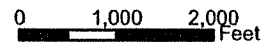
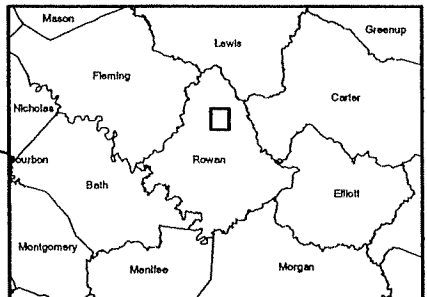
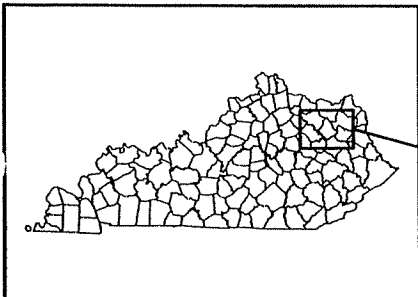
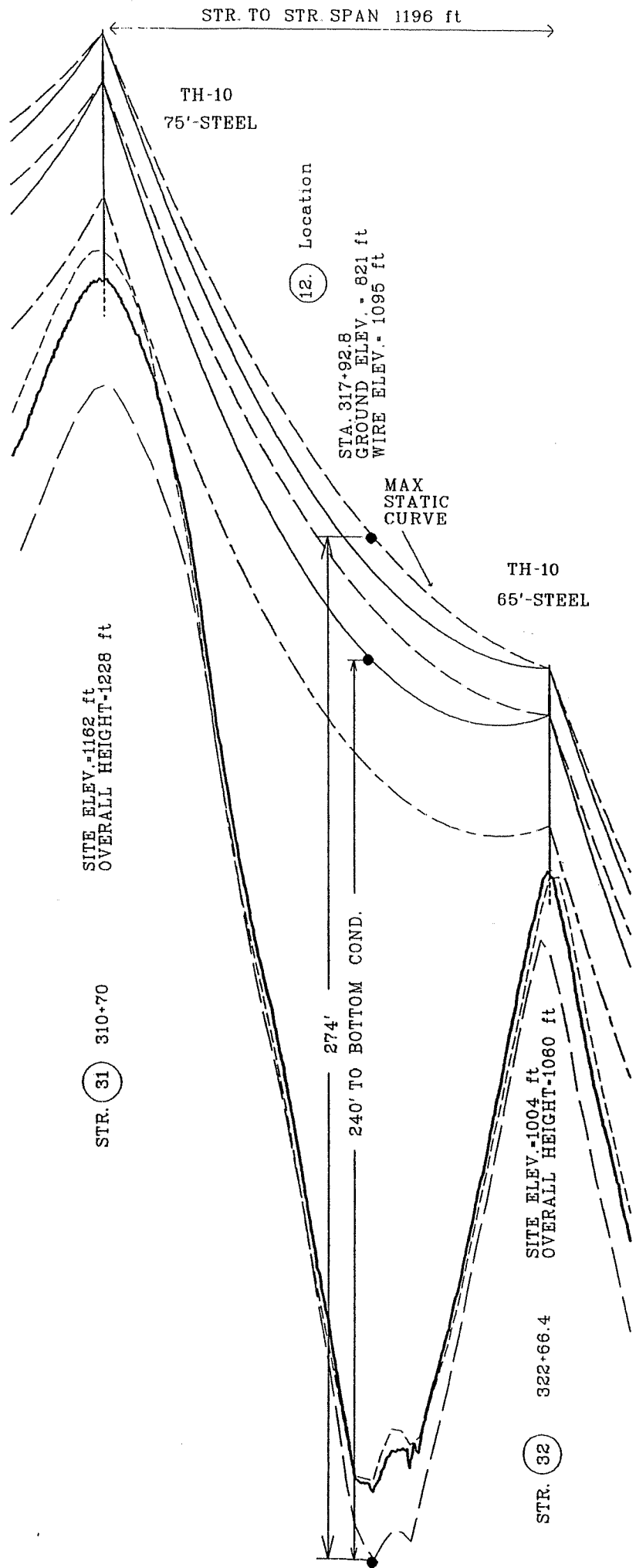


38° 16' 36.16" N
83° 24' 16.67" W



**Proposed EKPC
Cranston - Rowan County
138 kV Transmission Line**

East Kentucky Power Cooperative
4775 Lexington Road, PO Box 707
Winchester, Kentucky 40391
Phone (859)744-4812 www.ekpc.com Fax (859)744-6008



NOTE: POLE HEIGHTS
TO BE ADJUSTED TO
ACCOMMODATE SIDE SLOPE.

J: 795 KCM 26/7 ACSR
STATIC: 1/16" HIGH STRENGTH STEEL, 7 STRAND

SCALE VERT: 1" = 40'
HORIZ: 1" = 400'



KENTUCKY TRANSPORTATION CABINET
Department of Highways, District Nine
Elizaville Road, P.O. Box 347
Flemingsburg, Kentucky 41041
606/845-2551 (Fax) 606/849-2286
WWW.KENTUCKY.GOV

ERNE FLETCHER
GOVERNOR

MAXWELL C. BAILEY
SECRETARY

March 23, 2005

MIKE TRAVIS
P. O. BOX 707, 4775 LEXINGTON ROAD
WINCHESTER, KY 40391

SUBJECT: Bath County, MP-6-11-0
KY 11 (COUNTIES & RTS. IN D9)
Permit Number 09-0088-05

Dear MIKE TRAVIS:

Your application for an encroachment permit has been approved by the Department of Highways. We are returning two copies of the approved permit so one may be kept in your record files. The other copy must be given to the party responsible for completing the project and must be kept at the jobsite at all times.

Please see that the work is done in strict conformity with the permit and any other applicable conditions (See Form TC99-21 and any other attached documents, conditions or specifications). The work should be completed no later than January 1, 2006. When the permitted work and any necessary restoration have been completed please notify this office by using the attached form which will serve as notification for final inspection.

If there are any questions regarding this permit, please do not hesitate to contact Daniel Suit, District Permit Supervisor at 606-845-2551 or fax number 606-849-2286.

Sincerely,

A handwritten signature in cursive script that reads "Katrina O. Bradley".

KATRINA O. BRADLEY, P. E.
Chief District Engineer
Department of Highways
District 9 -Flemingsburg
P.O. Box 347
Flemingsburg, KY 41041

Released Date _____

ENCROACHMENT PERMIT

PERMIT NO. 09-0088-05

<p>APPLICANT IDENTIFICATION:</p> <p>NAME: <u>EAST KENTUCKY POWER COOPERATIVE, INC.</u></p> <p>CONTACT PERSON: <u>MIKE TRAVIS</u></p> <p>ADDRESS: <u>PO BOX 707, 4775 LEXINGTON ROAD</u></p> <p>CITY: <u>WINCHESTER</u></p> <p>STATE: <u>KY</u> ZIP CODE: <u>40391</u></p> <p>PHONE: area code (<u>859</u>) <u>744-4864, Ext. 483</u></p>	<p>PROJECT IDENTIFICATION:</p> <p>ACCESS CONTROL <input checked="" type="checkbox"/> By Permit <input checked="" type="checkbox"/> Partial <input type="checkbox"/> Full</p> <p>COUNTY: <u>VARIOUS</u> PRIORITY ROUTE NO: <u>VARIOUS</u></p> <p>MILEPOINT: <u>VARIOUS</u> <input type="checkbox"/> Left <input type="checkbox"/> Right <input type="checkbox"/> X-ing</p> <p>PROJECT STATUS: <input type="checkbox"/> Maint. <input type="checkbox"/> Const. <input type="checkbox"/> Design</p> <p>PROJECT # STATE: _____</p> <p>PROJECT # FEDERAL: _____</p> <p>ROAD/STREET NAME: _____</p>
<p>TYPE OF ENCROACHMENT:</p> <p><input type="checkbox"/> COMMERCIAL ENTRANCE -- BUSINESS _____</p> <p><input type="checkbox"/> PRIVATE ENTRANCE: <input type="checkbox"/> Single Family <input type="checkbox"/> Farm</p> <p><input checked="" type="checkbox"/> UTILITY: <input checked="" type="checkbox"/> Overhead <input type="checkbox"/> Underground</p> <p><input type="checkbox"/> GRADE: <input type="checkbox"/> Fill <input type="checkbox"/> Landscape on R/W</p> <p><input type="checkbox"/> AIRSPACE: <input type="checkbox"/> Agreement <input type="checkbox"/> Lease</p> <p><input type="checkbox"/> OTHER: (Specify) _____</p>	<p>ATTACHMENTS:</p> <p><input type="checkbox"/> Standard Drawings (List on TC 99-21 under Misc.)</p> <p><input checked="" type="checkbox"/> Applicant's Plans</p> <p><input type="checkbox"/> Highway Plan and Profile Sheets</p> <p><input type="checkbox"/> TC 99-3 (Ponding Encroachment Specs. & Conditions)</p> <p><input type="checkbox"/> TC 99-4 (Rest Area Usage Specs. & Conditions)</p> <p><input type="checkbox"/> TC 99-5 (Tree Cutting/Trimming Specs. & Conditions)</p> <p><input type="checkbox"/> TC 99-6 (Chemical Use of Specs. & Conditions)</p> <p><input type="checkbox"/> TC 99-10 (Typical Hwy. Boring Crossing Detail)</p> <p><input type="checkbox"/> TC 99-12 (Overhead Utility Encroachment Diagram)</p> <p><input type="checkbox"/> TC 99-13 (Surface Restoration Methods)</p> <p><input type="checkbox"/> TC 99-21 (Encroachment Permit General Notes & Specs.)</p> <p><input type="checkbox"/> TC 99-22 (Agreement for Services to be Performed)</p> <p><input type="checkbox"/> TC 99-23 (Mass Transit Shelter Specs. & Conditions)</p> <p><input type="checkbox"/> Other Attachments (Specify): _____</p>
<p>TYPE OF INDEMNITY: <input checked="" type="checkbox"/> Bond <u>\$5,000.</u> <input type="checkbox"/> Cash</p> <p><input type="checkbox"/> SELF-INSURED AMOUNT ENCUMBERED \$ _____</p> <p><input type="checkbox"/> OTHER _____</p>	
<p>NAME AND ADDRESS OF LOCAL INSURANCE AGENCY OR SELF-INSURED REPRESENTATIVE: <u>KY RECC Bond Company</u></p>	

INDEMNITY: The applicant, in order to secure this obligation, has deposited with the Transportation Cabinet as a guarantee of conformance with the Department's Encroachment Permit requirements, an indemnity in the amount of \$ 2 million as determined by the Department. It shall be the responsibility of the applicant or permittee, his heirs and assignees to keep all indemnities in full force until construction or reconstruction has been completed and duly accepted by an authorized agent of the Transportation Cabinet, Department of Highways.

BRIEF DESCRIPTION OF WORK TO BE DONE:

CONSTRUCT AND MAINTAIN AN OVERHEAD TRANSMISSION LINE ACROSS KENTUCKY DEPARTMENT OF TRANSPORTATION HIGHWAY R/W, AS NOT TO PLACE ANY EQUIPMENT ON AND/OR UNDER SAID R/W. APPLICANT AGREES TO ADHERE TO ALL RULES AND REGULATIONS SET FORTH BY THE DEPT. OF TRANS. AND ATTACHED TO THIS PERMIT.

All necessary safety precautions must be taken at all times: signs, flaggers, etc. Specifications are listed in the Traffic Control for Work Zones Handbook. Please see attached form TC 99-21 for general notes.

IMPORTANT (PLEASE READ): Applicant does does not intend to apply for excess R/W

When the work is completed in accordance with the terms of this encroachment permit, your indemnity will be released. However, the permit is ineffective until revoked by the Transportation Cabinet and the terms on the permit accompanying permit documents and drawings remain in effect as long as the encroachment exists. **FUTURE MAINTENANCE OF THE ENCROACHMENT IS THE RESPONSIBILITY OF THE PERMITTEE.** It is important that you understand the requirements of this encroachment permit application and accompanying documents. If you have not done so, it is suggested that you review these documents and place the permit package in a safe place for future reference.

This permit and all documents shall be given to your contractor and shall be readily available at the work site for the encroachment inspector to review at all times. Failure to meet this requirement may result in cancellation of this permit.

IN THE EVENT THIS APPLICATION IS APPROVED, THIS DOCUMENT SHALL CONSTITUTE A PERMIT FOR THE APPLICANT TO USE THE RIGHT-OF-WAY, BUT ONLY IN THE MANNER AUTHORIZED BY THIS DOCUMENT AND THE REGULATIONS OF THE DEPARTMENT AND THE DRAWINGS, PLANS, ATTACHMENTS, AND OTHER PERTINENT DATA ATTACHED HERETO AND MADE A PART OF HEREOF.

PERMIT NO. 09-0088-05

- > **Non-compliance with any and all requirements set forth in this permit may result in nullification of this permit.**
- > **Notification by e-mail, fax, or posted mail is to be submitted to the Department of Highways, District 9, Permits Office a full five (5) working days in advance of proposed work. Unless the applicant is informed within the five (5) day period that the work cannot be approved or that modifications are required, the proposed work may proceed. Information required will be the County, State Route Number, Milepoint, and Type of Utility crossing the highway. Milepoints can be obtained from the following website: <http://transportation.ky.gov/planning/reports.shtm>. The name of the person or business being served is also required.**
- > **The notification of completion shall be provided to this office by the same means as listed above within a five (5) day period of completion of the project. If, for some reason, the right-of-way has been disturbed and requires restoration, the notice of completion will be provided to this office for inspection after restoration and revegetation is established.**
- > **This permit is valid for an interval not to exceed one (1) year. This permit will expire on December 31 of the year it was issued.**
- > **All items listed on TC 99-21 apply.**
- > **All work approved under this permit must be completed in the permit year.**
- > **Any poles, anchors, or other equipment to be placed upon state highway right-of-way will have to be permitted using the usual process. This blanket permit will not be approved for that purpose.**
- > **A copy of the blanket permit, general notes and specifications, and Guidelines for Traffic Control In Work Zones will be present in each vehicle performing the encroachment work.**
- > **This blanket permit will not cover fully controlled access highways such as I-64 and KY 67. The usual process in obtaining a permit will be adhered.**

ENCROACHMENT PERMIT GENERAL NOTES & SPECIFICATIONS

UTILITY

A. General Requirements

- All signs and control of traffic shall be in accordance with the Manual on Uniform Traffic Control Devices for Streets and Highways, latest edition, Part VI, and safety requirements shall comply with the Permits Manual.
- All work necessary in shoulder or ditchline areas of a state highway is to be scheduled to be promptly completed so that hazards adjacent to the traveled-way are kept to an absolute minimum.
- No more than one (1) traveled-lane is to be blocked or obstructed during normal working hours. All signs and flagmen during lane closure shall conform to the Manual on Uniform Traffic Control Devices.
- When it is necessary to block one (1) traveled-lane of a state highway, the normal working hours shall be as directed by the Department. No lanes are to be blocked or obstructed during adverse weather conditions (i.e., rain, snow, fog, etc.) without specific permission from the Department. Working hours shall be between 8:30 a.m. and 3:30 p.m.
- The traveled-way and shoulders shall be kept clear of mud and other construction debris at all times during construction of the permitted facility.
- No nonconstruction equipment or vehicles or office trailers will be allowed on the right-of-way during working hours.
- The right-of-way shall be left free and clear of equipment, material, and vehicles during non-working hours.

B. Explosives

- No explosive devices or explosive material shall be used within state right-of-way without proper license and approval of Kentucky Department of Mines and Minerals, Explosive Division.

C. Other Safety Requirements

- SEE ATTACHMENT "A"

UTILITIES

- *All work necessary within the right-of-way shall be behind a temporary fence erected prior to a boring operation.
- *The temporary woven wire fence shall be removed immediately upon completion of work on the right-of-way and control of access immediately restored to original condition, in accordance with applicable Kentucky Department of Highways Standard Drawings.
- *All vents, valves, manholes, etc. are to be located outside the right-of-way.
- *Encasement pipe shall extend from right-of-way line to right-of-way line and shall be one continuous run of pipe. The encasement pipe shall be welded at all joints.
- The boring pit and tail ditch shall extend past the existing toe of slope or bottom of ditch line and shall be a minimum of 30" deep.
- Encasement pipe shall conform to current standards for highway crossings in accordance with the Permits Manual.
- Parallel lines shall be constructed between back slope of ditch line and right-of-way line and shall have a minimum of _____" cover above top of pipe or conduit. (30" preferred)
- All pavement cuts shall be restored per Kentucky Transportation Cabinet Form No. TC 99-13.
- Aerial crossing of this utility line shall have a minimum clearance of /SEE TC ⁽⁹⁹⁻¹²⁾ feet from the high point of the roadway to the low point of the line (calculated at the coefficient for expansion of 120 degrees Fahrenheit).
- The 30' clear zone requirement will be met to the extent possible in accordance with Chapter 99-02.0313 of the Permits Manual.
- Special Requirements:

*Applies to Fully Controlled Access Highways ONLY

VI. PAVING

- No bituminous pavement is to be installed within the right-of-way between November 15 and April 1, nor when the temperature is below 40°F, without the express consent of the Department. No bituminous pavement is to be installed when the underlying course is wet.
- Paving within the right-of-way shall be as follows:
 - Base (Type) _____ (Thickness) _____
 - Surface Base (Type) _____ (Thickness) _____
 - Finished Surface (Type) _____ (Thickness) _____
- Existing pavement and shoulder material shall be removed to accommodate the above paving specifications.
- The finished surface of all new pavement within the right-of-way shall be true to the required slope and grade, uniform in density and texture, free of irregularities, and equivalent in riding qualities to the adjacent highway pavement or as determined by the Department of Highways.
- All materials and methods of construction, including base and subgrade preparation, shall be in accordance with Kentucky Department of Highways Specifications for Road and Bridge Construction, latest edition.
- 24 hours notice to the Department is required prior to beginning paving operations:

Phone: _____ Name _____
- To insure proper surface drainage the new pavement is to be flush with the edge of existing highway pavement and is to slope away from the existing edge of the pavement as specified on drawings.
- Existing edge of pavement shall be saw cut to provide a straight and uniform joint for new pavement. An approved joint sealer, in accordance with Kentucky Department of Highways Standard Specifications (latest edition) shall be applied between new and existing pavement.

VII. SIDEWALKS SPECIFICATIONS

A. New Sidewalks

- Sidewalks are to be constructed of Class A concrete (3,500 p.s.i. test), are to be * _____ feet in width, are to be 6" in thickness across the bituminous entrance and 4" in thickness across the remaining sections.

Sidewalks are to have tooled joints, not less than 1" in depth at *four (4) foot intervals, and ½ premolded expansion joints extending entirely through the sidewalk at intervals not to exceed fifty (50) feet.

* This dimension should be equal to the width of the sidewalk
- All materials and methods of construction, including curing, is to be in accordance with Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, latest edition.

B. Existing Sidewalks

- (Applicable if existing sidewalks are being relocated) Use of the sidewalk is not to be blocked or obstructed, and a usable walkway is to be maintained across the construction area at all times.
- All damaged sections of the sidewalks are to be entirely replaced to match existing sections.

VIII. DENSE GRADED SHOULDERS

- Any existing dense graded aggregate shoulders in the entire frontage within the construction area, which have been disturbed, damaged, or on which dirt has been placed or mud is deposited or tracked, are to be restored to original condition by removal of all contaminated material and replaced to proper grade with new dense graded aggregate.
- All new aggregate shoulders as specified on the plan are to consist of 5" compacted dense graded aggregate 2½ pounds per square yard calcium chloride.
- All dense graded aggregate shoulders are to slope away from the new edge of pavement at the rate of ¾" per foot.

IX. CURBING

A. Bituminous Curbs

- Bituminous concrete curbs shall be given a paint coat of asphalt emulsion.
- The surface under the bituminous concrete curb shall be tacked with asphalt emulsion.
- All bituminous concrete curbs shall be constructed of a Class I bituminous concrete mixture as specified by official Department of Highways specifications.
- All bituminous curbs shall be of the rolled curb type with a minimum base width of 8" and a minimum height of _____ inches. The top of the curb shall be constructed in such a manner as to guarantee a uniform rolled effect throughout the entire run.

OVERHEAD UTILITY ENCROACHMENT DIAGRAM

COUNTY _____

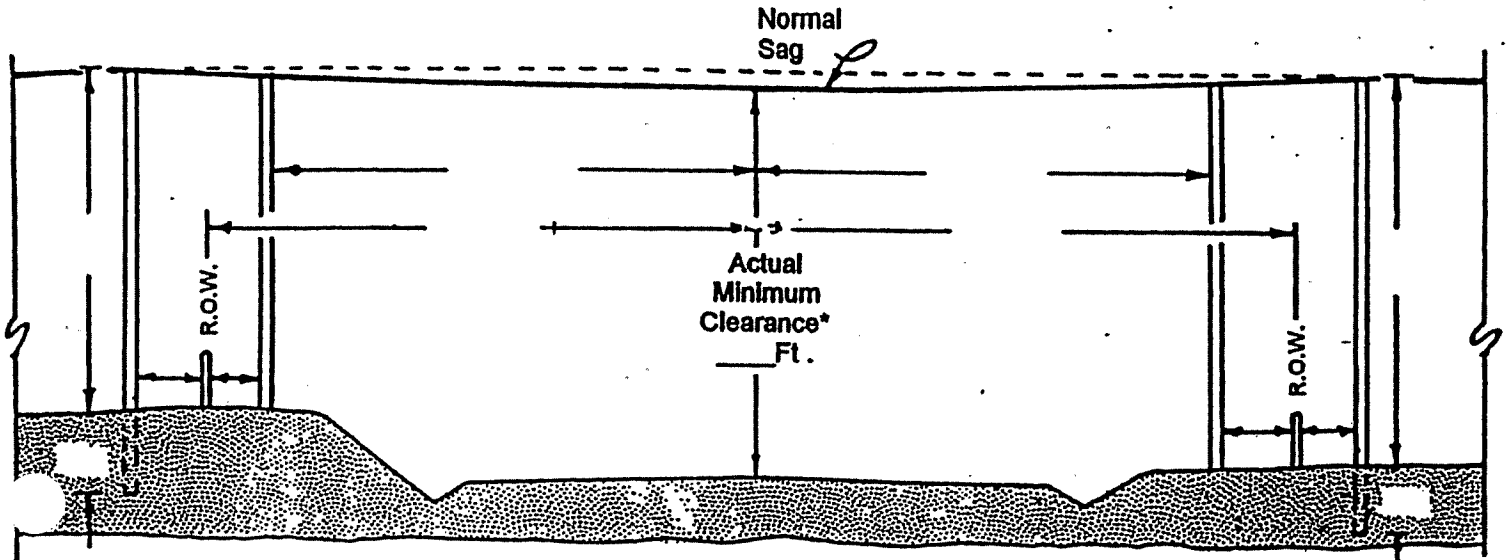
APPLICANTS NAME _____

Permit No. _____

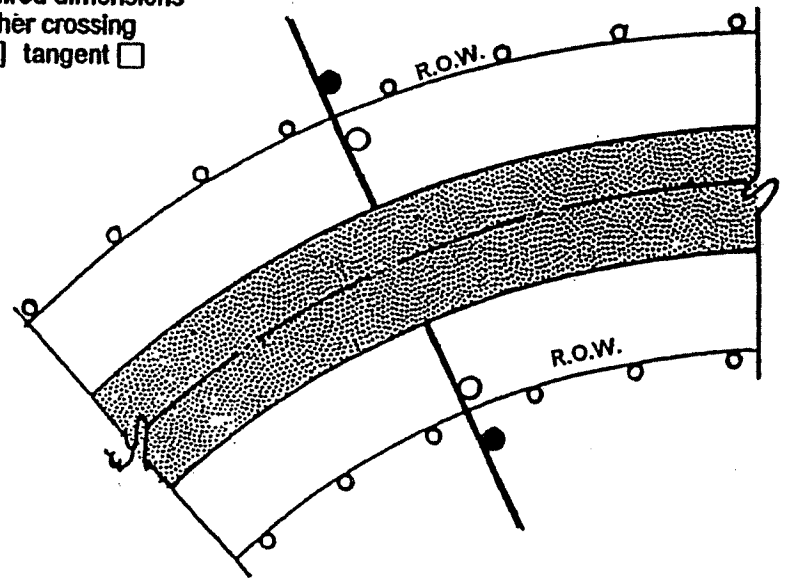
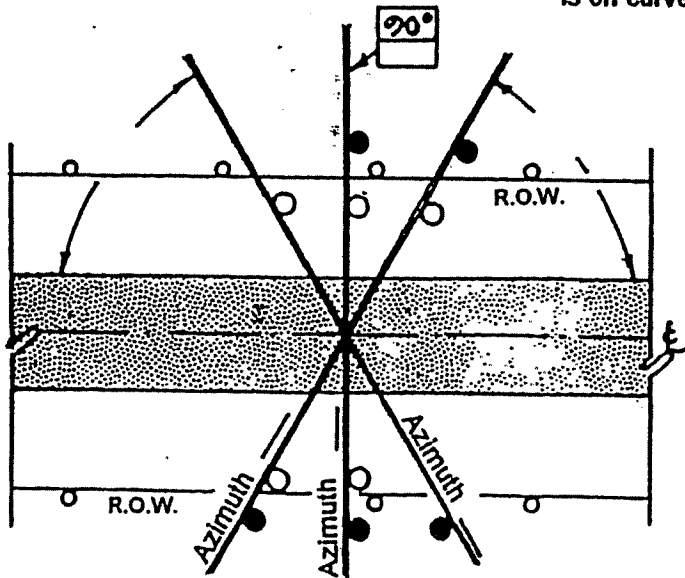
Maint. Project No. _____

Const. Project No. _____

Mile Point _____



Insert all required dimensions
indicate whether crossing
is on curve tangent



INSERT ANGLE OF CROSSING & AZIMUTH OF LINE

Minimum Allowable Clearances

0-750 Volts 18 ft.

750-15,000 Volts 20 ft.

15,000-50,000 Volts 22 ft.

ON INTERSTATE ROUTES - ALL ENERGIZED LINE CROSSING - 24 ft.



United States Department of the Interior
FISH AND WILDLIFE SERVICE
3761 GEORGETOWN ROAD
FRANKFORT, KY 40601

January 28, 2003

Mr. James D. Manner
District Ranger
Daniel Boone National Forest
2375 KY 801 South
Morehead, Kentucky 40351

Re: FWS #03-0574

Dear Mr. Manner:

Thank you for your letter and enclosures of December 16, 2002, transmitting a biological assessment/evaluation for the Cranston-Rowan Electric Transmission Line Project on the Morehead Ranger District in Rowan County, Kentucky. Fish and Wildlife Service biologists have reviewed the document and we offer the following comments.

We concur that the proposed action will not affect the following federally listed endangered and threatened species:

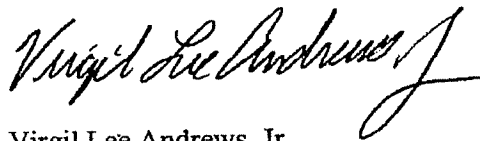
- | | |
|----------------------------------|-------------------------------|
| Virginia big-eared bat | Gray bat |
| Red-cockaded woodpecker | Bald eagle |
| Duskytail darter | Palezone shiner |
| Blackside dace | Cumberland elktoe |
| Tuberculed-blossom pearly mussel | Fanshell |
| Yellow-blossom pearly mussel | Clubshell |
| Cumberlandian combshell | Oyster mussel |
| Northern riffleshell | Tan riffleshell |
| Dromedary pearly mussel | Purple catspaw |
| Little-wing pearly mussel | Rough pigtoe |
| Cracking pearly mussel | Ring pink |
| Pink mucket pearly mussel | Cumberland bean pearly mussel |
| Cumberland rosemary | Cumberland sandwort |
| American chaffseed | Virginia spiraea |
| White-haired goldenrod | Eggert's sunflower |
| Running buffalo clover | |

In addition, we concur that the proposed action is not likely to adversely affect the federally

endangered Indiana bat. In view of this, we believe that the requirements of section 7 of the Endangered Species Act have been fulfilled. Obligations under section 7 must be reconsidered, however, if: (1) new information reveals that the proposed action may affect listed species in a manner or to an extent not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

Thank you for the opportunity to comment on this action. If you have any questions or if we can be of further assistance, please contact me at 502/695-0468 or Jim Widlak of the Cookeville field office at 931/528-6481, ext. 202.

Sincerely,

A handwritten signature in black ink that reads "Virgil Lee Andrews, Jr." The signature is written in a cursive style with a large, sweeping flourish at the end.

Virgil Lee Andrews, Jr.
Field Supervisor



ERNIE FLETCHER
GOVERNOR

COMMERCE CABINET

KENTUCKY HERITAGE COUNCIL
THE STATE HISTORIC PRESERVATION OFFICE
300 WASHINGTON STREET
FRANKFORT, KENTUCKY 40601
(502) 564-7005 (502) 564-5820 FAX
www.kentucky.gov

W. JAMES HOST
SECRETARY

DAVID L. MORGAN
EXECUTIVE DIRECTOR AND
STATE HISTORIC PRESERVATION OFFICER

September 22, 2004

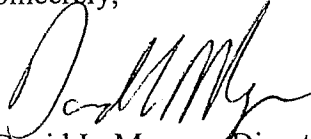
Mr. Mason C. Miller, Jr.
Recreation/Engineering Staff Officer
Daniel Boone National Forest
U. S. Forest Service
1700 Bypass Road
Winchester, Kentucky 40391

Dear Mr. Miller:

The State Historic Preservation Office has received for review and approval an archaeological report entitled "Phase I Archaeological Survey for the Proposed EKPC Rowan Cranston 138 kV Transmission Line, Rowan County, Kentucky" by David W. Schatz and Lorene M. Miner. The survey found no evidence of prehistoric or early historic occupation in the project area. I concur with the author's findings for the proposed transmission line. In accordance with 36CFR Part 800.4 (d) of the Advisory Council's revised regulations our finding is that there are No Historic Properties Present within the undertaking's area of potential impact. Therefore, we have no further comments and the U.S. Forest Service's responsibility to consult with the Kentucky State Historic Preservation Officer under the Section 106 review process is fulfilled.

Should you have any questions, feel free to contact Charles Hockensmith of my staff at (502) 564-7005.

Sincerely,


David L. Morgan, Director
Kentucky Heritage Council and
State Historic Preservation Officer

cc: Mr. Joe Settles
Ms. Anne T. Bader
Dr. George Crothers

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00089

INFORMATION REQUEST RESPONSE

INTERVENOR DOUG DOERRFIELD'S 1ST DATA REQUEST DATED 6/17/05

ITEM 3

RESPONSIBLE PARTY: Mary Jane Warner

REQUEST: Please provide a copy of any studies that have been undertaken or commissioned by EKPC concerning alternative routes or alternative configurations for the proposed transmission line.

RESPONSE: EKPC commissioned the Final Report, Justification of Cranston-Rowan 138 kV Line, dated April 23, 2002 which is included in the Application in these proceedings as Rusch Exhibit I to the testimony of Robert J. Rusch. This report analyzed different electrical configurations to solve the existing transmission problems in the area. An Environmental Assessment, dated January 28, 2005, which has been furnished as a Response to the Commission's 2nd Data Request, addressed both electrical alternatives and routing alternatives.

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00089

INFORMATION REQUEST RESPONSE

INTERVENOR DOUG DOERRFIELD'S 1ST DATA REQUEST DATED 6/17/05

ITEM 4

RESPONSIBLE PARTY: Mary Jane Warner

REQUEST: Does EKPC intend to acquire the necessary rights-of-way on a voluntary basis or through condemnation?

RESPONSE: As with all of its transmission projects, EKPC desires and intends to acquire necessary rights-of-way through negotiations on a voluntary basis. However, if these negotiations are not successful, EKPC will have to assert its right to exercise eminent domain pursuant to KRS 279.110(4).

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00089

INFORMATION REQUEST RESPONSE

INTERVENOR DOUG DOERRFIELD'S 1ST DATA REQUEST DATED 6/17/05

ITEM 5

RESPONSIBLE PARTY: Mary Jane Warner

REQUEST: Please provide a copy of any studies that have been undertaken or commissioned by EKPC concerning alternative approaches to vegetation management for the proposed transmission line right-of-way.

RESPONSE: Alternative approaches to vegetation management were reviewed and have been addressed throughout the EA, which has been furnished as set out above.

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00089

INFORMATION REQUEST RESPONSE

INTERVENOR DOUG DOERRFIELD'S 1ST DATA REQUEST DATED 6/17/05

ITEM 6

RESPONSIBLE PARTY: Mary Jane Warner

REQUEST: Please identify by product name any herbicides or pesticides that will be used, if any, and the manner of application for the transmission line right-of-way.

RESPONSE: The product names are Arsenal and Accord. The active ingredients in these products, not the products themselves, have been approved by the USFS for use by EKPC. EKPC must complete a Pesticide-Use Proposal (form FS 2100-2) to the USFS prior to any application on the forest service property. The manner of application has been addressed in Section 2 of the EA as well as other sections throughout the EA.

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00089

INFORMATION REQUEST RESPONSE

INTERVENOR DOUG DOERRFIELD'S 1ST DATA REQUEST DATED 6/17/05

ITEM 7

RESPONSIBLE PARTY: Sherman Goodpaster

REQUEST: Please provide a copy of any application that has been made to the Rural Utilities Service of the United States Department of Agriculture for any loan or other financial assistance for the proposed transmission line.

RESPONSE: The Applicant **OBJECTS** to providing its application to RUS for loan funds to finance this project on the grounds that the Application or any information contained therein is not in any way relevant to these proceedings or the issues to be determined herein. This is especially true in light of KRS 278.300(10), which limits the Commission's jurisdiction over loans on indebtedness, which are subject to supervision or control of a federal agency such as RUS.

The Applicant does state in Response to their Request that on December 21, 2004, the Applicant did file an Application with RUS for loan funds for 148 transmission projects in a total amount of \$73,812,591.00. The Cranston-Rowan Project is one of these 148 projects. The Application itself is contained in a three ring binder some 2 ½ to 3 inches thick and contains a significant amount of confidential financial and

Proprietary information that the Applicant, if required to produce this document, would be required to protect with a Petition for Confidential Treatment. The loan application contains no information on the need or justification for the Cranston-Rowan Project, any alternatives considered, cost analysis, or any other information relevant to these proceedings. The only such information submitted to RUS was contained in the Final Report-Justification of Cranston-Rowan 138 kV Line, which was included in the Application initiating this case as Exhibit I to the testimony of Robert J. Rusch.

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00089

INFORMATION REQUEST RESPONSE

INTERVENOR DOUG DOERRFIELD'S 1ST DATA REQUEST DATED 6/17/05

ITEM 8

RESPONSIBLE PARTY: Joe Settles

REQUEST: Please provide a copy of any studies, including any environmental impact statement or environmental assessment, produced by or on behalf of the Rural Utilities Service or other federal agencies, evaluating the environmental impacts of the proposed transmission line and alternatives.

RESPONSE: The EA, FONSI and Appeal Decision have been provided to the Commission in Response to Commission Staff's 2nd Data Request with a copy being served on all parties of record. Please refer to that Response for a copy of the above documents. A Biological Assessment was also performed and is included as a part of the Environmental Assessment. Other studies that were conducted for this project were the **Phase I Archaeological Survey for the Proposed EKPC Rowan-Cranston 138 kV Transmission Line, Rowan County, Kentucky** and the **Indiana Bat Survey to Minimize Construction Impact for the Proposed Cranston to Rowan County Transmission Line, Rowan County, Kentucky.** These surveys are attached as **Data Response 8.**

(H:\legal\psc-ekpc-resptodoerrfield's1stdatarqst)

PHASE I ARCHAEOLOGICAL SURVEY
FOR THE PROPOSED EKPC
ROWAN-CRANSTON
138 kV TRANSMISSION LINE,
ROWAN COUNTY, KENTUCKY

July 2004

Prepared for:

Mr. Joe Settles
East Kentucky Power Cooperative
4775 Lexington Road
P.O. Box 707
Winchester, Kentucky 40392-0707
(859) 744-4812

**Phase I Archaeological Survey for the
Proposed EKPC Rowan Cranston 138 kV
Transmission Line,
Rowan County, Kentucky**

AMEC Project 1-4967-1700
AMEC CRM Report No. 04-013

Authors:
David W. Schatz
Lorene M. Miner

AMEC Earth & Environmental, Inc.
690 Commonwealth Center
11003 Bluegrass Parkway
Louisville, Kentucky 40299
(502) 267-0700

23 July 2004

Anne T. Bader, RPA
Project Principal Investigator



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ABSTRACT

From 8-12 March and on 29 April 2004, AMEC Earth & Environmental, Inc. archaeological personnel conducted a Phase I survey for the proposed 138 kV transmission line in Rowan County, Kentucky. This survey was conducted at the request of East Kentucky Power Cooperative in order to assess the potential impacts on archaeological resources by the proposed construction. The project area was a corridor between the existing Rowan and Cranston substations approximately 6.6 miles (10.6 kilometers) long and 100 feet (30 meters) wide, with adjoining access roads, wetlands, and wildlife clearings. The combined length for the proposed access roads is 6.5 miles (10.5 kilometers) long and 20 feet (6.1 meters) wide. There were 46 proposed wetland and 10 proposed wildlife clearings. The total acreage for the project is approximately 150 acres (60.7 hectares).

No archaeological sites or other cultural resources were identified. Because no cultural material was located within the survey area, no further archaeological investigations are required. It is recommended that the Kentucky Heritage Council/State Historic Preservation Office grant archaeological clearance for this proposed construction to proceed.

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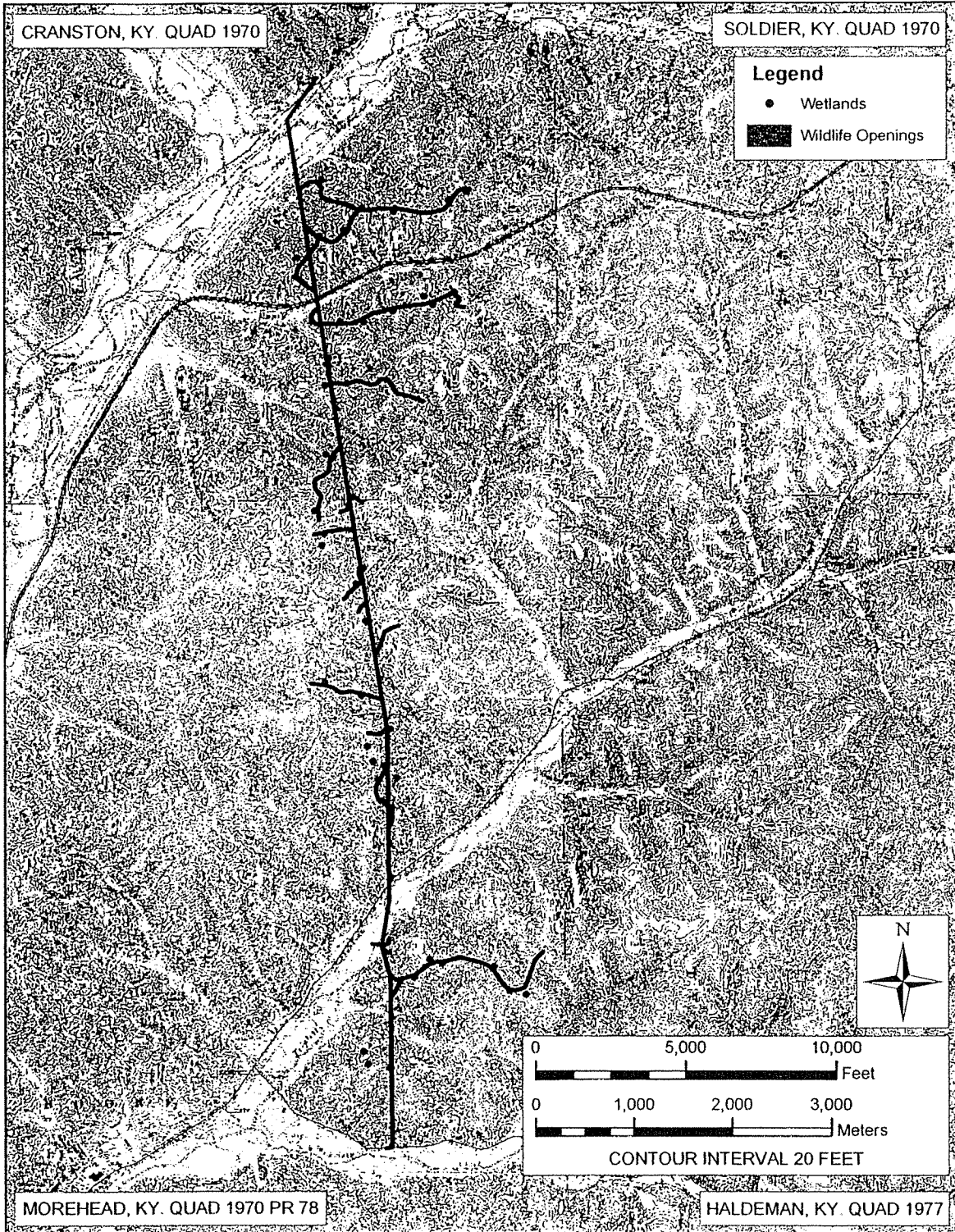


Figure 1.2. Survey area for the proposed Rowan County transmission line, access roads, wetlands, and wildlife clearings.

2.0 DESCRIPTION OF PROJECT AREA

2.1 Physiographic Setting

The area of potential effect (APE) for the proposed transmission line, adjoining access roads, wetlands, and wildlife clearings are located on property within the Daniel Boone National Forest. The APE lies within two physiographic regions: the Cumberland Escarpment and the Eastern Kentucky Coalfield. The topography of this portion of Rowan County is typically hilly with steep slopes, narrow to moderately wide ridgetops, and broad, nearly level floodplains (Avers, 1974). The elevation range within the APE ranges from approximately 775 ft (236.22 m) to approximately 1270 ft (387.1 m). The southern end of the APE is near Christy Creek, and the northern end crosses the North Fork of Triplett Creek. The project corridor also crosses a number of small stream branches as well as Triplett Creek.

2.2 Geology and Soils

Rowan County area is underlain by rocks of the Pennsylvanian and Mississippian ages. Various members of the Breathitt Formation and the Borden Formation are represented. They are comprised of siltstone, sandstone, shale and conglomerate (USGS 1988).

The USDA soil survey of Rowan County indicates the survey area incorporates three soil associations and a multitude of soil series. The Cranston-Berks association is seen primarily in the northern part of the APE and is characterized by deep to moderately deep, well-drained steep and very steep soils, generally on sideslopes of narrow ridges. The Berks-Cranston-Latham association is more evident in the southern portion of the APE and is characterized by moderately deep to deep, well to moderately well drained, sloping to very steep soils on slopes and moderately wide ridgetops. The third soil association in the APE is the Tilsit-Clifty-Morehead association which is seen primarily along stream floodplains. This association is characterized by somewhat poorly to well drained, nearly level to sloping soils on bottoms and stream terraces (Avers, 1974). Represented soil series are listed below.

Berks silt loam (40 to 70 percent slopes) is found largely on upper sideslopes and ridges with boulders and rock outcrops making up less than five percent of the surface. It is suited for permanent forest cover as it has very steep slopes and rapid runoff. The hazard of erosion is severe (Avers, 1974).

Clifty silt loam (0 to 4 percent slopes) is found on floodplains. This soil can be easily tilled except in areas where it has a gravel content of more than 15 percent. It is suited for trees and commonly cultivated crops as well as hay and pasture. When cultivated, hazard of erosion is slight, however flooding in winter and early spring may damage fall-seeded crops (Avers, 1974).

Cranston gravelly silt loam (2 to 6 percent slopes) is on alluvial fans and toe slopes, is somewhat difficult to till due to the gravel content, and is suited to trees, commonly cultivated crops, hay and pasture. Hazard of erosion is moderate. On 6 to 12 percent slopes, this soil has a lower organic matter content and a higher hazard of erosion, but is otherwise the same. When found on 12 to 20 percent slopes, the soil becomes difficult to till, and is only suited for trees, hay and pasture and when cultivated has a very high hazard of erosion. When Cranston gravelly silt loam is on 20 to 30 percent slopes, the soil is not suited for cultivation due to the steep slope and high risk of erosion. It is suited for pasture, trees and wildlife habitats. It is found on convex sideslopes and toe slopes. The steepest slopes that this soil series is seen on are 30 to 60 percent on lower sideslopes. Organic matter is low and the soil is not suited for cultivation

because of the hazard of severe erosion. Like shallower degrees of slope, this soil is suited to trees, pasture and wildlife habitats (Avers 1974).

Cuba silt loam (0 to 2 percent slopes) is found on floodplains. It is easy to till and is suited to most commonly cultivated crops as well as trees, pasture, and hay. Damage to fall-sown crops is possible due to occasional winter and early spring flooding. When the soil is cultivated, the hazard of erosion is slight (Avers, 1974).

Gilpin silt loam (6 to 12 percent slopes) is on ridgetops, easily tilled and suited to most commonly cultivated crops as well as trees, pasture and hay. When cultivated, there is a very severe hazard of erosion. On 12 to 20 percent slopes, the soil is less suited for cultivation, but is otherwise identical (Avers, 1974).

Latham silt loam (6 to 12 percent slopes) is found on ridgetops and is suited for commonly cultivated crops, hay and pasture as well as trees and wildlife habitats. If cultivated, the soil has a high hazard of severe erosion. On 12 to 20 percent slopes, this soil is found on narrow ridgetops, benches and upper sideslopes. It is occasionally cultivated, but is more suited for hay, pasture, trees and wildlife habitats. Latham silt loam on 20 to 30 percent slopes is found on sideslopes, noses and ridges and is suited for pasture, trees and wildlife habitats (Avers, 1974).

Associated with Latham silt loam is Latham-Shelocta silt loam. In the APE, Latham-Shelocta silt loam (30 to 50 percent slopes) is found. It is found on sideslopes and is moderately deep. It is suited to trees and wildlife habitat and has a very high hazard of erosion (Avers, 1974).

Pope fine sandy loam (0 to 2 percent slopes) is found on first bottoms of floodplains, is easily tilled and well suited to most commonly cultivated crops, hay, and pasture as well as trees and wildlife habitats. Erosion hazard is none to slight, and the soil is subject to occasional flooding in winter and early spring (Avers, 1974).

Steinsburg-Ramsey rocky sandy loam (6 to 12 percent slopes) is found on narrow ridgetops and upper sideslopes and is not suited for cultivation due to the rock content. While mostly forested, the soil is suited to pasture and wildlife habitats (Avers, 1974).

Tilst silt loam (2 to 6 percent slopes) is found on high terraces and broad ridgetops. It has a seasonal high water table, is easily tilled and suited to trees, commonly cultivated crops, hay, and pasture. If cultivated, the hazard of erosion is moderate (Avers, 1974).

Whitley silt loam, terrace (0 to 2 percent slopes), is found on low stream terraces, is easily tilled with medium organic matter. While some areas are subject to flooding, the soil has none to slight hazard of erosion and is well suited for commonly cultivated crops, hay, and pasture as well as trees and wildlife habitats (Avers, 1974).

2.3 Current Conditions

The APE primarily consisted of two types of areas. The vast majority of the project area was located on steeply sloped and forested areas within the Daniel Boone National Forest. The forested areas were generally had poor ground surface visibility due to heavy leaf cover from the previous fall. Because of the time of year, early spring, the forest understory was not heavily developed (**Figure 2.1**). The few areas with good ground surface visibility were rocky and eroded. The forested areas had several types of disturbances that were found throughout the project area. These included old logging roads, modern gravel/paved Forest Service access

roads, pond excavations, and erosion. While it did not effect the execution of this project, a winter ice storm heavily damaged large portions of the tree stands on the eastern slopes of most of the ridges within the project area. This resulted in a large amount of deadfall and tree root pulls.

The second type of terrain encountered was located on the bottom land found along North Triplett Creek, Haney Branch, and Triplett Creek. The North Triplett and Triplett creeks were meandering stream channels cutting deeply into a generally level floodplain. The ground cover on the floodplains consisted of mowed fallow fields. Tree stands were present along the stream banks. The North Triplett Creek bottom was extensively disturbed by a water filtration and pumping station and eight natural gas pipelines. Steam channeling was also evident from the use of rip rap and concrete used to restrict the natural creek meander. The Triplett Creek bottom was likewise channelized to a large degree by the use of construction debris and old cars. A segment of the creek within the project area was being used as a gravel quarry at the time of the survey (**Figure 2.2**). Other impacts to both creek bottoms included gravel and paved county and state roads as well as utilities such as water, and electrical. The Haney Branch bottom was found to be narrow with little floodplain development. Colluvial deposits from the ridges above were present along the streams in this area. The major disturbance was I-64 which has heavily modified the landscape along the north side of Haney Branch.



Figure 2.1. Project area, showing wooded slopes, facing east.



Figure 2.2. Project area, showing gravel quarry at Triplett Creek, facing east.

2.4 Previous Archaeological Investigations

For any archaeological survey it is important to research the type and scope of previous archaeological investigations within and in the vicinity of the project area. The Office of State Archaeology (OSA) was consulted to obtain this information. Compared to some other counties in the state, relatively few professional archaeological investigations have been conducted in Rowan County.

This lack of extensive archaeological investigation in the county is reflected in the relatively limited number of archaeological sites that have been documented. The records at OSA were first checked using a standard electronic record request form. This was submitted prior to the initiation of fieldwork. In completing the request OSA sent electronic shape files of all sites and surveys within a 1.24 mi (2 km) buffer of the project area. Using this information as a guide, the files at OSA were examined to determine the extent and recommendations of the earlier surveys. The available site forms for sites within the 1.24 mi (2 km) buffer were also examined. **Figure 1.2** depicts the surveys identified within the buffer.

Seven previous archaeological surveys have been recorded within portions of the current project APE. Additionally, 27 Phase I surveys have been conducted within the 1.24 (2 km) buffer around the current project area (**Figure 2.3**). Together, these surveys resulted in the identification of ten archaeological sites. These sites are identified and summarized below and in **Table 2.1**.

The first survey conducted within 1.24 mi (2 km) of the current project area was conducted by Turnbow and Allen of Archaeological Services Inc. in 1977 for five proposed access roads in Bath and Rowan counties. The survey resulted in the location of three prehistoric archaeological sites, two in Rowan County and one in Bath County. None of these sites were located within 1.24 mi (2 km) of the project area. No further investigations were recommended for one of the Rowan sites. The others were recommended for further investigations. (Turnbow and Allen 1977).

In 1980 two Phase I surveys were conducted, by Knudson of the US Forest Service and by Jobe, Stafford, and Boisvert of the University of Kentucky. The Knudson report detailed the survey conducted for 3300 ac of proposed impact areas within the Daniel Boone National Forest. This survey resulted in the identification of 17 rockshelters only eight of which were recommended for further investigations. Of these sites, only four were in Rowan County and none of these were within 1.24 mi (2 km) of the project APE (Knudson 1980). The report by Jobe, Stafford and Boisvert detailed the survey conducted for 4033 ac of proposed timber sales, road ROWs, and land exchanges within the Daniel Boone National Forest. This survey located 42 previously unidentified sites eight of which were recommended for avoidance and nine that were recommended for further work. None of the recorded sites were in Rowan County (Jobe et al. 1980).

The next survey in the area was conducted by Bartnick, Dorwin, Barton, and Crouch of Resource Analysts Inc. in 1981. This report detailed the results of a survey for 7065 ac within the Daniel Boone National Forest. This survey identified 36 archaeological sites. Twenty-six of these were prehistoric and ten historic. Six of the identified sites were recommended for further investigations, only one of which was in Rowan County. This site was not within the 1.24 mi (2 km) buffer of the current survey area (Bartnick et al. 1981).

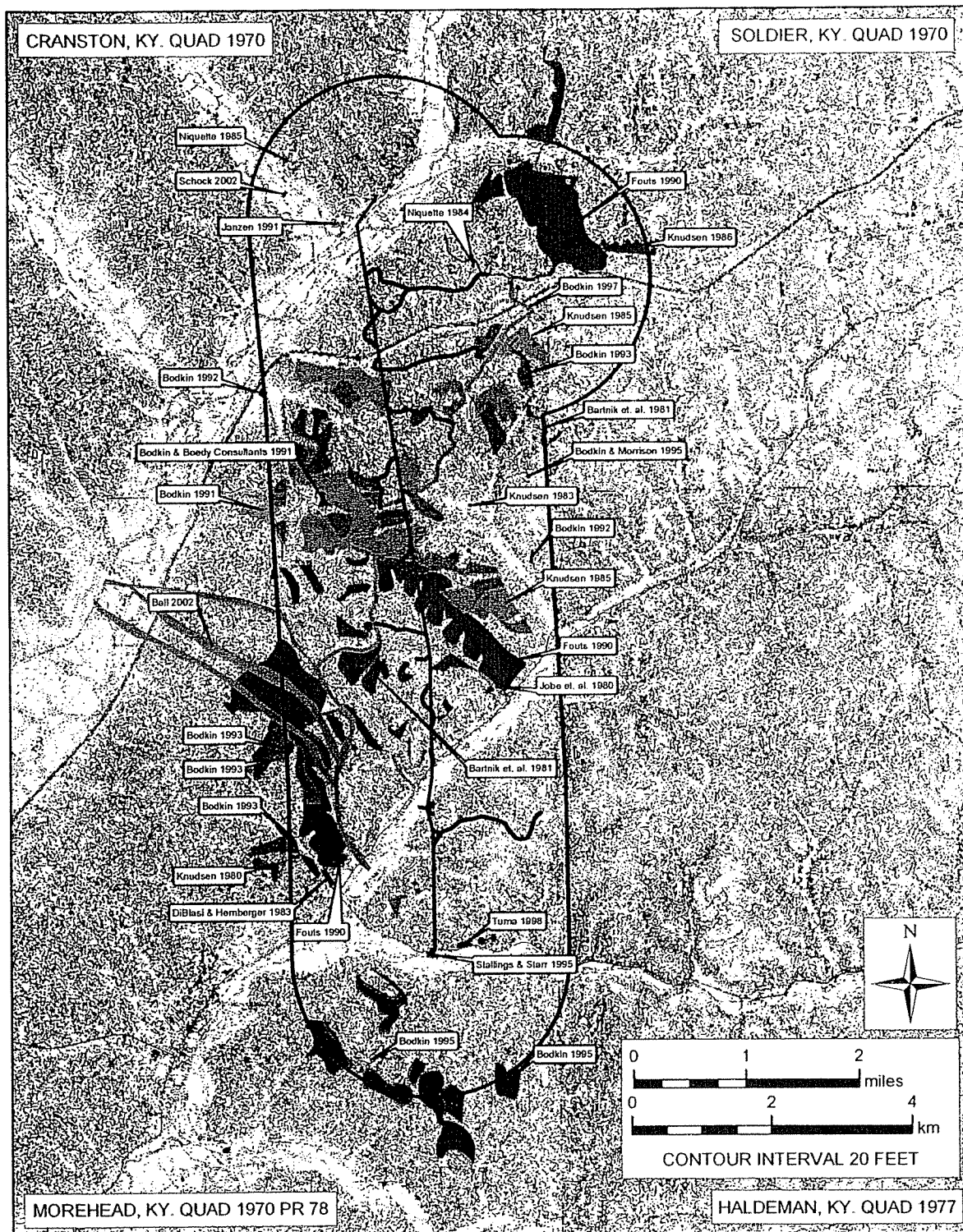


Figure 2.3. Project area, showing surveys within the 1.24 mi (2 km) buffer.

In 1983 DiBlasi and Hemberger conducted a survey for a proposed 4.5 ac apartment complex. The survey identified no archaeological sites and no further investigations were recommended (DiBlasi and Hemberger 1983).

The following year, Niquette of Cultural Resource Analysts Inc. conducted a survey for a proposed road construction project near Morehead, Kentucky. The survey identified no archaeological sites and clearance was recommended (Niquette 1984).

Two more surveys were conducted in 1985. The first was conducted by Knudson and Kellar of the Forest Service for a proposed road and timber sale. The project area consisted of 645 ac of Forest Service property. No archaeological sites were identified and no further work was recommended (Knudson and Kellar 1985). The second 1985 survey was conducted by Charles Niquette of Cultural Resource Analysts Inc for a proposed water system improvement project. The survey of two water tank sites and access roads identified no archaeological sites and no further work was recommended (Niquette 1985).

The following year Knudson reported another survey for a proposed timber sale on Forest Service land. The survey identified no archaeological sites and clearance was recommended (Knudson 1986).

The next report on file at OSA was submitted in 1990 by Fouts of the Forest Service. The survey was conducted to get archaeological clearance for three proposed parcels of land slated for timber sales totaling 1516 ac. The survey resulted in the identification of one historic and three prehistoric archaeological sites. Three of these were considered potentially eligible for listing to the National Register of Historic Places (NRHP) and recommended for further investigation. Two of these sites (15RO81 and 15RO82) were located within 1.24 mi (2 km) of the current project area. Site 15RO81 was a sparse lithic scatter along a narrow ridge. This site was impacted by a Forest Service and logging road. This site was dated to the Late Archaic based on the recovery of a projectile point fragment. Because upland sites in this region are rare, avoidance or Phase II evaluation was recommended for this site. Site 15RO82 was a large upland rockshelter site with intact midden deposits. The site was dated to the Middle to Late Woodland based on the recovery of a Lowe Flared Base projectile point. Avoidance or Phase II evaluation was recommended for this site because of the intact midden deposits identified (Fouts 1990).

The following year, in 1991, two more surveys were reported. The first was conducted by Bodkin of the Forest Service for a 334.4 ac proposed wildlife project and associated access roads. This survey recorded four isolated finds, ten newly identified sites, and revisited three previously recorded sites. Nine of the sites were considered potentially significant and avoidance was recommended. None of these sites were within in the current project area (Bodkin 1991a). The second 1991 report was submitted by Janzen of Janzen Inc. for the proposed Cranston electrical substation for EKPC. The survey determined that the construction would not impact any archaeological resources (Janzen 1991).

Between 1992 and 1993, Bodkin of the Forest Service reported on the results of four surveys conducted on Forest Service land. The first was conducted in 1992 for 52.23 ac of small wildlife and other miscellaneous projects within the Morehead Ranger District. This project identified six archaeological sites, four of which were considered potentially eligible for NRHP. Only one of these sites (15RO122), a historic farmstead, was within the 1.24 mi (2 km) buffer around the current project area. Site 15RO122 was a late nineteenth to mid twentieth century farmstead

that had diminished integrity due to demolition and alteration of the area during the 1940s and 1950s. This site was not recommended for further investigation (Bodkin 1992). The following year, Bodkin conducted three other surveys. The first was for a 24.3 ac land exchange that identified two sites, one of which was recommended as potentially eligible for NRHP. One site (15RO131), a former historic camp, was within the 1.24 mi (2 km) buffer around the current project area. It was not recommended as potentially eligible because it lacked site integrity, and archival resources could be used to address research questions (Bodkin 1993a). The second report by Bodkin dealt with the survey of the proposed 128.5 ac fiscal year 1994 Rodburn timber sale and access roads. No archaeological sites were identified by this survey (Bodkin 1993b). The last survey reported for 1993 was performed to gain clearance for the proposed 372 ac timber sale at Road Branch. No archaeological sites were identified by this survey (Bodkin 1993c).

The next series of reports detailed the findings of four surveys conducted in 1995. The first of these was conducted by Bodkin of the Forest Service for a proposed 1020.3 ac salvage timber sale in Bath and Rowan Counties. This survey identified 12 archaeological sites, three of which were within 1.24 mi (2 km) of the current project area. These three sites (15RO155-157) were culturally unidentified prehistoric rockshelters. Sites 15RO155 and 15RO156 were both considered potentially eligible for listing to the NRHP. No further work at site 15RO157 was recommended (Bodkin 1995a). The second survey was reported by Bodkin and Morrison of the Forest Service to gain clearance for several proposed wildlife and recreation projects. Fourteen archaeological sites were identified during this survey, none of which were within the 1.24 mi (2 km) buffer around the current project area (Bodkin and Morrison 1995). The next report was submitted by Bodkin detailing a survey for the proposed Tower Hill fire lanes. No archaeological sites were identified, and no further work was recommended (Bodkin 1995b). The final 1995 report was submitted by Stallings and Starr of Cultural Horizons Inc. for a proposed 2.9 ac EKPC substation site. No archaeological sites were identified and no further investigations were recommended (Stallings and Starr 1995).

In 1998, Tuma of Cultural Resource Analysts Inc. conducted a survey for three proposed borrow pits adjacent to KY 32 that covered 5 ac. No archaeological sites were identified and no further investigations were recommended (Tuma 1998).

Two reports were filed in 2002 with the OSA for two projects within the 1.24 mi (2 km) buffer around the current project area. The survey was reported by Schock of Arrow Enterprises for a proposed 1.7 ac housing project. No archaeological sites were identified and no further work was recommended (Schock 2002). The second area surveyed was report by Ball of Wilber Smith Associates for a proposed connector between the existing I-64 corridor and US 60 east of Morehead. Seven archaeological sites, one prehistoric and six historic, were identified during this survey. Three of these were recommended for avoidance or further investigation. None were located within the 1.24 mi (2 km) buffer around the current project area.

Five reports were missing from the files at OSA during the background research conducted for these projects. The first of these was reported in 1977 by Schock for a proposed transmission line across Forest Service property (Schock 1977). The next survey was reported in 1983 by Knudson for proposed mine sites on Forest Service property (Knudson 1983). In 1990, Fouts reported on a survey for several proposed timber sale plots on Forest Service property (Fouts 1990). The following year Bodkin reported the findings of a survey of a proposed horse camp and access roads (Bodkin 1991b). Finally, in 1997 Bodkin reported his findings for proposed trail routes within the Daniel Boone National Forest (Bodkin 1997). No information was available

as to the specific findings for these reports, however no archaeological sites were recorded at OSA associated with them.

Three sites within the 1.24 mi (2 km) buffer around the current project area were not detailed in any of the reports listed above. The earliest of these were both recorded in 1978 by Knudsen of the Forest Service. These sites (15RO59 and 15RO60) were small rockshelters of unknown cultural affiliation. Site 15RO59 had a sparse artifact assemblage and no intact midden. Because of the lack of datable material and the paucity of the artifact assemblage this site was not recommended for further investigation. The second shelter, 15RO60, yielded few artifacts, but did contain a shallow midden. No further work at this site was recommended because of the lack of datable artifacts, shallow midden deposits, and sparse artifact count. The final site (15RO65) within the 1.24 mi (2 km) buffer around the current project area was identified by Kellar in 1982. This site appeared to be a historic stone-lined water collection basin. No associated artifacts or structures were identified. No further investigations were recommended due to the lack of artifacts or context for this site.

Table 2.1. Summary of Archaeological Sites Within the 1.24 mi (2 km) Buffer.

Site Number	Site Type	Cultural Affiliation	Recommended for NRHP
15RO59	Rockshelter	Unknown Prehistoric	No
15RO60	Rockshelter	Unknown Prehistoric	No
15RO65	Unknown Historic	Unknown Historic	No
15RO81	Open Habitation	Late Archaic	Yes
15RO82	Rockshelter	Middle to Late Woodland	Yes
15RO122	Farmstead	Late 19 th to Early 20 th Century	No
15RO131	Historic Camp	Late 19 th to Early 20 th Century	No
15RO155	Rockshelter	Unknown Prehistoric	No
15RO156	Rockshelter	Unknown Prehistoric	No
15RO157	Rockshelter	Unknown Prehistoric	No

3.0 PROJECT METHODOLOGY AND SURVEY RESULTS

3.1 Methodology

In accordance with recently revised guidelines for archaeological fieldwork in Kentucky (Sanders 2001, Version 2.4), several methods of site discovery were employed during this project. These methods included visual surface inspection, and the excavation of shovel test probes (STPs).

A visual ground surface inspection was conducted of the entire project area. In areas of poor ground surface visibility and on slopes greater than 20 degrees, visual inspection for direct evidence of archaeological sites, such as structural foundations, refuse dumps, wells and cisterns, gravestones, quarry pits, and earthen and stone mounds was conducted. Field personnel also examined the project area for caves, quarries, benches, rock faces, and rock overhangs that may have been utilized by prehistoric or historic groups.

In areas where the ground surface visibility was less than 50 percent and the slopes were less than 20 degrees, shovel probing was conducted. STPs were excavated at 20 m intervals along a single transect. Each STP, which measured approximately 30 centimeters (cm) in diameter, was excavated to a minimum depth of 30 cm below surface (bs), or until a distinct subsoil or bedrock was exposed. The soil from each STP was screened through ¼ inch (in) mesh hardware cloth. The wall of each STP was examined for artifacts as well as soil color and texture changes that might indicate buried, intact cultural deposits. When the inspection was complete, the hole was filled, tamped, and the sod replaced.

3.2 Survey Results

The survey area for the proposed transmission corridor, access roads, wetlands, and wildlife clearings covered approximately 150 ac (60.7 ha). The project area was a mixture of open fallow fields on the bottoms of North Triplett Creek and Triplett Creek and steeply sloped forested ridges. The ridge tops were rolling and narrow for the most part although several had wide level areas. The proposed transmission corridor was 100 ft (30 m) wide and the access roads were 20 ft (6.1 m) wide. There were 46 proposed wetland and 10 proposed wildlife clearings. For the discussion purposes the project area was broken into three segments. These are discussed below.

3.2.1 Segment 1

Segment 1 contained the project area between the connection to an existing transmission line north of the North Triplett Creek water pumping station and I-64 (**Figure 3.1**). The northernmost portion of this segment was consisted of steeply sloped forested ridges and disturbances associated with the construction of KY 377 and the North Triplett Creek water pumping station. No archaeological sites were identified and no STPs were excavated due to the slope along the ridges. The lower slopes adjacent to KY 377 and the pumping station were found to be disturbed by road construction and no archaeological sites were identified. A cemetery is located north of the project corridor adjacent to KY 377. It was not, however, within the project boundary and will not be directly impacted by construction. The fallow grassy flood plain north of North Triplett Creek was found to be heavily disturbed by three natural gas pipelines and grading to construct a pond on the pumping station property (**Figure 3.2**). The soils in this area were a heavily mottled 10YR 5/3 brown to 10YR 5/6 yellowish brown silty clays. STPs in this area were excavated to approximately 40 cm bs. North Triplett Creek was

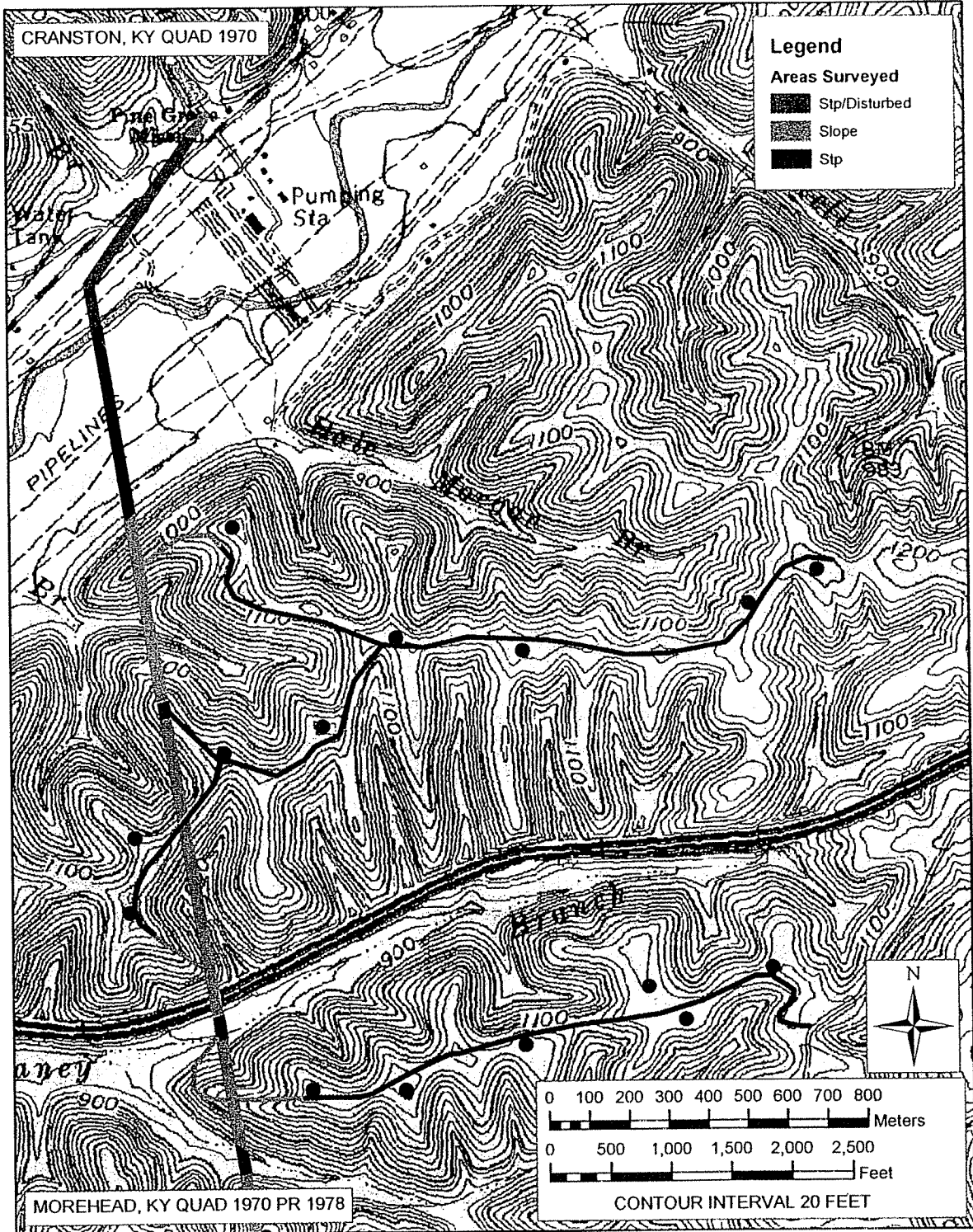


Figure 3.1. Project area map for Segment 1 showing survey conditions.

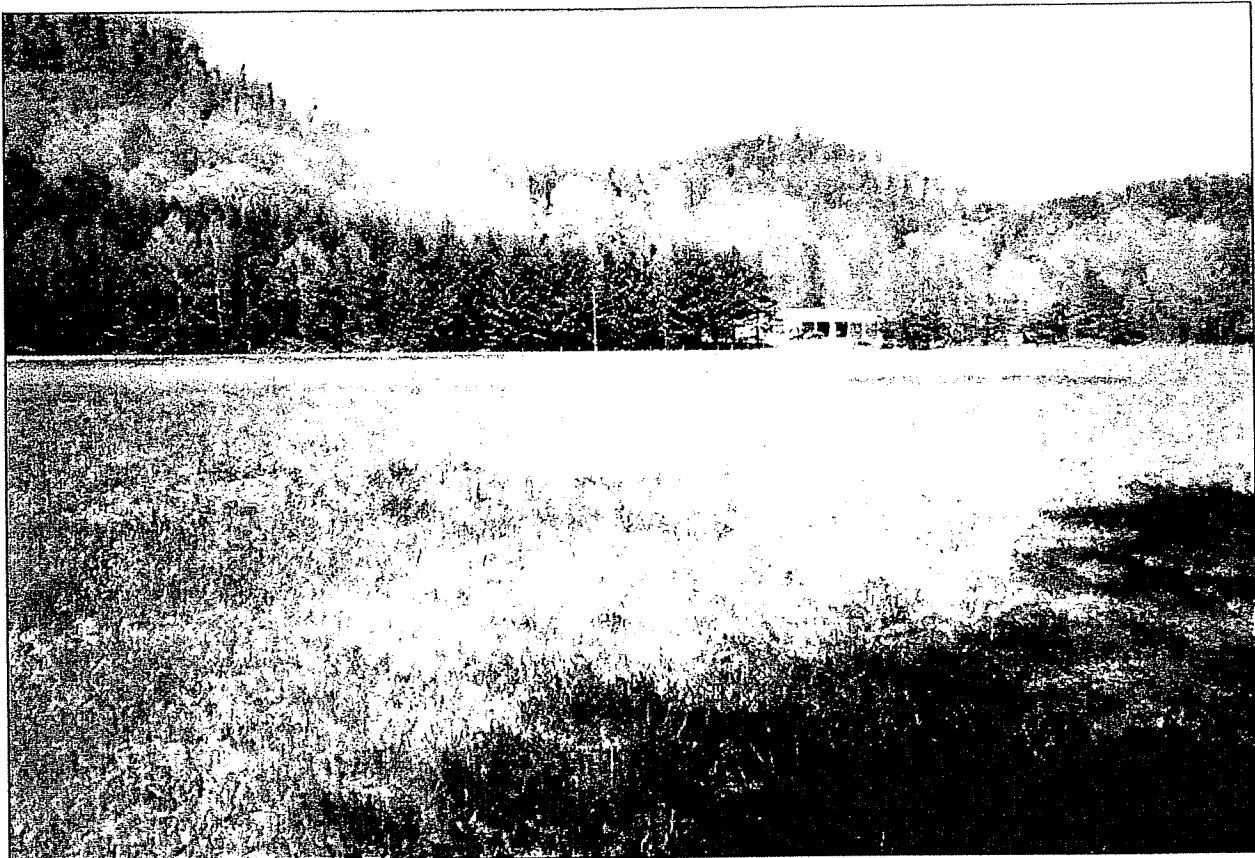


Figure 3.2. Project area, showing disturbed area north of North Triplett Creek, facing north.

found to be channelized by rip rap, concrete, and other debris in order to maintain its current course. South of the creek the fallow fields were found to have intact soils with two soil strata. The floodplain adjacent to the creek had a plowzone approximately 20-35 cm deep consisting of a 10YR 4/4 dark yellowish brown silt underlain by a 10YR 5/6 yellowish brown silty clay. The terrace south of the floodplain to the base of the ridges to the south of North Triplett Creek also generally consisted of two soil strata. The upper stratum consisted of a 10YR 4/6 dark yellowish brown slightly rocky clayey silt approximately 10-20 cm deep. This stratum was underlain by a rocky 10YR 5/6 yellowish brown silty clay. The terrace was disturbed by five natural gas pipelines. One of the STPs excavated was in soils in or adjacent to one of these pipelines and was found to be heavily disturbed. The soils from this STP consisted of heavily mottled 10YR 4/6 dark yellowish brown to 10YR 5/6 yellowish brown rocky clays. No archaeological resources were identified along this portion of the project area. The ridges south of the floodplain to I-64 were steeply sloped and forested. No STPs were excavated on the slopes and visual inspection did not identify any historic structures or rockshelters. The ridgetops within the project area were generally narrow and rocky. STPs excavated on the saddles and ridge crests along the transmission corridor, access roads, and wetland areas typically revealed soils which had two strata. The soils excavated consisted of a rocky 10YR 5/4-5/6 yellowish brown silty clay between 5-15 cm deep underlain by a 10YR 5/8 rocky clay. The thin topsoils may be the result of erosion or disturbances associated with logging over the last century. No archeological resources were identified in this area.

3.2.2 Segment 2

Segment 2 of the project ROW contains the area between I-64 and the Triplett Creek floodplain (**Figure 3.3** and **3.4**). The majority of this section was steeply sloped forested ridges, with two narrow creek floodplains along Haney Branch (**Figure 3.5**). I-64 has heavily disturbed the north streambed of Haney Branch by canalizing and fill associated with the construction of the roadbed. The soils in this area were rocky 10YR 5/4 yellowish brown silty clays approximately 5-10 cm deep underlain by rocky 10 YR 5/6 yellowish brown clays. The southern streambed was very narrow and exhibited a similar profile to the northern streambed. No archaeological resources were identified in this area. The ridges crossed by the access roads and transmission line corridor were similar to those found in Segment 1. No STPs were excavated on the slopes and visual inspection did not identify any historic structures or rockshelters. The ridgetops within the project area were generally narrow and rocky. Forest Service Road 977 and its spur routes criss-crossed the project area throughout Segment 2. STPs excavated on the saddles and ridge crests along the transmission corridor, access roads, wetland, and wildlife clearings typically revealed soils with two strata. The soils excavated consisted of a rocky 10YR 5/4-5/6 yellowish brown silty clay between 5-15 cm deep underlain by a 10YR 5/8 rocky clay. The thin topsoils may be the result of erosion or disturbances associated with logging over the last century. Disturbed areas were present, especially in areas adjacent or on old logging roads and the several artificial ponds that dot the project area. No archeological resources were identified in this segment.

3.2.3 Segment 3

Segment 3 contained the project area between the north edge of the Triplett Creek floodplain along US 60 and the existing Rowan substation (**Figure 3.6**). The area adjacent to US 60 was found to be disturbed by road construction and no archaeological sites were identified. Triplett Creek was found to be channelized by rip rap, concrete, and other debris in order to maintain its current course. One portion of the creek was being used as a gravel quarry at the time of the current survey. The fallow fields adjacent to the creek were found to have intact soils with 2-3 soil strata (**Figure 3.6**). The floodplain adjacent to the creek had a plowzone approximately 15-25 cm deep consisting of a 10YR 4/4 dark yellowish brown silt underlain by a 10YR 5/4-5/6 yellowish brown silty clay. In the STPs excavated closet to the creek a third stratum was encountered at 35-40 cm bs that consisted of mottled manganese laden 10YR5/4-5/6 clay. The lack of archaeological resources may indicate that the bottomland crossed by the project area may be recent alluvium. No archaeological resources were identified along this portion of the project area. The ridges south of the floodplain to the Rowan substation were steeply sloped and forested. No STPs were excavated on the slopes and visual inspection did not identify any historic structures. Along the eastern face of the ridge, south of Negro Hollow, at an elevation of approximately 1200 ft, two rock overhangs were inspected and subjected to STP excavation (**Figure 3.6**). The elevation of these overhangs is consistent with rockshelters (15RO59-60, 15RO82, and 15RO155-157) identified to the south of the current project area. These overhangs were shallow and damp and no cultural material was visible on the surface. The STPs excavated revealed soils consisting of two stratum. Strata 1 was a 10YR 5/4 yellowish brown rocky sandy silt 5-10 cm deep. Strata 2 was a rocky 10YR5/6 yellowish brown sandy clay that bottomed out at 15-20 cm bs at bedrock. No cultural material was recovered from these STPs and the overhangs were not considered archaeological sites. The ridgetops

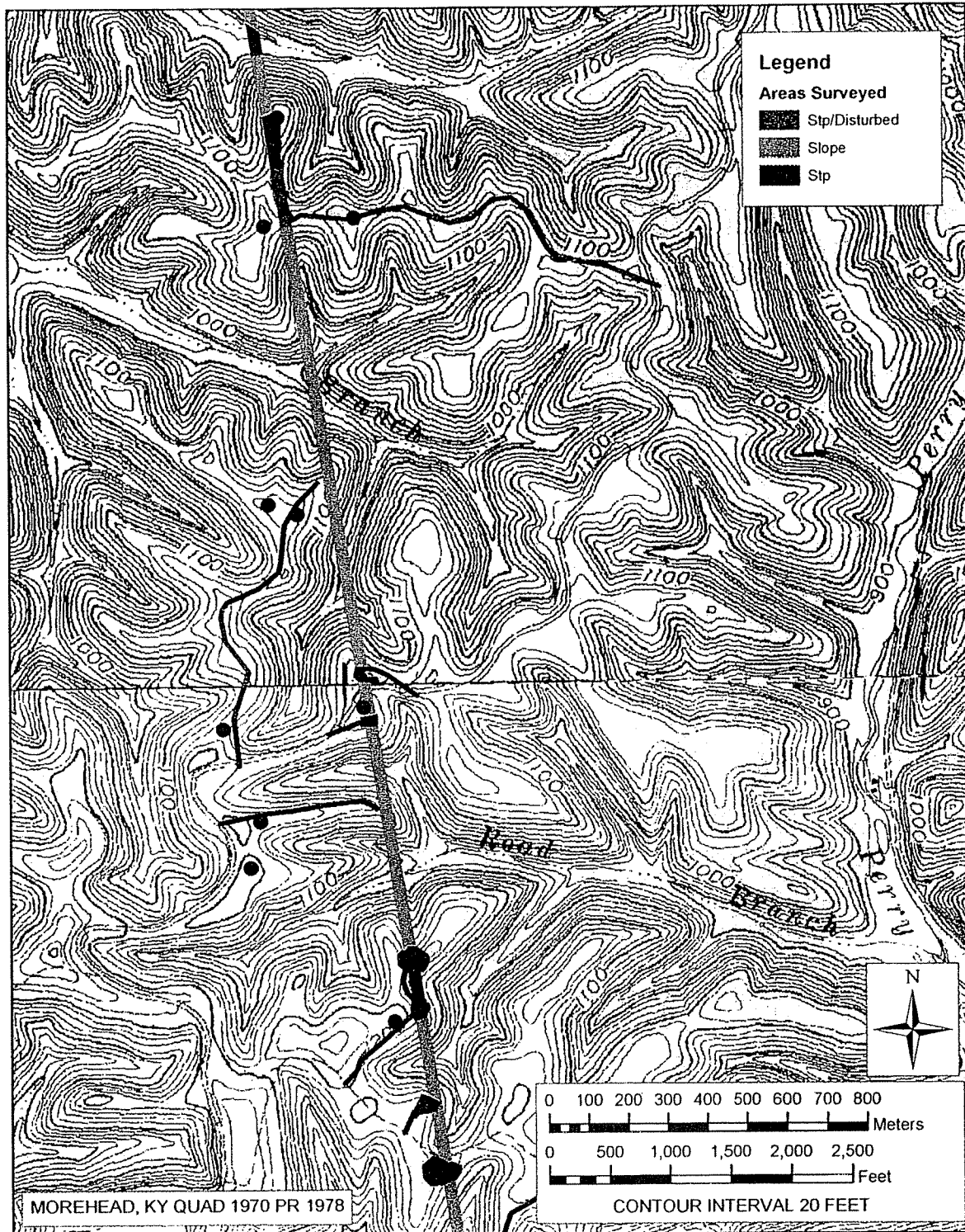


Figure 3.3. Project area map for the north section of Segment 2 showing survey conditions.

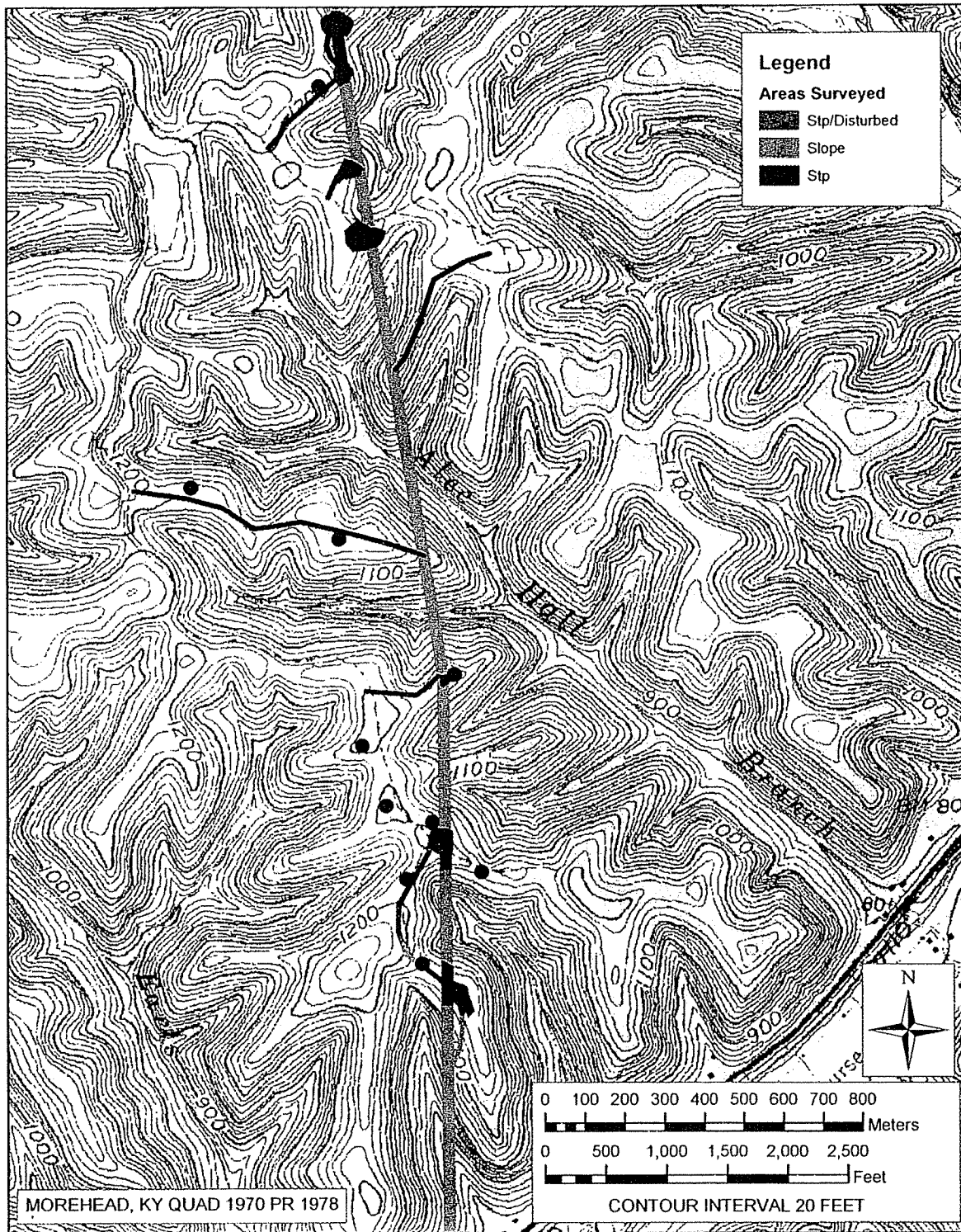


Figure 3.4. Project area map for the south section of Segment 2 showing survey conditions.



Figure 3.5. Project area, showing the Haney Branch bottom with I-64 in the background, facing north.

within Segment 3 were generally narrow and rocky. STPs excavated on the saddles and ridge crests along the transmission corridor, access roads, and wetland areas typically revealed soils which had two strata. The soils excavated consisted of a rocky 10YR 5/4-5/6 yellowish brown silty clay between 5-15 cm deep underlain by a 10YR 5/8 yellowish brown rocky clay. The thin topsoils may be the result of erosion or disturbances associated with logging over the last century. No archeological resources were identified in this area.

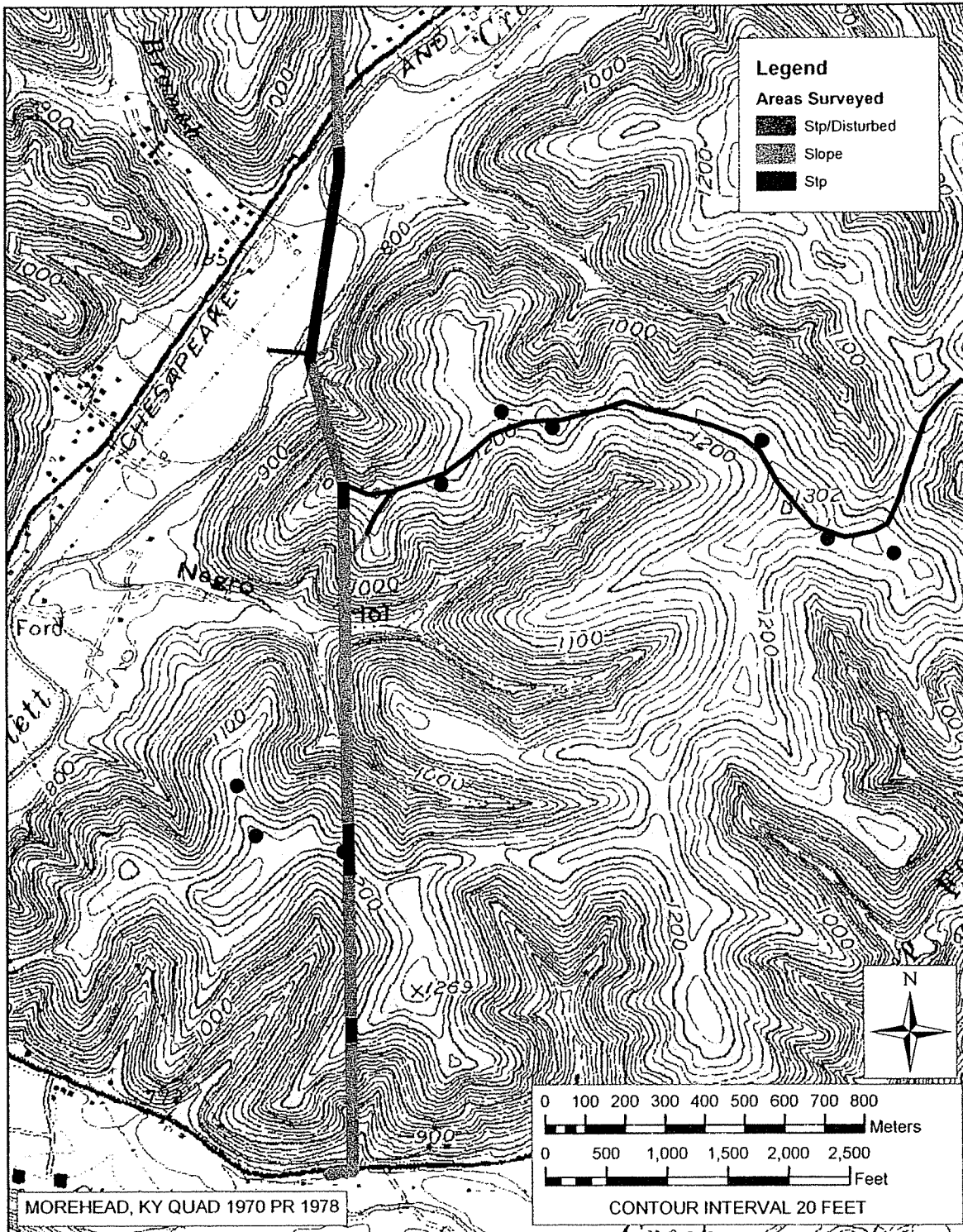


Figure 3.6. Project area map for the south section of Segment 3 showing survey conditions.



Figure 3.7. Project area at Triplett Creek bottom, facing north.



Figure 3.8. Project area showing rock overhang above Triplett Creek bottom, facing northwest.

4.0 CONCLUSIONS AND RECOMMENDATIONS

From 8-12 March, and on 29 April 2004, AMEC archaeological personnel conducted a Phase I archaeological investigation of the proposed 138kV transmission line in Rowan County, Kentucky. This survey was conducted at the request of EKPC. The survey area consisted of approximately 150 ac (60.7 ha). A survey was necessary to determine if any cultural resources were located within the proposed corridor. No cultural material was recovered during the course of the survey.

The STP excavations and visual inspection of the APE failed to identify any prehistoric or early historic cultural material. The further discovery of cultural material is unlikely. It is recommended that the Kentucky Heritage Council/State Historic Preservation Office (KHC/SHPO) grant archaeological clearance so that the proposed transmission line and access roads may be constructed. If, however, during construction, any cultural materials are identified such as projectile points, stone tools and manufacturing debris, prehistoric petroglyphs, prehistoric or historic ceramics, bones, or building debris, then all construction should be terminated and KHC/SHPO should be immediately notified. State Law (KRS 72.010) requires that if human remains are found then the County Coroner and local law enforcement agents must be contacted immediately.

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**Indiana Bat (*Myotis sodalis*) Survey to Minimize Construction Impact
for the Proposed Cranston to Rowan County Transmission Line,
Rowan County, Kentucky**

**CRANSTON – ROWAN COUNTY TRANSMISSION LINE
PROJECT NO. 21140**

October 2002



EAST KENTUCKY POWER COOPERATIVE

**Indiana Bat (*Myotis sodalis*) Survey to Minimize Construction Impact
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EAST KENTUCKY POWER COOPERATIVE



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**Indiana Bat (*Myotis sodalis*) Survey to Minimize Construction Impact
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Rowan County, Kentucky**

PREPARED FOR:

U.S. Forest Service Department of Agriculture
Winchester, KY

KY Department of Fish and Wildlife Resources
Frankfort, KY

KY State Nature Preserves Commission
Frankfort, KY

PREPARED BY:


Mark W. Gumbert
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**CRANSTON -- ROWAN COUNTY TRANSMISSION LINE
PROJECT NO. 21140**

October 2002



EAST KENTUCKY POWER COOPERATIVE

A Touchstone Energy Cooperative 

ABSTRACT

The Indiana bat is listed as an endangered species and as such is afforded legal protection under the Endangered Species Act. East Kentucky Power Cooperative proposes to construct a transmission right-of-way in Rowan County, Kentucky. Alternative 1 is approximately 7.3 mi (11.8 km) in length, while Alternative 2 is approximately 8.2 mi (13.1 km) long. The chosen route will have a 100 ft (33.3 m) wide corridor cleared of all woody vegetation. A significant portion of each proposed route traverses a large forested tract of the Morehead Ranger District, Daniel Boone National Forest. Both routes also cross potential Indiana bat (*Myotis sodalis*) summer habitat. Concern was expressed by regulatory agencies over possible impacts to Indiana bats near both routes. A plan was developed in consultation with the involved agencies that outlined procedures to capture, transmitter, and radio-track Indiana bats to their day roosts, restrict cutting of the right-of-way within 1,000 ft (305 m) of any known roost trees located, and to install bat houses when deemed appropriate by all parties. During the netting phase, one adult male Indiana bat was captured and radio-tagged near Alternative 2. The bat was successfully tracked to a day roost for two days. The roost tree was 1,266 ft (386 m) from the alternative route and is not in direct danger of being cut. There were no Indiana bats captured near Alternative 1. Nightly emergence counts at the roost tree ranged from 1-4 bats, including the radio-tagged bat on the first two nights. Alternative 1 is not likely to have an adverse effect on the Indiana bat population.

ACKNOWLEDGEMENTS

All fieldwork discussed in this report was conducted by East Kentucky Power Cooperative. Appreciation is extended to the following individuals and their respective agencies for providing information and assistance during this effort: John MacGregor (Indiana Bat Recovery Team Member); Eric R. Britzke (Tennessee Technological University, Cookeville, Tennessee); Tom Biebighauser (Daniel Boone National Forest, Morehead Ranger District, Morehead, Kentucky); Jim Widlak (U.S. Fish and Wildlife Service, Cookeville, Tennessee); Annie Tibbels and Maarten Vonhof (University of Tennessee, Knoxville, Tennessee); Amy Bradshaw, Charles Elliott, Tracy Jubenville, Paul McMurray, Guenter Schuster and Mark Vukovich (Eastern Kentucky University, Richmond, Kentucky); Josh Littrell and Chris Carpenter (biological consultants); and Seth Bishop, Mark Brewer, Jeff Hohman, Joe Settles, Ronnie Terrill and Josh Young (East Kentucky Power Cooperative, Winchester, Kentucky).

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INTRODUCTION

In August 2002, East Kentucky Power Cooperative (EKPC) filed an application with Rural Utility Service (RUS) and the Daniel Boone National Forest (DBNF) for the construction of a 138 kV transmission line right-of-way (ROW) connecting the Cranston substation with the Rowan County substation, within Rowan County, Kentucky (Fig. 1). This line will help distribute electricity more efficiently while reducing the potential for large electrical loads that could result in power shortages within the area of Morehead, Kentucky. The ROW corridor will be 100 ft (33.3 m) wide; two routes have been proposed and the exact length of the line will depend on which route is chosen. Alternative 1 is 7.3 mi (11.8 km) long and follows a straight line south from the Cranston substation across a large forested portion of the DBNF, Morehead Ranger District (MRD). The second route, Alternative 2, runs southwest from the Cranston substation along the North Fork of Triplett Creek before turning southeast and paralleling an existing transmission line across the MRD to the Rowan County substation. The total length for Alternative 2 is 8.2 mi (13.1 km). The construction of this project will require that one of these routes be selected to have all woody vegetation removed before utility poles and powerlines can be set in place.

During the permitting process, it was determined that both routes crossed potential summer habitat for the federally endangered Indiana bat (*Myotis sodalis*). Furthermore, in 2001, an Indiana bat summer maternity colony (ranging from 27-32 bats) was discovered in another portion of the MRD approximately 16 mi (26 km) southwest of the proposed project (Eric Britzke, Ph.D. candidate, Tennessee Technological University, Cookeville, Tennessee. 2001. pers. comm.). Humphrey et al. (1977) reported the discovery of an Indiana bat maternity colony by a utility company after a tree limb that housed the bats was cut during the clearing process. To prevent such an untimely discovery of a colony of endangered bats, both proposed routes were surveyed for the presence of Indiana bats.

METHODS

The Indiana Bat Revised Recovery Plan (USFWS 1999) does not address the issue of constructing a linear corridor project such as a powerline right-of-way during the summer months in areas where Indiana bats are found. Therefore, EKPC in consultation with the United States Fish and Wildlife Service (USFWS), Cookeville, Tennessee, developed a set of methods to address concerns and risks for Indiana bats and potential impacts to existing habitat during the construction of a powerline ROW. These methods were the results of both written and verbal agreements between all parties, and were implemented as outlined below.

To meet the mist netting requirements for each of the proposed routes, 18 capture sites within 0.6-1 mi (0.9-1.6 km) of one of the proposed corridors were selected to evaluate the presence/absence of Indiana bats (Fig. 2). Nets at these sites were set over ridgetop ponds, road corridors, trailheads, road ruts, and stream corridors (Table 1). All sampling for bats took place between 29 July and 12 August 2002. Sampling at each site consisted of a minimum of two net locations, which were tended from dusk until five hours after sunset. After the discovery of an Indiana bat roost tree (*see below*), we also netted near the tree in an attempt to capture additional Indiana bats during the bats' evening emergence.

Data recorded for bats captured by mist-net included species, sex, age (adult or juvenile), weight (g), and reproductive condition. Captured bats were banded with numbered aluminum bands (provided by the Kentucky Department of Fish and Wildlife Resources) or plastic split ring bands (Size XCL; Avinet, Dryden, New York), and released at the capture site.

We attached a 0.52-g radio transmitter (Holohil Systems Ltd., Model LB-2, Ontario, Canada) to one adult male Indiana bat. We glued the lightweight transmitter between the scapulae using surgical adhesive (Skin-Bond). The following morning, the day roost of the bat was located using a three-element yagi antenna and receiver (TRX-2000s, Wildlife Materials, Carbondale, Ill.). The radio-tagged bat was tracked to its roost for the life of the transmitter. Roost trees located during this project were marked with a numbered aluminum tree tag (Forestry Suppliers, Jackson, Mississippi). Population size at the roost tree was determined by counting the bats as they emerged from the tree (Gardner et al. 1991).

Coordinates (x, y) for each capture site and the roost tree were obtained with the use of a Lowrance GlobalMap 100, hand-held GPS unit. These coordinates were mapped on a 1:24,000 USGS topographic quadrangle (Kentucky Geological Survey) in ArcView (ESRI, Redlands, CA) alongside the digitized routes for both proposed corridors (Fig. 2). Using ArcView, we generated the distance from each capture site and roost tree to each of the proposed routes. Distance was also generated from the roost tree to the nearest ridge top pond, stream, Forest Service road and to the closest known Indiana bat maternity colony and hibernacula. Elevation, aspect, and slope were derived from 1:24,000 USGS digital elevation model (DEMs) for the roost tree. By layering the location of the Indiana bat roost tree over a polygon theme containing CISC (Continuous Inventory and Stand Condition) data (provided by the DBNF), we determined forest type, management activities, and age for the stand polygon containing the roost tree.

RESULTS

In 34 net-nights, we surveyed 18 different sites within the MRD and adjacent private lands in the vicinity of both proposed routes (Fig. 2). On 29 July 2002, inclement weather halted netting activities at capture sites 5, 6, and 7 from 2315 to 2345 EST. After rains had subsided, nets were reopened. Sites 13 and 15 were so close to each other that each was netted for only a single night. Site 16 was only netted one night due to its poor capture success and, thus, a third night of netting was spent at site 14 (the site where the adult male Indiana bat was captured). We captured 334 bats, including 68 big brown bats (*Eptesicus fuscus*), 86 red bats (*Lasiurus borealis*), two hoary bats (*L. cinereus*), 26 little brown bats (*Myotis lucifugus*), 97 northern bats (*M. septentrionalis*), one Indiana bat, and 54 eastern pipistrelles (*Pipistrellus subflavus*) (Table 2). One big brown bat was captured once on August 6 and a second time on August 10 at the same site at which the bat was originally banded. Twenty-four bats escaped after being identified but before we were able to band each bat and collect any additional data.

The single adult male Indiana bat was captured in a mist net at site 14 on 7 August 2002, during our survey of Alternative 2. Using radio telemetry, we documented the use of one roost tree by the radio-tagged Indiana bat for two consecutive days, after which time we could no longer pick up the signal within the vicinity of either of the proposed routes. The roost tree (440) was a 13.8 in (35.0 cm) diameter-at-breast-height, dead, short-leaf pine (*Pinus echinata*). The top of the tree was snapped off at the bole, approximately 25 ft (7.6 m) above ground. A small canopy gap created from the death of the tree and an adjacent tree allowed for intermediate canopy cover (Gumbert 2001) at the roost. The majority of the bark had become dislodged from the bole with the exception of a long slab approximately 2 ft (0.61 m) in length encircling the top of the tree. A portion of this bark was loose and provided a suitable roosting location for bats (low usable bark, <10%; Gardner et al. 1991). The roost tree was 1,963 ft (598 m) from the capture site, 1,160 ft (354 m) from an existing high voltage electric transmission line, 130 ft (40 m) from the nearest forest service road, 1,266 ft (386 m) from Alternative 2, and 2.2 mi (3.3 km) from Alternative 1 (Fig 2). Additional roost tree data can be found in Table 3.

Emergence observations on 4 different evenings revealed that 1-4 bats were using the tree as a day roost. Including the radio-tagged bat, 4 and 2 individual bats were counted emerging from beneath the bark of the tree from 2040-2050 EST on the evenings of 8 and 9 August, respectively. Though the radio-tagged bat was not found after the second night's emergence count, a single bat was observed at the roost for three consecutive days thereafter (10-12 August). In two attempts, we were unable to capture this lone bat as it emerged from the roost tree.

DISCUSSION

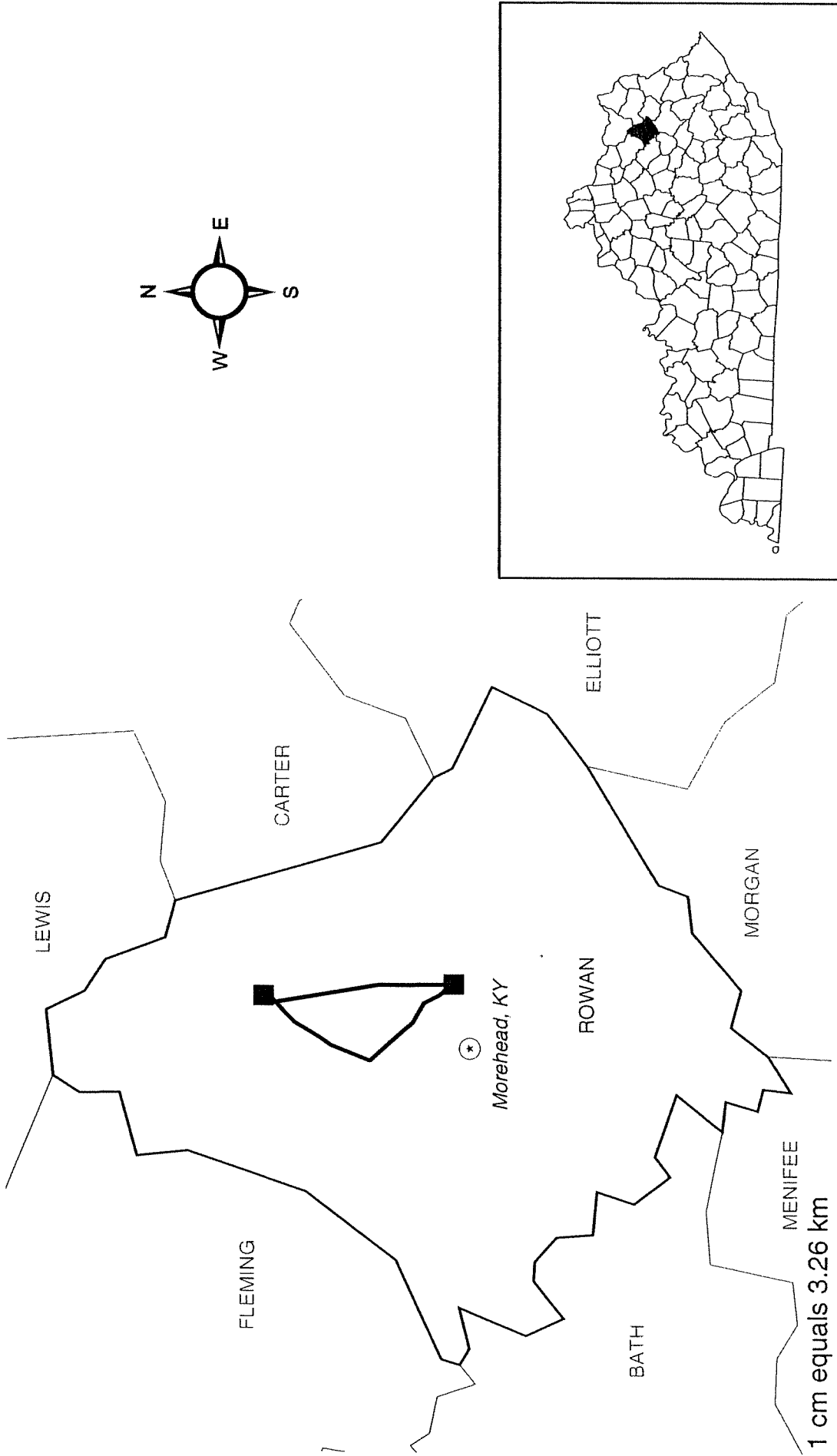
Because we captured an Indiana bat, we were able to document the use of habitat by this species in the vicinity of Alternative 2. The loss of the transmitter on the bat was unfortunate and could be due to malfunction of the transmitter or a long distance move by the bat. Although we were unable to locate the radio-tagged bat after the second night's emergence count, it is possible that the bat emerging from the roost tree on subsequent nights was our radio-tagged bat with a deactivated transmitter. However, the lone emerging bat could also be one of the additional three bats that emerged on the first exit count, or an entirely new bat.

The adult male Indiana bat roost tree was not located within the zone of construction for either route. However, Alternative 1 is least likely to have a negative impact on Indiana bats due to its considerable distance, 2.2 mi (3.5 km), from the male roost tree and also to the fact that no Indiana bats were captured at survey sites near this proposed corridor.

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Figure 1. Both proposed powerline right-of-way routes for the Cranston-Rowan County 138 kV transmission line, Rowan County, Kentucky, 2002



■ Substations
— ROW Alternative 1
— ROW Alternative 2

Project No. 21140
 Cranston-Rowan Co. Transmission Line
 Rowan County, Kentucky
 August 2002
 Map created by Joy O'Keefe 23 August 2002


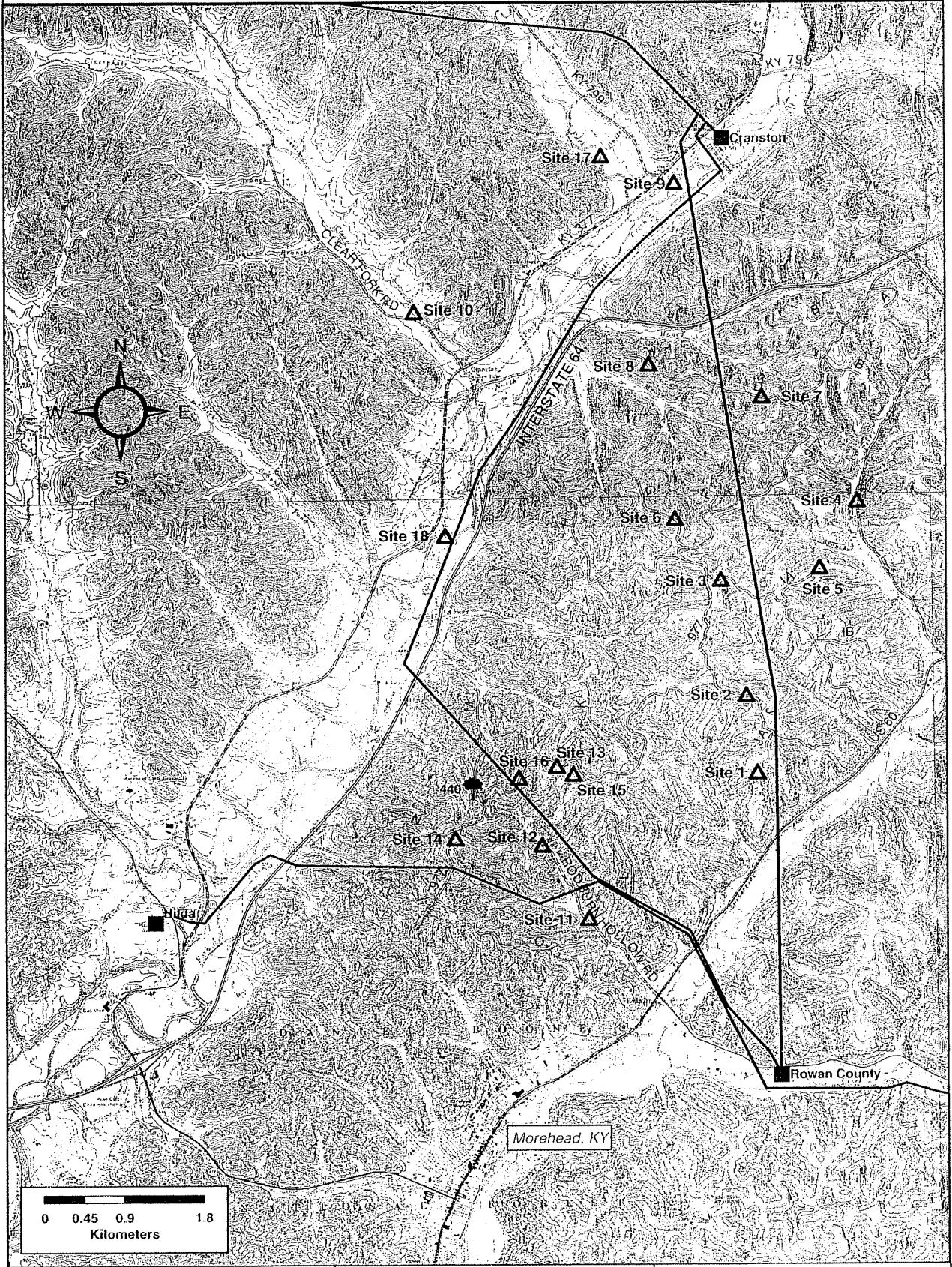







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Figure 2. Mist net sites (n=18) surveyed 29 July - 12 August 2002 for the two proposed Cranston-Rowan County transmission line right-of-ways. Roost tree (440) used by the adult male Indiana bat is indicated by a green tree.



-  Roost Tree
-  Capture Sites
-  Substations
-  ROW Alternative 1
-  ROW Alternative 2
-  Existing EKPC ROWs

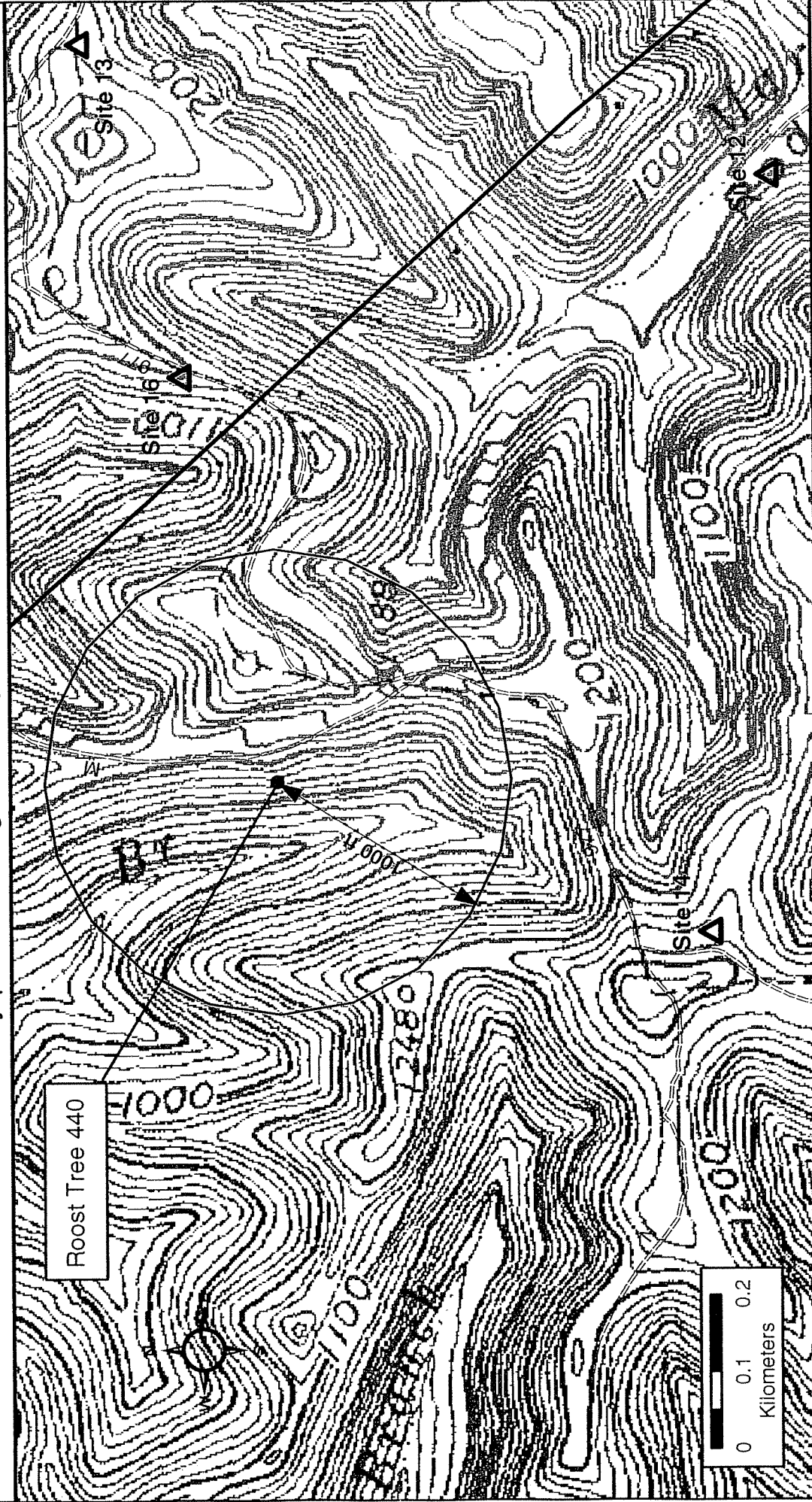
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 Cranston-Rowan Co. Transmission Line
 Rowan County, Kentucky
 August 2002

Map created by Joy O'Keefe 21 August 2002



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Figure 5. Roost tree (440), used by an adult male Indiana bat for two consecutive nights (8, 9 August 2002) during an Indiana bat summer survey for the proposed Cranston-Rowan County powerline right-of-way, Rowan County, Kentucky




<ul style="list-style-type: none"> ● Roost Tree ▲ Capture Sites — ROW Alternative 2 	<p>Project No. 21140 Cranston-Rowan Co. Transmission Line Rowan County, Kentucky August 2002</p> <p>Map created by Joy O'Keefe 19 August 2002</p>	 <p>EAST KENTUCKY POWER COOPERATIVE P.O. Box 707 Winchester, KY 40392-0707</p>
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Table 1. Sites surveyed for Indiana bats (*Myotis sodalis*) for the Cranston-Rowan County Transmission line, Rowan County, Kentucky, 2002.

Site Number	Location	Quad	Quad Corner	Habitat	Latitude	Longitude
1	FS 977J, 1.0 mi S of FS 977	Morehead	NE	Ridgetop Pond	38° 13' 16.9"	83° 23' 51.7"
2	FS 997J, 0.3 mi E of FS 100	Morehead	NE	Ridgetop Pond	38° 13' 45.7"	83° 23' 56.4"
3	FS 977I off FS 977 (Sheltowee Trace)	Morehead	NE	Ridgetop Road	38° 14' 29.1"	83° 24' 07.7"
4	KY 799 at Perry Creek	Morehead	NE	Stream Corridor	38° 14' 57.9"	83° 23' 03.8"
5	FS 977L, ~ 1.5 mi E of FS 977, pond at end of rd	Morehead	NE	Ridgetop Pond	38° 14' 33.2"	83° 23' 21.7"
6	FS 977G, 0.3 mi N of FS 977	Morehead	NE	Ridgetop Pond	38° 14' 52.1"	83° 24' 28.8"
7	FS 977D, 0.4mi N of FS 977	Cranston	SE	Ridgetop Pond	38° 15' 37.2"	83° 23' 47.5"
8	FS 977D, 1.4 mi N of FS 977	Cranston	SE	Ridgetop Pond	38° 15' 49.6"	83° 24' 40.2"
9	N. Fork of Triplett Creek - Just S of KY 377 / KY 799 N Bound Split	Cranston	SE	Stream Corridor	38° 16' 56.8"	83° 24' 27.3"
10	Clear Fork creek, 0.4 mi N of KY 377	Cranston	SW	Stream Corridor	38° 16' 09.9"	83° 26' 30.0"
11	Campground on Martin Branch Rd., between US 60 and DBNF	Morehead	NE	Stream Corridor	38° 12' 23.5"	83° 25' 11.5"
12	Rodburn Hollow FS Trail, at end of Martin Branch Rd	Morehead	NE	Wooded Trail	38° 12' 50.9"	83° 25' 33.2"
13	FS 100, W of FS 977	Morehead	NE	Ridgetop Pond	38° 13' 20.1"	83° 25' 25.8"
14	Pond at south end of FS 977	Morehead	NE	Ridgetop Pond	38° 12' 53.8"	83° 26' 13.8"
15	Pond just S of trail near second gate on FS 100	Morehead	NE	Ridgetop Pond	38° 13' 17.1"	83° 25' 18.0"
16	FS 100 on ridgetop	Morehead	NE	Ridgetop Road	38° 13' 16.0"	83° 25' 43.7"
17	Rock Fork Creek, ~0.75 mi N of KY 377 (W of KY 799)	Cranston	SE	Stream Corridor	38° 17' 07.0"	83° 25' 01.3"
18	Old Sportsman Rd., 0.3 mi S of KY 3 at N. Fork of Triplett Creek	Cranston	SE	Stream Corridor	38° 14' 46.7"	83° 26' 16.8"



Table 2. All bats captured and banded in survey for Indiana bats (*Myotis sodalis*) for the Cranston-Rowan County Transmission line, Rowan County, Kentucky, 2002.

Type of Bat	Band Type	Band Number	Date	Capture Site	Sex	Age / Repro	Weight	Forearm Length	Notes
Eptesicus fuscus									
	-	-	8/7/02	14	-	/	-	-	Escaped
	-	-	7/30/02	5	-	/	-	-	Escaped
	-	-	7/29/02	7	-	/	-	-	Escaped
	Black KY	3170	7/29/02	3	M	A / S	17.3	49	
	Black KY	3174	7/29/02	3	M	A / NR	15.2	49	
	Black KY	3175	7/29/02	3	M	A / S	15	47	
	Black KY	4146	7/29/02	2	F	A / NR	19.6	50	
	Black KY	4150	7/31/02	1	M	J / NR	16.7	47	
	Black KY	4194	7/31/02	1	M	A / NR	17.1	45	
	Black KY	4196	7/31/02	1	M	A / NR	21	45	
	KY F&W	A01434	7/30/02	2	M	A / S	17.9	47	
	KY F&W	A01434	7/30/02	2	M	A / S	17.9	47	Recapture
	KY F&W	A01435	7/30/02	2	F	A / PL	20.8	49	
	KY F&W	A01436	7/30/02	2	M	A / S	17	51	
	KY F&W	A01551	8/5/02	4	F	A / PL	20	46	
	KY F&W	A01554	8/6/02	11	M	J / S	18.5	47	
	KY F&W	A01554	8/10/02	11	M	J / S	16.5	47.5	Recapture
	KY F&W	A01556	8/6/02	11	F	A / PL	18.6	48	
	KY F&W	A01557	8/6/02	11	F	A / PL	18.2	49	
	KY F&W	A01558	8/6/02	11	M	J / S	16.9	48	
	KY F&W	A01563	8/6/02	11	F	A / NR	18.7	45	
	KY F&W	A01567	8/8/02	16	F	A / PL	20.9	50	
	KY F&W	A05211	8/7/02	14	F	J / NR	17	47.5	
	KY F&W	A05214	8/7/02	14	F	A / NR	19	49.4	
	KY F&W	A05215	8/5/02	3	F	J / NR	22.5	51.2	
	KY F&W	A05217	8/5/02	3	M	J / S	17	48.2	
	KY F&W	A05229	8/6/02	10	M	A / S	18.25	45.8	
	KY F&W	A05230	8/5/02	3	F	A / NR	20.5	50.1	
	KY F&W	A05238	8/7/02	14	F	A / NR	22.5	47.1	
	KY F&W	A05243	8/7/02	14	M	A / S	17	45.4	
	KY F&W	A05259	8/10/02	11	M	J / S	14.5	46.4	
	KY F&W	A05262	8/8/02	14	M	J / S	17.5	47.5	
	KY F&W	A05266	8/10/02	11	F	A / NR	18.5	47.9	
	KY F&W	A05267	8/7/02	14	F	J / NR	18.5	48.1	
	KY F&W	A05275	8/10/02	11	M	A / S	19.5	45.5	
	KY F&W	A05277	8/7/02	14	M	J / S	16.5	45.8	
	KY F&W	A05279	8/7/02	14	F	A / NR	20.5	49	
	KY F&W	A05280	8/7/02	14	M	J / S	18	45.6	
	KY F&W	A05281	8/8/02	14	F	J / NR	17	48	

Table 2. (continued)

Type of Bat	Band Type	Band Number	Date	Capture Site	Sex	Age / Repro	Weight	Forearm Length	Notes
<i>Eptesicus fuscus</i>									
	KY F&W	A05286	8/7/02	14	F	J / NR	19	48.4	
	KY F&W	A05288	8/10/02	11	F	A / NR	19	46	
	KY F&W	A05291	8/7/02	14	F	J / NR	22.5	50.3	
	KY F&W	A05297	8/7/02	14	F	A / NR	22	50.7	
	KY F&W	A05298	8/7/02	14	F	J / NR	23.5	51.2	
	KY F&W	A05299	8/10/02	11	M	J / S	15.5	46.6	
	KY F&W	A06102	8/1/02	9	M	A / S	16.2	46	
	KY F&W	A06129	7/31/02	9	M	J / S	19.8	48	
	KY F&W	A06130	7/31/02	9	F	A / PL	18.3	48	
	KY F&W	A06171	8/8/02	15	F	A / PL	20.8	50	
	KY F&W	A06172	8/7/02	13	F	A / PL	17.6	46	
	KY F&W	A06173	8/8/02	15	F	A / PL	24.6	50	
	KY F&W	A06175	8/8/02	15	M	J / NR	14.9	45	
	KY F&W	A06176	8/8/02	15	M	A / S	18.6	47	
	KY F&W	A06177	8/5/02	1	F	A / NR	18.7	48	
	KY F&W	A06178	8/8/02	15	F	A / PL	21.5	48	
	KY F&W	A06180	8/8/02	15	M	J / NR	14.4	46	
	KY F&W	A06183	8/8/02	15	M	A / S	22.8	48	
	KY F&W	A06184	8/8/02	15	F	A / PL	20.8	50	
	KY F&W	A06185	8/8/02	15	F	A / PL	19.3	47	
	KY F&W	A06186	8/8/02	15	M	A / S	18.1	49	
	KY F&W	A06187	8/8/02	15	F	A / PL	17.6	49	
	KY F&W	A06191	8/7/02	13	M	A / S	15.5	45	
	KY F&W	A06197	8/5/02	1	F	A / PL	23.9	48	
	KY F&W	A06199	8/6/02	12	F	A / PL	17.9	50	
	KY F&W	A06363	7/30/02	5	F	A / PL	23.2	47	
	KY F&W	A06370	7/31/02	5	M	J / NR	14.8	44	
	KY F&W	A06414	8/11/02	14	F	J / NR	20.1	47.4	
	KY F&W	A06441	8/10/02	18	F	J / NR	20.6	48.1	
<i>Lasiurus borealis</i>									
	-	-	8/6/02	10	F	/	-	-	Escaped
	-	-	8/6/02	10	-	/	-	-	Escaped
	-	-	8/6/02	11	F	J / NR	14	40	Escaped
	-	-	8/10/02	11	-	/	-	-	Escaped
	-	-	8/8/02	15	-	/	-	-	Escaped
	-	-	8/12/02	18	F	/	-	-	Escaped
	-	-	8/12/02	18	M	/	-	-	Escaped
	-	-	8/12/02	18	-	/	-	-	Escaped
	-	-	7/29/02	3	-	/	-	-	Escaped
	-	-	7/31/02	4	M	J / S	-	-	Escaped
	-	-	7/30/02	5	M	A / S	15.5	42	

Table 2. (continued)

Type of Bat	Band Type	Band Number	Date	Capture Site	Sex	Age / Repro	Weight	Forearm Length	Notes
Lasiurus borealis	-	-	7/31/02	5	-	/	-	-	Escaped
	-	-	7/29/02	6	-	/	-	-	Escaped
	-	-	7/29/02	7	-	/	-	-	Escaped
	Black KY	3142	7/30/02	5	M	J / S	8.9	38	
	Black KY	4148	7/29/02	2	M	A / S	11.8	46	
	Black KY	4149	7/31/02	1	M	J / NR	9.5	41	
	Black KY	4193	7/31/02	1	M	A / S	11.8	38	
	KY F&W	A'01555	8/5/02	4	M	J / S	12.1	38	
	KY F&W	A01407	7/30/02	2	F	A / PL	15	42	
	KY F&W	A01426	7/30/02	2	M	A / S	12.5	41	
	KY F&W	A01432	7/30/02	2	M	A / NR	8.7	38	
	KY F&W	A01437	7/30/02	2	F	J / NR	13.6	44	
	KY F&W	A01437	7/30/02	2	F	J / NR	-	44	Escaped
	KY F&W	A01488	7/30/02	2	M	J / S	10.4	42	
	KY F&W	A01531	7/31/02	4	M	J / S	8.2	39	
	KY F&W	A01542	7/30/02	8	M	J / NR	10.4	39	
	KY F&W	A01549	7/31/02	4	M	J / S	11.5	41	
	KY F&W	A01559	8/6/02	11	F	A / PL	12	43	
	KY F&W	A01560	8/6/02	11	F	A / PL	13.7	41	
	KY F&W	A01561	7/31/02	4	F	A / NR	20	41	
	KY F&W	A01562	8/6/02	11	F	A / PL	13.4	43	
	KY F&W	A01564	8/6/02	11	F	J / NR	14	39	
	KY F&W	A01572	7/31/02	4	M	J / S	10.1	41	
	KY F&W	A01600	7/31/02	4	M	J / S	13.3	39	
	KY F&W	A05208	8/6/02	10	M	J / S	10.25	40.2	
	KY F&W	A05212	7/31/02	6	M	J / S	8.5	38.6	
	KY F&W	A05226	7/31/02	6	F	J / NR	10.5	39.1	
	KY F&W	A05240	8/6/02	10	F	J / NR	11.5	39.3	
	KY F&W	A05247	8/6/02	10	F	J / NR	10.25	40.2	
	KY F&W	A05248	8/6/02	10	F	J / NR	11.75	38.8	
	KY F&W	A05249	7/31/02	6	M	A / S	15	40.1	
	KY F&W	A05250	7/31/02	6	M	J / NR	10.2	39.8	
	KY F&W	A05252	8/10/02	11	M	J / S	9.5	42.6	
	KY F&W	A05253	8/8/02	14	M	J / NR	11.5	42.2	
	KY F&W	A05255	8/10/02	11	M	J / S	10	42.2	
	KY F&W	A05290	8/10/02	11	M	J / S	11	41.1	
	KY F&W	A05311	8/12/02	18	F	J / NR	13	41.5	
	KY F&W	A05314	8/12/02	18	M	J / NR	10.5	40.7	
	KY F&W	A05322	8/12/02	18	F	J / NR	10.5	43.8	
	KY F&W	A05337	8/12/02	18	F	J / NR	11	39.7	
	KY F&W	A05341	8/12/02	18	F	J / NR	12.5	42.7	

Table 2. (continued)

Type of Bat	Band Type	Band Number	Date	Capture Site	Sex	Age / Repro	Weight	Forearm Length	Notes
<i>Lasiurus borealis</i>									
	KY F&W	A06066	7/29/02	7	M	A / S	10.2	39	
	KY F&W	A06067	7/29/02	7	M	J / S	9	40	
	KY F&W	A06068	7/29/02	7	F	A / PL	12.4	40	
	KY F&W	A06106	8/1/02	9	M	A / S	11.4	40	
	KY F&W	A06111	7/31/02	9	M	J / NR	9.9	40	
	KY F&W	A06113	7/31/02	9	M	A / S	11.1	40	
	KY F&W	A06114	7/31/02	9	M	J / S	10.2	41	
	KY F&W	A06117	7/31/02	9	M	A / S	11.9	38	
	KY F&W	A06118	7/31/02	9	M	J / S	11.2	39	
	KY F&W	A06120	7/29/02	7	M	J / S	12.2	40	
	KY F&W	A06121	7/31/02	9	F	J / NR	13	44	
	KY F&W	A06122	8/1/02	9	M	A / S	11.2	39	
	KY F&W	A06128	7/31/02	9	M	A / S	12.2	41	
	KY F&W	A06132	7/30/02	7	M	A / S	11.7	37	
	KY F&W	A06139	7/30/02	7	F	J / NR	9.4	41	
	KY F&W	A06139	7/30/02	7	F	J / NR	9.4	41	
	KY F&W	A06141	7/30/02	7	M	A / S	11.4	38	
	KY F&W	A06143	7/29/02	7	M	J / S	8.7	39	
	KY F&W	A06149	7/30/02	7	F	A / PL	11.1	41	
	KY F&W	A06163	8/5/02	1	M	J / NR	9	38	
	KY F&W	A06166	8/7/02	13	M	A / S	10.8	41	
	KY F&W	A06168	8/8/02	15	M	A / S	12.4	39	
	KY F&W	A06179	8/8/02	15	M	A / S	10.6	41	
	KY F&W	A06193	8/6/02	12	M	J / S	9.9	40	
	KY F&W	A06195	8/5/02	1	M	J / S	8.6	38	
	KY F&W	A06200	8/5/02	1	F	J / NR	-	38	Escaped
	KY F&W	A06364	7/30/02	5	M	A / NR	14.5	38	
	KY F&W	A06365	7/30/02	5	F	A / PL	17.2	40	
	KY F&W	A06366	7/30/02	5	M	J / S	7.6	37	
	KY F&W	A06367	7/31/02	5	M	A / S	11.4	38	
	KY F&W	A06369	7/31/02	5	F	J / NR	9.8	39	
	KY F&W	A06412	8/10/02	18	M	J / S	9.9	40	
	KY F&W	A06431	8/12/02	17	M	J / S	9.1	39	
<i>Lasiurus cinereus</i>									
	-	-	8/5/02	4	M	A / S	19.6	52	Broke Wing
	KY F&W	A06368	7/31/02	5	F	A / PL	31.5	55	
<i>Myotis lucifugus</i>									
	Black KY	3147	7/30/02	5	M	A / NR	7.1	40	
	KY F&W	A01241	8/10/02	18	M	A / S	-	38	Escaped
	KY F&W	A05246	8/1/02	8	M	A / NR	6.8	37.7	
	KY F&W	A05260	8/12/02	18	M	A / NR	6.9	36.2	

Table 2. (continued)

Type of Bat	Band Type	Band Number	Date	Capture Site	Sex	Age / Repro	Weight	Forearm Length	Notes
Myotis lucifugus									
	KY F&W	A05271	8/12/02	18	M	J / NR	7.4	38.2	
	KY F&W	A05282	8/12/02	18	M	J / NR	6.8	37.1	
	KY F&W	A05320	8/12/02	18	F	J / NR	7.6	38.4	
	KY F&W	A06101	8/1/02	9	M	A / NR	9.3	36	
	KY F&W	A06103	8/1/02	9	M	A / S	6.7	36	
	KY F&W	A06105	8/1/02	9	M	A / NR	7	38	
	KY F&W	A06106	7/31/02	9	M	J / NR	6.9	38	
	KY F&W	A06107	8/1/02	9	M	A / NR	6.4	36	
	KY F&W	A06110	7/31/02	9	M	A / NR	8.5	39	
	KY F&W	A06112	7/31/02	9	M	A / NR	7.1	37	
	KY F&W	A06115	7/31/02	9	M	A / S	6.7	37	
	KY F&W	A06123	7/31/02	9	M	J / NR	7.4	40	
	KY F&W	A06124	7/31/02	9	M	J / NR	7.5	37	
	KY F&W	A06125	8/1/02	9	M	A / NR	6.2	35.5	
	KY F&W	A06157	8/9/02	17	M	A / S	7.25	35.7	
	KY F&W	A06160	8/9/02	17	F	A / NR	6.75	38.4	
	KY F&W	A06404	8/10/02	18	F	A / NR	7.2	39.7	
	KY F&W	A06413	8/10/02	18	M	J / NR	6.2	38	
	KY F&W	A06430	8/10/02	18	F	A / PL	6.8	37.6	
	KY F&W	A06433	8/10/02	18	M	A / NR	6.6	35.6	
	KY F&W	A06434	8/10/02	18	M	A / S	5.8	36.5	
	KY F&W	A06445	8/10/02	18	M	A / S	7	37.5	
Myotis septentrionalis									
	-	-	8/6/02	12	F	J / NR	-	-	Escaped
	-	-	7/30/02	7	-	/	-	-	Escaped
	Black KY	3132	7/30/02	5	M	A / S	6.4	34	
	Black KY	3143	7/30/02	5	M	J / NR	5.7	35	
	Black KY	3144	7/30/02	5	F	J / NR	6	35	
	Black KY	3145	7/31/02	5	F	A / PL	5.7	34	
	Black KY	3146	7/30/02	5	M	A / S	6.1	35	
	Black KY	3148	7/31/02	5	M	A / S	5.6	34	
	Black KY	3169	7/29/02	3	M	A / S	5.8	34	
	Black KY	3177	7/30/02	5	F	A / PL	7.2	37	
	Black KY	3178	7/29/02	3	M	A / NR	5.9	34	
	Black KY	3180	7/29/02	3	M	A / NR	6.4	35	
	Black KY	3199	7/30/02	5	M	A / S	5.6	35	
	Black KY	4145	7/29/02	2	F	J /	5.9	34	
	Black KY	4147	7/29/02	2	M	A / NR	6.6	33	
	Black KY	4195	7/31/02	1	M	A / NR	6.5	36	
	Black KY	4197	7/31/02	1	M	A / NR	6.2	36	
	Black KY	4198	7/31/02	1	M	J / NR	5.9	37	

Table 2. (continued)

Type of Bat	Band Type	Band Number	Date	Capture Site	Sex	Age / Repro	Weight	Forearm Length	Notes
<i>Myotis septentrionalis</i>									
	Black KY	4199	7/31/02	1	M	J / NR	5.7	35	
	Black KY	4200	7/31/02	1	M	J / NR	5.6	36	
	KY F&W	A01553	8/5/02	4	F	A / NR	6.4	35	
	KY F&W	A01418	7/30/02	2	M	A / NR	6.2	37	
	KY F&W	A01427	7/30/02	2	F	A / PL	6.8	37	
	KY F&W	A01429	7/30/02	2	M	A / S	6.3	36	
	KY F&W	A01430	7/30/02	2	M	J / S	6	36	
	KY F&W	A01438	7/30/02	2	M	A / S	6	39	
	KY F&W	A01440	7/30/02	2	F	A / NR	6.9	36	
	KY F&W	A01442	7/30/02	2	M	A / S	5.5	36	
	KY F&W	A01444	7/30/02	2	F	J / NR	6.5	35	
	KY F&W	A01449	7/30/02	2	M	A / NR	5.9	35	
	KY F&W	A01533	7/31/02	4	F	J / NR	6.6	35	
	KY F&W	A01543	7/31/02	4	M	J / NR	5.4	34	
	KY F&W	A01552	8/5/02	4	F	J / NR	6.1	46	
	KY F&W	A01565	8/6/02	11	M	J / NR	5.4	34	
	KY F&W	A05204	8/1/02	8	M	A / NR	6	36.7	
	KY F&W	A05206	8/7/02	14	M	A / NR	5.7	35.6	
	KY F&W	A05210	8/1/02	8	F	A / NR	5.9	35.4	
	KY F&W	A05219	7/31/02	6	M	J / NR	5.9	33.6	
	KY F&W	A05222	7/29/02	6	M	A / S	5.7	33.6	
	KY F&W	A05235	8/5/02	3	F	A / NR	6.3	36.2	
	KY F&W	A05236	7/29/02	6	F	A / PL	5.9	36	
	KY F&W	A05237	8/5/02	3	M	A / NR	5.5	34.7	
	KY F&W	A05241	8/5/02	3	F	A / NR	6.6	36.1	
	KY F&W	A05256	8/10/02	11	M	J / S	6.3	35.9	
	KY F&W	A05257	8/7/02	14	M	A / NR	5.6	34.1	
	KY F&W	A05261	8/10/02	11	F	A / NR	6.5	34.6	
	KY F&W	A05263	8/10/02	11	M	J / NR	5.9	34.6	
	KY F&W	A05264	8/7/02	14	F	A / NR	7.1	37.1	
	KY F&W	A05265	8/7/02	14	M	A / NR	5.3	34.2	
	KY F&W	A05268	8/10/02	11	M	A / S	6.1	34.6	
	KY F&W	A05269	8/7/02	14	M	A / NR	5.3	35.3	
	KY F&W	A05271	8/7/02	14	F	A / NR	6.5	37.5	
	KY F&W	A05272	8/8/02	14	F	J / NR	6.2	35	
	KY F&W	A05273	8/7/02	14	M	A / NR	5.8	34.8	
	KY F&W	A05274	8/7/02	14	F	A / NR	6.1	37	
	KY F&W	A05276	8/10/02	11	M	A / NR	5.6	35.6	
	KY F&W	A05284	8/7/02	14	M	A / NR	5.8	33.5	
	KY F&W	A05285	8/10/02	11	F	A / NR	5.8	37.1	
	KY F&W	A05287	8/7/02	14	M	A / NR	5.9	36.4	

Table 2. (continued)

Type of Bat	Band Type	Band Number	Date	Capture Site	Sex	Age / Repro	Weight	Forearm Length	Notes
Myotis septentrionalis									
	KY F&W	A05292	8/7/02	14	F	A / NR	5.7	34.1	
	KY F&W	A05293	8/10/02	11	F	A / NR	7.8	36.8	
	KY F&W	A05294	8/7/02	14	M	J / NR	5.7	36.5	
	KY F&W	A05300	8/10/02	11	M	A / S	6.2	34.6	
	KY F&W	A06119	7/29/02	7	M	J / S	6	35	
	KY F&W	A06126	7/31/02	9	M	A / NR	5.9	36	
	KY F&W	A06131	7/30/02	7	M	A / NR	5.8	36.5	
	KY F&W	A06134	7/30/02	7	M	A / NR	5.6	35	
	KY F&W	A06135	7/30/02	7	F	J / NR	6	36	
	KY F&W	A06137	7/30/02	7	M	A / NR	5.6	36	
	KY F&W	A06138	7/30/02	7	M	A / NR	6.2	36	
	KY F&W	A06140	7/30/02	7	M	A / NR	6.4	36	
	KY F&W	A06144	7/30/02	7	F	J / NR	5.8	36	
	KY F&W	A06145	7/29/02	7	M	A / S	6.1	36	
	KY F&W	A06146	7/30/02	7	M	A / NR	6	35	
	KY F&W	A06147	7/29/02	7	M	J / NR	6.3	37	
	KY F&W	A06148	7/29/02	7	M	J / NR	5.7	36	
	KY F&W	A06158	8/5/02	1	F	A / PL	6.9	36	
	KY F&W	A06162	8/8/02	15	M	A / NR	6.2	34	
	KY F&W	A06164	8/8/02	15	M	A / NR	6.2	35	
	KY F&W	A06165	8/8/02	15	M	A / S	6.3	36	
	KY F&W	A06167	8/8/02	15	M	J / NR	5.9	37	
	KY F&W	A06169	8/7/02	13	F	A / NR	6.9	36	
	KY F&W	A06174	8/7/02	13	F	A / NR	6.4	37	
	KY F&W	A06181	8/8/02	15	F	A / PL	5.8	35	
	KY F&W	A06182	8/5/02	1	F	A / PL	6.5	37	
	KY F&W	A06188	8/7/02	13	M	A / NR	6.4	35	
	KY F&W	A06189	8/7/02	13	M	A / NR	5.9	35	
	KY F&W	A06190	8/7/02	13	M	A / NR	5.9	35	
	KY F&W	A06192	8/7/02	13	F	J / NR	5.6	37	
	KY F&W	A06194	8/6/02	12	M	J / NR	5.7	34	
	KY F&W	A06196	8/5/02	1	M	A / NR	5.9	34	
	KY F&W	A06198	8/6/02	12	M	J / NR	5.8	36	
	KY F&W	A06403	8/11/02	14	F	A / NR	7.6	36.5	
	KY F&W	A06426	8/11/02	14	M	A / NR	5.9	34.5	
	KY F&W	A06428	8/11/02	14	M	A / S	6.6	35.4	
	KY F&W	A06440	8/12/02	17	M	J / NR	4.9	35	
	KY F&W	A06442	8/10/02	18	M	A / NR	5.9	36.1	
Myotis sodalis									
	KY F&W	A05283	8/7/02	14	M	A / NR	6.9	38.2	

Table 2. (continued)

Type of Bat	Band Type	Band Number	Date	Capture Site	Sex	Age / Repro	Weight	Forearm Length	Notes
Pipistrellus subflavus	-	-	7/31/02	1	M	J / NR	4.9	34	Escaped
	-	-	8/12/02	18	F	J / NR	5.7	34.4	Escaped
	-	-	8/12/02	18	-	/	-	-	Escaped
	Black KY	3131	7/30/02	5	F	A / PL	6.9	34	
	Black KY	3133	7/30/02	5	M	A / S	6.5	33	
	KY F&W	A01229	8/10/02	18	M	J / NR	5.2	33.6	
	KY F&W	A01419	7/30/02	2	M	A / NR	6.4	35	
	KY F&W	A01424	7/30/02	2	M	A / NR	6	34	
	KY F&W	A01426	7/30/02	2	F	A / PL	6.5	34	
	KY F&W	A01443	7/30/02	2	M	A / NR	6.2	34	
	KY F&W	A05251	8/12/02	18	M	A / NR	5.6	32.4	
	KY F&W	A05254	8/12/02	18	M	J / NR	5.5	33.5	
	KY F&W	A05258	8/12/02	18	F	A / PL	6.4	34.7	
	KY F&W	A05270	8/12/02	18	M	J / S	5.9	34	
	KY F&W	A05278	8/12/02	18	F	J / NR	5.1	31.9	
	KY F&W	A05289	8/8/02	14	M	A / S	5.9	32.1	
	KY F&W	A05295	8/12/02	18	F	A / PL	6.1	35.7	
	KY F&W	A05296	8/12/02	18	F	A / PL	6.3	34.3	
	KY F&W	A05306	8/12/02	18	M	J / NR	5.5	33.4	
	KY F&W	A05310	8/12/02	18	M	A / NR	5.2	33.6	
	KY F&W	A05331	8/12/02	18	F	J / NR	4.9	34.3	
	KY F&W	A05348	8/12/02	18	M	J / NR	5.6	33.8	
	KY F&W	A06064	7/29/02	7	M	A / S	6	32	
	KY F&W	A06073	7/29/02	7	M	A / S	5.1	34	
	KY F&W	A06104	8/1/02	9	M	J / NR	5.2	33	
	KY F&W	A06109	8/1/02	9	F	J / NR	6.4	35	
	KY F&W	A06116	7/31/02	9	M	A / NR	6.2	33	
	KY F&W	A06127	7/31/02	9	M	A / S	6	36	
	KY F&W	A06133	7/30/02	7	M	A / NR	6.6	34	
	KY F&W	A06136	7/30/02	7	M	A / NR	6.9	34.5	
	KY F&W	A06142	7/31/02	9	M	A / S	5.3	33	
	KY F&W	A06150	7/30/02	7	M	A / NR	5.8	33	
	KY F&W	A06151	8/10/02	18	F	J /	5.3	33.6	
	KY F&W	A06153	8/10/02	18	F	A / PL	6.2	35.1	
	KY F&W	A06154	8/9/02	17	M	A / S	5.25	34.1	
	KY F&W	A06155	8/9/02	17	M	A / S	6.25	34.4	
	KY F&W	A06159	8/10/02	18	F	A / PL	5.7	34.3	
	KY F&W	A06161	8/9/02	17	M	A / S	5.75	34.4	
	KY F&W	A06170	8/8/02	15	M	A / S	6.1	33	
	KY F&W	A06223	8/10/02	18	M	J / NR	5	31.9	
	KY F&W	A06406	8/10/02	18	F	J / NR	4.9	33.3	

Table 2. (continued)

Type of Bat	Band Type	Band Number	Date	Capture Site	Sex	Age / Repro	Weight	Forearm Length	Notes
Pipistrellus subflavus									
	KY F&W	A06407	8/10/02	18	F	J / NR	5.6	34	
	KY F&W	A06409	8/10/02	18	F	J / NR	5	34.2	
	KY F&W	A06411	8/10/02	18	F	J / NR	5	33.4	
	KY F&W	A06415	8/10/02	18	F	A / PL	5.8	32.9	
	KY F&W	A06416	8/10/02	18	F	J / NR	4.9	34.4	
	KY F&W	A06417	8/10/02	18	F	J / NR	4.9	33.2	
	KY F&W	A06419	8/10/02	18	F	J / NR	5.2	34.6	
	KY F&W	A06432	8/10/02	18	M	A / S	5.6	34.4	
	KY F&W	A06435	8/10/02	18	M	J / NR	5.1	34.1	
	KY F&W	A06438	8/12/02	17	F	J / NR	6	33	
	KY F&W	A06443	8/10/02	18	M	A / S	5.2	32.8	
	KY F&W	A06444	8/10/02	18	M	J / NR	4.5	32.8	
	KY F&W	A06446	8/10/02	18	M	A / S	5.3	32.6	

Table 3. Summary of parameters (basal area, management/age, elevation, aspect, and slope) associated with the roost tree (440) used by the adult male Indiana bat (*Myotis sodalis*) located while surveying for the Cranston-Rowan County Transmission line, Rowan County, Kentucky, 2002.

Variables Associated With Roost Tree 440		
Location of Roost tree		
Latitude	38 13' 12.1"	
Longitude	83 26' 05.5"	
Tree Parameters		
Species	Short-leaf pine	<i>Pinus echinata</i>
Condition	Snag	
DBH	35.0 cm	13.8 in
Tree height	7.6 m	25 ft
Roost height	6.7 m	22 ft
Roosting location	Under loose bark	
Usable bark cover	Low usable bark	
Canopy Cover	Intermediate	
Forest Structure		
Age year	1925	
Forest type	Scarlet oak	
Basal area	100	
Management/age	Naturally regenerated	
Burned in the past five years	No	
Topographic Variables		
Elevation	322.5 m	1058 ft
Aspect	southwestern-to-northwestern	262 degrees
Slope	medium slope	22 degrees
Linear Distances to Nearest Features		
Capture site (pond)	598 m	1,963 ft
Transmission line	354 m	1,160 ft
Forest Service road (977M)	40 m	130 ft
Alternative 1	386 m	1,266 ft
Alternative 2	3.3 km	2.2 mi
Linear Distances to Known Indiana Bat Maternity Colonies within the Area		
Morehead colony	26.3 km	16.3 mi
Blevins Valley colony	33.3 km	20.7 mi
Linear Distances to Known Indiana Bat Hibernacula within the Area		
Carter Caves System	29.0 km	18 mi
Murder Branch Cave	32.2 km	20 mi
Little Amos Cave	49.9 km	31 mi

Appendix 1. Roost tree 440, a Short-leaf pine (*Pinus echinata*), which was used by as many as 4 bats, including an adult male radio-tagged Indiana bat (*Myotis sodalis*) near the proposed Cranston-Rowan County Transmission line, Rowan County, Kentucky, 2002.

