  
PO Box 1589  
Marksville, LA 71351

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Barbry,

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West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA



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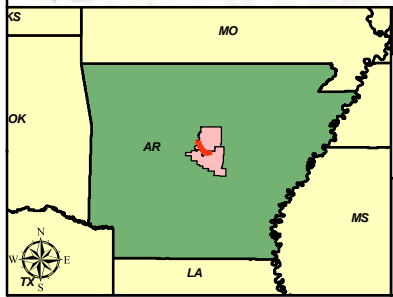
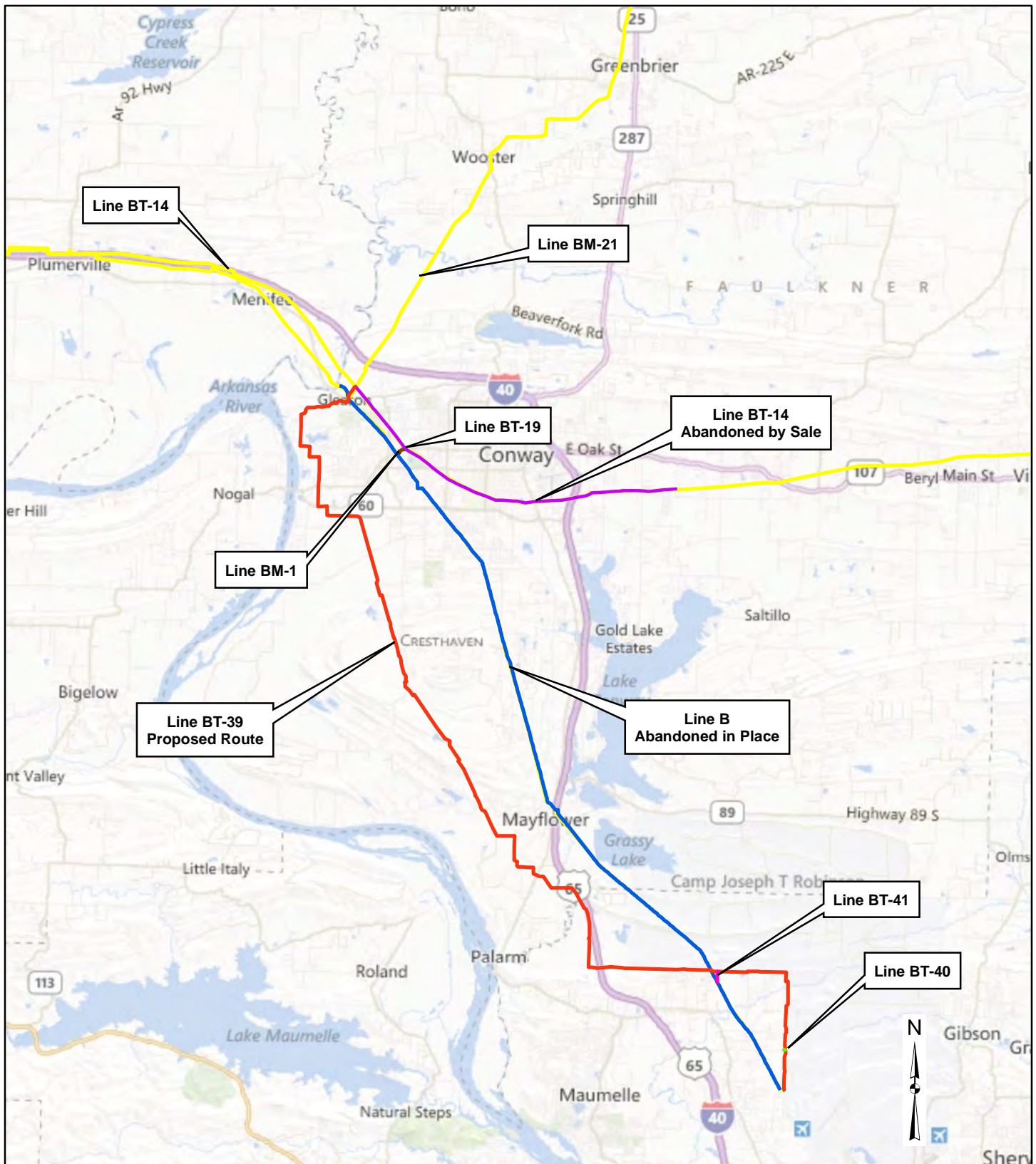
Sincerely,



Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT



Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

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AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
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**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
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Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Mr. George Wickliffe, Chief  
United Keetoowah Band of Cherokee Indians  
PO Box 746  
Tahlequah, OK 74465

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Wickliffe,

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Sincerely,

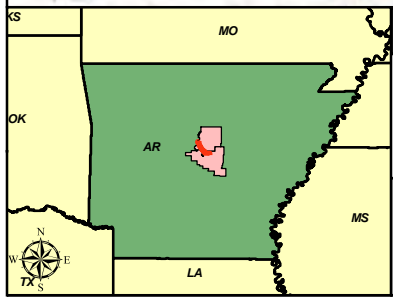
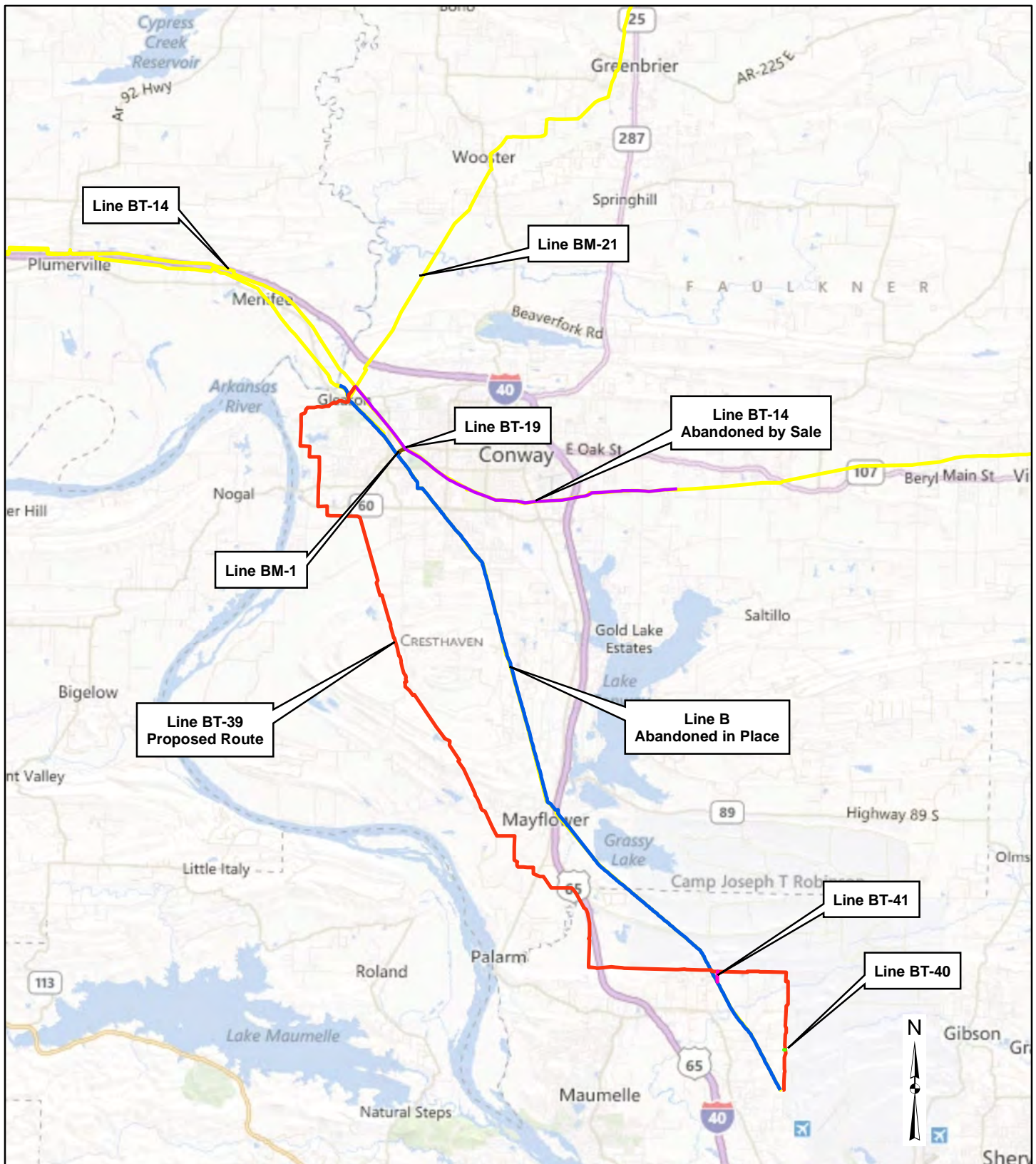


Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT





Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

0 2.5 5 10 Miles

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

Legend	
<span style="color: red;">—</span>	Line BT-39
<span style="color: green;">—</span>	Line BT-40
<span style="color: blue;">—</span>	Line BT-41
<span style="color: blue;">—</span>	Existing Line BT-14 to be abandoned in place
<span style="color: blue;">—</span>	Existing Line B to be abandoned in place
<span style="color: blue;">—</span>	Existing Line BT-19 to be abandoned in place
<span style="color: blue;">—</span>	Existing Line BM-1 to be abandoned in place
<span style="color: yellow;">—</span>	Existing CEGT Pipelines

**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

This signed form serves as confirmation that we have received a letter dated December 21, 2012 regarding participation in the FERC Pre-Filing Process for the Central Arkansas Pipeline Enhancement Project. At this time, we:

- ☐ Will participate in the FERC Pre-Filing Process
- ☐ Will not participate in the FERC Pre-Filing Process

**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Mr. Stratford Williams, President  
Wichita & Affiliated Tribes  
PO Box 729  
Anadarko, OK 73005

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Williams,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

CEGT, in cooperation with its affiliated natural gas distribution business, is proposing the Central Arkansas Pipeline Enhancement Project. The Project will provide for the continued safe, reliable, and efficient transportation of natural gas to the central Arkansas cities and towns of Conway, Mayflower, Maumelle, North Little Rock, and Little Rock. CEGT currently owns and operates multiple, existing pipelines in this region, but the region has experienced substantial residential and commercial development since the original pipeline facilities were constructed. The pipeline enhancement project provides CEGT with the opportunity to install new pipeline facilities to better serve its current customers, while also laying the groundwork for additional pipeline capacity to meet future growth, as needed. As part of the Project, CEGT will also retire from service (abandon) some existing pipeline assets, while also realigning ownership of some other existing pipeline infrastructure to its distribution affiliate. Such realignment and repurposing of existing pipeline infrastructure will provide for cost savings and more efficient delivery of natural gas in the Project area, all of which should benefit end use customers.

---

AK Environmental, LLC | [www.ak-env.com](http://www.ak-env.com)

222 Rolling Meadow Drive, Holliston, MA 01746 t. 339.203.7045 f. 781.394.8377

West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA

As part of the Project, CEGT is proposing the installation of approximately 28 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 9.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT's distribution affiliate, and an approximately 21-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service (abandoned). Other minor ancillary facilities and small diameter pipelines within the City of Conway (*i.e.*, Lines BM-1 and BT-19) would also be abandoned in association with the proposed Project. Refer to the attached Project overview map for a depiction of the existing and proposed pipeline facilities associated with the Project.

CEGT would like to invite you to participate in the NEPA Pre-Filing Process, as your participation will allow CEGT to prepare a more comprehensive and responsive FERC application. If you are interested and available to participate in the FERC's NEPA Pre-Filing process, please complete the enclosed Agency Participation Response Form. You also may send a formal response letter to me at the address on this letter or by email to [rweissman@ak-env.com](mailto:rweissman@ak-env.com). On behalf of CEGT, AK will provide documentation of the participating agencies to CEGT and the FERC Staff. Should you have any questions regarding the Project, please do not hesitate to contact me by email or phone. Thank you for your consideration.

Sincerely,

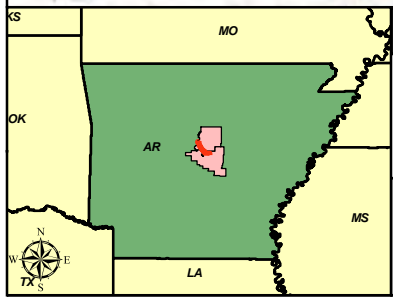
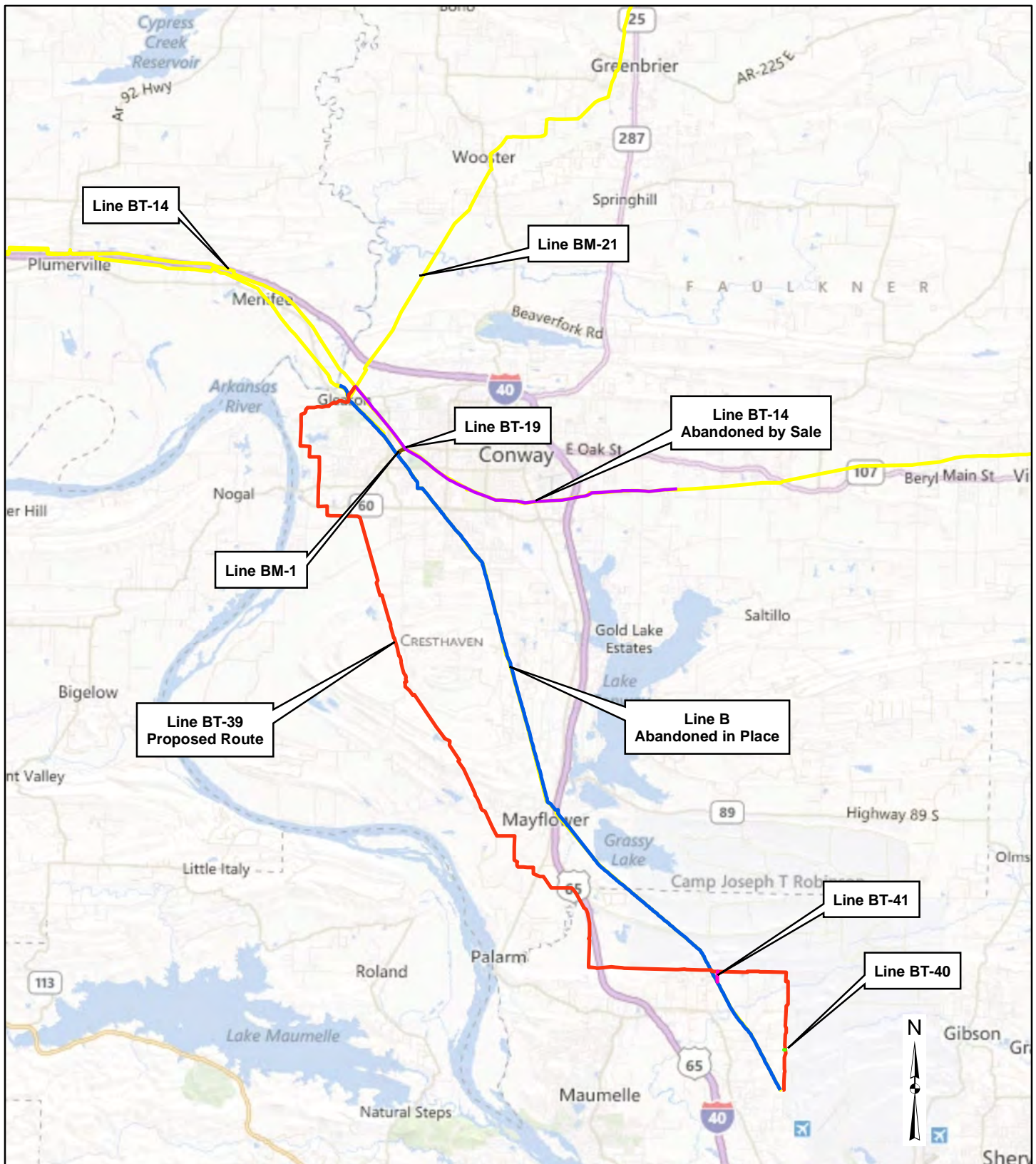


Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT





Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

0 2.5 5 10 Miles

Legend	
<span style="color: red;">—</span>	Line BT-39
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**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

This signed form serves as confirmation that we have received a letter dated December 21, 2012 regarding participation in the FERC Pre-Filing Process for the Central Arkansas Pipeline Enhancement Project. At this time, we:

- ☐ Will participate in the FERC Pre-Filing Process
- ☐ Will not participate in the FERC Pre-Filing Process

**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



December 22, 2012

Mr. Ron Sparkman, Chairman  
Shawnee Tribe of Oklahoma  
PO Box 189  
Miami, OK 74355

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. Sparkman,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

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---

AK Environmental, LLC | [www.ak-env.com](http://www.ak-env.com)

222 Rolling Meadow Drive, Holliston, MA 01746 t. 339.203.7045 f. 781.394.8377

West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA

As part of the Project, CEGT is proposing the installation of approximately 28 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 9.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT's distribution affiliate, and an approximately 21-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service (abandoned). Other minor ancillary facilities and small diameter pipelines within the City of Conway (*i.e.*, Lines BM-1 and BT-19) would also be abandoned in association with the proposed Project. Refer to the attached Project overview map for a depiction of the existing and proposed pipeline facilities associated with the Project.

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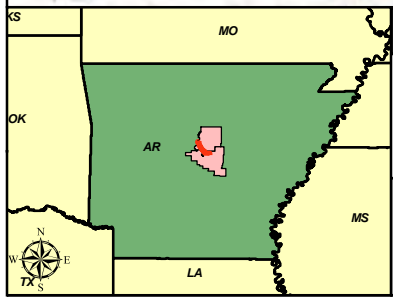
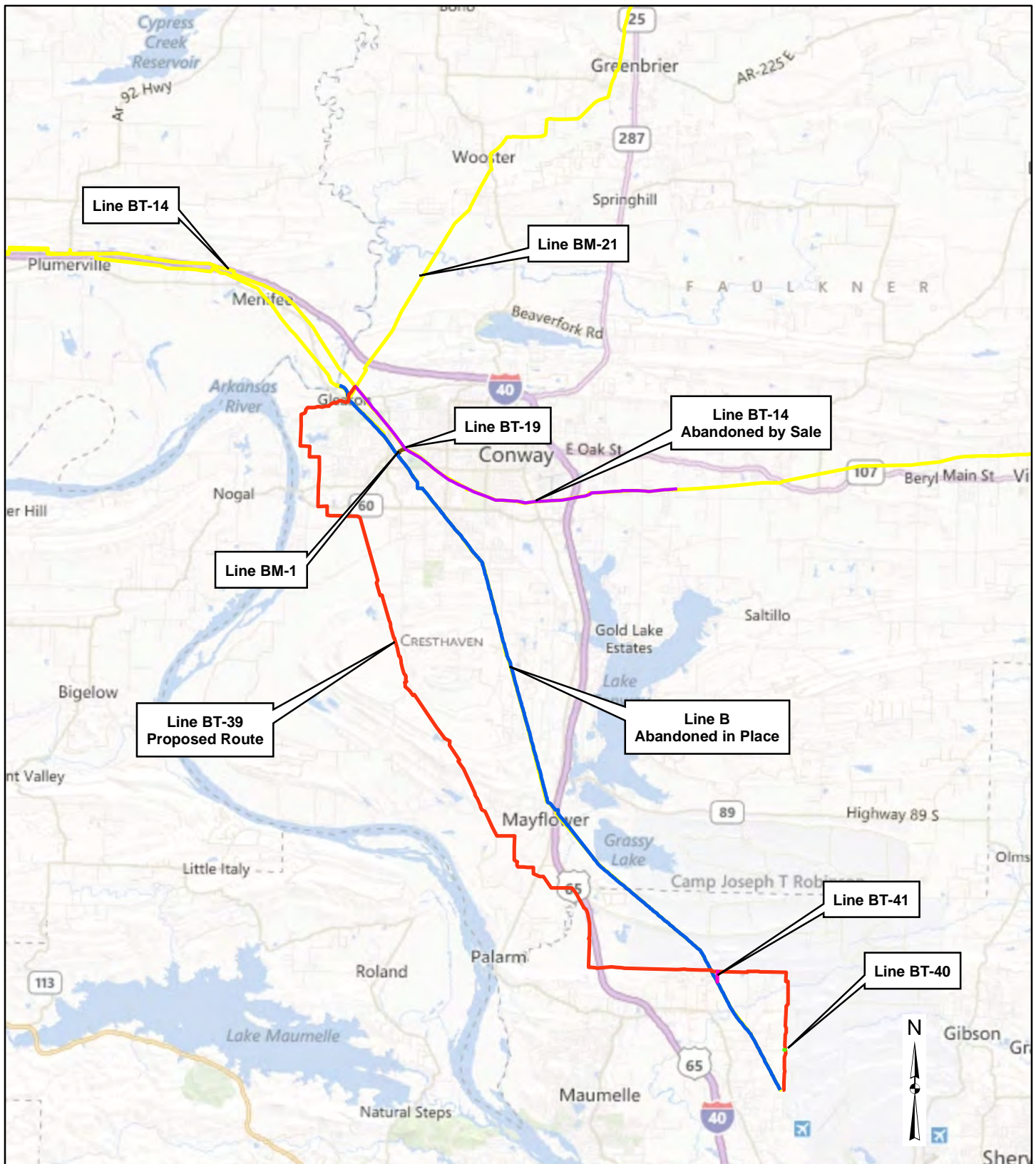
Sincerely,



Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT



Drawn On:  
December 21, 2012

**Overall Project Location Map**

**Line B Replacement -  
Conway to Little Rock**

Faulkner and Pulaski Counties, Arkansas

Page 1 of 1

Prepared For:

AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

0 2.5 5 10 Miles

Legend	
<span style="color: red;">—</span>	Line BT-39
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**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

This signed form serves as confirmation that we have received a letter dated December 21, 2012 regarding participation in the FERC Pre-Filing Process for the Central Arkansas Pipeline Enhancement Project. At this time, we:

- ☐ Will participate in the FERC Pre-Filing Process
- ☐ Will not participate in the FERC Pre-Filing Process

**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)



**From:** [Linda Robins](#)  
**To:** [Rebecca Weissman](#)  
**Subject:** RE: Pre-Filing Participation Request - Central Arkansas Pipeline Enhancement Project  
**Date:** Friday, January 18, 2013 12:01:03 PM

---

Ms. Weissman,

We are interested in being notified of any pre-filing regarding areas that may affect our having passed through the state during removal. It is very important to us to stay abreast of any possible discoveries in any type of soil disturbance. A letter will be forthcoming but it will require signature of our tribal leader.

Thank you for your concerned interest.

Linda Robins  
Environmental Services  
580-272-5405  
[Linda.robins@chickasaw.net](mailto:Linda.robins@chickasaw.net)

---

**From:** Rebecca Weissman [<mailto:RWeissman@ak-env.com>]  
**Sent:** Tuesday, January 15, 2013 11:39 AM  
**To:** Linda Robins  
**Subject:** Pre-Filing Participation Request - Central Arkansas Pipeline Enhancement Project

Ms. Robins,

I understand that you may not have received this letter through the mail. Please review the attached letter and map, and let me know via email if the Chickasaw Nation is or is not interested in participating in the FERC Pre-filing Process for this Project. Also, if the contact information in this letter is incorrect, please let me know so I can update my records. Thank you so much!

**Rebecca Weissman, PWS | Senior Scientist**

**AK**

**P.O. Box 6355 | Holliston, MA 01746**

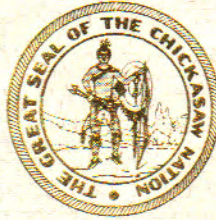
**c. 339.203.7045 | f. 781.394.8377**

**[www.ak-env.com](http://www.ak-env.com)**

***"Consulting with Energy"***

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OFFICE OF THE GOVERNOR

The Chickasaw Nation

Post Office Box 1548 • Ada, Oklahoma 74821

(580) 436-2603 • Fax (580) 436-4287

<http://www.chickasaw.net/~cnation>

BILL ANOATUBBY  
GOVERNOR

February 5, 2013

Ms. Rebecca Weissman  
Deputy Project Manager/Senior Scientist  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746

Dear Ms. Weissman:

Thank you for inviting us to comment on the Central Arkansas Pipeline Enhancement Project. The Chickasaw Nation environmental services department has no comment to provide for the above proposed project at this time.

If activities generate any environmentally detrimental effects or any culturally significant material or remains are unearthed, please immediately notify the Chickasaw Nation.

If you have any questions, please contact Mr. Mack Peterson, environmental section head, at (580) 272-5415.

Your time and consideration in this matter are appreciated.

Sincerely,

*Bill Anoatubby*

Bill Anoatubby, Governor  
The Chickasaw Nation



**From:** [Corey Smith](#)  
**To:** [Rebecca Weissman](#)  
**Cc:** [Tamara Francis](#)  
**Subject:** Pre-Filling Process for Central Arkansas Pipeline Enhancement Project  
**Date:** Wednesday, January 02, 2013 12:33:06 PM  
**Attachments:** [image001.png](#)  
[image003.emz](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)  
[image007.png](#)  
[image008.png](#)  
[image016.png](#)  
[image017.png](#)

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**Delaware Nation**  
**Corey Smith**  
**Archive Assistant**

**To: Rebecca Weissman, Deputy Project Manager/Senior Scientist**  
**cc: Tamara Francis-Fourkiller**  
**Date: January 2, 2013**  
**Re: Pre-Filling Process for Central Arkansas Pipeline Enhancement Project**

Ms. Rebecca Weissman,

This e-mail is in regards to the Pre-Filling Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project.

The Delaware Nation will be a consulting party to this project.

Thank you for inviting us to participate in this project.

Have a great day.

Thank You,

Corey Smith  
Archive Assistant  
Delaware Nation Cultural Preservation  
P.O. Box 825  
Anadarko, OK 73005  
Phone: (405) 247-2448 Ext. 1405  
Fax: (405) 247-8905

**From:** [Corey Smith](#)  
**To:** [Rebecca Weissman](#)  
**Cc:** [Tamara Francis](#)  
**Subject:** Pre-Filling Process for Central Arkansas Pipeline Enhancement Project  
**Date:** Wednesday, January 02, 2013 12:37:47 PM  
**Attachments:** [image009.png](#)  
[image010.emz](#)  
[image011.png](#)  
[image012.png](#)  
[image013.png](#)  
[image014.png](#)  
[image015.png](#)  
[image016.png](#)  
[image017.png](#)

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**Delaware Nation**  
**Corey Smith**  
**Archive Assistant**

**To: Rebecca Weissman**  
**cc: Tamara Francis-Fourkiller**  
**Date: January 2, 2013**  
**Re: Pre-Filling Process for Central Arkansas Pipeline Enhancement Project**

Ms. Weissman,

There needs to be a correction to the previous e-mail I sent to you.

The Delaware Nation will not be a consulting party to this project.

Thank you again.

Corey Smith  
Archive Assistant  
Delaware Nation Cultural Preservation  
P.O. Box 825  
Anadarko, OK 73005  
Phone: (405) 247-2448 Ext. 1405  
Fax: (405) 247-8905

**From:** [Lisa LaRue-Baker - UKB THPO](#)  
**To:** [Rebecca Weissman](#)  
**Subject:** CEGT Central Arkansas Pipeline Enhancement Project, AK Environmental, LLC  
**Date:** Monday, January 14, 2013 3:25:47 PM

---

The United Keetoowah Band of Cherokee Indians of Oklahoma has reviewed your project (s) under Section 106 of the NHPA, and at this time have no comments or objections. However, if any human remains are inadvertently discovered, please cease all work and contact us immediately.

**Lisa LaRue-Baker**

Acting THPO  
United Keetoowah Band of Cherokee Indians in Oklahoma  
PO Box 746  
Tahlequah, OK 74465

c 918.822.1952 f 918.458.6889  
[ukbthpo-larue@yahoo.com](mailto:ukbthpo-larue@yahoo.com)







Matthew D'Aprile Smith  
850 Bear Tavern Road, Suite 106  
West Trenton, NJ 08628

609.771.1730 tel  
603.402.2542 cell  
MDAprileSmith@ak-env.com

## Telephone Call Summary

By:	<u>Matthew D'Aprile Smith</u>	Date:	<u>January 15, 2012</u>
Talked with:	<u>Johnnie Jacobs</u>	Project number:	<u>12-046</u>
From (company):	<u>Choctaw Nation of Oklahoma</u>	Project name:	<u>Central Arkansas Pipeline Enhancement Project</u>
Phone number:	<u>580.924.8280</u>	Subject:	<u>Pre-Filing Inclusion Response</u>

Distribution: \_\_\_\_\_

I first spoke with Ms. Johnnie Jacobs, Section 106 representative for the Choctaw Nation of Oklahoma, at 11:46pm Eastern time. I had called the office number twice earlier in the day, originally trying to reach Chief Gregory Pyle. I was redirected to a Section 106 representative, Ian Thompson, who was not available. Ms. Jacobs called back on Mr. Thompson's behalf and inquired as to what project and letter I was referring to. I provided her the information to help her find the letter and she said she'd call me back once she found it.

It was when I spoke to Ms. Jacobs at 4:41pm Eastern time that she told me "Yes" she would like to participate in the FERC Pre-Filing Process for the Central Arkansas Pipeline Enhancement Project. Ms. Jacobs noted that herself and Mr. Thompson are the Section 106 representative for the Choctaw Nation of Oklahoma and that they had interests in or around the proposed project area.

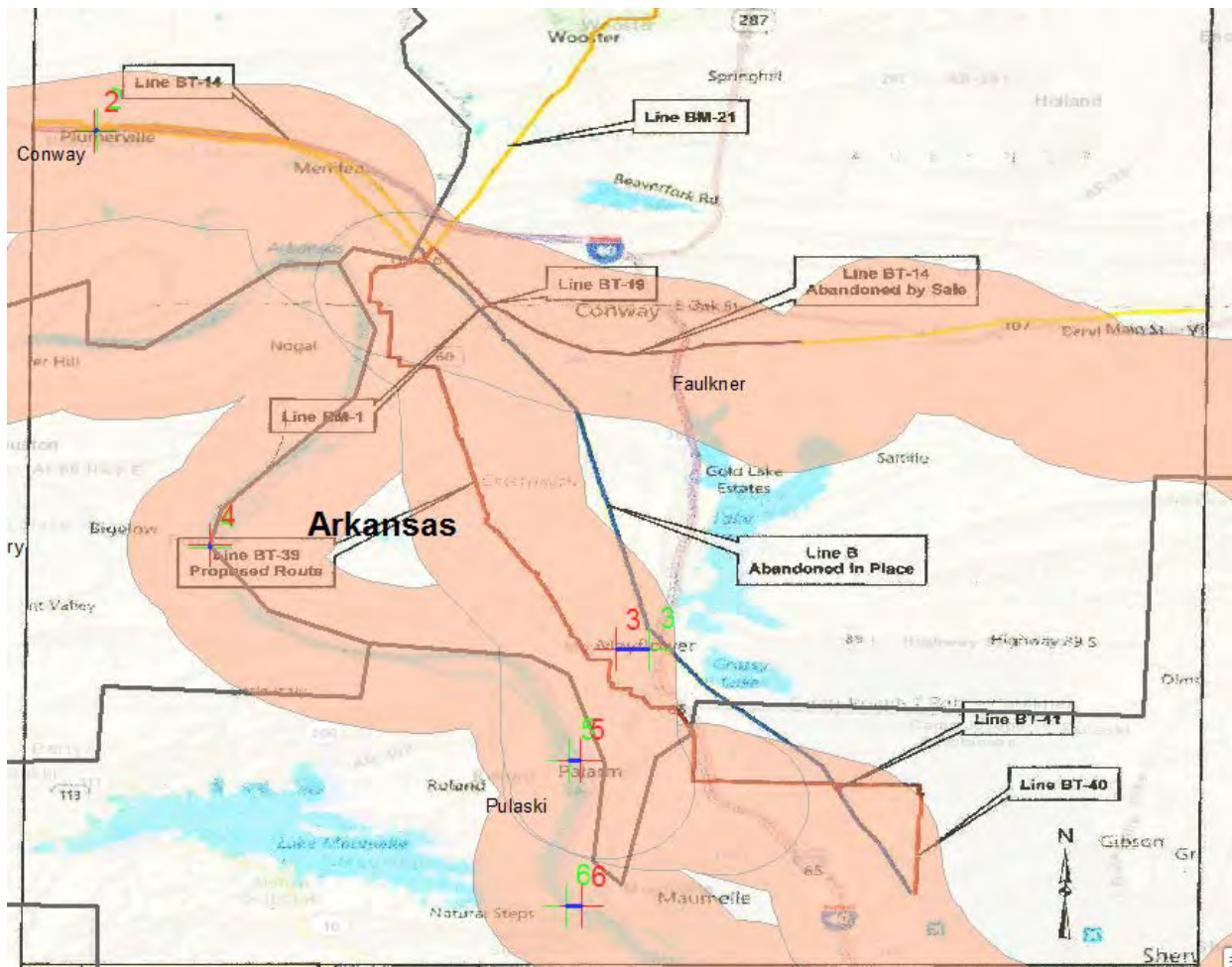
Signature

**From:** [Johnnie L. Jacobs](#)  
**To:** [Rebecca Weissman](#)  
**Subject:** FERC prefilling process, Centerpoint Energy Gas Transmission Co, Central Arkansas Pipeline Enhancement Project  
**Date:** Tuesday, January 15, 2013 9:20:23 PM  
**Attachments:** [image001.png](#)

---

Dear Ms. Wiessman,

Thank you for the correspondence regarding the above referenced project. Today I spoke with Mr. Matthew Smith of FERC regarding this project. The Choctaw Nation of Oklahoma has a historic area of interest in the area encompassing this project. I have confirmed with Mr. Smith that we would like to be a consulting party as this project moves forward. Below is a rough map showing our area of interest in orange that includes the Choctaw removal route from Mississippi to Oklahoma during the Trail of Tears. As the project proceeds, we would like to have archaeological surveys sent to our office as the Section 106 process commences. If you have any further questions, please let us know.



Thank you,

Ms. Johnnie Jacobs  
NHPA Section 106 Coordinator  
Choctaw Nation of Oklahoma  
Historic Preservation Department  
P.O. Box 1210  
Durant, OK 74701  
[jjacobs@choctawnation.com](mailto:jjacobs@choctawnation.com)



Matthew D'Aprile Smith  
850 Bear Tavern Road, Suite 106  
West Trenton, NJ 08628

609.771.1730 tel  
603.402.2542 cell  
MDAprileSmith@ak-env.com

## Telephone Call Summary

By:	<u>Matthew D'Aprile Smith</u>	Date:	<u>January 15, 2012</u>
Talked with:	<u>Chief Glenna J. Wallace</u>	Project number:	<u>12-046</u>
From (company):	<u>Eastern Shawnee Tribe of Oklahoma</u>	Project name:	<u>Central Arkansas Pipeline Enhancement Project</u>
Phone number:	<u>9918.666.2435</u>	Subject:	<u>Pre-Filing Inclusion Response</u>

Distribution: \_\_\_\_\_

I was able to reach Chief Glenna Wallace of the Eastern Shawnee Tribe of Oklahoma at 3:11pm Eastern time. I asked the Chief whether or not she would like to participate in the FERC Pre-Filing Process for the Central Arkansas Pipeline Enhancement Project. She replied that she had "no response" to the inquiry. I asked a second time if she would prefer, or prefer not to, be involved in the Pre-Filing Process. She then responded that "No" she did not feel her or her tribe's involvement was not necessary in the process.

\_\_\_\_\_  
Signature



Matthew D'Aprile Smith  
850 Bear Tavern Road, Suite 106  
West Trenton, NJ 08628

609.771.1730 tel  
603.402.2542 cell  
MDAprileSmith@ak-env.com

## Telephone Call Summary

By:	<u>Matthew D'Aprile Smith</u>	Date:	<u>January 15, 2012</u>
Talked with:	<u>Town King Tiger Hobai</u>	Project number:	<u>12-046</u>
From (company):	<u>Kialegee Tribal Town</u>	Project name:	<u>Central Arkansas Pipeline Enhancement Project</u>
Phone number:	<u>405.452.3262</u>	Subject:	<u>Pre-Filing Inclusion Response</u>

Distribution: \_\_\_\_\_

I reached Mr. Tiger Hobai, Town King of the Kialegee Tribal Town at 3:27pm Eastern time. I asked Mr. Hobai if he would like to be involved in the FERC Pre-Filing Process for the Central Arkansas Pipeline Enhancement Project. Mr. Hobai asked what would be required of his involvement. I informed Mr. Hobai that he would be asked to participate in "In-person" meetings, telephone and written correspondence and FERC agency scoping meetings. He responded "Yes, go ahead and include the tribe in the process".

Signature



## TRIBAL HISTORIC PRESERVATION OFFICE

Date: April 3, 2013

File: 1213-1106AR-4

RE: FERC CenterPoint Central Arkansas Pipeline Enhancement Project in Pulaski and Faulkner counties, Arkansas

AK Environmental, LLC  
Rebecca Weissman  
222 Rolling Meadow Drive  
Holliston, MA 01746

Dear Ms. Weissman,


The Osage Nation Historic Preservation Office has received notification of the proposed project listed as FERC CenterPoint Central Arkansas Pipeline Enhancement Project in Pulaski and Faulkner counties, Arkansas.

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

The Osage Nation has a vital interest in protecting its historic and ancestral cultural resources. **The Osage Nation requests that a cultural reconnaissance survey be conducted for the proposed FERC CenterPoint Central Arkansas Pipeline Enhancement Project in Pulaski and Faulkner counties, Arkansas.**

**Please contact the Osage Nation Historic Preservation Office with your response to this request.** The Osage Nation looks forward to receiving and reviewing the cultural resource survey report for the FERC CenterPoint Central Arkansas Pipeline Enhancement Project in Pulaski and Faulkner counties, Arkansas. The Osage Nation requires that cultural resource survey personnel and reports follow the Secretary of Interior's standards and guidelines. Please provide a detailed topographic map depicting the locations of the shovel tests and test units excavated during the survey along with a table indicating their depth, soils, the amount and type of material found, and reason for termination.

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

  
James Munkres  
Archaeologist I



## **APPENDIX 4.C**

### **UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES AND HUMAN REMAINS PLAN**

## **UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES AND HUMAN REMAINS**

### **Central Arkansas Pipeline Enhancement Project Faulkner and Pulaski Counties, Arkansas CenterPoint Energy Gas Transmission Company, LLC**

Previously unrecorded cultural resources sometimes are discovered during the course of construction projects, even after the Project area has been surveyed for cultural resources. Although there is a very slight probability of encountering undiscovered cultural resources within the limits of the proposed pipeline right-of-way, CenterPoint Energy Gas Transmission Company, LLC (“CEGT”) has adopted the following plan for the treatment of such resources. This plan was developed in consultation with the Arkansas State Historic Preservation Offices (“SHPO”).

Should previously unrecorded cultural resources be encountered during construction, CEGT will cease all activities in that area and make all reasonable efforts to avoid or minimize damage to them. The SHPO and the Federal Energy Regulatory Commission (“FERC”) will be notified immediately and advised of the nature of the discovery, and CEGT will consult with Tribe(s) that have expressed an interest in the Project to seek their input. The SHPO, FERC, and interested Tribe(s) will consult with CEGT and provide technical advice for the evaluation of the resources. Should the SHPO or the FERC request, CEGT will provide suitably qualified professionals to investigate the reported discovery. Should mitigation be deemed necessary by the SHPO or the FERC, a mitigation plan will be developed and submitted to the SHPO, the FERC, and Tribal consultation parties. CEGT will avoid those cultural resources for which a mitigation plan is being developed until such a plan is approved and implemented.

Should unmarked human remains be encountered during construction of the proposed Project, CEGT will follow all of the procedures set forth in the Arkansas Human Skeletal Burial Remains provision (Arkansas Statutes Annotated §§ 13-6-401 et seq.), as appropriate.

All work within a 30-meter radius of the area will cease, and CEGT immediately will contact a local law enforcement officer, the appropriate SHPO, and the FERC. In the interim, CEGT will make every effort possible to protect the remains from any further disturbance. CEGT will consult with representatives from the SHPO, the FERC, the Tribe(s) (if the remains are determined to be Native American), or living descendants (if the remains are determined not to be of Native American descent), who will provide technical advice for the treatment of the unmarked burial. These parties will aid in the development of a plan for avoidance, mitigation, excavation, and/or reinterment of any human remains encountered during construction of the proposed Project. Should the SHPO or the FERC request, CEGT will provide suitably qualified professionals to investigate the reported discovery and evaluate the discovery site.

If requested by the SHPO or the FERC, CEGT will prepare a treatment plan for the avoidance, mitigation, excavation, and/or reinterment of any human remains encountered. Following submittal of the treatment plan to the SHPO, the FERC, and Tribe(s) or living descendants, as appropriate, those parties will make appropriate comments, and, following SHPO and FERC approval, CEGT will implement the treatment plan at its expense. CEGT and its agent(s) will treat all human remains with dignity and respect until they are reinterred.

## **APPENDIX 4.D**

### **ARKANSAS HISTORIC PRESERVATION PROGRAM CONSULTATIONS**



## The Department of Arkansas Heritage

Mike Beebe  
Governor

Cathie Matthews  
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

1500 Tower Building

323 Center Street

Little Rock, AR 72201

(501) 324-9880

fax: (501) 324-9184

tdd: (501) 324-9811

e-mail:

[info@arkansaspreservation.org](mailto:info@arkansaspreservation.org)

website:

[www.arkansaspreservation.com](http://www.arkansaspreservation.com)

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March 2, 2012

Mr. Eric Dilts  
Manager, Environmental Projects  
CenterPoint Energy Gas Transmission Company, LLC  
P. O. Box 21734  
Shreveport, Louisiana 71151

Re: Faulkner County – Conway  
Section 106 Review – FERC  
Draft Report Titled “*Phase I Archeological Survey and Architectural  
Reconnaissance for the Proposed CenterPoint Line BT-14  
Replacement Project, Faulkner County, Arkansas*”  
AHPP Tracking Number 76538

Dear Mr. Dilts:

The staff of the Arkansas Historic Preservation Program had reviewed the above referenced cultural resources report. This report details fieldwork for a proposed natural gas transmission pipeline, and is acceptable. My staff reports that the report is very thorough and well researched. It is obvious that the work done was of a high quality.

We concur that archeological sites 3FA265, 3FA266, 3FA267, 3FA268, 3FA269, and 3FA270 are ineligible for inclusion in the National Register of Historic Places. We also concur that the proposed undertaking will have no effect on historic properties.

Please have the archeologist consider the following comments and recommendations while preparing the final report.

- Due to the Arkansas Freedom of Information Act, any documents submitted to this office could be subjected to public release. However, site locations are exempt from this requirement. To facilitate the release of reports without revealing archeological site locations, we prefer that any maps depicting site locations be located under a separate cover from the main report. While Volume II of the submitted report will suffice for this, please make the following changes to Volume I of the final report.
  - Move Figure 4 to Volume II.
  - Remove the road name from Figure 5.
  - Move Figure 11 to Volume II.
  - Move Figure 18 to Volume II.
  - Remove the road name from Figure 19.
  - Move Figure 26 to Volume II.
  - Remove road names from Figure 27.
  - Remove road names from Figure 28.



RECEIVED  
3/12/12

- Likewise, in many cases the descriptions of site locations in the discussion of the sites could lead unauthorized persons to easily relocate the sites. As such, the location descriptions should avoid the use of actual road names, and use more generic terms, for example 'the site is located 100 meters north of a paved county road and 30 meters west of a private dirt driveway.' The detailed location descriptions with road names are more appropriate for the "Instructions for Reaching Site" section on the Arkansas Archeological Survey site form. Please reword the site location description locations to reflect this restriction.
- The discussion of site 3FA266 contains a discrepancy regarding the number of artifacts located. Paragraph 2 states that 49 artifacts were recovered, while both paragraph 3 and Table 10 state that 16 artifacts were recovered.
- As discussed in Chapter II, during a measles and cholera outbreak in 1834, many Cherokee of the Harris Party fled into the hills around Cadron to avoid the illness. A number of these people died and were buried near their encampments. Therefore, the potential for the presence of isolated human burials in the hills above and around Cadron is much higher than normal. As a precaution, we strongly recommend that procedures be developed which detail exactly how the unexpected discovery of human remains will be handled prior to construction. The archeological contractor who conducted the survey should be able to assist you, and our office will be happy to provide guidance as well.

Thank you for the opportunity to review this undertaking. If you have any questions, please call Eric Gilliland of my staff at 501-324-9880.

Sincerely,



Frances McSwain

cc: Dr. Richard Allen, Cherokee Nation of Oklahoma  
 Ms. Ladonna Brown, Chickasaw Nation  
 Ms. Heather E. Campbell, Federal Energy Regulatory Commission  
 Mr. Ken Carleton, Mississippi Band of Choctaw Indians  
 Ms. Natalie Deere, Seminole Nation of Oklahoma  
 Dr. Ann Early, Arkansas Archeological Survey  
 Dr. Andrea A. Hunter, Osage Nation  
 Mr Ted Isham, Muscogee National of Oklahoma  
 Ms. Johnnie Jacobs, Choctaw Nation of Oklahoma  
 Ms. Lisa LaRue, United Keetoowah Band of Cherokee Indians  
 Ms. Dana Masters, Jena Band of Choctaw Indians  
 Mr. Jeffrey H. Maymon, R. Christopher Goodwin & Associates, Inc.





December 22, 2012

Mr. George McCluskey  
Senior Archaeologist/106 Review Coordinator  
Arkansas Historic Preservation Program  
323 Center Street, Suite 1500  
Little Rock, AR 72201

**Subject: Federal Energy Regulatory Commission Pre-Filing Process  
CenterPoint Energy Gas Transmission Company, LLC  
Central Arkansas Pipeline Enhancement Project**

Dear Mr. McCluskey,

CenterPoint Energy Gas Transmission Company, LLC ("CEGT") is respectfully requesting your participation in the Federal Energy Regulatory Commission's ("FERC") National Environmental Policy Act ("NEPA") Pre-Filing Process for CEGT's proposed Central Arkansas Pipeline Enhancement Project ("Project"). AK Environmental, LLC ("AK") is assisting CEGT in the environmental permitting of the Project. The FERC Pre-Filing Process is intended to involve relevant agencies, tribes, and other interested stakeholders in the early developmental stages of a project and provides a mechanism for identifying and resolving stakeholder issues prior to a formal application being submitted to the FERC. As part of the process, CEGT would consult with relevant agencies and stakeholders through in-person meetings, phone calls, and/or written correspondence, and would also participate in FERC-initiated agency scoping meetings. The issues identified in the Pre-Filing Process would be addressed in CEGT's application to the FERC.

CEGT, in cooperation with its affiliated natural gas distribution business, is proposing the Central Arkansas Pipeline Enhancement Project. The Project will provide for the continued safe, reliable, and efficient transportation of natural gas to the central Arkansas cities and towns of Conway, Mayflower, Maumelle, North Little Rock, and Little Rock. CEGT currently owns and operates multiple, existing pipelines in this region, but the region has experienced substantial residential and commercial development since the original pipeline facilities were constructed. The pipeline enhancement project provides CEGT with the opportunity to install new pipeline facilities to better serve its current customers, while also laying the groundwork for additional pipeline capacity to meet future growth, as needed. As part of the Project, CEGT will also retire from service (abandon) some existing pipeline assets, while also realigning ownership of some other existing pipeline infrastructure to its distribution affiliate. Such realignment and repurposing of existing pipeline infrastructure will provide for cost

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AK Environmental, LLC | [www.ak-env.com](http://www.ak-env.com)

222 Rolling Meadow Drive, Holliston, MA 01746 t. 339.203.7045 f. 781.394.8377

West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA

savings and more efficient delivery of natural gas in the Project area, all of which should benefit end use customers.

As part of the Project, CEGT is proposing the installation of approximately 28 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 9.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT's distribution affiliate, and an approximately 21-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service (abandoned). Other minor ancillary facilities and small diameter pipelines within the City of Conway (*i.e.*, Lines BM-1 and BT-19) would also be abandoned in association with the proposed Project. Refer to the attached Project overview map for a depiction of the existing and proposed pipeline facilities associated with the Project.

CEGT would like to invite you to participate in the NEPA Pre-Filing Process, as your participation will allow CEGT to prepare a more comprehensive and responsive FERC application. If you are interested and available to participate in the FERC's NEPA Pre-Filing process, please complete the enclosed Agency Participation Response Form. You also may send a formal response letter to me at the address on this letter or by email to [rweissman@ak-env.com](mailto:rweissman@ak-env.com). On behalf of CEGT, AK will provide documentation of the participating agencies to CEGT and the FERC Staff. Should you have any questions regarding the Project, please do not hesitate to contact me by email or phone. Thank you for your consideration.

Sincerely,

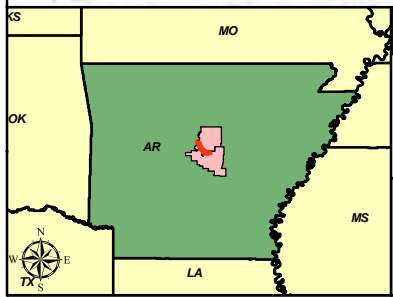
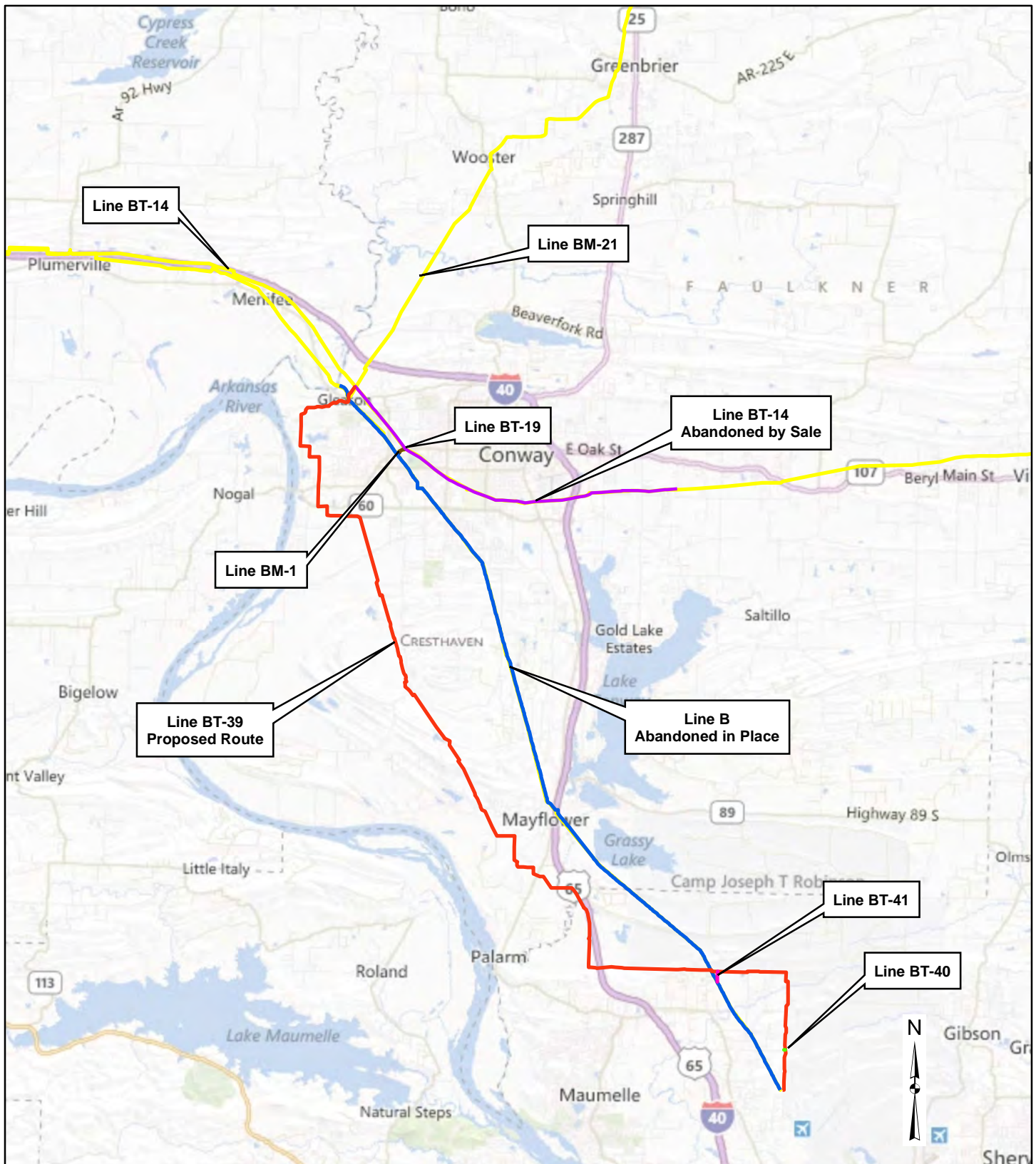


Rebecca Weissman, PWS  
Deputy Project Manager / Senior Scientist

Enclosures: Project Location Map

cc: CEGT





<p>Drawn On: December 21, 2012</p>	<p><b>Overall Project Location Map</b></p> <p><b>Line B Replacement - Conway to Little Rock</b></p> <p>Faulkner and Pulaski Counties, Arkansas</p>	<p>Page 1 of 1</p>
<p>0 2.5 5 10 Miles</p>		
<p>Prepared For:</p>	<p>AK Environmental, LLC 5020 Ritter Road Suite 206 Mechanicsburg, PA 17055</p>	

Legend	
<span style="color: red;">—</span>	Line BT-39
<span style="color: green;">—</span>	Line BT-40
<span style="color: blue;">—</span>	Line BT-41
<span style="color: red;">—</span>	Existing Line BT-14 to be abandoned in place
<span style="color: blue;">—</span>	Existing Line B to be abandoned in place
<span style="color: purple;">—</span>	Existing Line BT-19 to be abandoned in place
<span style="color: black;">—</span>	Existing Line BM-1 to be abandoned in place
<span style="color: yellow;">—</span>	Existing CEGT Pipelines

**CEGT Central Arkansas Pipeline Enhancement Project**  
**Agency/Tribe/Stakeholder Participation Response Form**

This signed form serves as confirmation that we have received a letter dated December 21, 2012 regarding participation in the FERC Pre-Filing Process for the Central Arkansas Pipeline Enhancement Project. At this time, we:

- ☐ Will participate in the FERC Pre-Filing Process
- ☐ Will not participate in the FERC Pre-Filing Process

**Name:**

**Department:**

**Position Title:**

**Signature**

**Date:**

**Comments (optional):**

Please return your completed form by **January 15, 2012** to:

Rebecca Weissman  
Deputy Project Manager  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, MA 01746  
Phone: (339) 203-7045  
Fax: (781) 394-8377  
Email: [rweissman@ak-env.com](mailto:rweissman@ak-env.com)





The Department of  
**Arkansas  
Heritage**

Mike Beebe  
Governor

Cathie Matthews  
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

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e-mail:

[info@arkansaspreservation.org](mailto:info@arkansaspreservation.org)

website:

[www.arkansaspreservation.org](http://www.arkansaspreservation.org)

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January 3, 2013

Ms. Rebecca Weissman, PWS  
Deputy Project Manager/Senior Scientist  
AK Environmental, LLC  
222 Rolling Meadow Drive  
Holliston, Maine 01746

RE: Multi-County – General  
Section 106 Review – FERC; AHPP Tracking#84921  
Proposed Central Arkansas Pipeline Enhancement Project In Faulkner And  
Pulaski Counties, Arkansas

Dear Ms. Weissman:

This letter is written in response to your inquiry, regarding properties of architectural, historical, or archeological significance in the area of the proposed referenced project.

In order for the Arkansas Historic Preservation Program (AHPP) to complete its review of the proposed project, we will need the additional information checked below:

✓ 7.5 minute 1:24,000 scale U.S.G.S. topographic maps clearly delineating the project route;

✓ a project description detailing all aspects of the proposed project;

✓ the location, age, and photographs of structures (if any) to be renovated, removed, demolished, or abandoned as a result of this project;

\_\_\_ photographs of any structures 50 years old or older on property directly adjacent to the project area.

Once we have received the above information, we will complete our review as expeditiously as possible. If you have any questions, please contact me at (501) 324-9880.

Sincerely,

George McCluskey  
Section 106 Review Coordinator





February 11, 2013

Mr. George McCluskey  
Senior Archaeologist and 106 Review Coordinator  
Arkansas Historic Preservation Program  
323 Center Street, Suite 1500  
Little Rock, AR 72201

**Subject: Section 106 Consultation Documentation for the Proposed Central Arkansas Pipeline Enhancement Project for CenterPoint Energy Gas Transmission Company, LLC, Faulkner and Pulaski Counties, Arkansas.**

Dear Mr. McCluskey,

CenterPoint Energy Gas Transmission Company, LLC (CEGT), in cooperation with its affiliated natural gas distribution business, is proposing the Central Arkansas Pipeline Enhancement Project (Project). As part of the Project, CEGT is proposing the installation of approximately 28 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment, and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, as well as two 4-inch diameter laterals (Lines BT-40 and BT-41) to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 9.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT's distribution affiliate, and an approximately 21-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service (abandoned). Other minor ancillary facilities and small diameter pipelines within the City of Conway (i.e., Lines BM-1 and BT-19) would also be abandoned in association with the proposed Project. Refer to the attached Project location maps for a depiction of the existing and proposed pipeline facilities associated with the Project.

An Environmental Report, required as part of the Federal Energy Regulatory Commission (FERC) Section 7(c) application and National Environmental Policy Act (NEPA) review process, is currently being prepared for the Project. Therefore, consultation under Section 106 of the National Historic Preservation Act (1966, as amended) is necessary. CEGT and its environmental consultant AK Environmental, LLC (AK), hereby submit to the Arkansas Historic Preservation Program (AHPP) correspondence to initiate consultation under Section 106.

---

AK Environmental, LLC | [www.ak-env.com](http://www.ak-env.com)

5020 Ritter Road, Suite 206, Mechanicsburg, PA 17055 t. 717.458.8035 f. 717.307.3463

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Approximately 8 miles of the Line BT-39 route was previously surveyed as part of the planned Line BT-14 Replacement Project. R. Christopher Goodwin and Associates submitted a Phase I report to the AHPP on February 8, 2012. The AHPP concurred that there would be no adverse effect to historic properties and requested edits for the final report in a letter dated March 2, 2012. The previously surveyed portion of the pipeline route is illustrated in Figure 1. On July 3, 2012, CEGT withdrew the application for the Line BT-14 Replacement Project, which had previously been filed with the FERC on April 13, 2012. CEGT determined that the desired outcomes of that project could be achieved pursuing the current Project.

The proposed Project will result in temporary and permanent impacts to land, primarily in secondary growth forest and agricultural cropland. CEGT will acquire a permanent easement for the Project and use an additional temporary construction easement. The Project includes additional temporary workspaces and access roads. Definition of the area of potential effects ("APE") for an undertaking is a necessary step in the Section 106 process. For the purpose of field surveys, a 150-foot survey corridor has been defined for the mainline and a 50-foot survey corridor for access roads requiring improvements. In addition, all additional temporary workspaces located outside of the 150-foot survey corridor will be investigated. This area serves as the APE for the Project. For the Abandonment Line sections, the APE is 50-foot wide. Only areas where removal is likely will be investigated for the Abandonment Line sections. Field investigations are ongoing for the Project and a Phase I report will be submitted the AHPP at the conclusion of testing.

On behalf of CEGT, AK respectfully requests comments from the Arkansas AHPP for this Project. Should you have any questions or require any additional information to complete your review, please do not hesitate to contact me by phone at 717.458.8035 or email at [smitchell@ak-env.com](mailto:smitchell@ak-env.com). Thank you for your consideration and assistance with this request.

Sincerely,



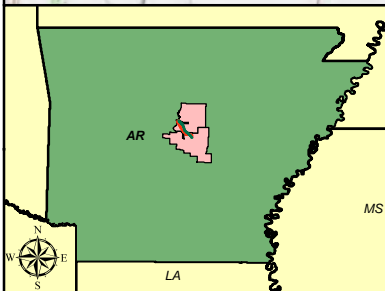
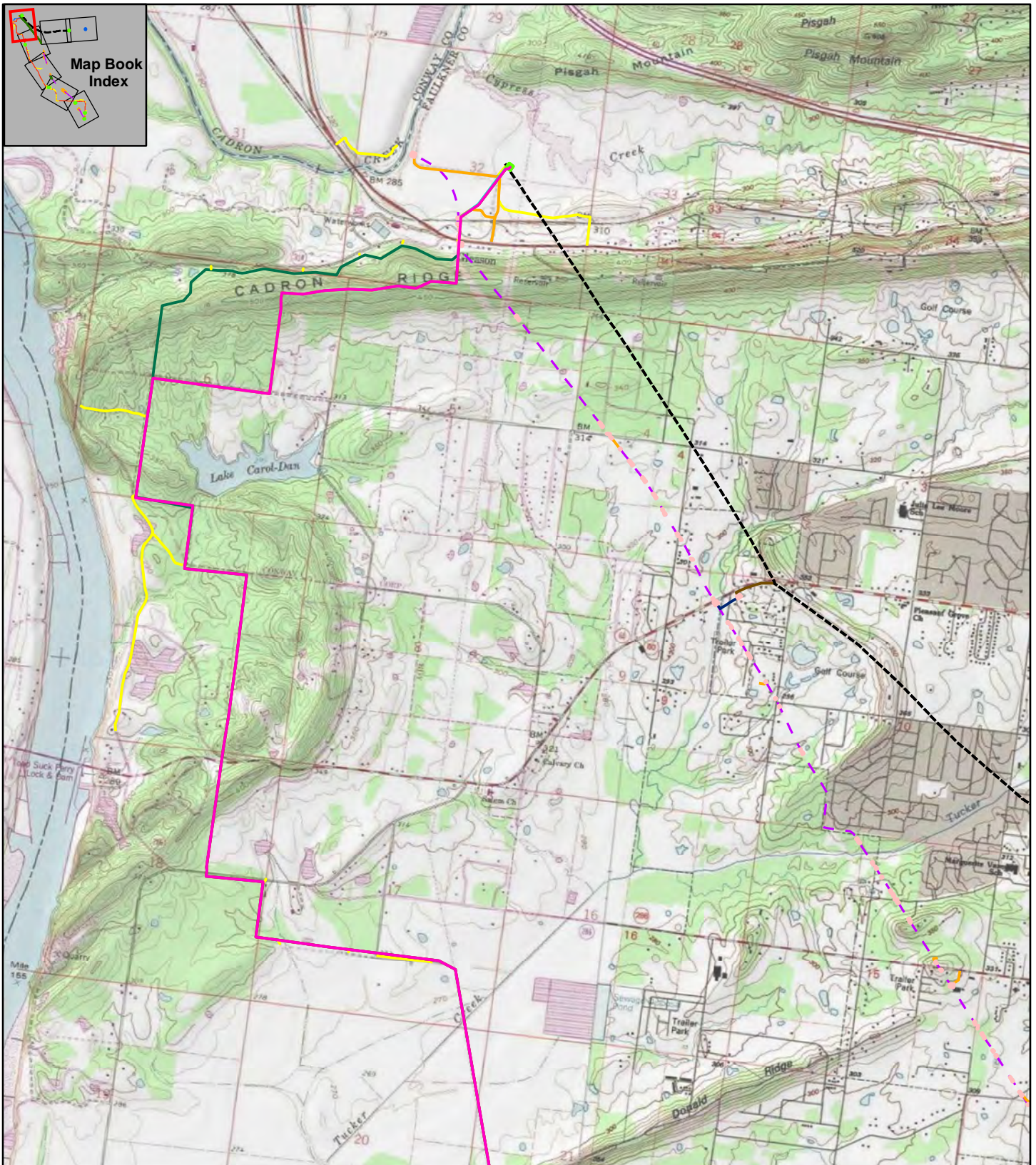
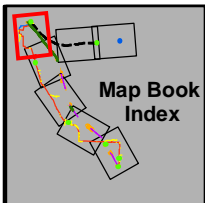
Seth T. Mitchell, RPA  
Senior Archaeologist

Enclosures: Figure 1 – Project Location Maps

cc: CEGT  
Scott Urwick, AK Environmental  
Rebecca Weissman, AK Environmental







Drawn On:  
February 07, 2013



Prepared  
For:



**Project Location Map**  
**Central Arkansas**  
**Pipeline Enhancement Project**  
Faulkner and Pulaski Counties, Arkansas

0 1,500 3,000 6,000 Feet  
1 inch = 3,000 feet

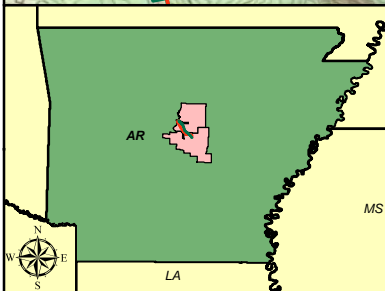
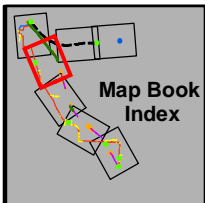
Page 1 of 7

- Legend**
- Previously Studied Area
  - Line BT-39 Proposed Route
  - Line BT-39 Reroutes
  - Line BT-39 Access Roads
  - Line BT-39 Laterals
  - Line BT-40 Proposed Route
  - Line BT-41 Proposed Route
  - Proposed Facilities (Meter, Tap, Valve, etc.)
  - Abandonment Work Areas
  - Shoemaker Site
  - Proposed Yard
  - Existing Line BT-14 - Transfer Ownership
  - Existing Line BT-19 - Retire (Abandon in Place)
  - Existing Line SM-21 - Retire (Abandon in Place)
  - Existing Line BM-1 - Retire (Abandon in Place)
  - Existing Line B - Retire (Abandon in Place)
  - Existing Line B Access Roads



AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055





Drawn On:  
February 07, 2013



Prepared  
For:



**Project Location Map**  
**Central Arkansas**  
**Pipeline Enhancement Project**  
Faulkner and Pulaski Counties, Arkansas

0 1,500 3,000 6,000 Feet  
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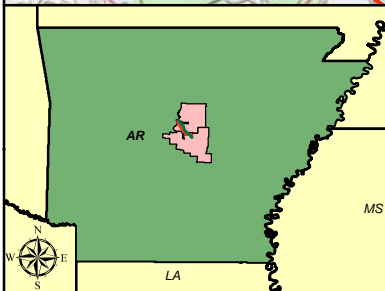
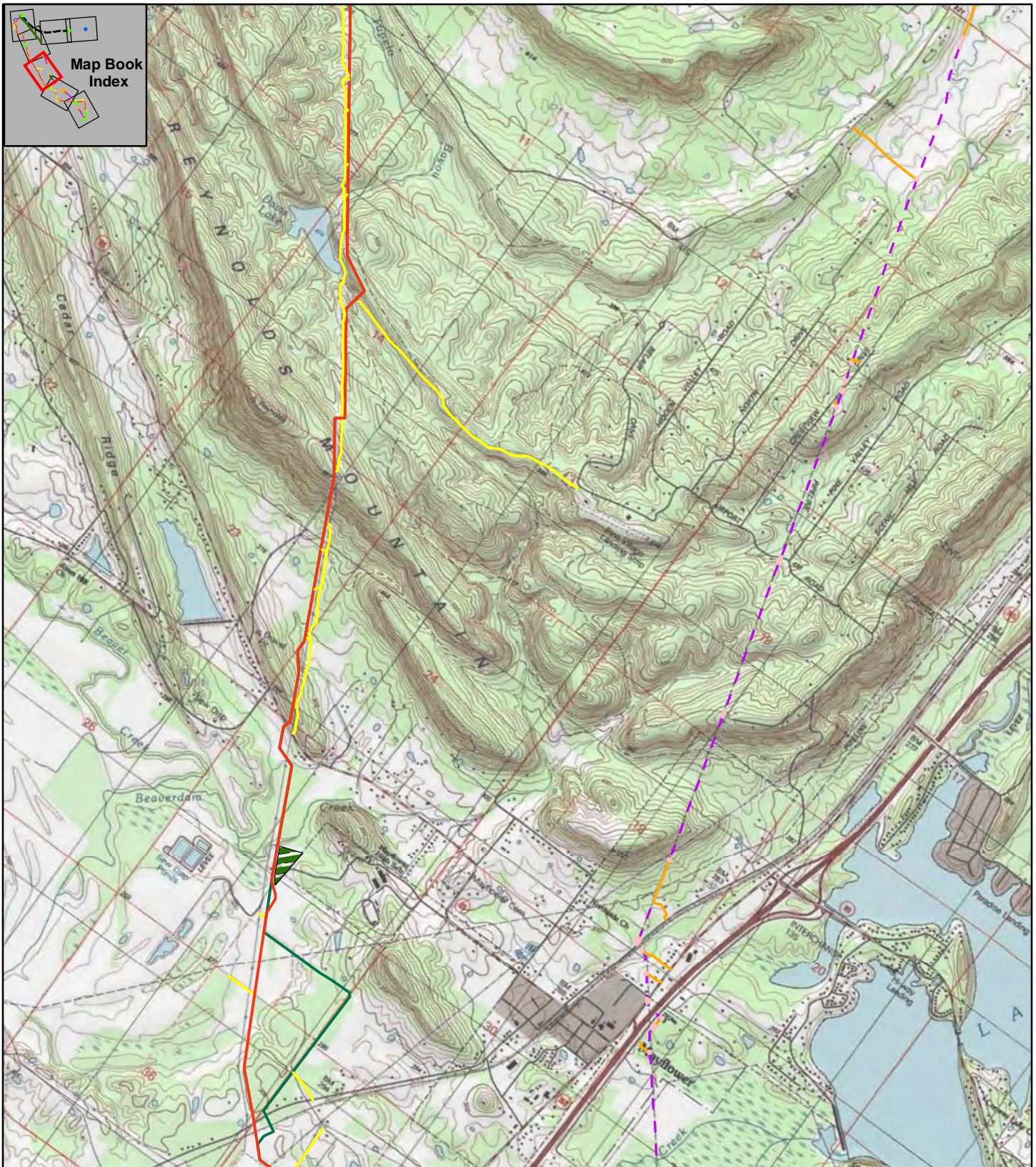
Page 2 of 7

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  - Existing Line B Access Roads



AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055





Drawn On:  
February 07, 2013



Prepared  
For:



**Project Location Map**  
**Central Arkansas**  
**Pipeline Enhancement Project**  
Faulkner and Pulaski Counties, Arkansas

0 1,500 3,000 6,000 Feet  
1 inch = 3,000 feet

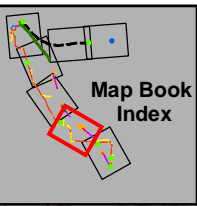
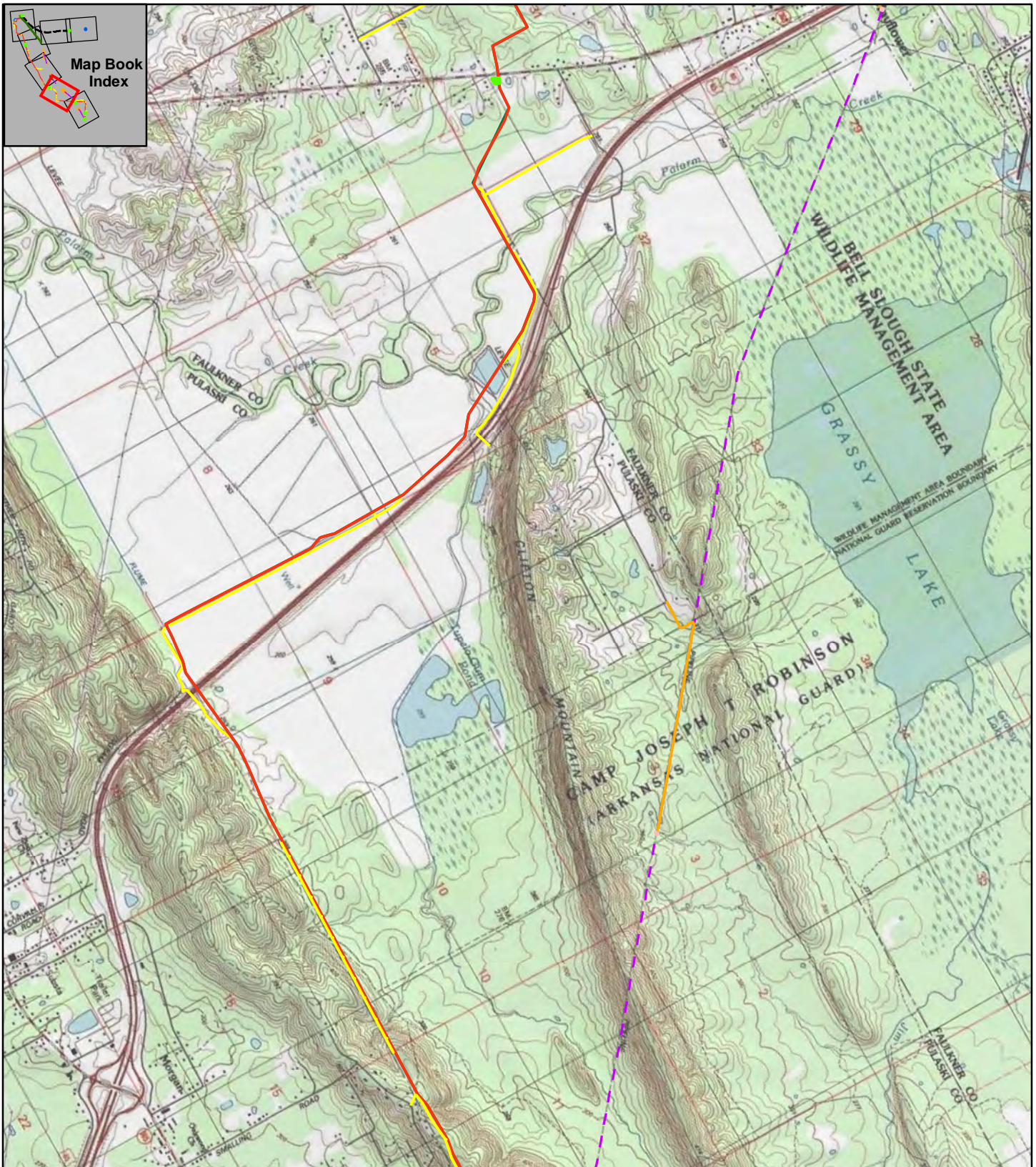
Page 3 of 7

- Legend**
- Previously Studied Area
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  - Existing Line B - Retire (Abandon in Place)
  - Existing Line B Access Roads

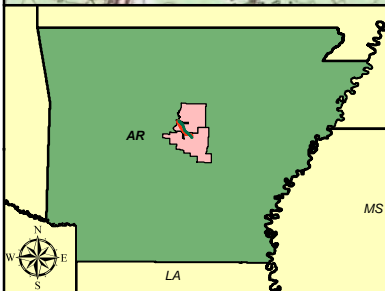


AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055





Map Book  
Index



Drawn On:  
February 07, 2013



Prepared  
For:



**Project Location Map**  
**Central Arkansas**  
**Pipeline Enhancement Project**  
Faulkner and Pulaski Counties, Arkansas

0 1,500 3,000 6,000 Feet  
1 inch = 3,000 feet

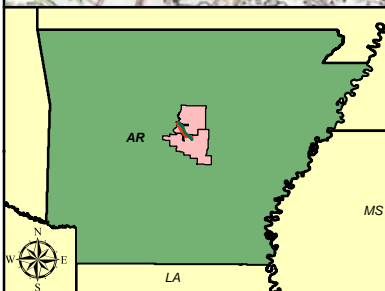
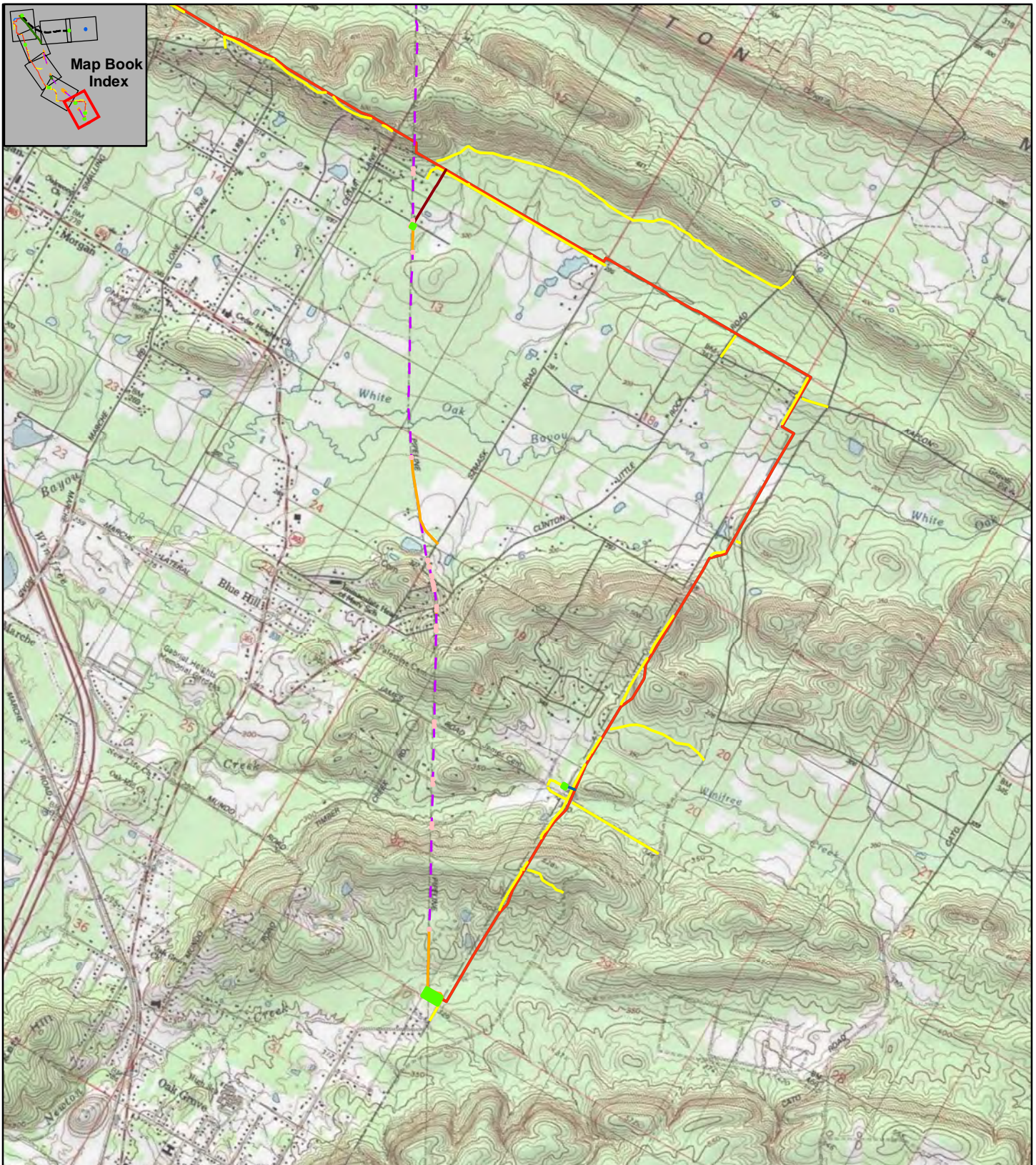


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5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

Page 4 of 7

- Legend**
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  - Proposed Yard
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  - Existing Line BT-19 - Retire (Abandon in Place)
  - Existing Line SM-21 - Retire (Abandon in Place)
  - Existing Line BM-1 - Retire (Abandon in Place)
  - Existing Line B - Retire (Abandon in Place)
  - Existing Line B Access Roads





Drawn On:  
February 07, 2013



**Project Location Map**  
**Central Arkansas**  
**Pipeline Enhancement Project**  
Faulkner and Pulaski Counties, Arkansas

0 1,500 3,000 6,000 Feet

1 inch = 3,000 feet

Prepared  
For:



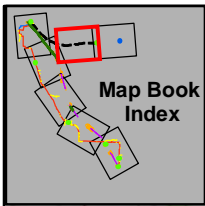
AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

Page 5 of 7

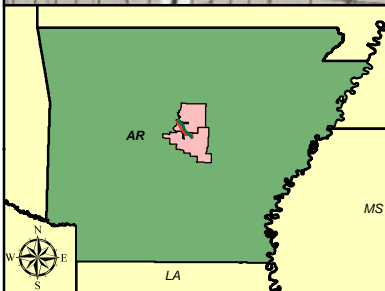
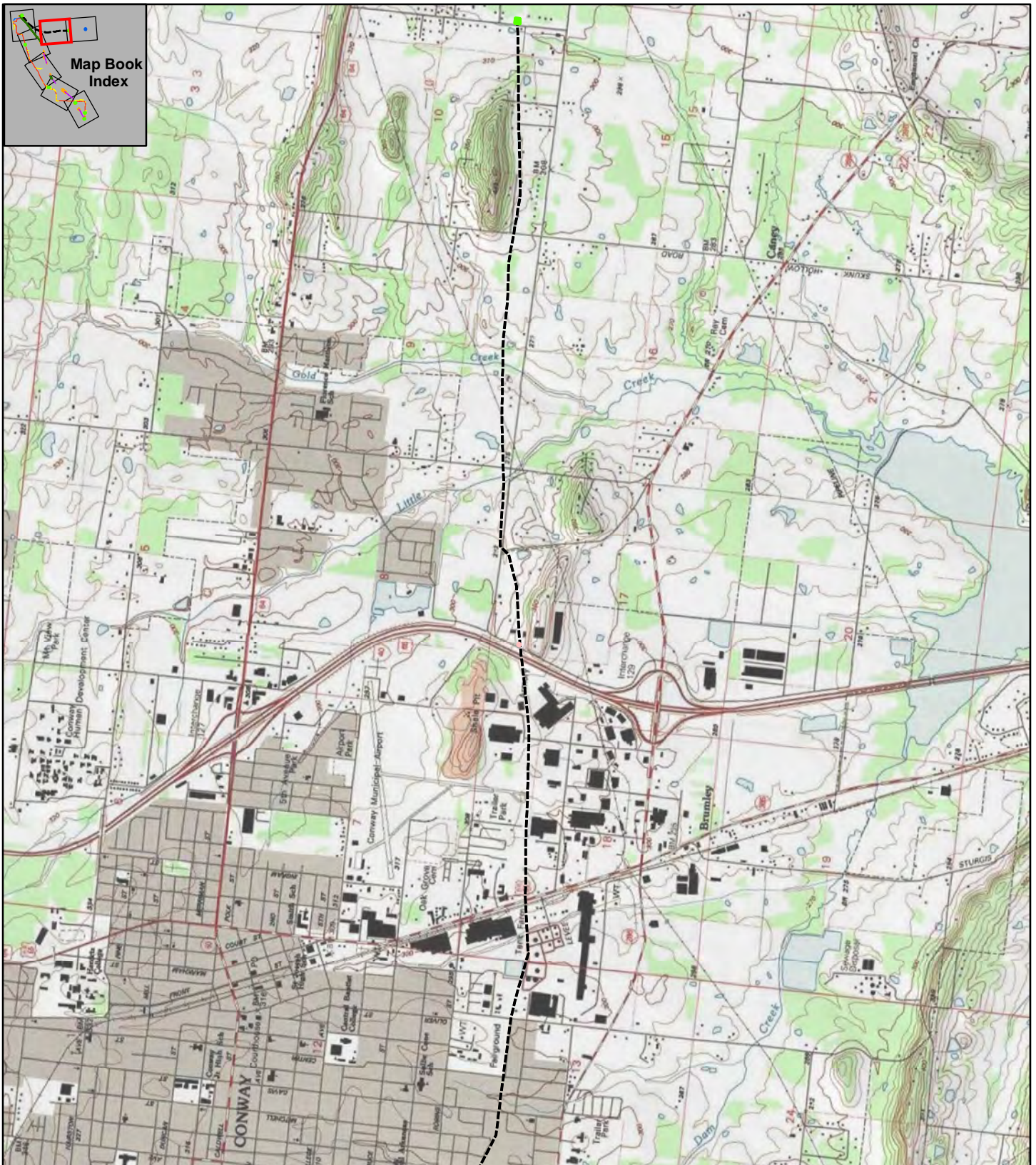
**Legend**

- Previously Studied Area
- Line BT-39 Proposed Route
- Line BT-39 Reroutes
- Line BT-39 Access Roads
- Line BT-39 Laterals
- Line BT-40 Proposed Route
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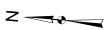




Map Book  
Index



Drawn On:  
February 07, 2013



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For:



### Project Location Map

Central Arkansas

### Pipeline Enhancement Project

Faulkner and Pulaski Counties, Arkansas

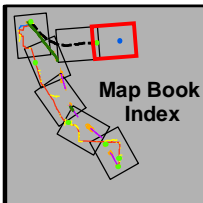
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Page 6 of 7

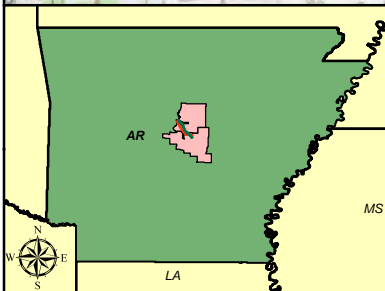
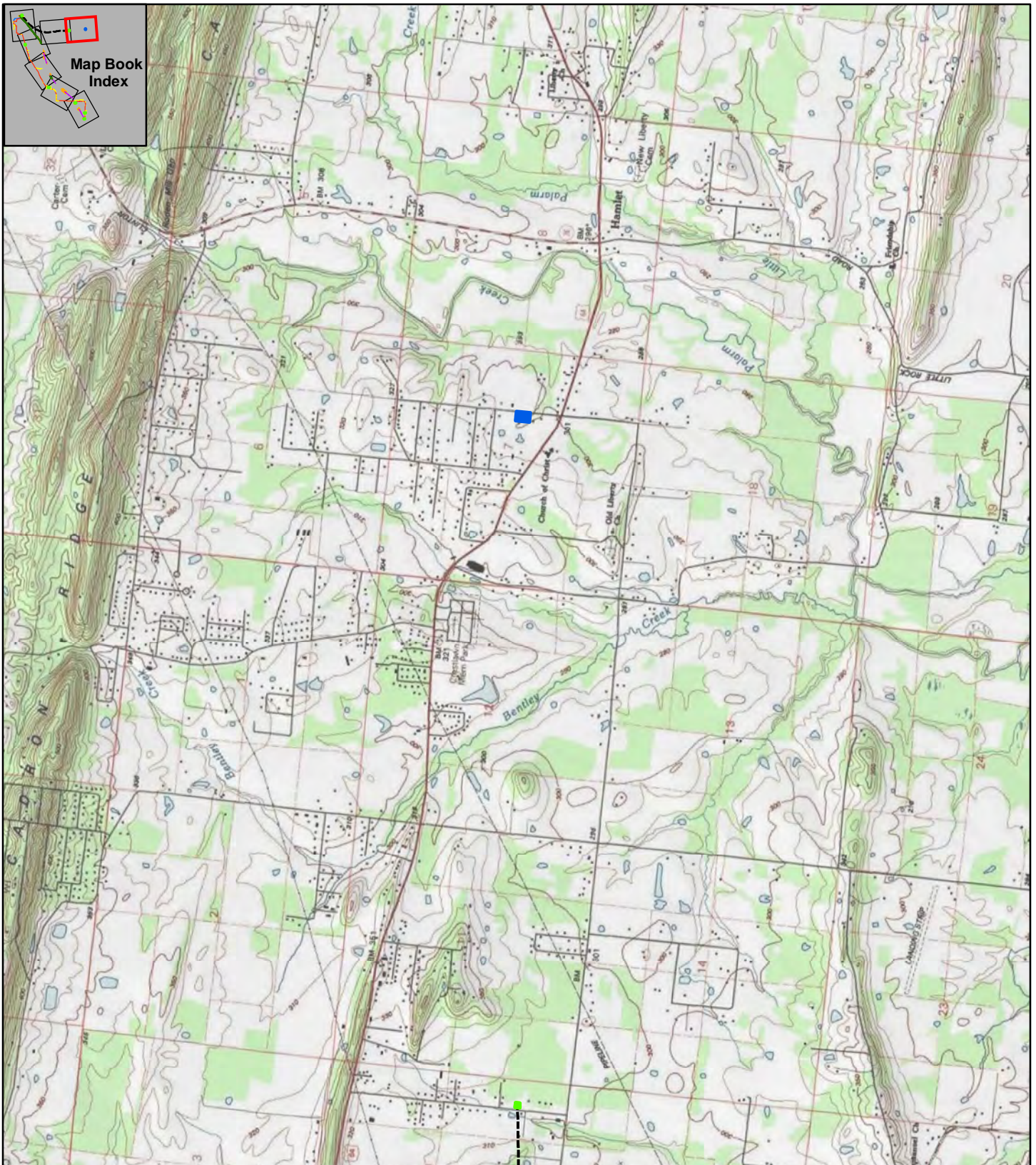
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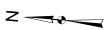




Map Book  
Index



Drawn On:  
February 07, 2013



**Project Location Map**  
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**Pipeline Enhancement Project**  
Faulkner and Pulaski Counties, Arkansas  
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1 inch = 3,000 feet

Prepared  
For:



AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

Page 7 of 7

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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](mailto:info@arkansaspreservation.org)

website:

[www.arkansaspreservation.org](http://www.arkansaspreservation.org)

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February 14, 2013

Mr. Seth T. Mitchell  
Senior Archeologist  
AK Environmental, LLC  
5020 Ritter Road, Suite 206  
Mechanicsburg, Pennsylvania 17055

Re: Multi County – General  
Section 106 Review – FERC  
Proposed Central Arkansas Pipeline Enhancement Project  
AHPP Tracking Number 84921

Dear Mr. Mitchell:

This letter is written in response to your inquiry, regarding properties of architectural, historical, or archeological significance in the area of the proposed referenced project.

In order for the Arkansas Historic Preservation Program (AHPP) to complete its review of the proposed project, we will need the additional information checked below:

X a 7.5 minute 1:24,000 scale U.S.G.S. topographic map clearly delineating the project area;

\_\_\_ the location, age, and photographs of structures (if any) to be renovated, removed, demolished, or abandoned as a result of this project;

\_\_\_ photographs of any structures 50 years old or older on property directly adjacent to the project area.

Once we have received the above information, we will complete our review as expeditiously as possible. Please refer to the AHPP Tracking Number listed above in all correspondence. If you have any questions, please contact me at (501) 324-9880.

Sincerely,

J. Eric Gilliland, MA, RPA  
Staff Archeologist





March 6, 2013

Mr. J. Eric Gilliland  
Staff Archaeologist  
Arkansas Historic Preservation Program  
323 Center Street, Suite 1500  
Little Rock, AR 72201

**Subject: Revised Project Area Maps for Section 106 Consultation Documentation for the Proposed Central Arkansas Pipeline Enhancement Project for CenterPoint Energy Gas Transmission Company, LLC, Faulkner and Pulaski Counties, Arkansas. (AHPP Tracking Number 84921)**

Dear Mr. Gilliland,

In a letter dated February 14, 2013, you requested additional Project area location maps to complete your review of the proposed project mentioned above. These maps are enclosed for your review.

Should you have any questions or require any additional information to complete your review, please do not hesitate to contact me by phone at 717.458.8035 or email at [smitchell@ak-env.com](mailto:smitchell@ak-env.com). Thank you for your consideration and assistance with this request.

Sincerely,

A handwritten signature in blue ink, appearing to read 'S. Mitchell', is written over a light blue horizontal line.

Seth T. Mitchell, RPA  
Senior Archaeologist

Enclosures: Figure 1 – Project Location Maps

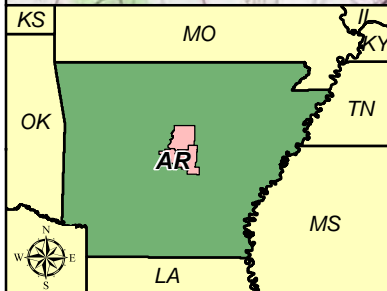
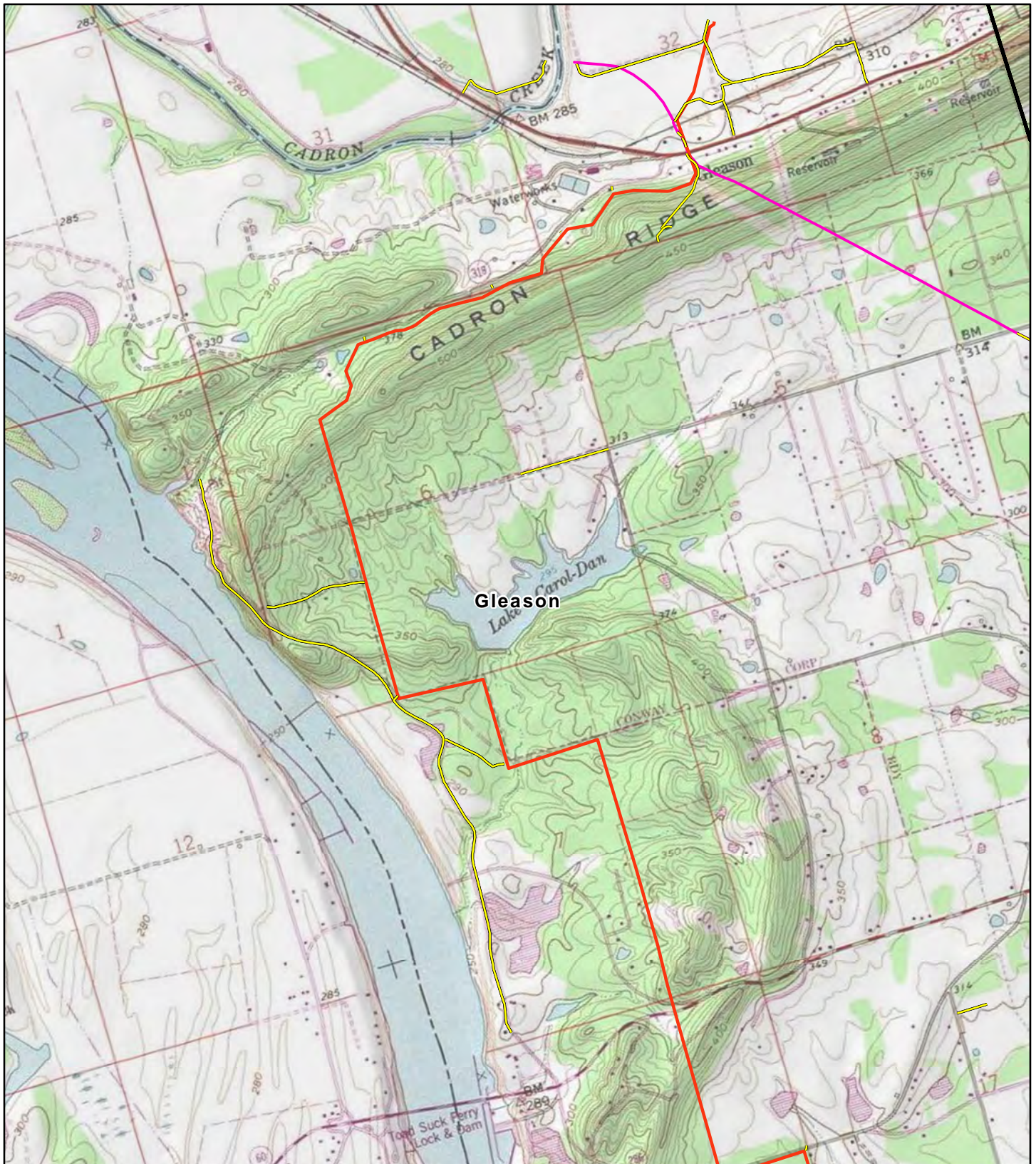
cc: CEGT  
Scott Urwick, AK Environmental  
Rebecca Weissman, AK Environmental

---

AK Environmental, LLC | [www.ak-env.com](http://www.ak-env.com)

5020 Ritter Road, Suite 206, Mechanicsburg, PA 17055 t. 717.458.8035 f. 717.307.3463

West Trenton, NJ | Holly Springs, NC | Aiken, SC | East Kingston, NH | Mechanicsburg, PA | Holliston, MA | Riverside, AL



Drawn On:  
February 25, 2013



0 0.25 0.5 1 Miles  
1 in = 2,000 ft

Prepared  
For:



AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

## Project Location Map

### Central Arkansas

### Pipeline Enhancement Project

Faulkner and Pulaski Counties, Arkansas

## Figure 2

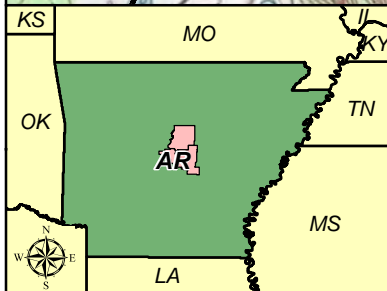
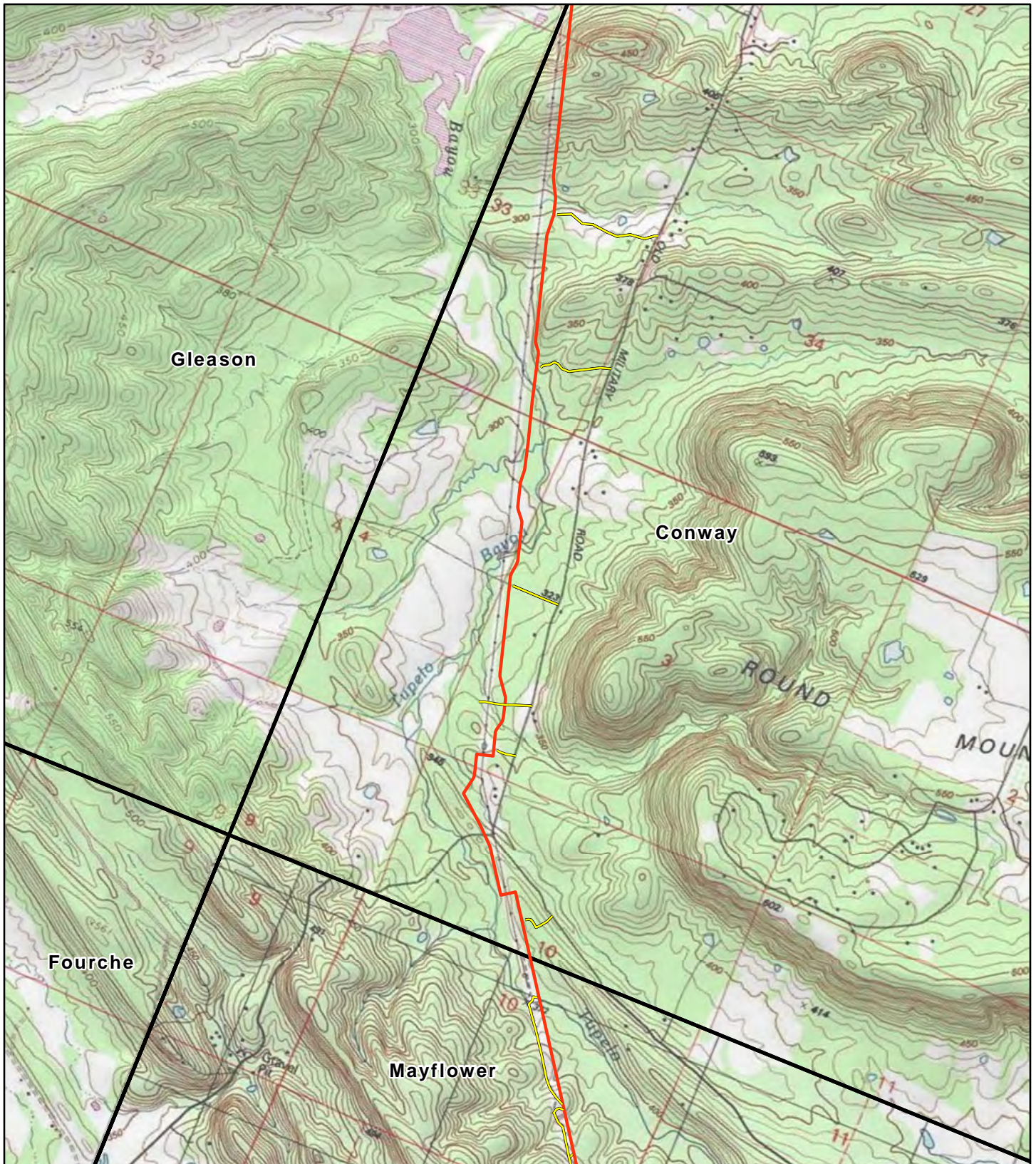
## Legend

- Line BT-39 Route
- Line BT-40 Route
- Line BT-41 Route
- Surveyed Existing Line B
- Access Roads
- Shoemaker Site
- USGS 24k Topo Map Boundaries









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February 25, 2013



0 0.25 0.5 1 Miles  
1 in = 2,000 ft

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Suite 206  
Mechanicsburg, PA 17055

## Project Location Map

Central Arkansas

Pipeline Enhancement Project

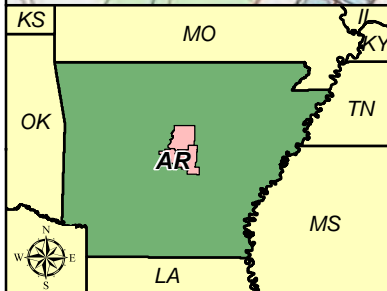
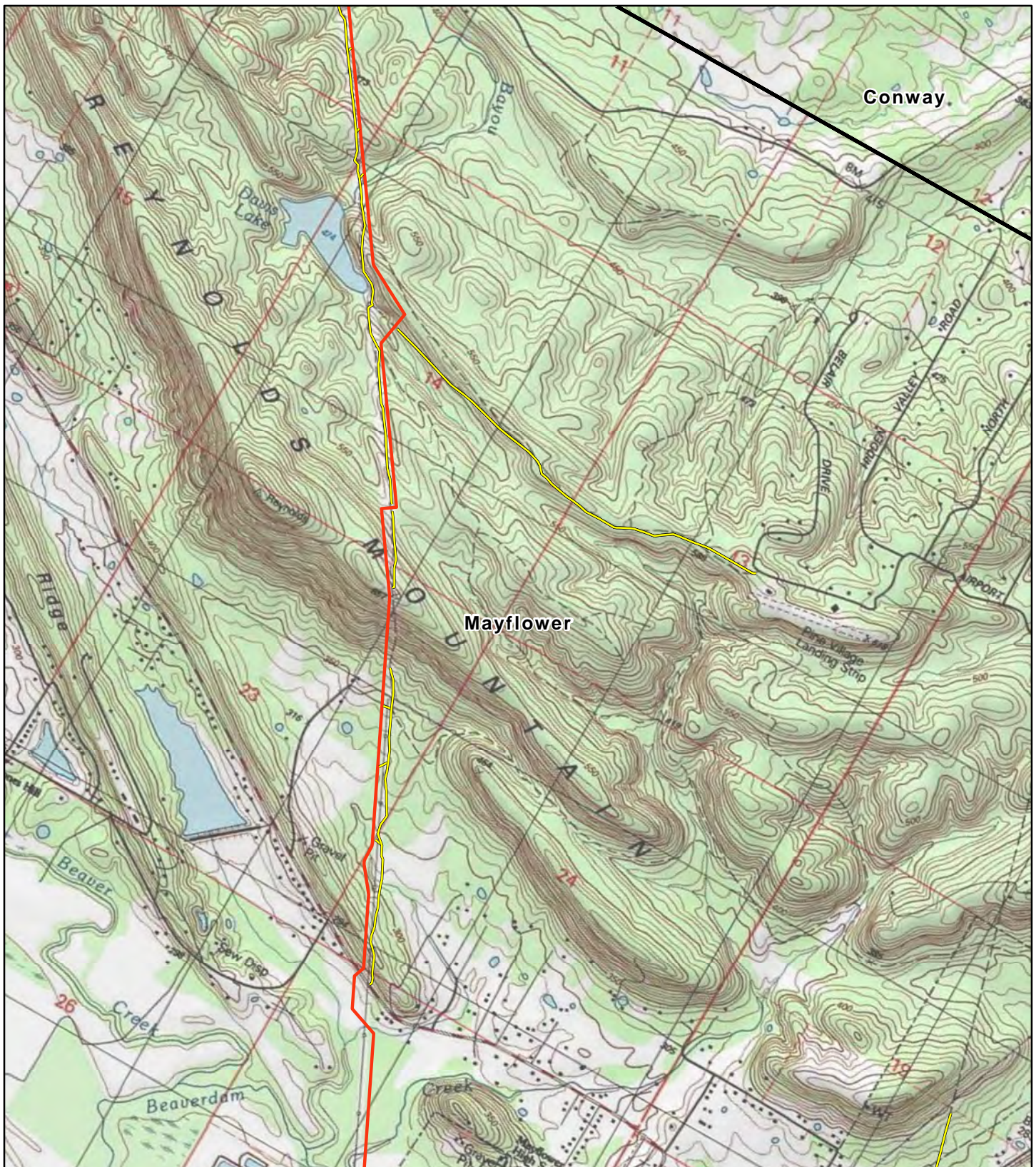
Faulkner and Pulaski Counties, Arkansas

## Figure 2

### Legend

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0 0.25 0.5 1 Miles  
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## Project Location Map

Central Arkansas

Pipeline Enhancement Project

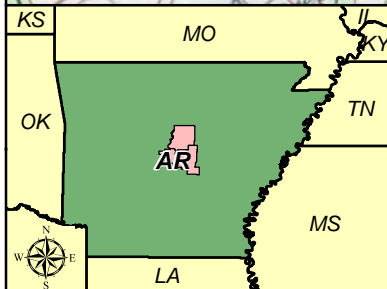
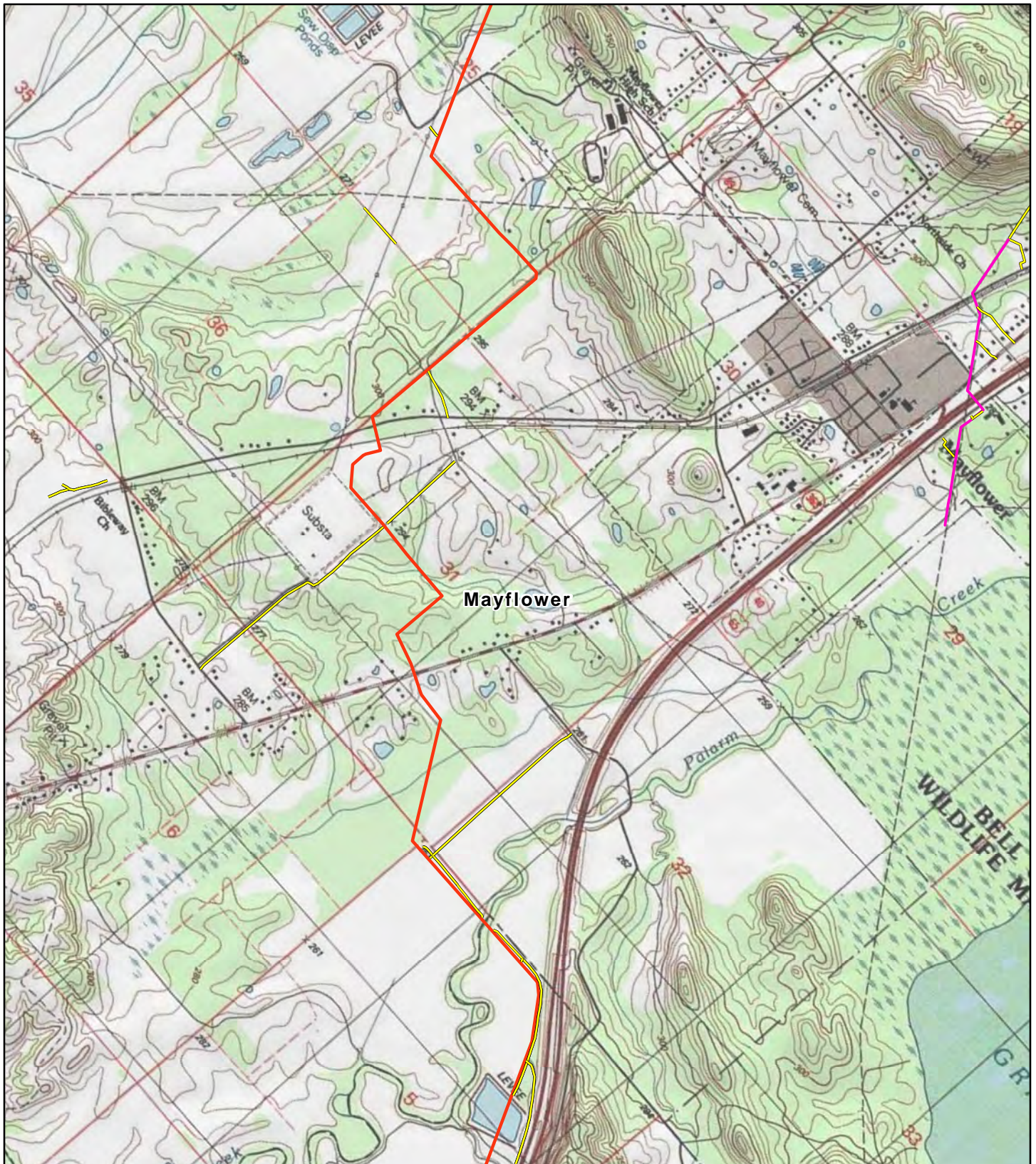
Faulkner and Pulaski Counties, Arkansas

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February 25, 2013



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**Project Location Map**  
**Central Arkansas**  
**Pipeline Enhancement Project**  
Faulkner and Pulaski Counties, Arkansas

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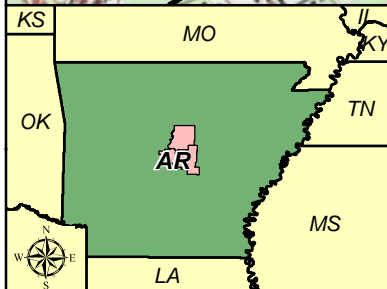
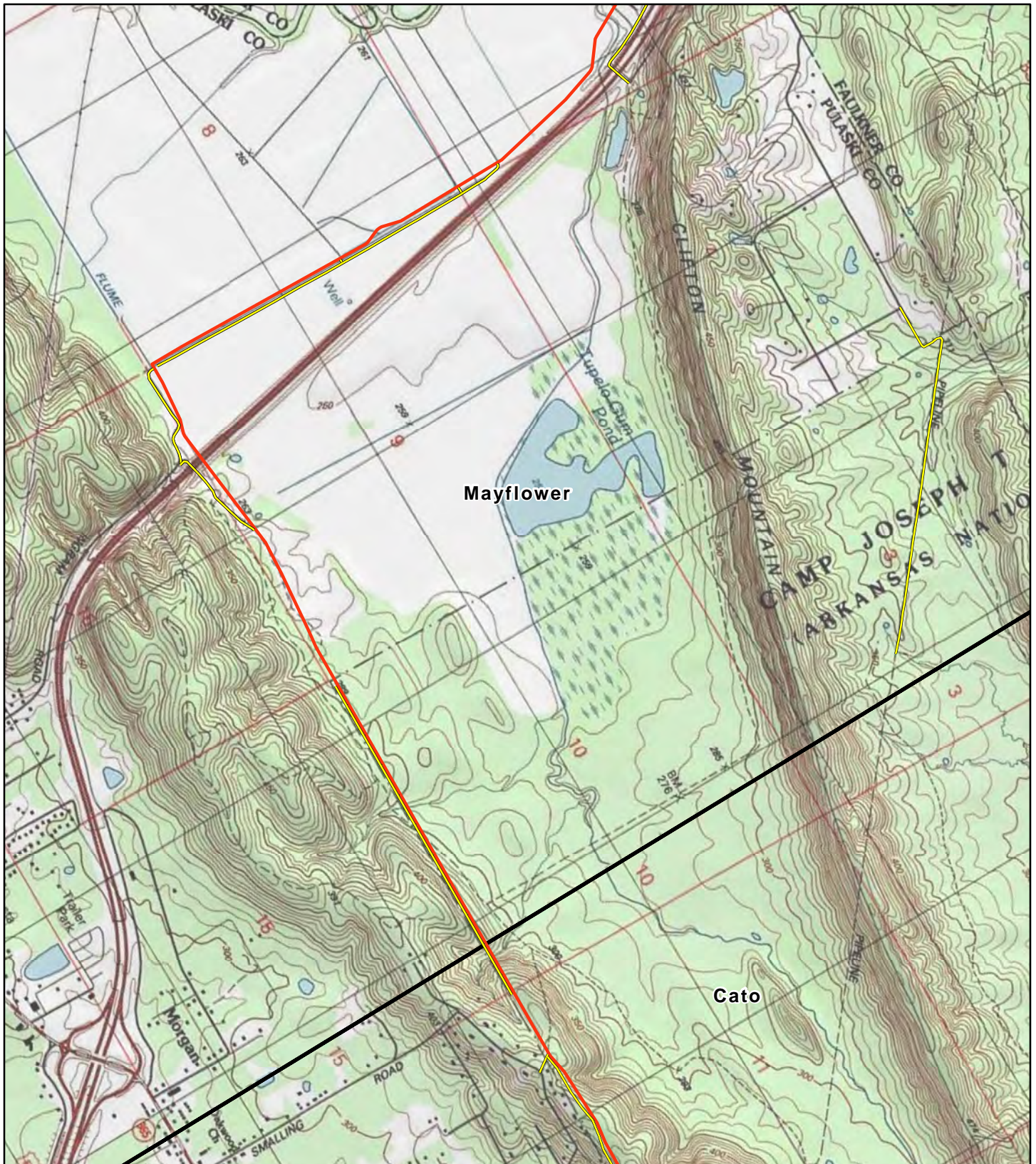
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**Figure 2**

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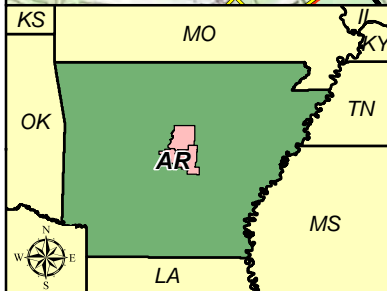
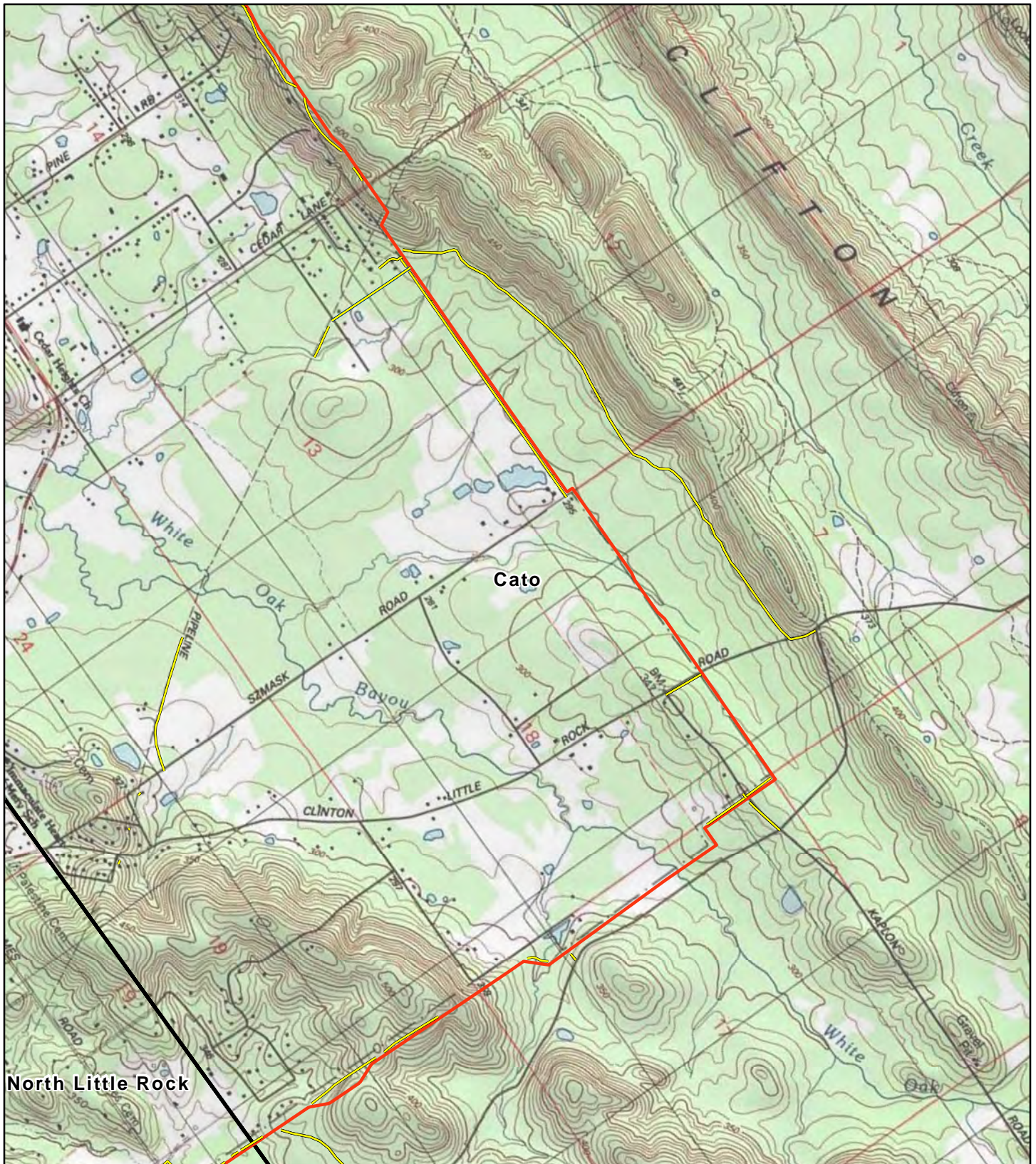
AK Environmental, LLC  
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## Project Location Map

### Central Arkansas

### Pipeline Enhancement Project

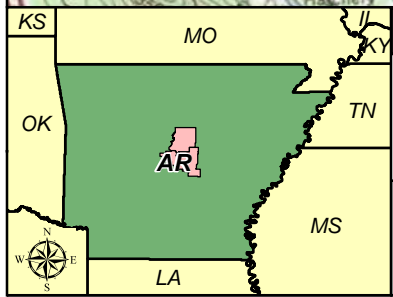
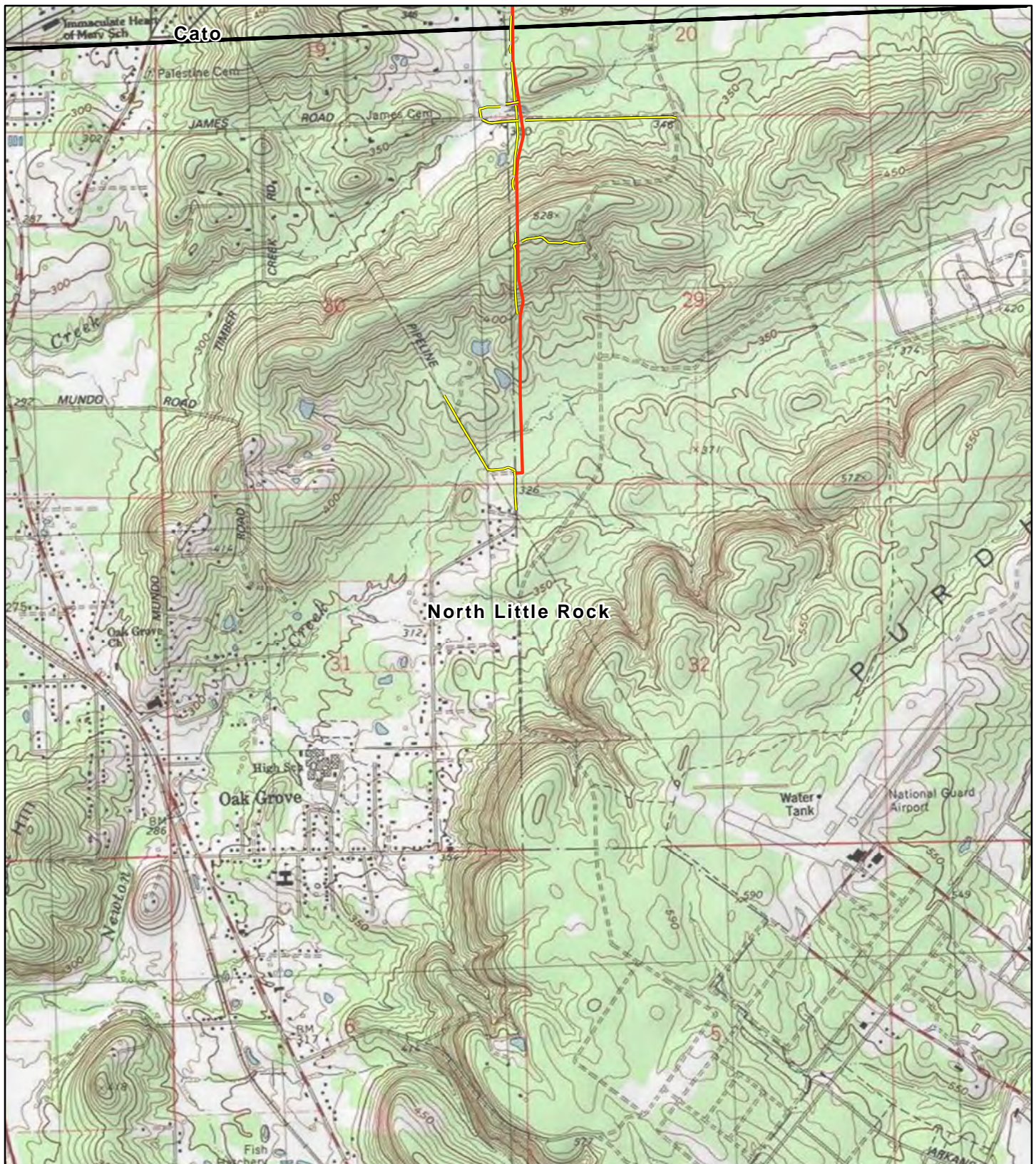
Faulkner and Pulaski Counties, Arkansas

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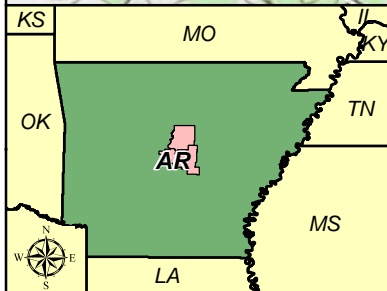
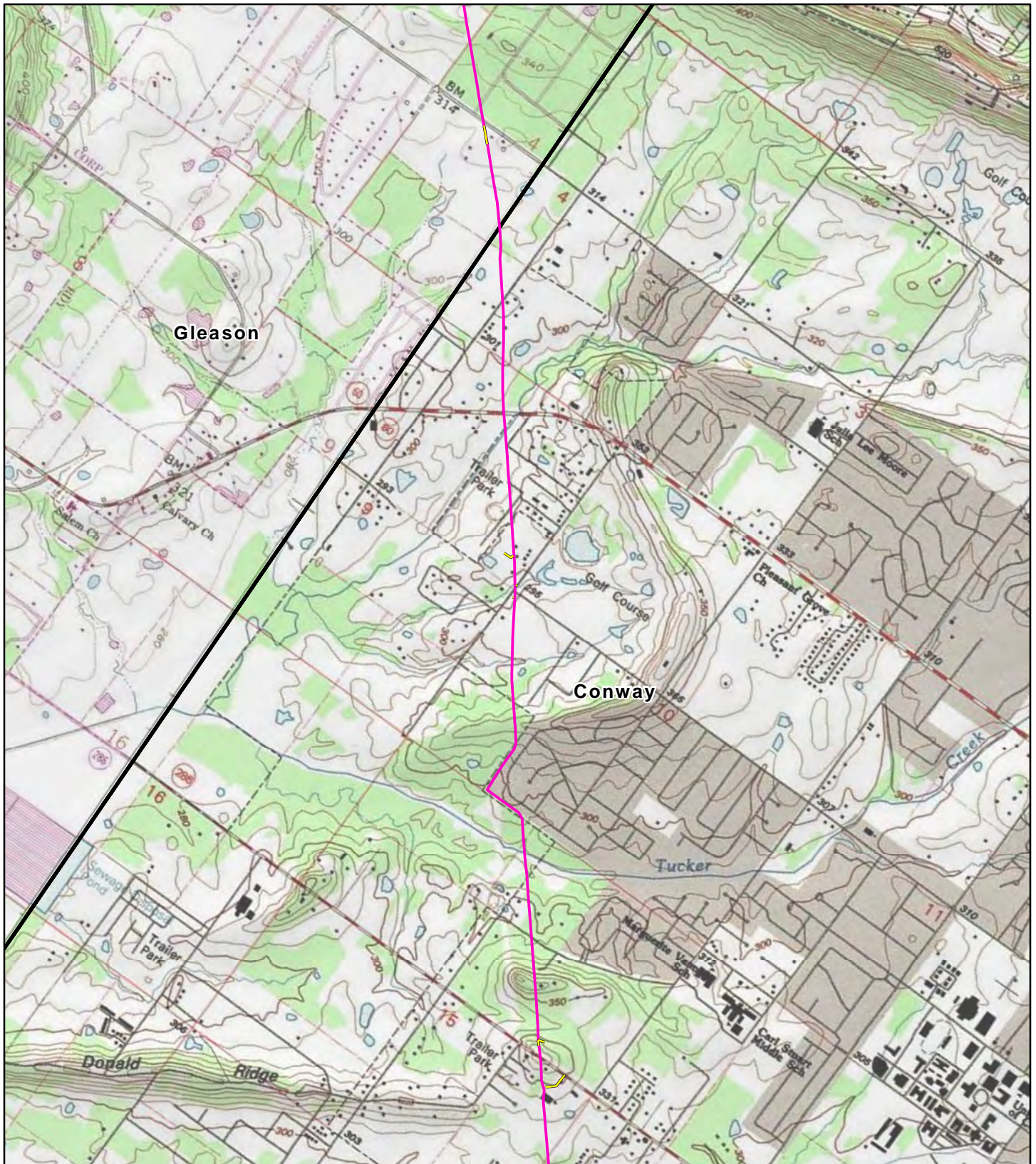




<p>Drawn On: February 25, 2013</p> <p>0 0.25 0.5 1 Miles</p> <p>1 in = 2,000 ft</p>	<p><b>Project Location Map</b>  <b>Central Arkansas</b>  <b>Pipeline Enhancement Project</b>          Faulkner and Pulaski Counties, Arkansas</p>	<p><b>Figure 2</b></p>
<p>Prepared For:</p>	<p>AK Environmental, LLC          5020 Ritter Road          Suite 206          Mechanicsburg, PA 17055</p>	

Legend	
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<span style="color: blue;">—</span>	Line BT-40 Route
<span style="color: green;">—</span>	Line BT-41 Route
<span style="color: magenta;">—</span>	Surveyed Existing Line B
<span style="color: yellow;">—</span>	Access Roads
	Shoemaker Site
	USGS 24k Topo Map Boundaries





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**Project Location Map**  
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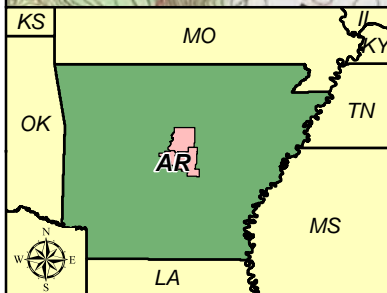
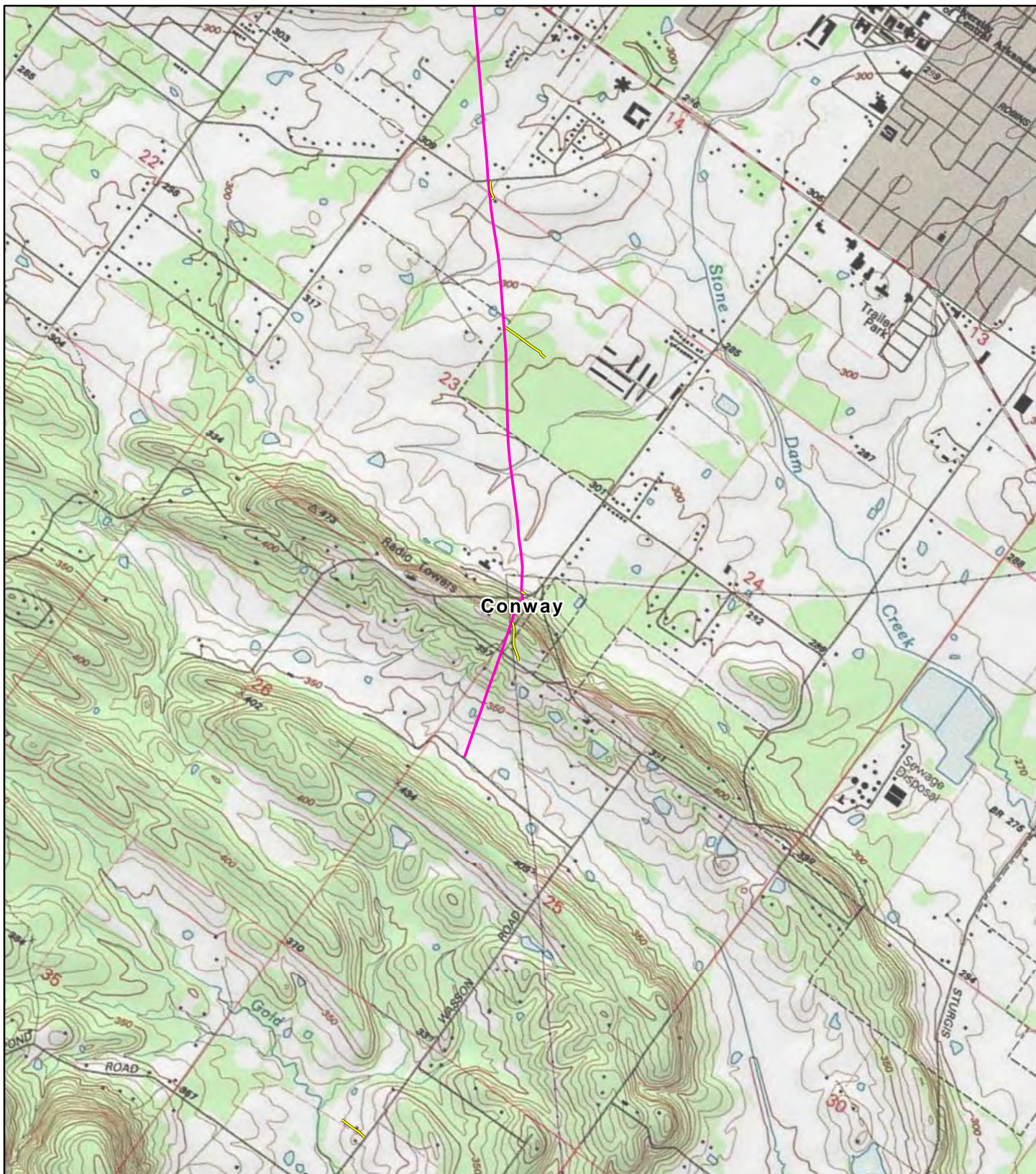
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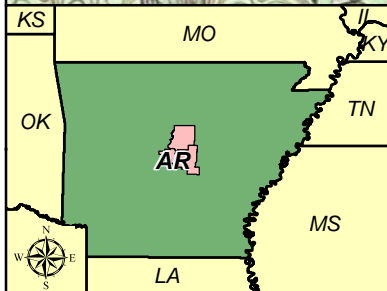
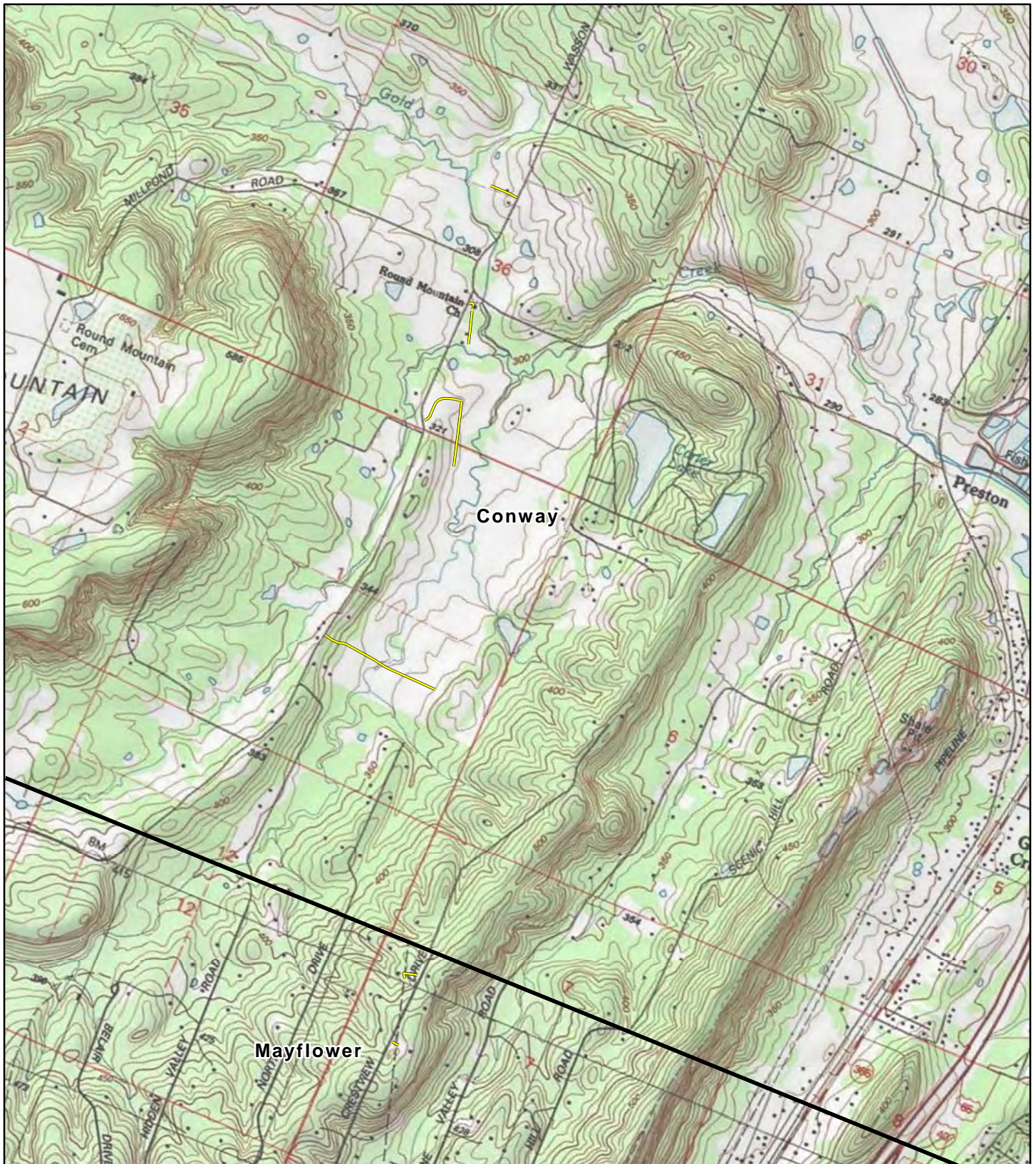
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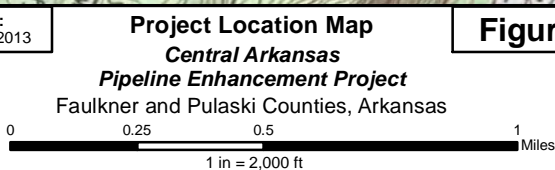
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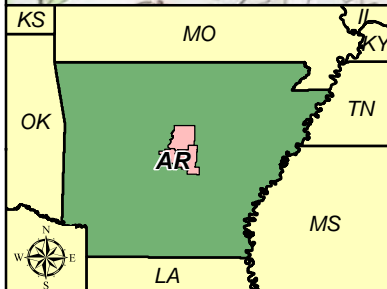
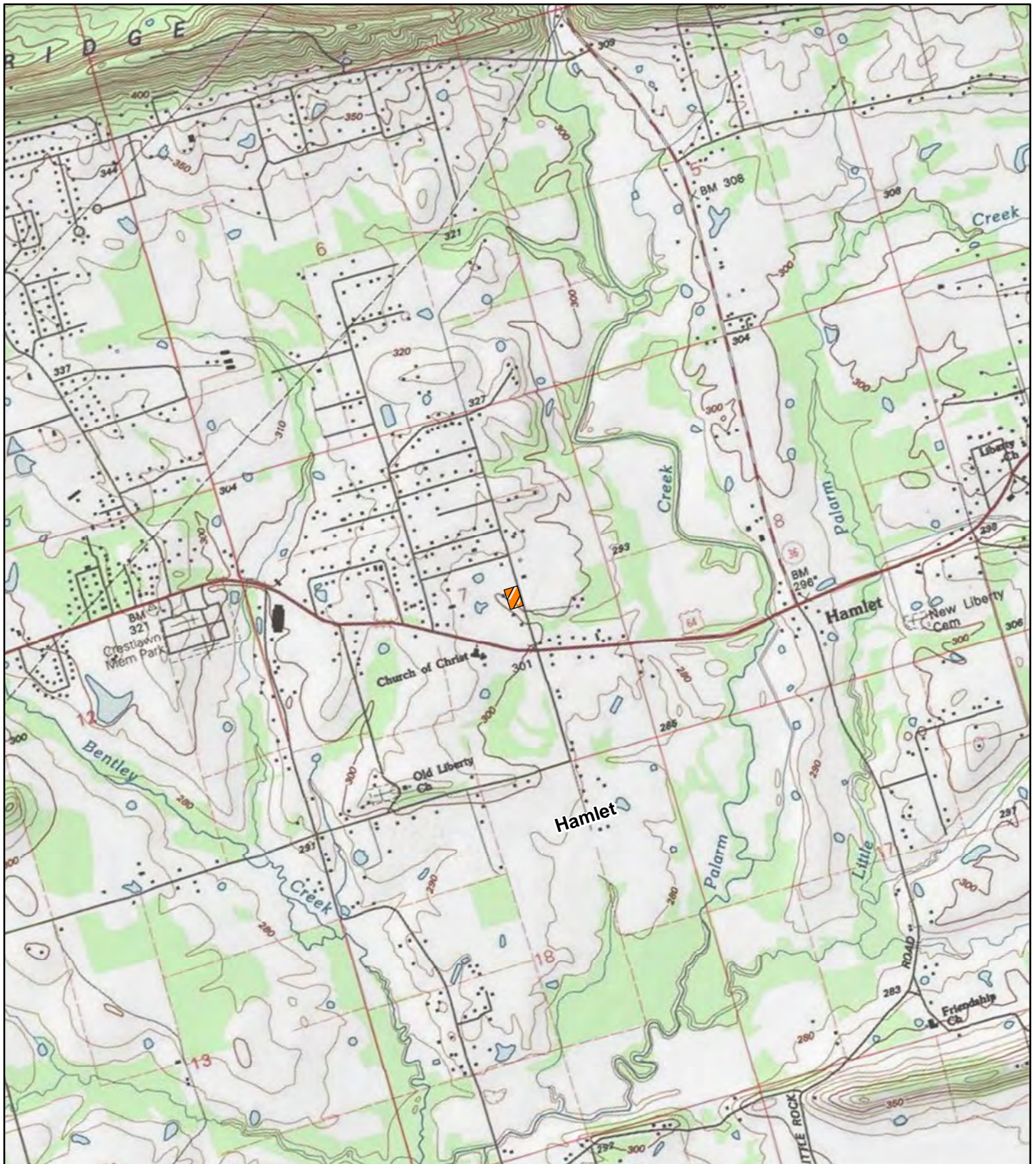
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**Arkansas Historic  
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March 21, 2013

Mr. Seth T. Mitchell  
Senior Archeologist  
AK Environmental, LLC  
5020 Ritter Road, Suite 206  
Mechanicsburg, Pennsylvania 17055

Re: Multi County – General  
Section 106 Review – FERC  
Proposed Central Arkansas Pipeline Enhancement Project for  
CenterPoint Energy Gas Transmission Company  
AHPP Tracking Number 84921

Dear Mr. Mitchell:

Thank you for submitting additional materials clarifying the exact location of the above-referenced undertaking. The staff of the Arkansas Historic Preservation Program has reviewed the records pertaining to the areas in question. They have informed me that there are twelve archeological sites (3FA20, 3FA67, 3FA100, 3FA113, 3FA117, 3FA238, 3FA266, 3FA267, 3PU668, 3PU676, 3PU777, and 3PU691) and three architectural properties (Cadron Settlement [FA926], the Round Mountain Segment of the Little Rock to Cantonment Gibson Road [FA1041], and the Arkansas State Teachers College Model Farm [FA1279]). All three of these properties have been determined eligible for inclusion in the National Register of Historic Places.

Therefore, in order to determine the potential effect on the archeological and architectural properties known to be present in the area, as well as undiscovered archeological sites which are likely to be present, we recommend that a cultural resources survey be performed for the area of potential effect (APE) of the undertaking prior to the commencement of any construction activities.

Thank you for the opportunity to review this undertaking. Please refer to the AHPP Tracking Number listed above in all correspondence. If you have any questions, please call Eric Gilliland of my staff at 501-324-9880.

Sincerely,

*Frances McSwain*

Frances McSwain  
Deputy State Historic Preservation Officer

cc: Dr. Richard Allen, Cherokee Nation of Oklahoma  
Ms. Heather E. Campbell, Federal Energy Regulatory Commission  
Dr. Ann Early, Arkansas Archeological Survey  
Dr. Andrea A. Hunter, Osage Nation  
Ms. Jean Ann Lambert, Quapaw Tribe of Oklahoma  
Ms. Lisa LaRue-Baker, United Keetoowah Band of Cherokee Indians





Seth T. Mitchell  
5020 Ritter Road, Suite 206  
Mechanicsburg, PA

717.458.8035 tel  
717.881.2665 cell  
smitchell@ak-env.com

## Telephone Call Summary

---

By:	<u>Seth Mitchell</u>	Date:	<u>4/11/2013</u>
Talked with:	<u>Eric Gilliland</u>	Project number:	<u>AK #12-046/AHPP# 84921</u>
From (company):	<u>AHPP</u>	Project name:	<u>CAPE</u>
Phone number:	<u>501-324-9880</u>	Subject:	<u>Architectural Clarification</u>

---

Distribution: \_\_\_\_\_

---

Called Eric Gilliland to clarify level of architectural survey required for the Central Arkansas Pipeline Enhancement Project. A letter dated March 21, 2013 from the AHPP indicated that a cultural resources survey was required for the CAPE Project to determine potential effect on archaeological and architectural properties known to be present in the area. I asked Mr. Gilliland if a separate APE and full architectural survey was required for the CAPE Project. Mr. Gilliland asked if this was an electrical line survey. I responded that it was a natural gas transmission line. At this point, Mr. Gilliland responded that notes should be made for architectural properties and that a full reconnaissance architectural survey would not be required. In addition, Mr. Gilliland indicated that although they are not terribly concerned with temporary impacts from construction to historic structures, they are concerned about potential impact to archaeological deposits which may be associated with such structures.

In addition, I informed Mr. Gilliland that previous surveys were conducted for the Project under a different Project name in 2011 and 2012. A survey report was submitted to the AHPP in 2012 and concurred with, that year. Mr. Gilliland stated that the previous survey could be used for the current Project and to discuss the previous survey in the current archaeological report.

  
\_\_\_\_\_  
Signature

**CENTERPOINT ENERGY GAS TRANSMISSION COMPANY, LLC**

**CENTRAL ARKANSAS PIPELINE ENHANCEMENT PROJECT  
FERC DOCKET NO. PF13-10-000**

**DRAFT  
RESOURCE REPORT NO. 5  
SOCIOECONOMICS**

**PUBLIC**

Prepared for:  
CenterPoint Energy Gas Transmission Company, LLC  
P.O. Box 21734  
Shreveport, LA  
71151

Prepared by:  
AK Environmental  
850 Bear Tavern Road, Suite 106  
West Trenton, NJ  
08628

June 2013



## 5.0 RESOURCE REPORT 5 - SOCIOECONOMICS

CenterPoint Energy Gas Transmission Company, LLC (“CEGT”), in cooperation with its affiliated natural gas distribution business, CenterPoint Energy Resources Corporation d/b/a Arkansas Gas (“CERC”), is filing an application for a certificate of public convenience and necessity with the Federal Energy Regulatory Commission (“FERC” or “Commission”) for the Central Arkansas Pipeline Enhancement Project (“Project”). The Project will provide for the continued safe, reliable, and efficient transportation of natural gas to the central Arkansas cities and towns of Conway, Mayflower, Maumelle, North Little Rock, and Little Rock. As part of the Project, CEGT is proposing the installation of approximately 28.5 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment, and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, as well as two 4-inch-diameter laterals (Lines BT-40 and BT-41) to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 12.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT’s distribution affiliate, and an approximately 21.7-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service. Other minor ancillary facilities and small diameter pipelines (Line BM-1, Line BT-19, and a portion of Line BM-21) within the City of Conway would also be retired in association with the proposed Project. Refer to the Project locations maps (Figure 1.1-1) for a depiction of existing, proposed, and retirement pipeline facilities associated with the Project.

FERC guidelines state that Resource Report 5 is required only if significant aboveground facilities are proposed. The Project only includes minor to moderate lengths of pipe, and there are no significant aboveground facilities associated with the Project. Therefore, Resource Report 5 is not applicable. Anticipated construction duration and workforce requirements are provided in Section 1.3 of Resource Report 1.



**CENTERPOINT ENERGY GAS TRANSMISSION COMPANY, LLC**

**CENTRAL ARKANSAS PIPELINE ENHANCEMENT PROJECT  
FERC DOCKET NO. PF13-10-000**

**RESOURCE REPORT NO. 6  
GEOLOGICAL RESOURCES**

PUBLIC

Prepared for:  
CenterPoint Energy Gas Transmission Company, LLC  
P.O. Box 21734  
Shreveport, LA  
71151

Prepared by:  
AK Environmental  
850 Bear Tavern Road, Suite 106  
West Trenton, NJ  
08628

June 2013



**CENTRAL ARKANSAS PIPELINE ENHANCEMENT PROJECT  
 FERC DOCKET NO. PF13-10-000**

<b>RESOURCE REPORT NO. 6 – GEOLOGICAL RESOURCES</b>	
<b>SUMMARY OF COMMISSION FILING INFORMATION</b>	
<b>INFORMATION</b>	<b>FOUND IN</b>
1. Identify the location (by milepost) of mineral resources and any planned or active surface mines crossed by the proposed facilities. (§ 380.12 (h) (1 & 2))	Section 6.2
2. Identify any geologic hazards to the proposed facilities. (§ 380.12 (h) (2))	Section 6.3
3. Discuss the need for and locations where blasting may be necessary in order to construct the proposed facilities. (§ 380.12 (h) (3))	Section 6.5
4. For LNG projects in seismic areas, the materials required by "Data Requirements for the Seismic Review of LNG Facilities," NBSIR84-2833. (§ 380.12 (h) (5))	Not Applicable
5. For underground storage facilities, how drilling activity by others within or adjacent to the facilities would be monitored, and how old wells would be located and monitored within the facility boundaries. (§ 380.12 (h) (6))	Not Applicable

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## ACRONYMS AND ABBREVIATIONS

AGS	Arkansas Geological Survey
AOES	Arkansas Office of Emergency Services
CEGT	CenterPoint Energy Gas Transmission Company, LLC
CFR	Code of Federal Regulations
Commission	Federal Energy Regulatory Commission
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
MP	Milepost
NMSZ	New Madrid Seismic Zone
Plan	FERC Upland Erosion Control, Revegetation, and Maintenance Plan
Project	Central Arkansas Pipeline Enhancement Project
UBC	Uniform Building Code
UCMP	University of California Museum of Paleontology
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey

## 6.0 INTRODUCTION

CenterPoint Energy Gas Transmission Company, LLC (“CEGT”), in cooperation with its affiliated natural gas distribution business, CenterPoint Energy Resources Corporation d/b/a Arkansas Gas (“CERC”), is filing an application for a certificate of public convenience and necessity with the Federal Energy Regulatory Commission (“FERC” or “Commission”) for the Central Arkansas Pipeline Enhancement Project (“Project”). The Project will provide for the continued safe, reliable, and efficient transportation of natural gas to the central Arkansas cities and towns of Conway, Mayflower, Maumelle, North Little Rock, and Little Rock. As part of the Project, CEGT is proposing the installation of approximately 28.5 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment, and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, as well as two 4-inch-diameter laterals (Lines BT-40 and BT-41) to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 12.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT’s distribution affiliate, and an approximately 21.7-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service. Other minor ancillary facilities and small diameter pipelines (Line BM-1, Line BT-19, and a portion of Line BM-21) within the City of Conway would also be retired in association with the proposed Project. Refer to the Project locations maps (Figure 1.1-1) for a depiction of existing, proposed, and retirement pipeline facilities associated with the Project.

This Resource Report provides information on the geological resources in the Project area and potential impacts associated with construction and operation of the proposed Project. Topics discussed include the geologic and topographic setting, mineral resources, and geologic hazards that exist along the proposed pipeline route.

## 6.1 GEOLOGIC SETTING

### 6.1.1 Physiography

The proposed pipeline route through Faulkner and Pulaski Counties, Arkansas, is located in the Arkansas Valley Section of the Ouachita physiographic province of the Interior Highlands physiographic region (USGS, 2011a). The Ouachita physiographic province is characterized by long collinear ridges and intervening valleys (USACE, 2001). The Arkansas Valley Section ranges from 30 to 50 miles in width and consists of a synclinorium of open-folded, sedimentary rocks. Total relief is about 2,400 feet, encompassing low-lying areas along the floodplain of the Arkansas River to the highest points in the Arkansas Valley approximately 2,800 feet above mean sea level (USACE, 2001).

### 6.1.2 Regional Geology

The Arkansas Valley is dominated by slightly reworked Pennsylvanian (318 to 299 million years ago) clastic sediments deposited on the margin of a continental shelf (AGS, 2011a). Structurally, the area is made up of broad synclines with relatively narrow intervening anticlines. The axes of these folds generally trend east-west. Most of the observed faulting is normal, but some thrust faults are noted, associated with the anticlines in the southern part of the Ouachita Physiographic Province. The synclines are often the most conspicuously present positive topographic features, formed from more rapid erosion of underlying shales once capping sandstones were breached on the crests and flanks of the surrounding anticlines (AGS, 2011a). The area is cut off to the east by the Gulf Coastal Plain and Mississippi Embayment (AGS, 2011b).

### 6.1.3 Project Geology

Geologic maps derived from the state of Arkansas and U.S. Geological Survey (USGS) data were used to identify geologic formations crossed by the Project. The proposed pipeline route crosses two series of the Pennsylvanian Period, the Atoka Series and the Morrowan Series, as well as more recent alluvial deposits of Quaternary age.

The Atoka Formation is a sequence of marine, tan to gray silty sandstones and grayish-black shales (AGS, 2011b) that dominates the exposures in the Arkansas River Valley. The unit may be up to 25,000 feet thick in the Ouachita Mountains, although only large incomplete sections are known (AGS, 2011b). In the Arkansas River Valley, the Atoka Formation has been subdivided into upper, middle, and lower lithic members based on regionally mapped shale or sandstone intervals (AGS, 2011b).

The Project crosses both the upper and middle members of the Atoka Formation. The upper member is described as sandstone alternating with thick intervals of shale, with an approximate thickness of 3,000 feet. The middle member of the Atoka Formation is a laterally discontinuous sandstone separated by thick shale beds. It has a maximum thickness of approximately 1,000 feet (USGS, 2011b). The Atoka Formation locally contains discontinuous streaks of coal and coaly shale in the Boston Mountains and Arkansas River Valley (AGS, 2011a).

The Morrowan Series consists of two formations, the Hale Formation and the Boyd Formation. The Hale has two members; the lower Cane Hill, composed of dark gray silty shale interbedded with siltstone and thin-bedded fine-grained sandstone, and the upper Prairie Grove, composed of thin to massive, commonly crossbedded, light-gray to dark-brown limy sandstone, or sandy limestone with interspersed lenses of fossil-bearing limestones. Hale Formation deposit sequences range from several feet to greater than 300 feet thick (AGS, 2012a).

The Boyd Formation consists of 5 members. Its two limestone members, the Brentwood and the Kessler, are frequently missing or have become sandy or shaly, contributing to difficulty in distinguishing any of the Boyd Formation's members. Thus the Formation is separated into the upper, middle and lower parts. The upper consists of thin to thick, light-brown to gray sandstones interbedded with shales that are dark-gray to black. The middle part of the Boyd has thin to massive, medium to coarse-grained, cross bedded sandstones which vary in color from reddish to gray to light-tan. Boyd's lower part consists of black, fissile shales within very thin to thin siltstones and sandstones. The Boyd Formation, all parts included, ranges 480-760 feet in thickness (AGS, 2012a).

Alluvial deposits are intersected near streams and the Arkansas River. They consist of gravels, sands, silts, clay, and mixtures of these materials. Deposits identified as Quaternary alluvium are associated with present waterbodies. Quaternary terrace deposits are found on one or more terrace levels.

Mileposts for the pipeline route and geologic units crossed by the proposed new pipelines (BT-39, BT-40, and BT-41) are provided in Table 6.1-1 and illustrated on Figure 6.1-1.

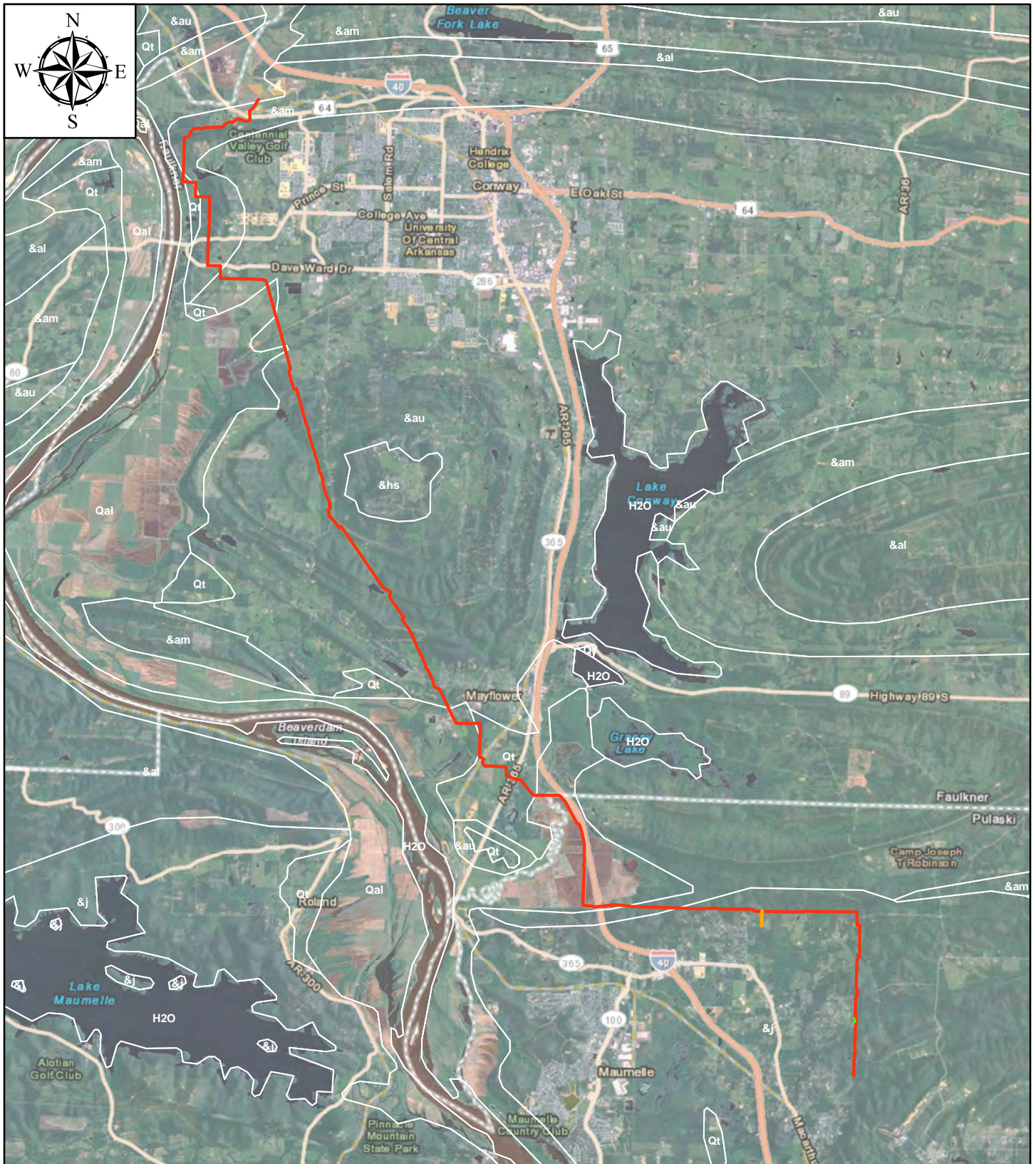
TABLE 6.1-1					
Geologic Formations Crossed By The Project					
Milepost		Geologic Formation/Unit	Geologic Formation/Unit Name	Age	Description
From	To				
Geologic Formations Crossed by Proposed Pipeline Facilities					
Line BT-39					
0	0.10	Qal	Holocene alluvium	Holocene	Gravels, sands, silts and clays
0.10	2.48	PAam	Atokan sandstone and shale	Middle Pennsylvanian	Marine, tan to gray silty sandstones and grayish-black shales
2.48	2.68	Qal	Holocene alluvium	Holocene	Gravels, sands, silts and clays



TABLE 6.1-1

**Geologic Formations Crossed By The Project**

Milepost		Geologic Formation/Unit	Geologic Formation/Unit Name	Age	Description
From	To				
2.68	2.83	Qt	Late Pleistocene alluvial terrace	Late Pleistocene	Gravels, sands, silts and clays
2.83	2.97	PAam	Atokan sandstone and shale	Middle Pennsylvanian	Marine, tan to gray silty sandstones and grayish-black shales
2.97	3.22	Qt	Late Pleistocene alluvial terrace	Late Pleistocene	Gravels, sands, silts and clays
3.22	5.03	PAam	Atokan sandstone and shale	Middle Pennsylvanian	Marine, tan to gray silty sandstones and grayish-black shales
5.03	6.08	PAau	Atokan sandstone and shale	Middle Pennsylvanian	Marine, tan to gray silty sandstones and grayish-black shales
6.08	6.66	Qal	Holocene alluvium	Holocene	Gravels, sands, silts and clays
6.66	7.23	PAau	Atokan sandstone and shale	Middle Pennsylvanian	Marine, tan to gray silty sandstones and grayish-black shales
7.23	7.33	Qal	Holocene alluvium	Holocene	Gravels, sands, silts and clays
7.33	14.90	PAau	Atokan sandstone and shale	Middle Pennsylvanian	Marine, tan to gray silty sandstones and grayish-black shales
14.90	15.56	Qal	Holocene alluvium	Holocene	Gravels, sands, silts and clays
15.56	15.86	Qt	Late Pleistocene alluvial terrace	Late Pleistocene	Gravels, sands, silts and clays
15.86	16.22	Qal	Holocene alluvium	Holocene	Gravels, sands, silts and clays
16.22	17.76	Qt	Late Pleistocene alluvial terrace	Late Pleistocene	Gravels, sands, silts and clays
17.76	21.15	Qal	Holocene alluvium	Holocene	Gravels, sands, silts and clays
21.15	22.10	PAau	Atokan sandstone and shale	Middle Pennsylvanian	Marine, tan to gray silty sandstones and grayish-black shales
22.10	28.51	PAj	Morrowan sandstone and shale	Early Pennsylvanian	Silt/sandstones interbedded with shales
<b>Line BT-40</b>					
0	0.04	PAj	Morrowan sandstone and shale	Early Pennsylvanian	Silt/sandstones interbedded with shales
<b>Line BT-41</b>					
0	0.27	PAj	Morrowan sandstone and shale	Early Pennsylvanian	Silt/sandstones interbedded with shales
Reference: USGS, 2000.					



Drawn On:  
May 16, 2013

**Geological Boundaries**  
**Central Arkansas**  
**Pipeline Enhancement Project**  
Faulkner and Pulaski Counties, Arkansas

0 1.25 2.5 5 Miles  
1 inch = 2.5 miles

Prepared  
For:



AK Environmental, LLC  
5020 Ritter Road  
Suite 206  
Mechanicsburg, PA 17055

**Figure 6.1-1** Legend

- Line BT-39 Proposed Route
- Line BT-40 Proposed Route
- Line BT-41 Proposed Route
- Geological Boundaries



## 6.2 MINERAL RESOURCES

The value of non-fuel minerals produced in Arkansas in 2008 was \$704 million, and Arkansas was ranked as the thirtieth largest producer of non-fuel minerals in the entire U.S. Non-fuel mineral production in Arkansas consisted predominantly of industrial minerals, including crushed stone, bromine, portland cement, sand and gravel (construction), and lime (USGS, 2010a; AGS, 2011c). Natural gemstones (mostly diamonds) constituted a very minor component of Arkansas' mineral output (USGS, 2010a).

Aerial photography, USGS topographic maps, and state and federal online resources were reviewed to identify mineral resource extraction sites within the Project area. Non-fuel mineral resources identified in Pulaski and Faulkner Counties include crushed stone, sand and gravel, and kaolin (only Pulaski) (USGS, 2010a). Pulaski Sandstone aggregate reportedly is quarried at three facilities located in Faulkner County, and two locations in Pulaski County, none of which are located closer than 0.25 mile from the Project area (USGS, 2010a). Clays having the properties necessary for pottery and stoneware use reportedly are present in the Ouachita Mountain and Arkansas Valley regions and were formed by the weathering of shales in the Atoka Formation (USGS, 2010a). No records were found of such deposits being located near the Project or being mined in proximity to the Project.

The State of Arkansas has a long history of metals mining, including galena for use as lead in civil war bullets and bauxite as aluminum ore (AGS, 2011a). Due largely to increased foreign competition, no metal has been made from any ore mined in Arkansas since 1990. No ore mines were identified near the Project area.

Coal is a significant fuel mineral resource in Arkansas and has been mined in six west-central Arkansas counties for more than 190 years (AGS, 2011a). Though thin coal seams are present in rocks of the Atoka Formation, coal has not been mined commercially in Faulkner or Pulaski Counties. Similarly, oil and natural gas are fuel minerals of great importance to the state of Arkansas. Major accumulations of natural gas are present in two areas in Arkansas – the Arkoma basin and the southern Arkansas oil fields in the west gulf coastal plain. The Fayetteville Shale natural gas field is a part of the Arkoma basin and is the current focus of a regional shale-gas exploration and development program within the eastern Arkoma basin of Arkansas. The Fayetteville Shale natural gas field underlies much of northern Arkansas and adjacent states and extends through the northern half of Faulkner County. The Project is located to the south of the Fayetteville Shale natural gas field.

Based on review of available data, there are no active gravel pits, quarries, mines, or oil and gas wells located within 0.25 mile of the proposed Project route (Arkansas Oil and Gas Commission, 2011; Arkansas Department of Environmental Quality, 2011). Therefore, construction and operation of the Project would not restrict or significantly impact current or future mining operations in the area.

## 6.3 GEOLOGIC HAZARDS

Geologic hazards are naturally occurring or man-made geologic conditions or phenomena that present a risk or are potentially dangerous to life and/or property. The following sections discuss several geologic hazards and their relation to the Project. Geologic hazards discussed include earthquakes and seismicity, soil liquefaction, landslide susceptibility, karst topography, and ground subsidence.

### 6.3.1 Earthquakes and Seismicity

Earthquakes are measured by both their magnitude and intensity. Magnitude measures the energy released at the source of the earthquake and is determined from measurements on seismographs. The magnitude of a seismic event is most commonly measured by the Richter Magnitude Scale, where the magnitude of the event is expressed in whole numbers and decimals. The scale runs from 1.0 to 8.0+, with 5.0 being considered a moderate event, 6.0 a strong event, 7.0 a major earthquake, and 8.0 or greater a devastating earthquake. Events with a magnitude less than 3.0 generally are considered imperceptible to most persons in most situations (USGS, 2010b). Intensity measures the strength of shaking produced by the earthquake at a certain location and is determined from effects on people, human structures, and the natural environment. For example, an intensity of VI on the Modified Mercalli



Intensity Scale is felt by all, with some heavy furniture moved and slight damage, while an intensity of VII results in negligible damage to buildings of good design and construction, slight to moderate damage in well-built ordinary structures, and considerable damage in poorly built or badly designed structures. Earthquakes of a magnitude of 5.0 to 5.9 typically result in a Mercalli intensity of VI to VII (USGS, 2010b).

Most earthquakes that occur in the U.S. are located in the tectonically active western portion of the U.S., primarily in California and Alaska. Areas of the eastern U.S. also experience significant seismic activity, although at lower rates. Earthquake activity in the eastern U.S. has included large earthquakes, such as the 1811-1812 New Madrid earthquakes that occurred in Missouri and Arkansas, and the 1886 Charleston, South Carolina, earthquake. The New Madrid series of earthquakes resulted in the creation of Lake Saint Francis, a 40-mile-long, half-mile-wide lake in northeast Arkansas. Since the New Madrid series of earthquakes, Arkansas has experienced a significant number of low-intensity shocks, including the New Year's Day tremor of 1969, which was centered about 19 miles northwest of Little Rock, very near Conway. The nearest earthquake of greater than 5 magnitude was located more than 50 miles from Conway and occurred in 1976 (AGS, 2012b).

The Enola Swarm Area, a seismically active area, is located approximately 17 miles east-northeast of the Project area. This area has experienced more than 40,000 seismic events since the first was recorded in 1982. The largest event was a magnitude 4.5 earthquake in January 1982, which produced an event with a Modified Mercalli Intensity of IV in Conway (Ausbrooks and Doerr, 2009). This seismically active area appears to be unrelated to the New Madrid seismic zone (Ausbrooks and Doerr, 2007a). All reported seismic events in Faulkner and Pulaski Counties have been located at least 12 miles from the Project Area, and most were recorded in the Enola Area (Ausbrooks and Doerr, 2007b).

Faulkner and Pulaski Counties are located in the New Madrid Seismic Zone Catastrophic Planning area, as designated by the Federal Emergency Management Agency (FEMA) and Arkansas Department of Emergency Management. The goal of the New Madrid Seismic Zone Catastrophic Planning Project is to increase national readiness for a catastrophic earthquake in the New Madrid Seismic Zone (NMSZ). Catastrophic Response and Recovery Plans produced by the NMSZ Catastrophic Planning Project provide emergency response procedures and integrated recovery mechanisms (Central United States Earthquake Consortium, 2011).

Seismicity refers to the geographic and historical distribution of earthquakes. Primary seismic-related hazards consist of strong ground motions (earthquakes) and surface faulting. Secondary effects include soil liquefaction and related slope failures. Earthquakes are caused by stress building along a fault until a critical limit is reached, at which point the stress is released through sudden movement along the fault, causing energy to radiate from the fault in traveling ground waves. Hazards associated with seismicity and faulting include ground shaking, surface rupture of faults, and offset along normal, reverse, or strike-slip faults. Faulting can be hazardous to linear, rigid structures, such as pipelines, since the ground can move varying distances or directions (shear) along the fault.

The Uniform Building Code (UBC), published by the International Code Council, has established seismic zones for the United States based on seismotectonic information and historical seismicity data (FEMA, 2011a). These seismic zones have been used to help predict the regional intensity and impact of earthquakes and prescribe how much horizontal force a building should be able to withstand during an earthquake. The UBC seismic zone ratings range from 0 (least hazard) to 4 (greatest hazard). Though the Seismic Zone classifications are still relevant, building code maps using numbered zones 0, 1, 2, 3, and 4 are practically obsolete. They have been replaced by seismic hazard maps that illustrate peak acceleration values as a percentage of gravitational acceleration.

The Project area is located in UBC Seismic Zone 1, where earthquake activity is considered to be minor (Disaster Center, 2011). However, the New Madrid Seismic Zone covers the northeastern portion of Arkansas and is associated with high seismic activity and risk. A recently discovered fault located in Marianna, Arkansas, also is associated with high seismic risk (National Geographic, 2009). Modeling by the Arkansas Office of Emergency Services (AOES) suggests that a large magnitude (7.0 – 7.9 on the Richter Scale) earthquake in the New Madrid seismic zone would be felt by all inhabitants of Faulkner and Pulaski Counties and could result in minor structural

damage to a small number of structures. A larger earthquake (8.0 – 8.9 on the Richter Scale) in the New Madrid seismic zone could result in moderate structural damage to a small number of structures (AOES, 1992).

Based on the linear distance of the proposed Project from active fault zones (>100 miles), seismically active areas, and the overall geologic setting of the Project area, the geologic hazard associated with seismicity and faulting is considered to be of relatively low risk to the Project.

### **6.3.2 Soil Liquefaction**

Soil liquefaction occurs when sudden shock is delivered to a sediment mass in a location where either water in interstitial spaces supports sediment grains as they settle, or where pore water is forced upward rapidly as a result of the shock, greatly separating the space between grains (Boggs, 1987). In the event that an earthquake were to occur in the vicinity of the proposed Project, unconsolidated, saturated, sandy sediment would be most prone to soil liquefaction. Areas within the Project footprint that are underlain by competent rock (Atoka Formation) would be expected to be much less susceptible to soil liquefaction than the unconsolidated Quaternary age alluvium and terrace deposits. These areas are classified by the Arkansas Geological Survey as having a very low susceptibility to soil liquefaction. The Quaternary age alluvium and terrace deposits associated with the Arkansas River and its tributaries are classified by the Arkansas Geological Survey as having a high susceptibility to soil liquefaction (Ausbrooks and Doerr, 2010). However, only small portions of the project will traverse the Quaternary age alluvium and terrace deposits associated with the floodplain of the Arkansas River.

### **6.3.3 Landslide Susceptibility**

Landslides, a form of ground failure, involve the down slope movement of earth materials under the force of gravity due to natural or artificial causes. Clay deposits and deeply fractured shallow or outcropping bedrock on steep slopes generally are the conditions that are most susceptible to landslide occurrence. Landslides typically are caused by or associated with earthquakes, heavy precipitation, or floods (AGS, 2011d). The area underlying Faulkner Pulaski Counties has a low incidence and moderate susceptibility to landslide events (Godt, 1997). Steep areas would be expected to be more susceptible to landslides.

### **6.3.4 Karst Topography and Land Subsidence**

Karst topography is a landscape that develops in regions underlain by limestone, dolomite, gypsum, or, rarely, bedded salt. Karst is characterized by closed depressions, termed sinkholes, and by caves, cave systems, and underground drainage. The agent of erosion that creates these cavernous features is a solution of soluble minerals from one or all of the rock types mentioned above, in combination with slightly acidic ground water. Certain areas in northern Arkansas that are underlain by limestone contain significant karst features (AGS, 2011e), but no known karst features exist in the Project area (USGS, 1984). Therefore, the proposed Project is not anticipated to encounter karst terrain or subsidence associated with karst features.

### **6.3.5 Flooding**

According to the most recent published Federal Emergency Management Agency floodplain map, portions of the proposed pipeline route are located within the 100-year floodplain zone (high flooding risk) and within a zone designated as 0.2 percent annual chance of flooding located between the 100- and 500-year floodplain zones (moderate flooding risk) (FEMA 2011b).

### **6.3.6 Design, Construction, and Mitigation**

Geological hazards can present some risk to the integrity of natural gas pipelines. To minimize or avoid potential impacts on the proposed Project facilities from this risk, the facilities will be designed and installed in accordance with 49 Code of Federal Regulations (CFR), Part 192, *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*. Under these regulations, each pipeline must be designed and constructed to provide adequate protection from washouts, floods, unstable soils, landslides, or other geologic hazards that may

cause pipe to move or to sustain abnormal loads. Pipeline installation techniques, especially padding and use of rock-free backfill, effectively insulate the pipeline from such earth movements, and modern, welded pipelines are generally resistant to damage induced by traveling ground waves, such as those induced by seismic events. No areas requiring special design or construction considerations as a result of geological hazards have been identified in the Project area. To further minimize or avoid potential impacts from landslides or slope failure, construction of the proposed pipeline and aboveground facilities will be completed in accordance with best management practices to ensure appropriate grading, limited undercutting or overloading slopes, and appropriate stabilization and revegetation. To further minimize or avoid potential impacts from flooding, construction of the proposed Project will be timed to avoid typical wet-weather seasons when flooding is a greater risk.

CEGT will implement the restoration techniques included in the FERC *Upland Erosion Control, Revegetation and Maintenance Plan* (FERC Plan), including the installation of slope breakers, diversion berms, terraces, and trench plugs, as necessary, to control stormwater runoff and minimize the potential for erosion and landslide events. Temporary erosion control measures, such as hay bales and silt fence, will also be installed until vegetation is re-established. Further, pipeline facilities will be inspected periodically during operations to identify and correct erosion or pipeline stability concerns.

## 6.4 PALEONTOLOGICAL RESOURCES

The Atoka Formation locally contains discontinuous streaks of coal and coaly shale in the Boston Mountains and Arkansas River Valley (AGS, 2011a). Fossil plants, generally poorly preserved, are common throughout the section. Poorly preserved invertebrate fossils are much less common than plant fossils, but have been reported from several horizons. Trace fossils are relatively common in the Atoka Formation. The formation is conformable with the Bloyd Shale in the Boston Mountains and with the Johns Valley Shale in the Ouachita Mountains (AGS, 2011a).

CEGT reviewed the University of California Museum of Paleontology (UCMP) online database and the Paleobiology Database to identify previously recorded fossil sites in the vicinity of the Project area. No collection localities were identified in either database for Faulkner County, Arkansas. There is one collection locality in Pulaski County, however it is approximately 5.6 miles away and will not be impacted by the proposed project (UCMP, 2011; Paleobiology Database, 2011).

The paleontological sensitivity in the Project area is low overall due to the scarcity and type of known paleontological resources.

## 6.5 BLASTING

CEGT does not anticipate that blasting will be required for this project. The soil survey information compiled and analyzed for Resource Report 7 indicates that approximately 17.01 miles (59 percent) of the soils that will be crossed by the proposed Project are underlain by soils with bedrock at depths of less than 60 inches. CEGT's experience working in these formations is that the bedrock expected to be encountered can be mechanically excavated without blasting. The remainder of the pipeline route does not cross areas of shallow bedrock. A table listing soil types by milepost is provided in Appendix 7B of Resource Report 7.

## 6.6 REFERENCES

[http://www.geology.ar.gov/geology/ozark\\_pennsylvanian.htm](http://www.geology.ar.gov/geology/ozark_pennsylvanian.htm)

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**CENTERPOINT ENERGY GAS TRANSMISSION COMPANY, LLC**

**CENTRAL ARKANSAS PIPELINE ENHANCEMENT PROJECT  
FERC DOCKET NO. PF13-10-000**

**RESOURCE REPORT NO. 7  
SOILS**

PUBLIC

Prepared for:  
CenterPoint Energy Gas Transmission Company, LLC  
P.O. Box 21734  
Shreveport, LA  
71151

Prepared by:  
AK Environmental  
850 Bear Tavern Road, Suite 106  
West Trenton, NJ  
08628

June 2013



**CENTRAL ARKANSAS PIPELINE ENHANCEMENT PROJECT**  
**FERC DOCKET NO. PF13-10-000**

<b>RESOURCE REPORT NO. 7 – SOILS</b>	
<b>SUMMARY OF COMMISSION FILING INFORMATION</b>	
<b>INFORMATION</b>	<b>FOUND IN</b>
1. Identify, describe, and group by milepost the soils affected by the proposed pipeline and aboveground facilities. (§ 380.12 (i) (1))	Section 7.2 and Appendix 7A, Appendix 7B
2. For aboveground facilities that would occupy sites over 5 acres, determine the acreage of prime farmland soils that would be affected by construction and operation. (§ 380.12 (i) (2))	Not Applicable
3. Describe, by milepost, potential impacts on soils. (§ 380.12 (i) (3,4))	Section 7.3
4. Identify proposed mitigation to minimize impact on soils, and compare with the staff's Upland Erosion Control, Revegetation, and Maintenance Plan. (§ 380.12 (i) (5))	Section 7.4 and Section 7.5

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## Appendices

Appendix 7.A SSURGO Soil Mapping

Appendix 7.B Characteristics of Soils Impacted



## ACRONYMS AND ABBREVIATIONS

CEGT	CenterPoint Energy Gas Transmission Company, LLC
CERC	CenterPoint Energy Resources Corporation
Commission	Federal Energy Regulatory Commission
FERC	Federal Energy Regulatory Commission
HDD	Horizontal directional drill
Kf	Erodibility factor
MP	Milepost
NCSS	National Cooperative Soil Survey
NRCS	Natural Resource Conservation Service
Plan	FERC Upland Erosion Control, Revegetation, and Maintenance Plan
Procedures	FERC Wetland and Waterbody Construction and Mitigation Procedures
Project	Central Arkansas Pipeline Enhancement Project
U.S.	United States
USDA	U.S. Department of Agriculture
WEG	Wind Erodibility Group

## 7.0 INTRODUCTION

CenterPoint Energy Gas Transmission Company, LLC (“CEGT”), in cooperation with its affiliated natural gas distribution business, CenterPoint Energy Resources Corporation d/b/a Arkansas Gas (“CERC”), is filing an application for a certificate of public convenience and necessity with the Federal Energy Regulatory Commission (“FERC” or “Commission”) for the Central Arkansas Pipeline Enhancement Project (“Project”). The Project will provide for the continued safe, reliable, and efficient transportation of natural gas to the central Arkansas cities and towns of Conway, Mayflower, Maumelle, North Little Rock, and Little Rock. As part of the Project, CEGT is proposing the installation of approximately 28.5 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment, and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, as well as two 4-inch-diameter laterals (Lines BT-40 and BT-41) to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 12.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT’s distribution affiliate, and an approximately 21.7-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service. Other minor ancillary facilities and small diameter pipelines (Line BM-1, Line BT-19, and a portion of Line BM-21) within the City of Conway would also be retired in association with the proposed Project. Refer to the Project locations maps (Figure 1.1-1) for a depiction of existing, proposed, and retirement pipeline facilities associated with the Project.

This Resource Report identifies, describes, and lists by milepost (“MP”) the soils affected by the proposed Project and its associated facilities. This report characterizes soils traversed by the Project, based on U.S. Department of Agriculture (“USDA”), Natural Resource Conservation Service (“NRCS”), National Cooperative Soil Survey (“NCSS”) information compiled by county. Information available from the NRCS Soil Data Mart and the NCSS Web Soil Survey also are included.

### 7.1 BACKGROUND AND METHODOLOGY

The NRCS uses soil associations to document the general soils characteristics for a particular area, typically the county, and are available in the county soil survey publications published by the NRCS. A soil association is a distinct pattern of soil types with characteristic relief and drainage patterns. Soil associations typically consist of one or more major soil types and include minor soils; however, soil associations are named for the major soils. The soil associations can be used to provide a broad perspective of the soils and landscape over the survey area and can be utilized for planning purposes when comparing large areas for general types of land uses. The soil associations crossed by the Project are detailed below to provide general information on the soils present along the pipeline alignments. Later sections of this resource report, which provide discussions on site-specific land management and mitigation for construction impacts to soils, include detailed information relative to the specific soil types encountered along the Project.

Appendix 7A depicts the soil series crossed by the proposed Project according to the Soil Survey Geographic (“SSURGO”) database. A general description of each soil series crossed by the proposed Project is provided below. Appendix 7B lists the soil series located along the proposed Project pipeline route by milepost and provides additional information on specific soil properties.

### 7.2 PROJECT FACILITIES

The proposed Project is located within Faulkner and Pulaski Counties in central Arkansas. The northern portion of the Project is within the Scattered High Ridges and Mountains ecoregion, characterized by savannas, open woodlands, and forests underlain by Pennsylvanian sandstone and shale. The majority of the Project, however, is located within the Arkansas Valley Plain and Central Mountain Ranges ecoregions. The Arkansas Valley Plain is

dominated by pastureland and hayland, with scattered remnants of native prairie. The Arkansas Valley developed as sand and mud were deposited in a depression north of the rising Ouachita Mountains during the Mississippian and Pennsylvanian eras. It is underlain mostly by interbedded Pennsylvanian sandstone, shale, and siltstone. The Central Mountain Ranges ecoregion is characterized by pine plantations within steep and rugged ridges. Geologic components that underlay the ecoregion are primarily sandstone and chert (Woods *et al*, 2004).

## 7.2.1 Existing Soil Resources

Soil characteristics within the proposed Project area were identified and assessed using the SSURGO database. The SSURGO database is a digital version of the original county soil surveys developed by the NRCS for use with geographic information systems. It provides the most detailed level of soils information available for natural resource planning and management.

Soil series traversed by the proposed Project are discussed below and are summarized in Table 7.2-1. Soil series descriptions are summarized, based on NRCS official soil series descriptions (Soil Survey Staff, 2011).

TABLE 7.2-1 Summary of Soils Impacted by Construction of the Project			
Map Unit	Soil Series	Miles Crossed	Acreage Impacted During Construction
<b>Line BT-39</b>			
1	Acadia silt loam	0.22	1.99
2	Amy soils, frequently flooded	0.27	2.49
3	Enders gravelly fine sandy loam, 3 to 8 percent slopes	0.07	0.53
4	Enders gravelly fine sandy loam, 8 to 12 percent slopes	2.28	24.47
5	Enders gravelly fine sandy loam, 12 to 45 percent slopes	1.53	15.26
8	Leadvale silt loam, 1 to 3 percent slopes	0.65	5.68
9	Leadvale silt loam, 3 to 8 percent slopes	0.66	5.60
10	Linker fine sandy loam, 1 to 3 percent slopes	0.24	2.58
11	Linker fine sandy loam, 3 to 8 percent slopes	1.45	12.41
15	McKamie silty clay loam, 3 to 8 percent slopes, severely eroded	0.52	4.60
16	Moreland silty clay	0.59	5.69
17	Mountainburg gravelly fine sandy loam, 3 to 8 percent slopes	0.75	7.34
18	Mountainburg gravelly fine sandy loam, 8 to 12 percent slopes	0.53	4.78
19	Mountainburg very stony fine sandy loam, 12 to 40 percent slopes	0.16	1.31
20	Mountainburg very stony fine sandy loam, 8 to 12 percent slopes	1.69	15.57
21	Muskogee silt loam, 1 to 3 percent slopes	0.30	2.76
22	Muskogee silty clay loam, 3 to 8 percent slopes, severely eroded	1.53	14.80
23	Ouachita silt loam, occasionally flooded	0.11	1.09
24	Perry clay, occasionally flooded	2.17	17.02
32	Taft silt loam, 0 to 2 percent slopes	2.27	20.92
35	Water	0.03	0.14



TABLE 7.2-1

**Summary of Soils Impacted by Construction of the Project**

Map Unit	Soil Series	Miles Crossed	Acreage Impacted During Construction
GeB	Guthrie-Leadvale complex, undulating	0.15	1.49
LeB	Leadvale silt loam, 1 to 3 percent slopes	2.60	25.04
LeC	Leadvale silt loam, 3 to 8 percent slopes	1.00	9.50
LkC	Linker gravelly fine sand loam, 3 to 8 percent slopes	1.37	11.79
LRE	Linker-Mountainburg association, moderately steep	2.75	28.66
Me	Moreland silty clay	0.25	1.81
Pe	Perry clay, 0 to 1 percent slopes, rarely flooded	2.34	27.49
W	Water	0.10	0.50
<b>Line BT-40</b>			
LeB	Leadvale silt loam, 1 to 3 percent slopes	0.02	0.07
LRE	Linker-Mountainburg association, moderately steep	0.02	0.08
<b>Line BT-41</b>			
LeB	Leadvale silt loam, 1 to 3 percent slopes	0.26	1.58
LeC	Leadvale silt loam, 3 to 8 percent slopes	0.01	0.01
<b>Grand Total</b>		<b>28.89</b>	<b>275.05</b>
Source: Soil Survey Staff, 2001.			

Acadia silt loam (Map Unit Symbol 1)

The Acadia silt loam soils consists of very deep, somewhat poorly drained, very slowly permeable soils that formed in clayey alluvium. These soils are on side slopes on low terraces of Pleistocene Age. Depth to any restrictive feature is more than 80 inches. Slopes range from 0 to 1 percent. The proposed pipeline route will cross approximately 0.22 mile of Acadia silt loam soils.

Amy soils, frequently flooded (Map Unit Symbol 2)

The Amy soils, frequently flooded, consist of deep, poorly drained soils that formed on flood plains and are underlain by loamy alluvium. They are subject to frequent flooding. Depth to any restrictive feature is more than 80 inches. Slopes range from 1 to 2 percent. The proposed pipeline route will cross approximately 0.27 mile of Amy soils.

Enders gravelly fine sandy loam (Map Unit Symbols 3, 4, and 5)

The Enders series consists of deep, well drained, very slowly permeable soils that formed in clayey residuum from shale or interbedded shale and sandstone. These soils are located on crests and sideslopes of dissected plateaus and ridges. Depth to paralithic bedrock ranges from 40 to 60 inches. Slopes range from 3 to 45 percent. Enders soils are used primarily as pastureland. The proposed pipeline route will cross approximately 3.88 miles of Enders soils.

Guthrie-Leadvale complex (Map Unit Symbol GeB)

The Guthrie-Leadvale complex consists of deep, poorly drained soils with moderate rates of permeability. This silt

loam was formed from a silty alluvium and loamy pedisidiment. The Guthrie-Leadvale complex is found on stream terraces and hills and is underlain by paralithic bedrock at depths between 48 and 60 inches. Slopes range from 0 to 3 percent. The proposed route will cross approximately 0.15 mile Guthrie-Leadvale complex soils.

Leadvale silt loam (Map Unit Symbols 8, 9, LeB and LeC)

This soil series consists of deep, moderately well drained soils that have low permeability. These soils formed in loamy valley fill underlain largely by shale and siltstone. They are on slightly concave toe slopes, benches, and terraces. A fragipan is located at a depth of 18 to 34 inches. Slopes range from 1 to 8 percent. Leadvale soils are used primarily as pastureland and cropland. The proposed pipeline route will cross approximately 5.2 miles of Leadvale soils.

Linker fine sandy loam (Map Unit Symbols 10, 11 and LkC)

The Linker series consists of moderately deep, well drained, moderately permeable soils that formed in loamy residuum weathered from sandstone. These soils are on mountaintops, upper side slopes, and benches. Depth to bedrock ranges from 20 to 40 inches. Slopes range from 1 to 8 percent. Linker soils are used primarily as pastureland. The proposed pipeline route will cross approximately 3.06 miles of Linker soils.

Linker-Mountainburg association, moderately steep (Map Unit Symbol LRE)

Linker-Mountainburg association soils consist of shallow, well drained, moderately permeable soils that formed from loamy residuum weathered from sandstone and in stony, loamy residuum weathered from sandstone. Depth to lithic bedrock ranges from 20 to 40 inches. Slopes range from 12 to 25 percent. The proposed pipeline will cross approximately 2.77 miles of Linker-Mountainburg association soils.

McKamie silty clay loam, 3 to 8 percent slopes, severely eroded (Map Unit Symbol 15)

The McKamie silty clay loam consists of deep, well drained, very slowly permeable clayey alluvium. These soils are located on high dissected stream terraces. Depth to any restrictive feature is more than 80 inches. Slopes range from 3 to 8 percent. McKamie soils are used primarily as pastureland. The proposed pipeline route will cross approximately 0.52 mile of McKamie soils.

Moreland silty clay (Map Unit Symbols 16 and Me)

The Moreland silty clay consists of deep, somewhat poorly drained, very slowly permeable clayey alluvium. These soils are located in backswamp terrain. Depth to any restrictive feature is more than 80 inches. Slopes range from 0 to 1 percent. Moreland soils are used primarily as pastureland and forest land. The proposed route will cross approximately 0.84 mile of Moreland soils.

Mountainburg gravelly and very stony fine sandy loam (Map Unit Symbols 17, 18, 19, and 20)

This soil series consists of shallow, well drained, moderately rapidly permeable soils that formed in residuum from hard, massive, horizontally bedded sandstone and interbedded shales. These soils are located on ledges, ridgetops, hillsides, and benches. Depth to bedrock ranges from 12 to 20 inches. Slopes range from 3 to 40 percent. Mountainburg soils are used primarily as pastureland and forest land. The proposed pipeline route will cross approximately 3.13 miles of Mountainburg soils.

Muskogee silt loam and silty clay loam (Map Unit Symbols 21 and 22)

This soil series consists of deep, moderately well drained, slowly permeable soils that formed in thin loamy material and the underlying clayey alluvium. These soils are found on high stream terraces. Depth to any restrictive feature is more than 80 inches. Slopes range from 1 to 8 percent. Muskogee soils are used primarily as pastureland. The proposed pipeline route will cross approximately 1.83 mile of Muskogee soils.

Ouachita silt loam, occasionally flooded (Map Unit Symbol 23)

This soil series consists of deep, well drained, moderately slowly permeable soils that formed in loamy alluvium. These soils are located on floodplains and natural levees along tributaries of the Arkansas River. Depth to any

restrictive feature is more than 80 inches. Slopes range from 0 to 1 percent. Ouachita soils are used primarily as cropland. The proposed pipeline route will cross approximately 0.11 mile of Ouachita soils.

Perry clay, occasionally flooded (Map Unit Symbols 24 and Pe)

This soil series consists of deep, poorly drained, very slowly permeable soils that formed in clayey alluvium in low back swamps. These soils are wet for long periods late in winter and early in spring. They are subject to occasional flooding. Depth to any restrictive feature is more than 80 inches. Slopes range from 0 to 1 percent. Perry soils are used primarily as cropland and forestland. The proposed pipeline route will cross approximately 4.51 miles of Perry soils.

Taft silt loam, 0 to 2 percent slopes (Map Unit Symbol 32)

This soil series consists of deep, somewhat poorly drained, slowly permeable soils that formed in loamy alluvium derived from shale and sandstone. This soil series is found on low stream terraces and in depressions. These soils have a seasonal perched water table late in winter and early in spring. A fragipan is located at a depth of 20 to 28 inches. Slopes range from 0 to 2 percent. Taft soils are used primarily as cropland. The proposed pipeline route will cross approximately 2.27 miles of Taft soils.

Water (Map Unit Symbols 35 and W)

This mapping unit consists of surface water. No soil description is provided. The proposed pipeline route will cross approximately 0.13 mile of Water.

## **7.3 POTENTIAL CONSTRUCTION IMPACTS**

Pipeline construction activities have the potential to affect soil characteristics adversely and, consequently, adversely affect the restoration potential of areas disturbed by land-clearing activities, trenching, movement of heavy equipment, and cleanup activities. Potential soil impacts that could result from construction of the proposed Project include loss of soil due to water or wind erosion, soil compaction and damage to soil structure resulting from the movement of heavy construction vehicles, and a reduction of soil quality by mixing topsoil with subsoil.

CEGT evaluated the soils along the proposed pipeline route to identify the key soil characteristics that could affect construction or increase the potential for construction-related soil impacts. Erosion hazards, compaction potential, the presence of shallow bedrock, and revegetation potential are described in the following sections.

### **7.3.1 Soil Erosion Potential**

Short-term increases in erosion can occur as a result of the removal of vegetation during clearing and grading activities and the consequent exposure of topsoil to wind action and precipitation. Increased erosion also can occur in areas where vegetation requires a longer time to become re-established after construction activities. Increased erosion of soils is of special concern at waterbodies, where it can result in increased sedimentation in waterways.

The erosion potentials of the soils in the project area were identified based on two soil parameters present in the SSURGO database that are directly related to the susceptibility of a soil to erosion by wind or water. These parameters are the Wind Erodibility Group ("WEG") and the Highly Erodible Lands classification.

Wind erodibility was assessed based on WEG designations included in the SSURGO database. A WEG is a grouping of soils that have similar surface-soil properties affecting their resistance to soil blowing, including texture, organic matter content, and aggregate stability. Soils in WEG 1 and 2 include mostly sandy-textured soils with poor aggregation that are particularly susceptible to wind erosion. As detailed in Appendix 7A, none of the soils within the Project construction area have a WEG classification of 2 or less, indicating that none of the soils affected by the Project are highly susceptible to wind erosion.

Highly erodible land, as designated by the NRCS, includes both water and wind as agents of erosion. However, as described above, the soils in the Project area are not highly susceptible to wind erosion. Therefore, the NRCS soil



erodibility factor was used to assess susceptibility to water erosion. Identification of water erodible soils in the Project area was based on NRCS soil erodibility factor (“Kf”) values. The Kf value of a soil indicates the susceptibility of that soil to sheet and rill erosion by rainfall. The higher the value, the more potential a soil has to be eroded. Kf values range from 0.02 to 0.69.

As shown in Appendix 7A, 31 percent (8.87 miles) of the soils within the Project construction area have a high susceptibility to water erosion. Section 7.4 discusses mitigation measures that CEGT will implement to prevent or minimize potential impacts due to soil erosion and sedimentation.

### **7.3.2 Soil Compaction**

Soil compaction modifies the structure and reduces the porosity and moisture-holding capacity of soils. Construction equipment traveling over wet soils could disrupt the soil structure, reduce pore space, increase runoff potential, and cause rutting. The degree of compaction depends on moisture content and soil texture. Fine-textured soils (i.e., sandy clay loam or finer) with poor internal drainage that are moist or saturated during construction are the most susceptible to compaction and rutting. Based on these criteria, 19 percent (5.5 miles) of the soils crossed by the Project are considered prone to compaction. Section 7.4 discusses mitigation measures proposed by CEGT to restore soils should compaction occur during construction.

### **7.3.3 Depth to Bedrock**

The depth to bedrock may be used to determine locations where proposed Project construction may produce large rock fragments or where blasting may be necessary. Ripping and blasting of shallow bedrock during construction could introduce rock fragments and stones into the topsoil, which may decrease an area’s productivity after construction. Based on the analysis of the SSURGO database, approximately 59 percent (17.01 miles) of the soils that will be crossed by the proposed Project contain bedrock within 60 inches of the surface. CEGT’s experience working in these formations is that the bedrock expected to be encountered can be mechanically excavated without blasting.

### **7.3.4 Revegetation Potential**

Soils will be disturbed during trenching and construction activities associated with the proposed pipeline. The NRCS rates soils based on their potential for re-establishing grasses and legumes (such as Bermuda and Bahia grass) and upland herbaceous plants (such as bluestem and pokeweed). These ratings are based on several factors, including water availability, root zone depth, and soil texture. Revegetation potential of soils is rated as well-suited or good, suited or fair, and poorly-suited or poor.

As shown in Appendix 7A, 37 percent (10.78 miles) of the soils that will be crossed by the Project have a poor potential for revegetation. CEGT will implement multiple mitigation measures and complete post-construction monitoring, as discussed in Section 7.4, to ensure complete revegetation within all disturbed Project areas.

## **7.4 MITIGATION PROCEDURES**

Construction of the Project will have temporary impacts on the near-surface soils within the Project area. However, the pipeline right-of-way will be restored to its original grade, and the methods discussed below will prevent permanent impacts. To minimize or avoid impacts on soil resources, CEGT proposes to adopt and implement the soil mitigation procedures outlined in the Federal Energy Regulatory Commission (FERC) *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures) during construction and operation of the proposed Project. At this time, CEGT does not anticipate the need for any modifications to the Plan. If site-specific conditions or engineering constraints warrant modifications to the Plan, CEGT will identify these modifications to the FERC and obtain necessary approvals prior to implementing them.

#### **7.4.1 Soil Erosion**

To prevent or reduce soil erosion, CEGT will use erosion control devices at locations identified in the FERC Plan and as deemed necessary during construction. Temporary erosion controls, including interceptor diversions and sediment filter devices (e.g., hay bales, silt fences, sand bags) will be installed immediately following initial ground disturbance. Where required, temporary trench plugs will be installed immediately following trench excavation. Erosion control fabric may be used on steep slopes to prevent erosion. Erosion control devices will be maintained over the course of the proposed Project and will be inspected on a regular basis, including after each rain event of 0.5 inch or greater, to ensure proper functioning.

During construction, the effectiveness of temporary erosion control devices will be monitored by the CEGT Environmental Inspector. CEGT will implement post-construction monitoring to verify successful revegetation and to assess the effectiveness of erosion control devices. Temporary erosion control devices will be removed following the successful revegetation of temporarily disturbed areas.

#### **7.4.2 Soil Compaction**

In general, rutting and compaction of soils will be avoided or minimized through the use of timber mats installed across minor tributaries, adjacent wetlands, and as deemed necessary during construction. Other methods may be used as conditions dictate. Since many of the soils vulnerable to compaction occur in wetlands, the proposed wetland construction crossing techniques and mitigation measures identified in the FERC Procedures will be followed to minimize impacts. CEGT will test agricultural areas disturbed by construction activities for compaction, and compacted areas will be restored in accordance with the FERC Plan.

#### **7.4.3 Shallow Bedrock**

Although CEGT may encounter bedrock along sections of the proposed pipeline, blasting is not anticipated. Mechanical excavation of the . Handling and disposal of excess rock, as necessary, will be done in accordance with the FERC Plan.

#### **7.4.4 Revegetation**

Implementation of proper topsoil segregation will help ensure post-construction revegetation success, thereby minimizing the potential for long-term erosion due to lack of vegetative cover. Project restoration and revegetation will be accomplished in accordance with the FERC Plan. CEGT has contacted the local NRCS offices regarding the most appropriate seeding practices for optimizing restoration success (see agency correspondence in Appendix 1.F of Resource Report 1). If construction is completed during the fall and winter months, a temporary seed mix will be applied to provide temporary vegetative cover until the spring planting season. CEGT will conduct post-construction monitoring to verify that revegetation is successful. Revegetation will be considered successful when plant density and cover within the proposed Project construction area is similar to adjacent undisturbed areas.

### **7.5 PRIME FARMLAND SOILS**

The USDA defines prime farmland soils as those best suited for production of food, feed, forage, fiber, and oilseed crops (Soil Survey Division Staff, 1993). This designation includes cultivated land, pasture, woodland, or other lands that are either used for food or fiber crops or are available for these uses. Prime farmland soils typically contain few or no rocks, are permeable to water and air, are not excessively erodible or saturated with water for long periods, and are not subject to frequent, prolonged flooding during the growing season. Soils that do not meet the above criteria may be considered prime farmland if the limiting factor is mitigated (e.g., protection from flooding).

Approximately 51 percent (14.83 miles) of the proposed pipeline route will cross prime farmland soils. An additional 6 percent (1.72 miles) of soils that are considered to be of statewide importance also will be crossed. Because agricultural activities are not precluded within the permanent pipeline right-of-way, impacts on prime farmland soils and soils of statewide importance crossed by the proposed Project will be limited to the construction phase, and thus considered minor and short-term. During construction, CEGT will perform topsoil segregation in agricultural lands,

which include cultivated or rotated croplands, hayfields, or managed pastures, and in other areas at the request of resource agencies or landowners. CEGT will stockpile topsoil separately from subsoil and will replace these soil horizons in the proper order during backfill and final grading. For these reasons, no significant impacts to soils identified as prime farmland or farmland of statewide importance are anticipated.

## 7.6 REFERENCES

- Soil Survey Division Staff. 1993. Soil Survey Manual. United States Department of Agriculture Agricultural Handbook 18. U. S. Government Printing Office, Washington, DC.
- Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. 2001. SSURGO 2.2 spatial and tabular soil database.
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## **APPENDIX 7.A**

### **SSURGO SOIL MAPPING**



APPENDIX 7A

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**Soil Characteristics by Milepost Segment for Each Soil Map Unit Along the Proposed Pipelines**

Segment / Milepost		Map Unit		Crossing Length (miles)	Prime Farmland a, b	Hydric Soils <sup>a</sup>	Compact. Prone <sup>c</sup>	Highly Water Erodible <sup>d</sup>	Highly Wind Erodible <sup>e</sup>	Reveg. Concerns <sup>f</sup>	Stony/ Rocky <sup>g</sup>	Shallow Bedrock <sup>h</sup>
Beginning	Ending											
Line BT-39												
0.00	0.18	24	Perry	0.18	PFD	Y	Y	N	N	N	N	N
0.18	0.21	9	Leadvale	0.03	SI	Y	N	Y	N	N	N	N
0.21	0.25	24	Perry	0.04	PFD	Y	Y	N	N	N	N	N
0.25	0.40	9	Leadvale	0.15	SI	Y	N	Y	N	N	N	N
0.40	0.43	4	Enders	0.03	N	N	N	N	N	Y	N	Paralithic
0.43	0.84	5	Enders	0.41	N	N	N	N	N	Y	N	Paralithic
0.84	0.92	4	Enders	0.08	N	N	N	N	N	Y	N	Paralithic
0.92	1.46	5	Enders	0.54	N	N	N	N	N	Y	N	Paralithic
1.46	1.48	20	Mountainburg	0.02	N	N	N	N	N	Y	Y	Lithic
1.48	1.68	17	Mountainburg	0.20	N	N	N	N	N	Y	N	Lithic
1.68	1.84	5	Enders	0.16	N	N	N	N	N	Y	N	Paralithic
1.84	1.94	20	Mountainburg	0.10	N	N	N	N	N	Y	Y	Lithic
1.94	2.02	17	Mountainburg	0.08	N	N	N	N	N	Y	N	Lithic
2.02	2.12	11	Linker	0.10	PF	N	N	N	N	N	N	Lithic
2.12	2.22	32	Taft	0.10	PF	Y	Y	Y	N	N	N	N
2.22	2.32	9	Leadvale	0.10	SI	Y	N	Y	N	N	N	N
2.32	2.37	32	Taft	0.05	PF	Y	Y	Y	N	N	N	N
2.37	2.60	20	Mountainburg	0.23	N	N	N	N	N	Y	Y	Lithic
2.60	2.62	11	Linker	0.02	PF	N	N	N	N	N	N	Lithic
2.62	2.72	20	Mountainburg	0.10	N	N	N	N	N	Y	Y	Lithic
2.72	2.84	11	Linker	0.12	PF	N	N	N	N	N	N	Lithic
2.84	2.89	15	McKamie	0.05	N	N	N	N	N	N	N	N



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Beginning	Ending											
2.89	2.92	17	Mountainburg	0.03	N	N	N	N	N	Y	N	Lithic
2.92	3.09	15	McKamie	0.17	N	N	N	N	N	N	N	N
3.09	3.13	32	Taft	0.04	PF	Y	Y	Y	N	N	N	N
3.13	3.19	2	Amy	0.06	N	Y	Y	Y	N	N	N	N
3.19	3.31	22	Muskogee	0.12	N	N	N	N	N	N	N	N
3.31	3.44	32	Taft	0.13	PF	Y	Y	Y	N	N	N	N
3.44	3.66	11	Linker	0.22	PF	N	N	N	N	N	N	Lithic
3.66	3.71	32	Taft	0.05	PF	Y	Y	Y	N	N	N	N
3.71	3.76	18	Mountainburg	0.05	N	N	N	N	N	Y	N	Lithic
3.76	3.83	11	Linker	0.07	PF	N	N	N	N	N	N	Lithic
3.83	3.86	18	Mountainburg	0.03	N	N	N	N	N	Y	N	Lithic
3.86	3.88	11	Linker	0.02	PF	N	N	N	N	N	N	Lithic
3.88	3.92	18	Mountainburg	0.04	N	N	N	N	N	Y	N	Lithic
3.92	3.99	11	Linker	0.07	PF	N	N	N	N	N	N	Lithic
3.99	4.03	18	Mountainburg	0.04	N	N	N	N	N	Y	N	Lithic
4.03	4.45	20	Mountainburg	0.42	N	N	N	N	N	Y	Y	Lithic
4.45	4.46	18	Mountainburg	0.01	N	N	N	N	N	Y	N	Lithic
4.46	4.51	17	Mountainburg	0.05	N	N	N	N	N	Y	N	Lithic
4.51	4.65	11	Linker	0.14	PF	N	N	N	N	N	N	Lithic
4.65	4.71	32	Taft	0.06	PF	Y	Y	Y	N	N	N	N
4.71	4.83	11	Linker	0.12	PF	N	N	N	N	N	N	Lithic
4.83	4.89	32	Taft	0.06	PF	Y	Y	Y	N	N	N	N
4.89	5.00	11	Linker	0.11	PF	N	N	N	N	N	N	Lithic





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Beginning	Ending											
5.00	5.05	32	Taft	0.05	PF	Y	Y	Y	N	N	N	N
5.05	5.10	11	Linker	0.05	PF	N	N	N	N	N	N	Lithic
5.10	5.15	32	Taft	0.05	PF	Y	Y	Y	N	N	N	N
5.15	5.16	17	Mountainburg	0.01	N	N	N	N	N	Y	N	Lithic
5.16	5.23	19	Mountainburg	0.07	N	N	N	N	N	Y	Y	Lithic
5.23	5.34	32	Taft	0.11	PF	Y	Y	Y	N	N	N	N
5.34	5.39	9	Leadvale	0.05	SI	Y	N	Y	N	N	N	N
5.39	5.45	32	Taft	0.06	PF	Y	Y	Y	N	N	N	N
5.45	5.52	8	Leadvale	0.07	PF	Y	N	Y	N	N	N	N
5.52	5.67	32	Taft	0.15	PF	Y	Y	Y	N	N	N	N
5.67	5.71	24	Perry	0.04	PFD	Y	Y	N	N	N	N	N
5.71	5.93	8	Leadvale	0.22	PF	Y	N	Y	N	N	N	N
5.93	5.94	32	Taft	0.01	PF	Y	Y	Y	N	N	N	N
5.94	6.21	24	Perry	0.27	PFD	Y	Y	N	N	N	N	N
6.21	6.24	35	Water	0.03	NA	NA	NA	NA	NA	N	NA	NA
6.24	6.61	24	Perry	0.37	PFD	Y	Y	N	N	N	N	N
6.61	6.66	1	Acadia	0.05	PF	Y	Y	Y	N	N	N	N
6.66	6.75	32	Taft	0.09	PF	Y	Y	Y	N	N	N	N
6.75	6.80	8	Leadvale	0.05	PF	Y	N	Y	N	N	N	N
6.80	6.82	32	Taft	0.02	PF	Y	Y	Y	N	N	N	N
6.82	6.88	8	Leadvale	0.06	PF	Y	N	Y	N	N	N	N
6.88	6.90	3	Enders	0.02	N	N	N	N	N	N	N	Paralithic
6.90	7.03	20	Mountainburg	0.13	N	N	N	N	N	Y	Y	Lithic



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Beginning	Ending											
7.03	7.06	9	Leadvale	0.03	SI	Y	N	Y	N	N	N	N
7.06	7.08	32	Taft	0.02	PF	Y	Y	Y	N	N	N	N
7.08	7.12	9	Leadvale	0.04	SI	Y	N	Y	N	N	N	N
7.12	7.15	32	Taft	0.03	PF	Y	Y	Y	N	N	N	N
7.15	7.45	24	Perry	0.30	PFD	Y	Y	N	N	N	N	N
7.45	7.50	2	Amy	0.05	N	Y	Y	Y	N	N	N	N
7.50	7.61	21	Muskogee	0.11	PF	Y	N	Y	N	N	N	N
7.61	7.69	2	Amy	0.08	N	Y	Y	Y	N	N	N	N
7.69	7.85	15	McKamie	0.16	N	N	N	N	N	N	N	N
7.85	7.89	2	Amy	0.04	N	Y	Y	Y	N	N	N	N
7.89	7.95	19	Mountainburg	0.06	N	N	N	N	N	Y	Y	Lithic
7.95	8.04	20	Mountainburg	0.09	N	N	N	N	N	Y	Y	Lithic
8.04	8.07	19	Mountainburg	0.03	N	N	N	N	N	Y	Y	Lithic
8.07	8.17	20	Mountainburg	0.10	N	N	N	N	N	Y	Y	Lithic
8.17	8.27	18	Mountainburg	0.10	N	N	N	N	N	Y	N	Lithic
8.27	8.31	11	Linker	0.04	PF	N	N	N	N	N	N	Lithic
8.31	8.35	2	Amy	0.04	N	Y	Y	Y	N	N	N	N
8.35	8.38	11	Linker	0.03	PF	N	N	N	N	N	N	Lithic
8.38	8.53	20	Mountainburg	0.15	N	N	N	N	N	Y	Y	Lithic
8.53	8.80	4	Enders	0.27	N	N	N	N	N	Y	N	Paralithic
8.80	8.82	11	Linker	0.02	PF	N	N	N	N	N	N	Lithic
8.82	8.86	4	Enders	0.04	N	N	N	N	N	Y	N	Paralithic
8.86	8.89	11	Linker	0.03	PF	N	N	N	N	N	N	Lithic



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Beginning	Ending											
8.89	8.94	32	Taft	0.05	PF	Y	Y	Y	N	N	N	N
8.94	8.99	11	Linker	0.05	PF	N	N	N	N	N	N	Lithic
8.99	9.00	3	Enders	0.01	N	N	N	N	N	Y	N	Paralithic
9.00	9.03	11	Linker	0.03	PF	N	N	N	N	N	N	Lithic
9.03	9.07	3	Enders	0.04	N	N	N	N	N	Y	N	Paralithic
9.07	9.13	11	Linker	0.06	PF	N	N	N	N	N	N	Lithic
9.13	9.35	17	Mountainburg	0.22	N	N	N	N	N	Y	N	Lithic
9.35	9.43	32	Taft	0.08	PF	Y	Y	Y	N	N	N	N
9.43	9.56	9	Leadvale	0.13	SI	Y	N	Y	N	N	N	N
9.56	9.64	32	Taft	0.08	PF	Y	Y	Y	N	N	N	N
9.64	9.85	8	Leadvale	0.21	PF	Y	N	Y	N	N	N	N
9.85	10.39	32	Taft	0.54	PF	Y	Y	Y	N	N	N	N
10.39	10.52	10	Linker	0.13	PF	N	N	N	N	N	N	Lithic
10.52	10.55	11	Linker	0.03	PF	N	N	N	N	N	N	Lithic
10.55	10.76	32	Taft	0.21	PF	Y	Y	Y	N	N	N	N
10.76	10.84	4	Enders	0.08	N	N	N	N	N	Y	N	Paralithic
10.84	10.91	23	Ouachita	0.07	PF	Y	N	N	N	N	N	N
10.91	10.92	9	Leadvale	0.01	SI	Y	N	Y	N	N	N	N
10.92	11.12	4	Enders	0.20	N	N	N	N	N	Y	N	Paralithic
11.12	11.24	9	Leadvale	0.12	SI	Y	N	Y	N	N	N	N
11.24	11.28	23	Ouachita	0.04	PF	Y	N	N	N	N	N	N
11.28	11.32	8	Leadvale	0.04	PF	Y	N	Y	N	N	N	N
11.32	11.37	11	Linker	0.05	PF	N	N	N	N	N	N	Lithic





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Beginning	Ending											
11.37	12.05	4	Enders	0.68	N	N	N	N	N	Y	N	Paralithic
12.05	12.29	20	Mountainburg	0.24	N	N	N	N	N	N	Y	Lithic
12.29	12.38	4	Enders	0.09	N	N	N	N	N	Y	N	Paralithic
12.38	12.49	20	Mountainburg	0.11	N	N	N	N	N	N	Y	Lithic
12.49	13.30	4	Enders	0.81	N	N	N	N	N	Y	N	Paralithic
13.30	13.47	5	Enders	0.17	N	N	N	N	N	Y	N	Paralithic
13.47	13.63	17	Mountainburg	0.16	N	N	N	N	N	Y	N	Lithic
13.63	13.89	18	Mountainburg	0.26	N	N	N	N	N	Y	N	Lithic
13.89	14.12	32	Taft	0.23	PF	Y	Y	Y	N	N	N	N
14.12	14.37	5	Enders	0.25	N	N	N	N	N	Y	N	Paralithic
14.37	14.44	11	Linker	0.07	PF	N	N	N	N	N	N	Lithic
14.44	14.50	22	Muskogee	0.06	N	N	N	N	N	N	N	N
14.50	14.92	24	Perry	0.42	PFD	Y	Y	N	N	N	N	N
14.92	14.99	16	Moreland	0.07	PF	Y	N	N	N	N	N	N
14.99	15.10	24	Perry	0.11	PFD	Y	Y	N	N	N	N	N
15.10	15.31	16	Moreland	0.21	PF	Y	N	N	N	N	N	N
15.31	15.42	24	Perry	0.11	PFD	Y	Y	N	N	N	N	N
15.42	15.56	15	McKamie	0.14	N	N	N	N	N	N	N	N
15.56	16.12	22	Muskogee	0.56	N	N	N	N	N	N	N	N
16.12	16.20	21	Muskogee	0.08	PF	Y	N	Y	N	N	N	N
16.20	16.27	1	Acadia	0.07	PF	Y	Y	Y	N	N	N	N
16.27	16.38	21	Muskogee	0.11	PF	Y	N	Y	N	N	N	N
16.38	16.48	1	Acadia	0.10	PF	Y	Y	Y	N	N	N	N



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Beginning	Ending											
16.48	17.27	22	Muskogee	0.79	N	N	N	N	N	N	N	N
17.27	17.38	10	Linker	0.11	PF	N	N	N	N	N	N	Lithic
17.38	17.71	24	Perry	0.33	PFD	Y	Y	N	N	N	N	N
17.71	18.02	16	Moreland	0.31	PF	Y	N	N	N	N	N	N
18.02	18.27	Me	Moreland	0.25	PF	Y	Y	N	N	N	N	N
18.27	18.59	Pe	Perry	0.32	PFDP	Y	Y	N	N	N	N	N
18.59	18.69	W	Water	0.10	NA	NA	NA	NA	NA	NA	NA	NA
18.69	20.71	Pe	Perry	2.02	PFDP	Y	N	N	N	N	N	N
20.71	21.30	LkC	28	0.59	PF	N	N	N	N	Y	N	Lithic
21.30	21.92	LeB	Leadvale	0.62	PF	Y	N	Y	N	N	N	Paralithic
21.92	21.98	LkC	Linker	0.06	PF	N	N	N	N	Y	N	Lithic
21.98	23.55	LRE	Linker- Mountainburg	1.57	N	N	N	N	N	Y	Y	Lithic
23.55	23.86	LeC	Leadvale	0.31	SI	Y	N	Y	N	N	N	Paralithic
23.86	24.01	LeB	Leadvale	0.15	PF	Y	N	Y	N	N	N	Paralithic
24.01	24.07	LeC	Leadvale	0.06	SI	Y	N	Y	N	N	N	Paralithic
24.07	24.28	LeB	Leadvale	0.21	PF	Y	N	Y	N	N	N	Paralithic
24.28	24.38	LkC	Linker	0.10	PF	N	N	N	N	Y	N	Lithic
24.38	25.27	LeB	Leadvale	0.89	PF	Y	N	Y	N	N	N	Paralithic
25.27	25.64	LkC	Linker	0.37	PF	N	N	N	N	Y	N	Lithic
25.64	26.04	LeB	Leadvale	0.40	PF	Y	N	Y	N	N	N	Paralithic
26.04	26.25	LeC	Leadvale	0.21	SI	Y	N	Y	N	N	N	Paralithic
26.25	26.41	LeB	Leadvale	0.16	PF	Y	N	Y	N	N	N	Paralithic

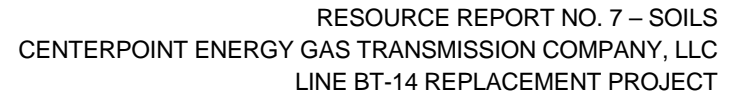


APPENDIX 7A

**Central Arkansas Pipeline Enhancement Project**  
**Soil Characteristics by Milepost Segment for Each Soil Map Unit Along the Proposed Pipelines**

Segment / Milepost		Map Unit Symbol	Component Name	Crossing Length (miles)	Prime Farmland <sup>a, b</sup>	Hydric Soils <sup>a</sup>	Compact. Prone <sup>c</sup>	Highly Water Erodible <sup>d</sup>	Highly Wind Erodible <sup>e</sup>	Reveg. Concerns <sup>f</sup>	Stony/ Rocky <sup>g</sup>	Shallow Bedrock <sup>h</sup>
Beginning	Ending											
26.41	26.48	LeC	Leadvale	0.07	SI	Y	N	Y	N	N	N	Paralithic
			Linker-									
26.48	27.15	LRE	Mountainburg	0.67	N	N	N	N	N	Y	Y	Lithic
27.15	27.45	LeC	Leadvale	0.30	SI	Y	N	Y	N	N	N	Paralithic
			Linker-									
27.45	27.53	LRE	Mountainburg	0.08	N	N	N	N	N	Y	Y	Lithic
27.53	27.70	LeB	Leadvale	0.17	PF	Y	N	Y	N	N	N	Paralithic
			Linker-									
27.70	28.13	LRE	Mountainburg	0.43	N	N	N	N	N	Y	Y	Lithic
28.13	28.38	LkC	Linker	0.25	PF	N	N	N	N	Y	N	Lithic
28.38	28.51	GeB	Guthrie-Leadvale	0.13	PFD	Y	N	Y	N	N	N	Paralithic
28.51	28.56	LeC	Leadvale	0.05	SI	Y	N	Y	N	N	N	Paralithic
28.56	28.58	GeB	Guthrie-Leadvale	0.02	PFD	Y	N	Y	N	N	N	Paralithic





**Central Arkansas Pipeline Enhancement Project**  
**Soil Characteristics by Milepost Segment for Each Soil Map Unit Along the Proposed Pipelines**

Segment / Milepost		Map Unit Symbol	Component Name	Crossing Length (miles)	Prime Farmland <sup>a, b</sup>	Hydric Soils <sup>a</sup>	Compact. Prone <sup>c</sup>	Highly Water	Highly Wind	Reveg. Concerns <sup>f</sup>	Stony/ Rocky <sup>g</sup>	Shallow Bedrock <sup>h</sup>
Beginning	Ending							Erodible <sup>d</sup>	Erodible <sup>e</sup>			
<b>Line BT-40</b>												
			Linker-									
0.00	0.02	LRE	Mountainburg	0.02	N	N	N	N	N	Y	Y	Lithic
0.02	0.04	LeB	Leadvale	0.02	PF	Y	N	Y	N	N	N	Paralithic
<b>Line BT-41</b>												
0.00	0.01	LeC	Leadvale	0.01	SI	Y	N	Y	N	N	N	Paralithic
0.01	0.27	LeB	Leadvale	0.26	PF	Y	N	Y	N	N	N	Paralithic
<sup>a</sup> As designated by the Natural Resource Conservation Service. <sup>b</sup> PF = Prime farmland; PFD = Prime farmland, if drained; PFDP = Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season SI = Farmland of statewide importance; UI = Farmland of unique importance; N = No significance <sup>c</sup> Includes soils that have clay loam or finer textures in somewhat poor, poor, and very poor drainage classes. <sup>d</sup> Includes soils that have Kf values of 0.41 or higher. <sup>e</sup> Includes soils that have a WEG classification of 1-2. <sup>f</sup> Includes coarse-textured soils (sandy loams and coarser) that are moderately well to excessively drained and soils with an average slope greater than or equal to 9 percent. <sup>g</sup> Includes soils that have a very gravelly, extremely gravelly, cobbly, stony, bouldery, flaggy, or channery modifier to the textural class . <sup>h</sup> Includes soils that have bedrock within 60 inches of the soil surface. Lithic refers to "hard" bedrock that may require blasting or other special construction techniques during installation of the proposed pipeline segments. Note: Y = Yes; N = No; NA = Not Available/Applicable												

## **APPENDIX 7.B**

### **CHARACTERISTICS OF SOILS IMPACTED**



APPENDIX 7B

**Central Arkansas Pipeline Enhancement Project**  
**Selected Physical and Interpretive Characteristics of the Soil Map Units within the Project Area**

Map Unit Symbol	Map Unit Name	Component Name	Percent Slope (low)	Percent Slope (high)	Soil Texture	Drainage Class <sup>a</sup>	Taxonomic Classification	Parent Material	Landforms
<b>Line BT-39</b>									
1	Acadia silt loam	Acadia	0	1	Silt Loam	SP	Fine, montmorillonitic, thermic Aeric Ochraqualfs	Clayey alluvium	Stream terraces
2	Amy soils, frequently flooded	Amy	0	1	Silty Clay Loam	P	Fine-silty, siliceous, semiactive, thermic Typic Ochraqualfs	Loamy alluvium	Flood plains
3	Enders gravelly fine sandy loam, 3 to 8 percent slopes	Enders	3	8	Gravelly Fine Sandy Loam	W	Clayey, mixed, active, thermic Typic Hapludults	Clayey residuum weathered from acid shale	Hills
4	Enders gravelly fine sandy loam, 8 to 12 percent slopes	Enders	8	12	Gravelly Fine Sandy Loam	W	Clayey, mixed, active, thermic Typic Hapludults	Clayey residuum weathered from acid shale	Hills
5	Enders gravelly fine sandy loam, 12 to 45 percent slopes	Enders	12	45	Gravelly Fine Sandy Loam	W	Clayey, mixed, active, thermic Typic Hapludults	Clayey residuum weathered from acid shale	Hills
8	Leadvale silt loam, 1 to 3 percent slopes	Leadvale	1	3	Silt Loam	MW	Fine-silty, siliceous, semiactive, thermic Typic Fragiudults	Loamy colluvium derived from shale and siltstone	Valleys
9	Leadvale silt loam, 3 to 8 percent slopes	Leadvale	3	8	Silt Loam	MW	Fine-silty, siliceous, semiactive, thermic Typic Fragiudults	Loamy colluvium derived from shale and siltstone	Valleys
10	Linker fine sandy loam, 1 to 3 percent slopes	Linker	1	3	Fine Sandy Loam	W	Fine-loamy, siliceous, semiactive, thermic Typic Hapludults	Loamy residuum weathered from sandstone	Mountains, hills



APPENDIX 7B

**Central Arkansas Pipeline Enhancement Project**  
**Selected Physical and Interpretive Characteristics of the Soil Map Units within the Project Area**

Map Unit Symbol	Map Unit Name	Component Name	Percent Slope (low)	Percent Slope (high)	Soil Texture	Drainage Class <sup>a</sup>	Taxonomic Classification	Parent Material	Landforms
11	Linker fine sandy loam, 3 to 8 percent slopes	Linker	3	8	Fine Sandy Loam	W	Fine-loamy, siliceous, semiactive, thermic Typic Hapludults	Loamy residuum weathered from sandstone	Mountains, hills
15	McKamie silty clay loam, 3 to 8 percent slopes, severely eroded	McKamie	3	8	Silty Clay Loam	W	Fine, mixedm superactive, thermic Vertic Hapludalfs	Clayey alluvium	Stream terraces
16	Moreland silty clay	Moreland	0	1	Silty Clay	SP	Fine, mixedm thermic Vertic Hapludolls	Clayey alluvium	Backswamps
17	Mountainburg gravelly fine sandy loam, 3 to 8 percent slopes	Mountainburg	3	8	Gravelly Fine Sandy Loam	W	Loamy-skeletal, siliceous, subactive, thermic Lithic Hapludults	Loamy residuum weathered from sandstone and shale	Hills
18	Mountainburg gravelly fine sandy loam, 8 to 12 percent slopes	Mountainburg	8	12	Gravelly Fine Sandy Loam	W	Loamy-skeletal, siliceous, subactive, thermic Lithic Hapludults	Loamy residuum weathered from sandstone and shale	Hills
19	Mountainburg very stony fine sandy loam, 8 to 12 percent slopes	Mountainburg	8	12	Very Stony Fine Sandy Loam	W	Loamy-skeletal, siliceous, subactive, thermic Lithic Hapludults	Loamy residuum weathered from sandstone and shale	Hills
20	Mountainburg very stony fine sandy loam, 12 to 40 percent slopes	Mountainburg	12	40	Very Stony Fine Sandy Loam	W	Loamy-skeletal, siliceous, subactive, thermic Lithic Hapludults	Loamy residuum weathered from sandstone and shale	Hills, benches



APPENDIX 7B

**Central Arkansas Pipeline Enhancement Project**  
**Selected Physical and Interpretive Characteristics of the Soil Map Units within the Project Area**

Map Unit Symbol	Map Unit Name	Component Name	Percent Slope (low)	Percent Slope (high)	Soil Texture	Drainage Class <sup>a</sup>	Taxonomic Classification	Parent Material	Landforms
21	Muskogee silt loam, 1 to 3 percent slopes	Muskogee	1	3	Silt Loam	MW	Fine-silty, mixed, active, thermic Aquic Paleudalfs	Loamy alluvium over clayey alluvium	Stream terraces
22	Muskogee silty clay loam, 3 to 8 percent slopes, severely eroded	Muskogee	3	8	Silty Clay Loam	MW	Fine-silty, mixed, active, thermic Aquic Paleudalfs	Loamy alluvium over clayey alluvium	Stream terraces
23	Ouachita silt loam, occasionally flooded	Ouachita	0	1	Silt Loam	W	Fine-silty, siliceous, active, thermic Fluventic Dystrochrepts	Loamy alluvium	Flood plains, natural levees
24	Perry clay, occasionally flooded	Perry	0	1	Clay	P	Very-fine, smectitic, thermic Chromic Epiaquerts	Clayey alluvium	Backswamps
32	Taft silt loam, 0 to 2 percent slopes	Taft	0	2	Silt Loam	SP	Fine-silty, siliceous, semiactive, thermic Glossaquic Fragiudults	Loamy alluvium	Stream terraces, depressions
35	Water	Water	NA	NA	NA	NA	NA	NA	NA
GeB	Guthrie-Leadvale complex, undulating	Guthrie-Leadvale	0	3	Silt Loam	P	Fine-silty, siliceous, semiactive, thermic Typic Fragiagults/Fine-silty, siliceous, semiactive, thermic Typic Fragiudults	Silty alluvium/loamy pedisediment	Stream terraces/hills
LeB	Leadvale silt loam, 1 to 3 percent slopes	Leadvale	1	3	Silt Loam	MW	Fine-silty, siliceous, semiactive, thermic Typic Fragiudults	Loamy pedisediment	Valleys
LeC	Leadvale silt loam, 3 to 8 percent slopes	Leadvale	3	8	Silt Loam	MW	Fine-silty, siliceous, semiactive, thermic Typic Fragiudults	Loamy pedisediment	Valley sides
LkC	Linker gravelly fine sand loam, 3 to 8 percent slopes	Linker	3	8	Gravelly Fine Sandy Loam	W	Fine-loamy, siliceous, semiactive, thermic Typic Hapludults	Loamy residuum weathered from sandstone	Hillslopes

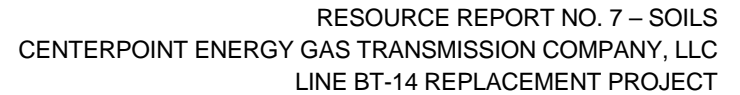


APPENDIX 7B

**Central Arkansas Pipeline Enhancement Project**  
**Selected Physical and Interpretive Characteristics of the Soil Map Units within the Project Area**

Map Unit Symbol	Map Unit Name	Component Name	Percent Slope (low)	Percent Slope (high)	Soil Texture	Drainage Class <sup>a</sup>	Taxonomic Classification	Parent Material	Landforms
LRE	Linker-Mountainburg association, moderately steep	Linker-Mountainburg	12	25	Gravelly to Stony Fine Sandy Loam	W	Fine-loamy, siliceous, semiactive, thermic Typic Hapludults/Loamy-skeletal, siliceous, subactive, thermic Lithic Hapludults	Loamy residuum weathered from sandstone/Stony, loamy residuum weathered from sandstone	Hillslopes/hills
Me	Moreland silty clay	Moreland	0	1	Silty Clay	SP	Fine, mixed, active, thermic Vertic Hapludolls	Clayey alluvium	Slackwater areas
Pe	Perry clay, 0 to 1 percent slopes, rarely flooded	Perry	0	1	Clay	P	Very-fine, smectitic, thermic Chromic Epiaquerts	Clayey alluvium	Natural levees
W	Water	Water	NA	NA	NA	NA	NA	NA	NA
<b>Line BT-40</b>									
LeB	Leadvale silt loam, 1 to 3 percent slopes	Leadvale	1	3	Silt Loam	MW	Fine-silty, siliceous, semiactive, thermic Typic Fragiudults	Loamy pedisediment	Valleys
LeC	Leadvale silt loam, 3 to 8 percent slopes	Leadvale	3	8	Silt Loam	MW	Fine-silty, siliceous, semiactive, thermic Typic Fragiudults	Loamy pedisediment	Valley sides





**Central Arkansas Pipeline Enhancement Project**  
**Selected Physical and Interpretive Characteristics of the Soil Map Units within the Project Area**

Map Unit Symbol	Map Unit Name	Component Name	Percent Slope (low)	Percent Slope (high)	Soil Texture	Drainage Class <sup>a</sup>	Taxonomic Classification	Parent Material	Landforms
<b>Line BT-41</b>									
LeB	Leadvale silt loam, 1 to 3 percent slopes	Leadvale	1	3	Silt Loam	MW	Fine-silty, siliceous, semiactive, thermic Typic Fragiudults	Loamy pedisediment	Valleys
LRE	Linker-Mountainburg association, moderately steep	Linker-Mountainburg	12	25	Gravelly to Stony Fine Sandy Loam	W	Fine-loamy, siliceous, semiactive, thermic Typic Hapludults/Loamy-skeletal, siliceous, subactive, thermic Lithic Hapludults	Loamy residuum weathered from sandstone/Stony, loamy residuum weathered from sandstone	Hillslopes/hills
<sup>a</sup> Drainage Class Abbreviations as defined by the National Resource Conservation Service: VP = Very Poorly; SP = Somewhat Poorly; P = Poorly; W = Well; MW = Moderately Well <sup>*</sup> Note: NA = Not Available Source: USDA 2003									

**CENTERPOINT ENERGY GAS TRANSMISSION COMPANY, LLC**

**CENTRAL ARKANSAS PIPELINE ENHANCEMENT PROJECT  
FERC DOCKET NO. PF13-10-000**

**DRAFT  
RESOURCE REPORT NO. 11  
RELIABILITY AND SAFETY**

PUBLIC

Prepared for:  
CenterPoint Energy Gas Transmission Company, LLC  
P.O. Box 21734  
Shreveport, LA  
71151

Prepared by:  
AK Environmental, LLC  
850 Bear Tavern Road, Suite 106  
West Trenton, NJ  
08628

June 2013





**CENTRAL ARKANDSAS PIPELINE ENHANCEMENT PROJECT**  
**FERC DOCKET NO. PF-13-10-000**

RESOURCE REPORT NO. 11 – RELIABILITY AND SAFETY	
SUMMARY OF COMMISSION FILING INFORMATION	
INFORMATION	FOUND IN
Describe how the project facilities would be designed, constructed, operated, and maintained to minimize potential hazard to the public from the failure of project components as a result of accidents or natural catastrophes. (§3 80.12 (m))	Sections 11.2 and 11.3



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## ACRONYMS AND ABBREVIATIONS

CEGT	CenterPoint Energy Gas Transmission Company, LLC
CERC	CenterPoint Energy Resources Corporation
CFR	Code of Federal Regulations
Commission	Federal Energy Regulatory Commission
DOT	Department of Transportation
ERP	Emergency Response Plan
FERC	Federal Energy Regulatory Commission
HCAs	High Consequence Areas
MP	Milepost
PHMSA	Pipeline and Hazardous Materials Safety Administration
Project	Central Arkansas Pipeline Enhancement Project
TBS	Town border stations

## 11.0 INTRODUCTION

CenterPoint Energy Gas Transmission Company, LLC (“CEGT”), in cooperation with its affiliated natural gas distribution business, CenterPoint Energy Resources Corporation d/b/a Arkansas Gas (“CERC”), is filing an application for a certificate of public convenience and necessity with the Federal Energy Regulatory Commission (“FERC” or “Commission”) for the Central Arkansas Pipeline Enhancement Project (“Project”). The Project will provide for the continued safe, reliable, and efficient transportation of natural gas to the central Arkansas cities and towns of Conway, Mayflower, Maumelle, North Little Rock, and Little Rock. As part of the Project, CEGT is proposing the installation of approximately 28.5 miles of 12-inch-diameter natural gas pipeline and ancillary facilities in Pulaski and Faulkner Counties, Arkansas. The proposed pipeline, to be named Line BT-39, will be constructed primarily on new alignment, and will provide replacement transmission service for a portion of two existing CEGT natural gas pipelines (Lines B and BT-14). CEGT will also construct metering and appurtenances at seven new or modified locations along the Line BT-39 pipeline route and tie-in points to the existing Line BT-14 pipeline, as well as two 4-inch-diameter laterals (Lines BT-40 and BT-41) to provide natural gas deliveries to its distribution affiliate. As currently proposed, ownership of an approximately 12.4-mile-long segment of the existing Line BT-14 pipeline through the City of Conway would be transferred to CEGT’s distribution affiliate, and an approximately 21.7-mile-long segment of the existing Line B pipeline, extending from Conway to North Little Rock, would be retired from service. Other minor ancillary facilities and small diameter pipelines (Line BM-1, Line BT-19, and a portion of Line BM-21) within the City of Conway would also be retired in association with the proposed Project. Refer to the Project locations maps (Figure 1.1-1) for a depiction of existing, proposed, and retirement pipeline facilities associated with the Project.

This Resource Report addresses the safeguards incorporated into the Project to protect the public in the unlikely event of a failure of a facility component either from an accident or a natural disaster during the construction and operation of the proposed facilities. This Resource Report includes descriptions of the plans, procedures, and design features that have been incorporated by CEGT to avoid undue hazards to, or impacts on, the public.

### 11.1 NATURAL GAS TRANSMISSION PIPELINE SAFETY STANDARDS

Most natural gas consumed in the United States is delivered to consumers via underground transmission pipelines. More than 321,000 miles of natural gas transmission and gathering pipelines provide about 24 percent of the United States’ total energy consumption (PHMSA, 2013a). Because of the critical role transmission pipelines play in supplying a large portion of the country’s energy needs, it is imperative that they be safe and reliable. Pipelines and related facilities are designed and maintained with strict adherence to the U.S. Department of Transportation (“DOT”), Pipeline and Hazardous Materials Safety Administration (“PHMSA”) regulations, which are intended to provide for public safety and reliability and to minimize the risk of system failure.

The natural gas transmission industry has an excellent record of public safety and reliability. Nevertheless, the transportation of natural gas by pipeline involves some risk to the public in the event of an accident and subsequent release of natural gas. Methane, the primary component of natural gas, is colorless, odorless, and tasteless. Methane is not toxic and is classified as a simple asphyxiate that possesses only a slight inhalation hazard. If methane is breathed in high concentrations, oxygen deficiency can occur, resulting in serious injury or suffocation. Methane has an auto-ignition temperature of about 1,000 degrees Fahrenheit and is flammable at concentrations between 5 and 15 percent in air. These concentrations can be reached when methane is present in a confined space and could result in a hazard in the presence of an ignition source. Unconfined mixtures of methane in air become highly diluted and are not usually explosive. Methane is buoyant at atmospheric temperatures and, if released, rises and disperses rapidly in air.

The proposed Project will be designed, constructed, operated, tested, inspected, and maintained in accordance with CEGT’s internal standards, which meet or exceed industry standards and PHMSA pipeline safety regulations. The PHMSA administers the national regulatory program to provide for the safe transportation of natural gas and other

hazardous materials by pipeline. The PHMSA has developed safety regulations and other approaches to risk management that provide for safety in the design, construction, testing, operation, and maintenance of pipeline facilities. The PHMSA safety standards at 49 Code of Federal Regulations (“CFR”) Part 192 (Part 192) specifically address natural gas pipeline safety. These safety standards, together with industry codes, advances in pipeline and compressor manufacturing, construction, and inspection techniques, and integrity management programs, minimize the potential for pipeline failure.

### 11.1.1 Pipeline Design and Construction Standards

Part 192 specifies minimum design requirements, and protection from internal, external, and atmospheric corrosion, as well as other operating and maintenance requirements. CEGT’s design specifications comply with or exceed Part 192 requirements.

Part 192 also defines area classifications based on population density in the vicinity of natural gas pipelines and specifies more rigorous safety requirements for more populated areas. A class location unit is defined in Part 192 as an area that extends 220 yards on either side of the centerline of any continuous 1-mile length of pipeline. The four area classifications are defined as follows:

- Class 1      Location with 10 or fewer buildings intended for human occupancy.
- Class 2      Location with more than 10 but fewer than 46 buildings intended for human occupancy.
- Class 3      Location with 46 or more buildings intended for human occupancy, or where the pipeline lies within 100 yards of a building or small, well-defined outside area occupied by 20 or more people at least 5 days a week for 10 weeks in any 12-month period.
- Class 4      Location where buildings with four or more stories aboveground are prevalent.

Class locations representing more populated areas require higher safety factors in pipeline design, testing, and operation. Pipelines constructed in Class 1 locations must be installed with a minimum depth of cover of 30 inches in normal soil, and 18 inches in consolidated rock. Class 2, 3, and 4 locations, as well as drainage ditches of public roads and railroad crossings, require a minimum of 36 inches of cover in normal soil and 24 inches in consolidated rock. Class locations also specify the maximum distances to a sectionalizing block valve as 10 miles in Class 1, 7.5 miles in Class 2, 4 miles in Class 3, and 2.5 miles in Class 4. Class Locations for the Project are identified in Table 11.1-1 below.

CEGT will construct the Project to its design specifications, which comply with Part 192 for the pipe classifications along the proposed pipeline route. Over the life of the Project, CEGT will monitor population changes. If an increase in population density adjacent to the pipeline right-of-way causes a change in class designation, CEGT will reduce the maximum allowable operating pressure (“MAOP”) or replace the segment of pipe with one of sufficient grade and wall thickness to comply with the PHMSA standards for the new class location. CEGT will ensure that the pipeline is designed and constructed for the current class locations, as well as for any anticipated future changes in class locations.

In addition to the above protections required in Part 192, the PHMSA has promulgated a rule (49 CFR 192 Subpart O) for Gas Transmission Pipeline Integrity Management. This regulation specifies how pipeline operators must identify, prioritize, assess, evaluate, repair, and validate the integrity of gas transmission pipelines that could affect High Consequence Areas (“HCA”s) in the event of leaks or failures. The DOT defines HCAs as they relate to the different class zones, potential impact circles, or areas containing identified sites, as defined in §192.903 of the DOT regulations. Based on the relationship of the proposed pipeline centerline to other nearby structures and identified sites, no HCAs were identified for the Project.



TABLE 11.1-1				
Class Locations Along the Central Arkansas Pipeline Enhancement Project				
Pipeline Facility	Beginning Milepost	Ending Milepost	Length (miles)	Class Designation
Line BT-39	0.00	1.47	1.47	2
	1.47	3.24	1.77	1
	3.24	5.00	1.76	2
	5.00	9.66	4.66	1
	9.66	11.00	1.34	2
	11.00	14.00	3.00	1
	14.00	15.00	1.00	2
	15.00	16.00	1.00	1
	16.00	17.62	1.62	2
	17.62	22.00	2.38	1
	22.00	23.09	1.09	2
	23.09	28.50	5.41	1
Line BT-40	0.00	0.04	0.04	1
Line BT-41	0.00	0.27	0.27	2

PHMSA rules require a pipeline operator to develop and follow a written integrity management program that contains all the elements described in 49 CFR 192.911 and that addresses the risks on each covered transmission pipeline segment. Once a pipeline operator has determined the HCAs on its pipeline, it must apply the elements of its integrity management plan to those segments of the pipeline within the HCAs. CEGT has developed an Integrity Management Plan in accordance with the PHMSA Integrity Management rules, and is currently implementing a comprehensive integrity management program for its existing pipeline system. This plan includes practices to further lower the risk of pipeline failure, such as added measures to prevent third-party damage, additional inspections, and other actions. CEGT will apply the elements of its Integrity Management Plan to the proposed Project, and that plan will be modified, as necessary, to incorporate the proposed pipeline facilities.

## 11.2 OPERATING AND EMERGENCY RESPONSE MEASURES TO PROTECT THE PUBLIC

CEGT is committed to protecting the public and the environment while delivering reliable supplies of natural gas. CEGT builds safety into all aspects of pipeline construction, operation, and maintenance. Operating personnel will be trained thoroughly to perform activities in accordance with CEGT's policies and procedures. Training will include preventative maintenance and monitoring of facilities, as well as procedures to be followed in the event of an accident or natural disaster. CEGT also will follow Occupational Safety and Health Administration safety requirements during the construction and operation activities associated with the Project.

### **11.2.1 Protection Measures and Equipment**

CEGT's public safety priority incorporates high operating standards and maintenance programs. These standards and programs include computerized pipeline monitoring by trained operators 24 hours per day, 7 days per week, as well as ongoing training of pipeline maintenance and emergency response crews and other extensive employee training. Leak inspections and cathodic protection maintenance will be conducted in accordance with PHMSA requirements and CEGT's internal requirements.

The Project facilities will be marked aboveground to indicate the presence of the pipeline as required by Part 192. As discussed in Resource Report 1, CEGT will conduct routine visual inspections via air or pedestrian patrols to identify surface conditions on and adjacent to the pipeline right-of-way that may indicate construction activity, erosion, exposed pipe, leaks, or other factors that may affect the safety or operation of the pipeline.

The regulations at 49 CFR Part 192.451 prescribe the minimum requirements for the protection of metallic pipelines from external, internal, and atmospheric corrosion. The pipe used to construct the Project will be externally coated using factory-installed fusion bond epoxy coating. In accordance with the PHMSA requirements, CEGT will install cathodic protection systems at various points along the pipeline to reduce corrosion of the underground facilities. This cathodic protection system will impart a low voltage current to the pipeline to offset natural soil and groundwater corrosion potential should the coating become damaged over the life of the pipeline. CEGT will inspect the cathodic protection system at regular intervals to ensure proper operating conditions consistent with PHMSA requirements for corrosion mitigation. Based on the potential for internal corrosion, which could result from trace contaminants in the natural gas transported, CEGT will monitor for internal corrosion. However, the presence of significant contaminants is not anticipated, because the Project will transport transmission quality natural gas that will eventually go into distribution systems with no further treatment.

### **11.2.2 Emergency Response Plan**

To cover the event of a pipeline emergency, each pipeline operator must establish an emergency response plan ("ERP"), as required by 49 CFR Part 192.615. The purpose of the ERP is to provide information to incident responders in the event of an emergency to minimize risk to personnel, the community, and the facility. Additionally, the ERP outlines response procedures for facility employees and contractors to initiate in the event of an emergency. These procedures include emergency communications, evacuation procedures, and rendezvous points. CEGT will update its existing ERP to incorporate the proposed Project. The ERP will be made available prior to and during construction and will contain the appropriate emergency contacts (e.g., names, telephone numbers).

### **11.2.3 Public Awareness**

CEGT's public awareness program provides information to the affected public, emergency officials, and public officials in the project area and provides damage prevention guidance to excavators. Additionally, CEGT is a member of the "One Call" and related pre-excavation notification organizations in the states in which it operates. Through "One Call," contractors provide notification of proposed excavation to a central agency that, in turn, will notify CEGT of the excavation locations. If CEGT facilities are located in the area of proposed contractor activity, company representatives will mark the pipeline location, consult with the excavator, as needed, and observe the excavation, as necessary, to prevent damage to the pipeline.

## 11.3 NATURAL GAS PIPELINE SAFETY OVERVIEW

### 11.3.1 Pipeline Safety Incident Data

The regulations at 49 CFR Part 191 requires operators of natural gas transmission and gathering pipeline systems to notify the PHMSA of any reportable incident and to submit a written report on Form F7100.2 within 20 days. CEGT, as an operator of natural gas systems, is subject to the PHMSA's accident reporting requirements.

The PHMSA's Office of Pipeline Safety maintains a database of pipeline incident reports on the PHMSA website. Table 11.3-1 summarizes serious incidents from U.S. natural gas onshore transmission pipelines by cause from 1993 to 2012. As shown in the table, the highest number of incidents during this period was caused by "all other causes," which include miscellaneous causes (e.g., damage by vehicles, fire, or explosion as the primary cause, rupture of a previously damaged pipe, and vandalism) and unknown causes. The next highest number of incidents (31.0 percent) was due to excavation damage, with the majority of these incidents resulting from third-party excavation (31 incidents), as opposed to operator/contractor or unspecified excavation damage (six incidents; PHMSA, 2013b). The frequency of incidents is strongly dependent on pipeline age, and older pipelines may experience more third-party excavation damage, partly because their locations may be less well known or less well marked than newer lines. To minimize unauthorized excavation activities in the vicinity of pipelines, operators are required to participate in One-Call public utility programs in populated areas. As noted previously, CEGT is a member of the One Call and related pre-excavation notification organizations in the states in which it operates.

### 11.3.2 Impact on Public Safety

The reportable incident data summarized in Table 11.3-1 include pipeline failures of all magnitudes having widely varying consequences. The nationwide totals of accidental fatalities due to various manmade and natural hazards are listed in Table 11.3-2, which thereby provides a relative measure of the safety of natural gas pipelines. Direct comparisons between accident categories should be made cautiously, however, because individual exposures to hazards are not uniform among all categories. Nevertheless, the average number of fatalities resulting from natural gas transmission and gathering pipelines is very low comparatively, considering the more than 300,000 miles of transmission and gathering lines in service nationwide.

TABLE 11.3-1

**Office of Pipeline Safety Serious Pipeline Incident Summary (By Cause)  
From 1993 Through 2012**

Cause of Incident	Number of Incidents	Percent of Total
Corrosion	5	4.2
Excavation Damage	37	31.0
Incorrect Operation	9	7.5
Material/Weld/Equipment Failure	17	14.2
Natural Force Damage	2	1.6
Other Outside Force Damage	9	7.5
All Other Causes	40	33.6
<b>TOTALS</b>	<b>119</b>	<b>100.0</b>

Source: U.S. Department of Transportation, PHMSA. 2013b. Serious Pipeline Incidents by Cause. Available online at: [http://primis.phmsa.dot.gov/comm/reports/safety/SerPSIDet\\_1993\\_2012\\_US.html?nocache=3866#\\_ngtrans](http://primis.phmsa.dot.gov/comm/reports/safety/SerPSIDet_1993_2012_US.html?nocache=3866#_ngtrans)

Note: PHMSA has gathered increasingly targeted incident cause data over time, such that the available reportable categories of cause have increased over time. This report spans time periods over which the reportable cause categories have changed. The cause categories in this report should be taken as general and not specific for years prior to 2002 for Gas Transmission.

PHMSA defines "Serious Incidents" as those incidents reported by pipeline operators involving a fatality or injury requiring in-patient hospitalization.

TABLE 11.3-2

**Nationwide Accidental Deaths 2010**

Type of Accident	Number of Fatalities <sup>a</sup>
Motor vehicles	33,687
Accidental poisoning	33,041
Accidental drowning	3,782
Exposure to fires, flames, and smoke	2,845
Accidental gunshot	606
Falls	26,009
Exposure to forces of nature	1,576
Natural gas transmission and distribution pipeline reportable fatalities	11 <sup>b</sup>

<sup>a</sup> National Vital Statistics Reports. 2010. [http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61\\_04.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_04.pdf)

<sup>a</sup> National Safety Council, Odds of Death Due to Injury, United States, 2006. [http://www.nsc.org/news\\_resources/injury\\_and\\_death\\_statistics/Pages/TheOddsofDyingFrom.aspx/](http://www.nsc.org/news_resources/injury_and_death_statistics/Pages/TheOddsofDyingFrom.aspx/).

<sup>b</sup> PHMSA National Gas Transmission, Consequences Summary Statistics. 2010. [http://primis.phmsa.dot.gov/comm/reports/safety/CPI.html?nocache=9606#\\_ngtrans](http://primis.phmsa.dot.gov/comm/reports/safety/CPI.html?nocache=9606#_ngtrans).

Note: 2006 statistics were used to allow for the most comprehensive comparable data.



## 11.4 REFERENCES

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